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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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Order Instituting Rulemaking to Advance
Demand Flexibility Through Electric Rates.

R.22-07-005

**CALIFORNIA COMMUNITY CHOICE ASSOCIATION'S REPLY COMMENTS ON
ASSIGNED COMMISSIONER'S PHASE 1 SCOPING MEMO AND RULING**

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SUMMARY OF RECOMMENDATIONS

- The California Public Utilities Commission (Commission) should address data gaps that prevent community choice aggregators and investor-owned utilities from taking complementary actions that yield the greatest customer and grid benefits.
 - The Commission should reject the Joint Ratepayer Parties' recommendation against expansion of any existing dynamic rate pilot.
 - The Commission should ensure terms in the electric rate design and demand flexibility design principles are clearly defined.
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The California Community Choice Association¹ (CalCCA) submits these Reply Comments in response to the *Assigned Commissioner’s Phase 1 Scoping Memo and Ruling* (Ruling), issued November 2, 2022.

I. INTRODUCTION

These comments reply to:

- The California Environmental Justice Alliance’s (CEJA) recommendation to expand the residential Emergency Load Reduction Program (ELRP) pilot;
- The Joint Ratepayer Parties’² opposition to expansion of any dynamic rate pilot; and
- Pacific Gas & Electric Company’s (PG&E’s) emphasis on stakeholder consensus for terms used in the Energy Division (ED) Staff proposed electric rate design principles (ERPs) and demand flexibility design principles (DFPs).

¹ California Community Choice Association represents the interests of 24 community choice electricity providers in California: Apple Valley Choice Energy, Central Coast Community Energy, Clean Energy Alliance, Clean Power Alliance, CleanPowerSF, Desert Community Energy, East Bay Community Energy, Energy For Palmdale’s Independent Choice; Lancaster Choice Energy, Marin Clean Energy, Orange County Power Authority, Peninsula Clean Energy, Pico Rivera Innovative Municipal Energy, Pioneer Community Energy, Pomona Choice Energy, Rancho Mirage Energy Authority, Redwood Coast Energy Authority, San Diego Community Power, San Jacinto Power, San José Clean Energy, Santa Barbara Clean Energy, Silicon Valley Clean Energy, Sonoma Clean Power, and Valley Clean Energy.

² The Joint Ratepayer Parties consist of the California Farm Bureau Federation, the California Large Energy Consumers Association, the Energy Producers and Users Coalition, California Manufacturers & Technology Association, Energy Users Forum, and Federal Executive Agencies.

CEJA recommends an expansion of the residential ELRP pilot as a strategy to help reach state reliability goals and simultaneously reach more low-income customers. The residential ELRP pilot is another example showing the need for upgraded systems to allow better data access and sharing between community choice aggregators (CCAs) and investor-owned utilities (IOUs). CCAs are unable to determine in a timely manner the load modifications of programs like the residential ELRP pilot nor the level of customer engagement with current data sharing. For both implementing demand flexibility and expanding grid-benefiting programs such as the residential ELRP pilot, system upgrades and CCA data access improvements are necessary.

In Opening Comments³, the Joint Ratepayer Parties recommend against expansion of any existing dynamic rate pilot in response to Question 4 of the Ruling. CalCCA included in Opening Comments support for expansion of Valley Clean Energy's (VCE) dynamic rate pilot (AgFIT), which has already demonstrated participants shifting load away from ramp and peak hours. These Reply Comments provide responses to each of the Joint Ratepayer Parties' arguments against expansion of existing pilots and continue support for the expansion of AgFIT for meeting state reliability goals.

PG&E proposed revisions to ED Staff's proposed modifications of ERPs and new DFPs in Opening Comments. PG&E also suggests a final workshop on ERPs and DFPs to attempt to clarify and build consensus around the terms used in the principles. This additional stakeholder consensus building would provide benefits to all stakeholders by clarifying intent of the principles foundational to the rest of this proceeding.

³ Opening Comments refer to Opening Comments filed in Rulemaking (R.) 22-07-005, in response to the Ruling, on or about December 2, 2022:
https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:R2207005.

II. THE COMMISSION SHOULD ADDRESS DATA GAPS THAT PREVENT CCAS AND IOUS FROM TAKING COMPLEMENTARY ACTIONS THAT YIELD THE GREATEST CUSTOMER AND GRID BENEFITS

As the Commission explores the expansion of grid benefitting pilots or the implementation of demand flexibility, the Commission should address the data accessibility gaps that prevent CCAs and IOUs from taking complementary actions to design and implement programs and rates that may yield the greatest benefits to customers and the grid. CEJA recommended in its Opening Comments that the residential ELRP pilot adopted in R.20-11-003 be “expand[ed] to test a more targeted implementation for low-income households” and help overcome some of the barriers to participating in real-time pricing that vulnerable communities face.⁴ CEJA concedes the residential ELRP pilot does not include a dynamic rate, but points out that it allows low-income customers to reduce demand during hours of greatest benefit to the grid.⁵ If the Commission expands the residential ELRP pilot to benefit system reliability in the near term, any expansion effort should be accompanied by requirements for IOUs to provide timely access to enrollment and hourly (or sub-hourly) usage data of unbundled customers with CCAs. CalCCA described some of the limitations with the data received by CCAs from the IOUs in its opening comments. The data received does not provide timely access to billing quality interval data to view CCA load.⁶ Thus, the impacts of demand-side programs such as the residential ELRP on load are not known in a timely manner. This data gap prevents a CCA from understanding any load shift or load shed due to the program’s intervention, how unbundled

⁴ See CEJA [Opening Comments](#) at 5-6.

⁵ See CEJA [Opening Comments](#) at 6 (clarifying the reasons behind expanding the residential ELRP pilot).

⁶ See CalCCA [Opening Comments](#) at 3-4 (providing details about the systems and processes needed to calculate the dynamic price signal for bundled and unbundled rate components).

customers are responding to emergency events, or if other pilot designs could yield better results within an appropriate timeframe.

III. THE COMMISSION SHOULD REJECT THE JOINT RATEPAYER PARTIES' RECOMMENDATION AGAINST EXPANSION OF ANY EXISTING DYNAMIC RATE PILOT

The expansion of VCE's AgFIT pilot should be pursued because of its success in shifting agricultural pumping load away from ramp and peak hours during extreme heat in the Summer of 2022. Extreme weather conditions are possible in 2023 and the Commission recognized the need for more demand response measures to prevent service interruptions as seen during the August 2020 rotating outages.⁷ Maximizing the accessibility of a demonstrated pilot like AgFIT for more agricultural customers in California will directly address the Commission's call for immediate strategies to maintain grid reliability in the face of extreme weather.

The Joint Ratepayer Parties oppose expansion of any dynamic rate pilot for three reasons. First, they claim it is unclear whether the pilots will provide near-term grid reliability benefits.⁸ On the contrary, CalCCA included in its Opening Comments evidence in the form of data gathered from VCE's AgFIT pilot showing success in shifting agricultural pumping load away from both ramp and peak hours.⁹ The pilot incentivized participating customers to act in a manner that contributed to grid reliability even during extended, high temperatures that occurred in September 2022. Expansion of AgFIT would provide more agricultural customers throughout

⁷ See Decision (D.) 21-12-015 *Phase 2 Decision Directing Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company to Take Actions to Prepare for Potential Extreme Weather in the Summers of 2022 and 2023*, R.20-11-003 (Dec. 2, 2021), at 8-9 (Detailing the scope of Phase 2 to include reducing peak and net peak demand in 2022 and 2023), and Findings of Fact (FoF) 6-7.

⁸ See Joint Ratepayer Parties' [Opening Comments](#) at 22.

⁹ See CalCCA [Opening Comments](#) at 8 (Figures 1 & 2).

California the option to opt-in and contribute to shifting load to times of the day when electricity is less expensive, and the grid is not strained.

The Joint Ratepayer Parties then argue that it would be inappropriate for the Commission to alter dynamic rate pilots because it would modify mutually agreed-upon terms litigated in other proceedings.¹⁰ VCE's proposal for AgFIT was approved in D.21-12-015¹¹ and details of the pilot subsequently approved through the Commission's approval of VCE Advice Letter 11-E, dated January 5, 2022, PG&E's Advice Letter 6495-E, dated February 4, 2022, and Supplemental Advice Letter 6495-E-A, dated April 7, 2022. It is reasonable for the Commission to call for a modification of an existing pilot when the data suggests such change is warranted, especially given the urgency of implementing strategies to address reliability.

Finally, the Joint Ratepayer Parties cite the risk of corrupting data if a pilot is expanded.¹² However, expansion of AgFIT would not affect how the pilot incentivizes participants, it would simply allow more customers to participate. VCE can distinguish between a customer participating pre- and post-expansion if the Commission authorizes an increase in the megawatt capacity of the pilot. Therefore, data collection for currently participating customers would not be affected by data collection of any newly participating customer. Additionally, expansion to other load-serving entity service areas allows for more data collection throughout California to demonstrate what factors of the pilot are most effective to increase benefits to grid reliability. Given the potential for weather events such as the heatwave in September 2022 that threaten

¹⁰ See Joint Ratepayer Parties' [Opening Comments](#) at 22.

¹¹ See D.21-12-015 at Ordering Paragraph 50.

¹² See Joint Ratepayer Parties' [Opening Comments](#) at 22.

California's grid, the Commission should pursue multiple strategies to improve reliability, including expansion of the AgFIT pilot as proposed in CalCCA's Opening Comments.¹³

IV. THE COMMISSION SHOULD ENSURE TERMS IN THE ELECTRIC RATE DESIGN AND DEMAND FLEXIBILITY DESIGN PRINCIPLES ARE CLEARLY DEFINED

The Commission should provide stakeholders a list of definitions of key terms used in both the ERPs and DFPs to ensure clarity. Currently, there is ambiguity within the ERPs and DFPs. At the November 17, 2022, workshop on ERPs and DFPs, many stakeholders asked for clarity from ED Staff on terms used in the principles. Additionally, many parties submitted recommended revisions to ERPs and DFPs in Opening Comments providing alternate wording for both sets of principles. Vital to the success of the proceeding is a clear understanding of the foundational principles guiding the development of demand flexibility rates. PG&E raised a similar point in Opening Comments and suggested that it may be beneficial to gather stakeholders one more time to seek consensus on a single set of agreed terms and definitions.¹⁴ PG&E's proposal to hold a final workshop on the terms used in the ERPs and DFPs should be adopted. However, ED Staff should first publish a list of terms and definitions for the principles. ED Staff should then take feedback on those published definitions at the final workshop before publishing a finalized version of the terms and definitions. Full consensus across all parties may not be possible on each and every term, however, minimizing ambiguity is important to ensuring every party's understanding of terms is the same.

¹³ See CalCCA [Opening Comments](#) at 9-10 (Section 4B discussing how the AgFIT pilot should be expanded).

¹⁴ See PG&E [Opening Comments](#) at 4 (introducing ambiguity of terms and the benefit of attempting to seek consensus on terms and definitions before kicking off Track B of the proceeding).

V. CONCLUSION

For all the foregoing reasons, CalCCA respectfully requests consideration of its recommendations and looks forward to an ongoing dialogue with the Commission and stakeholders.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Evelyn Kahl".

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January 4, 2023

**BEFORE THE PUBLIC UTILITIES COMMISSION
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Order Instituting Rulemaking to Consider
Distributed Energy Resource Program Cost-
Effectiveness Issues, Data Access and Use, and
Equipment Performance Standards.

Rulemaking 22-11-013
(Filed November 17, 2022)

**OPENING COMMENTS OF SILICON VALLEY CLEAN ENERGY AUTHORITY,
PENINSULA CLEAN ENERGY AUTHORITY, MARIN CLEAN ENERGY, EAST BAY
COMMUNITY ENERGY AUTHORITY, AND SAN DIEGO COMMUNITY POWER ON
THE ORDER INSTITUTING RULEMAKING**

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January 9, 2023

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Consider
Distributed Energy Resource Program Cost-
Effectiveness Issues, Data Access and Use, and
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Rulemaking 22-11-013
(Filed November 17, 2022)

**OPENING COMMENTS OF SILICON VALLEY CLEAN ENERGY AUTHORITY,
PENINSULA CLEAN ENERGY AUTHORITY, MARIN CLEAN ENERGY, EAST BAY
COMMUNITY ENERGY AUTHORITY, AND SAN DIEGO COMMUNITY POWER ON
THE ORDER INSTITUTING RULEMAKING**

Pursuant to Ordering Paragraph 7 of the Order Instituting Rulemaking to Consider Distributed Energy Resource Program Cost-Effectiveness Issues, Data Use and Access, and Equipment Performance Standards (“OIR”) issued November 23, 2022 and consistent with Rule 6.2 of the California Public Utilities Commission’s (“Commission”) Rules of Practice and Procedure, Silicon Valley Clean Energy Authority, Peninsula Clean Energy Authority, Marin Clean Energy, East Bay Community Energy Authority, and San Diego Community Power (collectively, the “Joint CCAs”) respectfully submit these opening comments on the OIR.

**I. DESCRIPTION OF EACH OF THE JOINT COMMUNITY CHOICE
AGGREGATORS AND THEIR DER PROGRAMS**

Each of the Joint CCAs operates customer facing distributed energy resource programs. Below is a brief description of each of the Joint CCAs and their customer-oriented distributed generation programs.

Silicon Valley Clean Energy (“SVCE”) is a not-for-profit, community-owned agency providing clean electricity from renewable and carbon-free sources to more than 270,000

residential and commercial customer accounts in 13 Santa Clara County jurisdictions. SVCE is advancing solutions to fight climate change by decarbonizing the grid, transportation, and buildings. The SVCE Board of Directors has committed more than \$1.8 billion for new renewable projects as well as innovative programs to expand customer awareness and demand for advanced electric technologies that provide both customer and grid benefits. These innovative programs have increased reliable access to EV charging, facilitated access to customers' utility data for clean energy projects, and enhanced community and household resilience through the installation of solar and battery systems.

Peninsula Clean Energy Authority ("PCE") operates the fifth Community Choice Aggregation ("CCA") program formed in California and serves the communities of San Mateo County and the City of Los Banos in Merced County. Peninsula Clean Energy Authority serves more than 290,000 customer accounts providing electricity that is 100 percent carbon-free. In addition to our Community Choice Aggregation program, which is working to site in-front-of-the-meter local generation including our Disadvantaged Communities Green Tariff ("DAC-GT") and Community Solar Green Tariff ("CSGT") programs, Peninsula Clean Energy also provides our communities with several DER programs, including programs to provide solar and storage systems to customers, a program to manage peak evening load through the deployment and operation of behind-the-meter storage, pilots of managed EV Charging Infrastructure, building decarbonization efforts, which may ultimately support flexible load in future, and a program to deploy solar and storage resources on public buildings.

Marin Clean Energy ("MCE"), California's first CCA, is a not-for-profit public agency that began service in 2010 with the goals of providing cleaner power at stable rates to its customers, reducing greenhouse emissions, and investing in energy programs that support communities' energy needs. MCE serves more than 540,000 residential and business customer accounts in 36

member communities across Contra Costa, Marin, Napa and Solano counties. MCE has extensive experience in running customer programs that span the entire breadth of distributed energy resources (“DERs”) from Energy Efficiency (“EE”) and Energy Storage to Demand Response (“DR”) and Transportation Electrification (“TE”). MCE was the first CCA to become a program administrator of ratepayer-funded EE programs in 2013.¹ Since 2017, MCE has been working on several TE initiatives, including demand response-enabled charging devices, equity-centered incentives for electric vehicles,² and funding for charging stations.³ In 2020, MCE launched its Energy Storage Program to deploy customer-sited battery storage systems capable of providing both backup power and behind-the-meter dispatch, driving decarbonization, lowering utility costs for program participants, and enabling local grid management through load shaping. MCE has built upon these efforts by launching its Peak FLEXMarket⁴ program, a DR program that focuses on reducing customer load during summer peak hours to support grid reliability. The Peak FLEXMarket program is a technology-neutral marketplace program platform that enables customers and third-party DR providers to receive a payment for measured energy reduction at their meter during peak demand hours. Finally, MCE is also an administrator of the DAC-GT and CS-GT programs, providing 100% solar energy to over 3000 of its low-income customers while also providing a 20% bill discount.

East Bay Community Energy (“EBCE”) is a not-for-profit public agency launched in 2018 by Alameda County and 11 of its cities to provide more renewable energy at competitive rates. EBCE has since expanded to cover more than 640,000 residential, commercial, and industrial customers

¹ MCE currently administers programs in [multifamily](#), [single family](#), [commercial](#), [agriculture](#), and [industrial sectors](#). Furthermore, MCE administers the [Low-Income Families and Tenants](#) (LIFT) program under the umbrella of the state’s Energy Saving Assistance (“ESA”) program.

² See <https://www.mcecleanenergy.org/ev-drivers/>

³ See <https://www.mcecleanenergy.org/ev-charging/>

⁴ See <https://www.mcecleanenergy.org/news/press-releases/mce-launches-new-grid-responsive-demand-flexmarket/>

across 19 cities, with plans to extend service to the city of Stockton in 2024. In addition to procuring renewable power for customers at discounted rates, EBCE runs a variety of energy efficiency, demand response, building decarbonization, and transportation electrification customer programs. For example, in the Resilient Home Program, EBCE partners with solar company Sunrun to assist customers with installing and financing behind-the-meter battery systems, which provide customers with energy during outages and can be discharged in coordination during times of peak electricity usage. Through the DAC-GT program, EBCE utilizes funds from California's Cap and Trade program to procure 100% solar energy for low-income customers living in disadvantaged communities (DAC) at a 20% discount. EBCE is also currently soliciting proposals to site a renewable project in a DAC, outfit critical municipal facilities with solar and battery systems, and to implement a commercial energy efficiency program. With these programs, among others, EBCE is implementing a variety of distributed solutions to equitably support grid decarbonization, reliability, and efficiency.

San Diego Community Power (“SDCP”) is a not-for-profit public agency formed by the cities of Chula Vista, Encinitas, Imperial Beach, La Mesa, and San Diego in October 2019, and joined by National City and the unincorporated areas of San Diego County in November 2021, with the goals of reducing energy-related greenhouse gas emissions, promoting electrical rate price stability and affordability, and fostering local economic benefits while prioritizing equity. Following the completion of expansion activities in 2023, SDCP expects to serve approximately 930,000 service accounts. In addition to its commitment to procuring cleaner energy, SDCP’s formational document includes a prioritization of distributed energy resources and recently adopted a goal for 15% of SDCP’s energy to be sourced from new, distributed infill storage/solar plus storage resources within SDCP’s member agencies by 2035. SDCP currently implements a feed-in-tariff (“FIT”) program to help facilitate the development of local qualifying, small-scale, distributed

renewable generating and energy systems less than 1 MW in size and recently filed its implementation advice letter to become a program administrator of the DAC-GT and CSGT programs. Moreover, SDCP has launched a Community Power Plan (“CPP”) to develop a framework for community investment decisions and will inform programmatic investments, including potential DER and transportation electrification programs.

II. OPENING COMMENTS REGARDING SCOPE

The Joint CCAs appreciate the opportunity to comment on the OIR. As a general matter, The Joint CCAs believe the OIR is appropriately scoped in order to meet the OIR’s goal to “achieve consistency of cost effectiveness assessments, improve data collection and use, and consider equipment performance standards for distributed energy resource (“DER”) customer programs.”⁵ As the OIR discusses, this OIR is a continuation of past efforts to develop cost effectiveness metrics while also focusing on improving the use of DER customer program data to support the customer experience especially for customers living in Environmental and Social Justice communities.⁶ The Joint CCAs support efforts to ensure cost effectiveness evaluations for DERs are undertaken with consistency and accuracy as our communities are keenly interested in supporting the deployment of behind-the-meter (“BTM”) DERs through a variety of means, including innovative CCA-led customer programs, building electrification codes and standards, accelerated procurement of renewable energy resources above state requirements, and numerous other activities as outlined in Section I above.

A critical component of supporting our communities’ efforts to combat climate change revolves around better access to data. We look forward to working with the Commission and stakeholders to build upon the foundations laid by prior Commission decisions to increase customer

⁵ OIR at pg. 2.

⁶ See Id.

participation in DER programs. As part of that effort, we fully support initiatives to arrive at consistent, accessible data requirements and reporting tools, clear guidelines for data access, and updating customer privacy requirements with the goal of substantially expanding the use of data to support increased participation rates in customer programs offered by CCAs and the investor-owned utilities (“IOUs”).

A. Comments on Questions Presented in the OIR

Response to Track 1, Questions 1 and 2:⁷ The Joint CCAs generally support the idea that there needs to be consistent cost-effectiveness *methods* across DERs and also support developing cost-effectiveness methodologies for emerging and bundled technologies. The ability to compare the cost-effectiveness of various DERs against each other is integral to inform stakeholder decision making. However, care should be taken to avoid establishing cost-effectiveness *thresholds* for new or emerging technologies. New and emerging technologies are often worthy of support given longer-term benefits these technologies may bring to energy consumers through fundamental market transformation, even if the initial iterations of technologies might not be strictly cost effective. For example, market transformation was a key pillar of the Commission’s support for BTM distributed generation through a variety of efforts, such as the establishment of net energy metering (“NEM”) and the California Solar Initiative (“CSI”) to drive customer-sited solar generation in California, as well as the Commission’s long-term support for transforming the energy efficiency market. The Commission’s steady vision supporting BTM resources has resulted in a thriving and robust marketplace for rooftop solar, energy efficiency, and other technologies that

⁷ Question 1: R.14-10-003 focused on making cost-effectiveness methods more consistent across DERs. To accomplish this, D.16-06-007 adopted a universal ACC which is updated annually and required for use by all DER proceedings. What other aspects of cost-effectiveness should also be made more consistent across DERs, and which of those are priorities? Question 2: Should the Commission develop cost-effectiveness methods for emerging and bundled technologies? Which technologies, or combinations of technologies, should we prioritize, and what are the most important considerations?

have benefited energy consumers by allowing them to control their energy costs and green their energy supply faster than state requirements while providing customers with choices in suppliers of these services that they did not have before.

Track 1, Question 3:⁸ Providing load serving entities (“LSEs”) with the ability to incorporate DERs as candidate resources in the Integrated Resource Planning process (“IRP”) provides LSE with flexibility to pursue the energy resource mix that will meet their energy supply needs and community goals. As the OIR recognizes, state law requires resource needs to first be met by energy efficiency and demand reduction which can be accomplished via distributed energy resources. This statutory framework is reflected in the Commission’s Loading Order adopted in 2003. Not only is customer investment in DERs bringing significant generation capacity to the grid with little or no increase in transmission costs, but load shifting and load shedding DR can also improve cost effectiveness by obviating the need for LSEs to build new generation and transmission resources and by shifting load to hours when less expensive resources are available to serve customer loads. In addition to including a range of DER as candidate resources in IRP modeling, LSEs should have the option of either explicitly incorporating DER as candidate resources in the IRP process or continuing to forecast DER growth and applying DER as load modifiers. Allowing LSEs to have the option of incorporating DER as candidate resources will allow IRP modeling to more explicitly evaluate the relative cost effectiveness of DER deployment compared to utility scale generation and transmission build. Allowing this flexibility would permit analysis that can better indicate the approximate optimal level of DER deployment in the state which can inform policy and program efforts to promote DER.

⁸ Question 3: How important is it to fully incorporate DERs into the IRP process? What kinds of tools, data, models, or processes would we need? How can the resource proceedings best provide data to the IRP process, and how can they best use IRP output data?

At minimum, DER candidate resources should include BTM renewables, BTM storage, load shed resources, and load shifting resources. CalCCA has proposed an option for directly incorporating these DERs into the IRP planning process called the “CalCCA Option.”⁹ The CalCCA Option was offered in response to a Staff Options Paper contained in a ruling by the Assigned Administrative Law Judge dated September 8, 2022. Within the CalCCA Option, resources eligible to meet the Net Clean Capacity Need include...demand side resources (including demand response), behind-the-meter renewables, and behind-the-meter storage...”.¹⁰ Allowing LSEs flexibility in incorporating DERs as candidate resources will allow the models utilized in the IRP to more accurately consider how DER resources can be utilized to meet reliability requirements. The specific characteristics for DER candidate resources should be developed in coordination with the IRP team and the IRP Modeling Advisory Group. A joint workshop between the IRP docket and this docket could provide an efficient forum to further develop the types of data and changes to models as well as changes that will be needed to allow LSEs flexibility to incorporate DERs into their IRP efforts.

Track 2, Question 1:¹¹ The Joint CCAs fully support forming a Data Working Group consisting of the Commission, CEC, CARB staff, utilities, and other interested stakeholders, including the Joint CCAs. Working groups have proven to be efficient forums to discuss issues in a collaborative fashion and they engender robust outcomes when properly scoped and guided by the Commission. In response to Track 2, Question 4, the Joint CCAs discuss several areas where more accurate and timely data is needed, and these issues should be included into the Working Group’s

⁹ See California Community Choice Association’s Comments on Administrative Law Judge’s Ruling Seeking Comments on Staff Paper on Procurement Program, R.20-05-003, filed December 12, 2022, at pgs. 4-17.

¹⁰ See Id, Section II.A.1.a.2.b.i.1, at pg. 6.

¹¹ Question 1: Should the Commission create a Data Working Group consisting of Commission, CEC and CARB Staff, as well as utilities, and interested stakeholders? If so, what should be the scope and timeline for the working group?

scope. Given the CCAs experience working on data issues, CCAs should have direct representation in the Working Group.

At present, the Commission's Demand Flexibility and Affordability dockets have working groups that will address data issues, as does the Commission's Energy Efficiency docket. Moreover, the CEC has a data working group for the Load Management Standards effort. Because many overlapping issues regarding data access are concurrently being discussed in these proceedings, coordination between these various working groups at the Commission and the CEC would be useful.

Track 2, Question 3:¹² The Joint CCAs support increasing access to energy consumption data for customers, LSEs, and DER aggregators to facilitate DER deployment under clear rules and parameters that safeguard customer information. Simplified and timely access to energy consumption data is a critical tool to allow individual energy consumers, and with customer consent, to developers and contractors to determine which DER options are likely to provide them or their customers with the most benefits. Access to energy consumption data allows consumers and contractors to calculate savings scenarios and compare the benefits and costs of installing DERs or participate in DER programs.

From a CCA perspective, a CCA can implement innovative customer programs that benefit both its customers and the State when getting streamlined and timely access to interval data. One example of such a program is MCE's Peak FLEXmarket program. MCE's Peak Flexmarket allows MCE to compensate customers for energy savings provided during peak demand hours as measured at the customer's meter. This program is designed to be technology neutral so that technologies beyond energy efficiency, such as demand response or energy storage systems, can be combined to

¹² Question 3: How can the Commission, utilities, DER providers, and customers better use Smart Meter data? How can Smart Meter data help individual ratepayers, developers, and contractors determine which DER programs are likely to provide the most benefits?

create a flexible resource that meets grid needs which benefits all customers while also providing direct savings based on measured reductions in use at the customer's meter during the relevant TOU period. These types of load management programs with verified load reductions at the meter are growing increasingly important considering California's grid reliability challenges during peak times. Streamlined and timely access to smart meter data is integral for the success of such programs and must therefore be a priority for the Commission, the utilities, LSEs, and other stakeholders to foster further deployment of BTM resources.

Track 2, Question 4 and Question 8:¹³ Barriers preventing CCAs from using energy consumption data to increase adoption of DERs and develop innovative programs are multifaceted. First, data latency and quality of data issues undermine efforts to promote DER adoption and develop innovative programs. Increasing the quality and timeliness of customer consumption data will support further innovation that benefits all energy consumers. Presently, the Joint CCAs receive billing quality data in aggregated TOU periods for the billing month. Thus, it appears that the utility's AMI systems interval data exchange process was set up for billing purposes, not load management purposes. This basic framework results in data being available approximately 48 hours after the meter registers the consumption. While this delay was reasonable given the original use case for AMI at the time it was authorized, the lag in consumption data makes this system unable to robustly support moving towards more innovative rate designs such as dynamic rates and responsive load management programs. Immediate access to low latency interval data (within 48 hours of power flow) would enable CCAs to conduct short term load forecasting and better coordinate load shifting in response to emergency events. Finally, access to hourly or sub-hourly

¹³ Question 4: What barriers (legal, regulatory, technological capacity, etc.) exist for load-serving entities and DER providers that prevent the greater use of energy consumption data to increase customer awareness and adoption of DERs? Question 8: How can existing data reporting and data collection processes be improved to make them more consistent across resources and more accessible by users?

billing quality interval data at the end of each billing period is necessary for the development of dynamic rates initiatives by CCAs that drive cost reductions for the individual customer and the broader body of energy consumers. The Joint CCAs strongly support a discussion in the Demand Flexibility docket (R.22-07-005), about what modifications to IOU AMI systems are necessary to provide the data necessary to support innovative rate designs and program offerings through timely access to sub-hourly data. As part of this discussion, development of standards for data quality and accessibility across all IOU territories is a core need.

In addition to data latency and quality issues, there appear to be technical barriers for third parties accessing utility data portals as the portals were designed for small on-off requests rather than larger requests for multiple customers who have provided authorization to a particular provider. Thus, the portals are underpowered and generally unsuitable to supporting robust access needed by third parties to efficiently access data to provide customers with service. The systems also appear to be unable to accommodate multiple users, targeted queries, and contain significant data gaps which results in the need to scale data by account type to correct for missing data. Finally, the customer experience accessing and utilizing portals is dated and cumbersome which may prevent effective use of the IOUs “share my data” portals by individual customers. For example, SCE requires a customer to fill out a Customer Information Standardized Request (“CISR”) form and pay a fee. The customer then shares that form with their third-party provider so that the third party can access the customer’s data. The data is not always complete and, each time a customer fills out the form, they must pay the fee again. This process can be streamlined and the Joint CCAs encourage the Commission to revisit the need for any fees for accessing data given the general recognition in state policy that more innovation in rates and program offerings are necessary to meet our climate objectives quickly and affordably.

SVCE recognized the need for free, authorized, instant access to standardized and automated energy usage data to accelerate the deployment of clean energy projects. For that reason, it created the SVCE Data Hive, which provides interval and bill data to customers and authorized third parties such as solar and energy storage installers, demand response providers, and energy service companies. The SVCE Data Hive cuts down the data access journey time to 30-90 seconds because it has 1) eliminated the need for authorization forms to be filled out and entered into a lengthy approval process and 2) eliminated the need for technical integration in order to access customer data, expanding access for small businesses that may have less technical resources. Customers in SVCE's territory can now more easily and quickly receive accurate estimates for DER installation savings based on their energy usage because third parties can gain authorized access to customers' data through the Data Hive.

A workshop focused on data portals and assessing current capacities with robust discussion of best practices from a variety of stakeholders would prove fruitful in illuminating possible ways forward to standardize access to customer smart meter data. As part of this discussion, exploring the creation of a statewide "data hive" to ease access to customer data has merit.

Track 2, Question 9:¹⁴ The Joint CCAs strongly support efforts to develop quantitative and qualitative data to support uptake of DERs in Environmental and Social Justice communities. The Commission's ongoing efforts to assess affordability with new metrics can be built upon to develop metrics in ESJ communities to better understand program uptake: what uptake is occurring, what uptake is not occurring, and what are the benefits of uptake or harms from lack of uptake.

¹⁴ Question 9: What types of quantitative and qualitative data do we need to support equity customers' awareness of and participation in DER programs? Should the Commission collect data to measure the impact on and the benefits of DER programs for ESJ communities? Is the Commission currently collecting this data? If not, what additional mechanisms do we need to do so?

Developing a set of metrics will support ongoing assessment of program approaches and incentive structures. One helpful data point would be to know whether a customer meter is within an ESJ community or affordability community of concern which could provide a better understanding of whether and where uptake and benefits are occurring, and which communities need a different approach, program, or incentive structure to be able to participate. It would also be useful to have a holistic understanding of various non-CPUC jurisdictional DER programs that support ESJ communities at the CEC, California Department of Community Services, and other state agencies.

Data collection of non-energy benefits and methods to quantify those benefits either qualitatively or quantitatively is also an important aspect of developing data to support participation in DER programs by ESJ communities.¹⁵ DER projects in ESJ communities often require additional retrofits, such as a panel upgrade or new roof, which results in comparatively higher costs for these programs – but once undertaken can result in profound improvement in health, safety, and comfort, among other benefits. Evaluation methodologies that do not include non-energy benefits can result in underinvestment in ESJ communities because of structural barriers (i.e. older housing stock which is more likely to need panel upgrades) that raise costs which widens existing disparities in the ability of ESJ communities to benefit from programs they support in their rates.

Under the current EE Application proceeding (A.22-02-005), stakeholders have been discussing the development of metrics to evaluate Equity focused EE programs. Under this umbrella, the California Energy Efficiency Coordinating Committee (“CAEECC”), a stakeholder venue for EE ratepayer-funded programs, has recommended the development of metrics to assess

¹⁵ Non-energy benefits can include health benefits, safety benefits, comfort benefits, lower disconnection risk, and reduced energy burden.

non-energy benefits for EE programs¹⁶ The SB 350 Disadvantaged Communities Advisory Group (“DACAG”) has also highlighted the need to incorporate non-energy benefits noting that one of the Principle Recommendations from the CEC’s Low- Income Barriers Study (2016) is to “[e]stablish common definitions of non-energy benefits, develop standards to measure them, and attempt to determine consistent values for use in *all energy programs*.” The Joint CCAs fully support the development of a consistent framework to assess and incorporate non-energy benefits into cost effectiveness methodologies and program review for all DER programs that will be considered in this docket.

III. CONCLUSION

The Joint CCAs appreciate the opportunity to comment on the scope of this OIR. The Joint CCAs look forward to participating in the ongoing discussion of cost effectiveness metrics, ways to improve access to data, and avenues to support the development of DERs among ESJ communities.

DATED: January 9, 2023

Respectfully submitted,

By: /s/ Joseph F. Wiedman

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¹⁶ See CAEECC Equity Metrics Working Group, October 2021, Report and Recommendations to the California Public Utilities Commission and the Energy Efficiency Program Administrators Equity Working Group Final Report, at 19-20, available at: <https://www.caeccc.org/equity-metrics-working-group-meeting>.

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Concerning
Energy Efficiency Rolling Portfolios,
Policies, Programs, Evaluation, and Related
Issues.

Rulemaking 13-11-005
(Filed November 14, 2013)

**OPENING COMMENTS OF MARIN CLEAN ENERGY ON PROPOSED DECISION
ADDRESSING ENERGY EFFICIENCY THIRD-PARTY PROCESSES AND OTHER
ISSUES**

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January 12, 2023

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**BEFORE THE PUBLIC UTILITIES COMMISSION
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**OPENING COMMENTS OF MARIN CLEAN ENERGY ON PROPOSED DECISION
ADDRESSING ENERGY EFFICIENCY THIRD-PARTY PROCESSES AND OTHER
ISSUES**

I. Introduction

Pursuant to Rule 14.3 of the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission” or “CPUC”), Marin Clean Energy (“MCE”), respectfully submit these Opening Comments on the *Proposed Decision Addressing Energy Efficiency Third-Party Process and Other Issues* (“Proposed Decision” or “PD”) mailed on December 20, 2022. MCE supports the Commission adopting the Proposed Decision. MCE specifically supports the beneficial recognition of Strategic Energy Management (“SEM”) programs in non-industrial sectors. MCE appreciates the Commission’s thoughtful consideration of party comments documenting the successful implementation and meaningful opportunities of non-industrial SEM programs to advance California’s energy efficiency and climate goals. MCE looks forward to collaborating with the Commission, program administrators and stakeholders on the outlined implementation steps.

II. MCE Supports Strategic Energy Management in Non-Industrial Sectors.

MCE strongly supports the Commission recognizing SEM programs in non-industrial sectors. MCE agrees with the Commission and most commenting parties that SEM programs can be very effective in non-industrial sectors.¹ MCE agrees with the Commission and parties that “the SEM holistic approach is more important than the sector to which it is being applied.”² MCE agrees with the Commission that the existing net-to-gross ratio (“NTGR”) assumption of 1.0 and the existing longer effective useful life (“EUL”) assumptions are justified for use in non-industrial sector SEM programs under the outlined conditions.³ MCE thanks the Commission for its willingness to research SEM issues, meaningfully engage with parties and prudently resolve them in this PD.

III. Conclusion

MCE thanks Commissioner Shiroma, Administrative Law Judge Fitch, Administrative Law Judge Kao and all parties for the cogent discussion on SEM, database tools data sharing and the commitment to advancing beneficial energy savings in this PD.

Dated: January 12, 2023.

Respectfully submitted,

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¹ PD at p. 39.

² PD at p. 41.

³ PD at pp. 41-42.



January 20, 2023

California Energy Commission
Docket Office
715 P Street
Sacramento, CA 95814-5512
Docket@energy.ca.gov

RE: Marin Clean Energy on the Request for Information RE: Equitable Building Decarbonization Program (DOCKET NO. 22-DECARB-03)

Dear Commissioners, Board Members and Staff,

Marin Clean Energy (“MCE”) strongly supports the goals of the California Energy Commission’s (“CEC”) Equitable Building Decarbonization program to prioritize beneficial low-carbon investments for low-to-moderate-income families and under-resourced communities. MCE sees equitable building decarbonization as a crucial opportunity to improve public health, reduce greenhouse gas emissions, strengthen energy affordability, support high-road workforce development, and advance equitable outcomes especially for individuals and communities facing historic barriers to clean energy programs and technologies.

MCE provides clean electricity service and cutting-edge energy programs to more than 1.5 million residents and businesses in 37 member communities across Contra Costa, Marin, Napa, and Solano counties. MCE’s mission is to confront the climate crisis by eliminating fossil fuel greenhouse gas emissions, producing renewable energy, and creating equitable community benefits. By buying and building more clean energy, MCE is fighting climate change while saving customers \$68 million in energy costs to date.

MCE is a committed program administrator (“PA”) of ratepayer-funded energy efficiency (“EE”) programs under the auspices of the California Public Utilities Commission (“CPUC”) alongside the California investor-owned utilities (“IOUs”). Under its EE portfolio, MCE offers a variety of innovative, decarbonization-focused EE and demand response (“DR”) programs serving residential, commercial, agricultural and industrial customers. MCE also administers direct-install programs as part of its EE portfolio including, but not limited to, its [Multifamily](#)

[Energy Savings \(“MFES”\) Program](#),¹ [Low-Income Families and Tenants \(“LIFT”\) pilot program](#)² and [Home Energy Savings \(“HES”\) program](#).³

MCE’s experience successfully administering EE funds under California Public Utilities Code (“Code”) Section 381.1(a)-(d) since 2013 informs its comments. MCE offers substantive comments on several questions on the Direct Install Program Criteria, Direct Install Third-Party Implementers and Solicitation Scoring, and Direct Install Eligible Equipment and Measures sections of the Request for Information. MCE submits **Attachment A** -- the results of DNV’s evaluation of MCE’s Low-Income Families and Tenants (“LIFT”) pilot program for 2017-2020. The LIFT Pilot aimed to reduce the energy burden and improve the quality of life of residents in income qualified multifamily properties in MCE’s service territory through energy efficiency, electrification, and health, safety and comfort upgrades.

I. Direct Install Program Criteria

- 1) *AB 209 directs CEC to establish a direct install program that shall be “at minimal or no cost for low to moderate income residents” and defines direct install program as an “energy efficiency, decarbonization, or load flexible solution provided directly to a consumer at minimal or no cost through a third-party implementer.” “Low-to-moderate income” is defined in section 50093 of the Health and Safety Code as persons and families whose income does not exceed 120 percent of area median income, adjusted for family size and amended from time to time by the U.S. Department of Housing and Urban Development.¹ The CEC is considering segmenting the state into different regions for the purposes of this program and requesting proposals from program implementers to implement the program across these regions. The CEC is preliminarily planning to allocate 66 percent of total budget funds – up to approximately \$610 million – to the direct install program. While this is a significant amount of funding relative to previous decarbonization investments in existing buildings in California, it is a small amount relative to the need in the sector. The program will be able to cover only a small fraction of the millions of potentially eligible households. Program criteria used to prioritize and score proposals will need to be both flexible enough to meet the needs of the different regions of the state and sufficiently uniform to establish appropriate baselines and metrics for implementation.*

a. What criteria should be weighed more heavily or prioritized when scoring program proposals?

¹ The Multifamily Energy Savings Program (“MFES”) provides residential energy efficiency and electrification improvements to affordable multifamily properties in the MCE service area.

² The Low-Income Families and Tenants (“LIFT”) program, launched as a pilot in 2018, reduces energy burden and improves the quality of life of residents in income-qualified multifamily properties in MCE’s service area. The Program offers energy efficiency, electrification, and health, safety, and comfort upgrades through a grant from the California Public Utilities Commission (“CPUC”).

³ MCE’s Home Energy Savings (“HES”) is a direct install program that provides 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 whose household income falls between 200-400% of the Federal Poverty Guidelines (“FPG”).

MCE supports the CEC prioritizing program proposals that **leverage existing, complementary programs** and include a **meaningful community engagement strategy**.

1. **MCE strongly supports leveraging existing direct install programs to deliver greater benefits to participants with reduced administrative costs and a significantly reduced timeline for program launch.** The CEC will benefit from prioritizing projects that leverage both the vast administration experience and existing administrative infrastructure of related programs in support of the Equitable Building Decarbonization program's goals. Leveraging and working to integrate the Equitable Building Decarbonization program within the ecosystem of state and local EE and decarbonization programs also eliminates the risk of potential confusion for participants and implementers. Similarly, reducing administrative costs by integrating proposed projects with existing administrative infrastructures allows the CEC to deliver deeper benefits to potentially more participants. Finally, leveraging existing programs also significantly reduces the timeline of delivering benefits to participants as existing programs can be modified much quicker to meet the goals and requirements of the new direct install program than establishing new program rules, requirements and procedures.
2. **Meaningful community engagement is a vital strategy to achieve the statutory goals of the Equitable Building Decarbonization program.** Meaningful community engagement helps ensure that the potential benefits of the programs align with the actual self-defined needs of low-to-moderate income families and under-resourced communities. This information will be relevant to both ensuring the functional success of programs and for mitigating known barriers for low-to-moderate income families and under-resourced communities accessing clean energy programs and decarbonization measures specifically. These barriers vary significantly regionally and across different populations.⁴ Meaningful community engagement can involve partnerships with trusted community-based organizations ("CBOs").⁵ Proposals should include specifics of how the implementers will engage potential participants and communities with respect, dignity, and build knowledge of their varying and diverse interests.

⁴ BEEP Coalition, *Community Priorities for Equitable Building Decarbonization Report* (March 2022), available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/BEEP%20Letter%20and%20Report_Equitable%20Decarb%20March%202022.pdf at 1 ("Our energy system is incredibly complex. There are no two regions in California that experience energy the same way, so our approach to transitioning our energy system needs to create space for local leadership and community-based pilots.").

⁵ California Energy Commission, *SB 350 Barriers Study*, available at: https://assets.ctfassets.net/ntcn17ss1ow9/3SqKkJoNIvts2nYVPAOmGH/fe590149c3e39e51593231dc60eeeff/TN214830_20161215T184655_SB_350_LowIncome_Barriers_Study_Part_A_Commission_Final_Report.pdf, p. 9 (The Legislature should direct funding for all state programs to collaborate with trusted and qualified community-based organizations in community-centric delivery of clean energy programs, in coordination with local governments...").

c. Should low-income and moderate-income households be incentivized at different levels? If so, how should that be approached?

MCE's EE and decarbonization programs serve both low- and moderate-income households. MCE submits, consistent with Assembly Bill 209,⁶ that both low- and moderate-income households face significant barriers to electrification and decarbonization measures. Many "general market"⁷ energy programs functionally serve only higher income households, and homeowners specifically. Low- and moderate-income households face many barriers to access, including the high cost of participant payments required for most general market energy programs. In some instances, moderate income households do not qualify for designated low-income energy programs such as the Low-Income Weatherization Program ("LIWP"), the Low-Income Home Energy Assistance Program ("LIHEAP"), the Energy Savings Assistance ("ESA") program or the Family Energy Rate Assistance ("FERA") program, but still require financial and technical assistance for the upfront costs of decarbonization measures and upgrades. Hence, MCE recommends the CEC serve both low-income and moderate-income families at the same incentive level. In addition to the Equity issues outlined above, MCE also fears that incentivizing low- and moderate-income households at different levels would increase the administrative costs and complexity of eligibility analysis for a PA. These administrative costs may limit the number of participants served and the depth of the benefits they may receive.

2) To optimize program funds, CEC may offer preference for proposals that layer incentives or leverage other programs

a. What best practices, program elements, or state actions would facilitate layering or leveraging different program offerings?

As a starting point, MCE recommends the CEC work with stakeholders to develop a list of current and potentially complementary direct install programs. The list should include relevant information on each program including, but not limited to, geographic reach of program, PA, measures, historic outcomes such as electricity savings and greenhouse gas emissions reductions, administrative structures, known equity barriers and existing community partnerships.

Additionally, MCE strongly recommends the CEC stack the incentives, measures, and potential benefits of other programs with the Equitable Building Decarbonization program offerings to allow greater delivery of benefits. MCE discourages the CEC from layering complementary programs in a manner that reduces the eligibility or level of participation of a potential participant. Decarbonization measures for low-income and under-resourced communities often require a host of related upgrades with significant upfront capital costs.⁸ The Equitable Building

⁶ Assembly Bill 209 (2022), section 25665.

⁷ For the purposes of this filing, MCE defines "general market" programs as programs that do not have income restrictions.

⁸ The Greenlining Institute, *Equitable Electrification Report* (2019), available at: https://greenlining.org/wp-content/uploads/2019/10/Greenlining_EquitableElectrification_Report_2019_WEB.pdf p. 1 ("In addition to the high upfront costs of electrification, ESJ community members often live in old

Decarbonization program should maximize the opportunities of complementary programs so potential participants may receive the holistic offerings necessary for program success. The CEC should work with PAs of existing programs through public workshops to generate specific process recommendations for layering programs.

MCE offers a detailed description of how it coordinates participation in two of its complementary programs, the Home Energy Savings (“HES”) and the Multifamily Energy Savings (“MFES”) programs, in response to **Question 7**.

b. Should layering or leveraging other programs be a requirement for proposals or a prioritization when scoring proposals?

Yes, as stated above in response to **Question (1a.)**, MCE recommends the CEC prioritize projects that layer or leverage other complementary programs and program offerings. The CEC should require that project proponents demonstrate their process for layering or leveraging existing programs in their proposals. This is particularly important for program proposals that cover a geographic area in which a decarbonization-focused direct install program already exists. In such a case, project proponents must describe in their proposal how they will integrate complementary measures, funding sources, implementation strategies, administration activities, and community engagement. The CEC should prioritize proposals that maximize the potential benefits of layering programs not only to reduce administrative burdens, but also to limit potential customer confusion and reduce program costs.

3) The inclusion of both low-income and moderate-income households allows flexibility for proposals that want to electrify specific neighborhoods or communities.

a. What program elements, geographic targeting, or state actions would facilitate this approach?

MCE recommends the CEC use geographic hotspots to reach low-to-moderate income customers and under-resourced communities. The CEC should prioritize neighborhoods that have a higher density of low-to-moderate income households and under-resourced communities. The CEC may also leverage knowledge from existing programs focused on serving similar low-to-moderate-income households and under-resourced communities. The CEC should partner with PAs of existing direct install programs who could share their local delivery channels, as well as marketing and engagement lists. This process would allow the CEC to avoid replicating existing knowledge and support neighborhood or community-level projects.

For example, MCE leverages focused word-of-mouth referrals in its Home Energy Savings (“HES”) program. The HES implementer focuses on serving one neighborhood at a time under

houses or apartment buildings that face structural and maintenance issues, which require separate investment for home repairs before installing new energy equipment. Existing policy is not capable of addressing energy and housing interventions holistically, which could otherwise help bridge the gap between household budgets and the high cost to upgrading these older and under-maintained buildings.”).

this strategy. MCE prioritizes neighborhoods with higher density of lower-to-moderate income customers. The implementer then uses word-of-mouth and door-to-door canvassing strategies to engage with customers on their needs and program opportunities. This has proven to be a successful outreach and customer recruitment strategy for MCE’s direct install program.

II. Direct Install Third-Party Implementers and Solicitation Scoring

5) AB 209 defines “third-party implementer” as “non-commission staff under contract to the commission who propose, design, implement or deliver Equitable Building Decarbonization Program activities.” Proposals from third-party implementers that include at least one community-based organization and employ workers from local communities shall be prioritized.

a. How should the CEC segment the state for a multiple-implementer solicitation (e.g., by climate assessment regions, climate zone, groupings of air districts, counties, etc.)? Are there other ways to segment the state to provide geographic diversity and advance equity?

MCE suggests the CEC segment the state by counties to ensure geographic diversity and advance equitable outcomes. MCE views local leadership as essential to the success of the Equitable Building Decarbonization program.⁹ As described in response to **Question (3a.)** above, MCE has been successful in implementing direct install programs at the hyper-local level, i.e. by conducting neighborhood-based outreach and engagement strategies. Furthermore, many of MCE’s CBO partners are organized at the local or county level. The diversity of regional barriers and opportunities related to equitable decarbonization efforts are tremendous. The CEC must solicit meaningful leadership from the local level to overcome regional barriers and expand existing opportunities.

MCE, at times, also implements county segmentation in its own EE and decarbonization programs. For example, MCE adopted county segmentation in administering its Green & Healthy Homes Initiative across multiple counties.¹⁰ This segmentation allows MCE to serve the distinct local needs of many populations in each county. In Marin County, similar MCE programs focused on supporting ageing in place while in Contra Costa County, MCE focuses on mitigating the impacts of asthma.

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⁹ BEEP Coalition, *Community Priorities for Equitable Building Decarbonization Report* (March 2022), available at: https://ww2.arb.ca.gov/sites/default/files/2022-03/BEEP%20Letter%20and%20Report_Equitable%20Decarb%20March%202022.pdf at p. ii (“Statewide rebate or incentive programs will continue to fail to reach those communities without significant investment in community-led efforts to engage communities that are being left behind.”)

¹⁰ MCE, *MCE Expands Green & Healthy Homes Efforts National Program Works Locally to Reduce In-Home Asthma Triggers*, available at: <https://www.mcecleanenergy.org/mce-news/mce-ghhi/>.

b. What opportunities for workforce development should be considered, encouraged, or leveraged?

The CEC should consider and leverage existing electrification workforce development programs such as the workforce development components of the Technology and Equipment for Clean Heating (“TECH”) program, the [High Road Training Partnerships program](#) including, but not limited to, the High Road to Building Decarbonization in the San Francisco Bay Area Project,¹¹ as well as workforce development programs under the CPUC’s EE portfolios.

For example, MCE offers a Workforce Education & Training (“WE&T”) program under its EE portfolio¹² that focuses on electrification-specific education and training to interested contractors. MCE recommends the CEC support programs like MCE’s WE&T program that already provide direct access to electrification-specific trainings, connections with active job seekers, and technical mentorship to participants. These strategies grant more contractors and workers access to relevant electrification best practices and resources.

Similar to the recommendation made in response to **Question (2a.)** above, MCE recommends that the CEC compile a list of existing workforce development programs and initiatives that are focused on electrification before developing any new programs that may be duplicative with existing initiatives.

7) While designing the criteria and solicitations for the regional decarbonization programs, CEC is considering offering an initial phase of the Equitable Building Decarbonization Program to support or expand currently active decarbonization programs with established infrastructure and demand. These programs may be more limited in geographic scope or decarbonization activities than what is expected from the regional programs.

a. Should other currently active building decarbonization programs be allowed to compete for funding from the Equitable Building Decarbonization Program?

Yes, MCE strongly supports the CEC allowing existing building decarbonization programs that meet the goals of the CEC’s Equitable Building Decarbonization Program to compete for funding in the forthcoming request for proposal (“RFP”). MCE believes this is crucial for two main reasons. First, as stated above in response to **Question 1** and **Question 2**, leveraging existing programs’ administrative infrastructure and outreach strategies is an effective and efficient use of funds. Second, this approach also enables a quick deployment of the program, thereby enhancing the program’s impact and delivering equitable benefits sooner to a potentially greater number of participants. The health, safety, comfort and affordability improvements

¹¹ High Road Training Partnerships Projects – High Road to Building Decarbonization in the San Francisco Bay Area, available at: <https://cwdb.ca.gov/initiatives/high-road-training-partnerships/>. The program provides regional partners a platform to collectively identify specific workforce barriers and recommendations for successful career development.

¹² MCE, WE&T available at: <https://www.mcecleanenergy.org/contractors/#WET>. Green Workforce Pathways.

possible through community-led equitable building decarbonization programs are a matter for urgent action.

For example, MCE currently administers three direct install programs that could be modified and scaled rapidly to meet the goals of the Equitable Building Decarbonization program. These programs are MCE's Home Energy Savings Program ("HES") the Multifamily Energy Savings ("MFES") program (both run under MCE's ratepayer-funded EE portfolio) and the Low-Income Families and Tenants ("LIFT") pilot program (run under the ratepayer-funded Energy Savings Assistance ("ESA") program). All three programs are successful and could be scaled easily to engage a broader set of customers on an expedited timeline. MCE's HES program, for example, was fully subscribed in 2022 and was not able to work with all interested customers due to budgetary limits. If the program were to receive additional funding through the CEC's Equitable Building Decarbonization Program, MCE could easily scale the program and reach additional customers effectively and efficiently.

Furthermore, MCE could strengthen its electrification offerings under its direct install programs if it were to receive additional funding from the CEC. As currently designed, MCE's direct install programs mostly focus on EE measures such as insulation, duct sealing, ENERGY STAR® appliances and lighting. MCE is currently able to offer electrification measures such as heat pump water heaters and heat pump HVACs under its direct install programs but only to a small number of program participants due to budgetary constraints. If MCE were to be granted additional funding for electrification measures through the CEC's program, it could leverage its existing program infrastructure to quickly and efficiently bring electrification measures to additional participants in its direct install programs. With additional CEC funding, MCE would request to consider the expansion of eligible measures such as the potential inclusion of induction cooktops and electric ovens under all of its direct install programs, and/or the inclusion of smart thermostat under its multifamily direct install programs.

In the following sections, MCE provides a brief description of each of its current decarbonization-focused direct install programs. MCE hopes to provide additional details about how it could modify its programs to meet the goals of the CEC's Equitable Building Decarbonization Program in response to the forthcoming RFP.

HES Program

MCE's HES program is a direct install program that provides moderate-income single-family homeowners and renters a home energy assessment and no-cost home energy upgrades, including electrification measures. HES currently serves customers that fall between 200 and 400 percent of the federal poverty limit.¹³

The HES program offering includes, but is not limited to:

- No Cost Home Energy Assessment;
- Heat Pump Water Heaters and HVAC systems, based on availability and best-fit;

¹³ MCE recommends reevaluating eligibility criteria for its direct install programs if it were to be granted funding under the CEC's Equitable Building Decarbonization Program to meet program goals and requirements and enable the greatest number of participants in the programs.

- Attic insulation;
- Duct sealing;
- Pipe insulation;
- Smart thermostat;
- Water-saving shower head;
- Water-saving kitchen faucet aerator;
- Bathroom faucet aerators.

MCE recently received sub-granted funds under the [Transformative Climate Communities program, City of Richmond: Richmond Rising](#) grant to support and expand the HES program's delivery of electrification measures that improve health and safety in the City of Richmond.

MFES Program

MCE's MFES program serves low-income customers in deed-restricted multi-family properties with direct install energy efficiency and electrification measures. The program provides both rebates for tenant units and whole building upgrades. The MFES program complements MCE's LIFT program (see more details below).

The MFES program provides:

- No-cost comprehensive energy efficiency assessments;
- Assistance with contractor solicitations and project planning;
- Energy and water efficiency upgrades including:
 - ENERGY STAR® appliances;
 - Insulation;
 - Lighting;
 - Water fixtures;
 - Heat pump water heaters and HVAC system;
 - Windows.

The MFES program has improved the efficiency of over 4,700 multifamily units over the past 9 years (from 2013-2022), saving participants 1,407,572 kWh (equivalent to the total electricity used in 230 homes a year), over 108,000 therms, and nearly \$1.2 million.

LIFT Program

MCE's LIFT program offers energy efficiency upgrades to hard-to-reach, low-income multifamily property owners whose renters have a household income at or below 250% of the federal poverty level.¹⁴ The LIFT program works to address the many barriers to decarbonization low-income tenants experience by providing incentives exclusively for tenant units and working directly with property owners and managers to minimize the potential administrative burden on the tenants.

¹⁴ MCE recommends reevaluating eligibility criteria for its direct install programs if it were to be granted funding under the CEC's Equitable Building Decarbonization Program to meet program goals and requirements and enable the greatest number of participants in the programs.

The LIFT program provides upgrades for energy efficiency, electrification, and health, safety, and comfort including:

- High-efficiency HVAC;
- High efficiency refrigerators;
- Smart thermostats;
- Faucet aerators;
- LED lighting;
- Low-flow showerheads;
- Pipe insulation;
- Heat hump water heaters and HVAC systems;
- Electrical upgrades.

The LIFT Program distributed over \$1 million in incentives to 680 qualifying households between 2018 and 2021 and successfully reached underserved customers with 95% of participants residing outside of a DAC. Participants collectively saved over 7,800 kilowatt-hours annually and individually, an average of \$192 per year on their electricity bill. MCE submits additional information on the LIFT program and its electrification measures in **Attachment A** to this filing.

b. Should the CEC fund decarbonization programs that have existing infrastructure in an initial phase to allow for the Program to quickly decarbonize homes and provide benefits to residents?

Yes, MCE supports the CEC funding existing decarbonization programs in an initial phase to deliver benefits to residents as quickly as possible. Low-to-moderate-income families and under-resourced communities are seriously and disproportionately overburdened by the varied public health impacts of fossil fuel appliances.¹⁵ MCE supports urgently and thoughtfully administering Equitable Building Decarbonization program funds to expand the benefits received and participants served by successful programs with aligned goals. MCE sees tremendous opportunity to readily deliver meaningful health, safety, and comfort benefits, as well as greenhouse gas reductions, through support and expansion of existing programs.

As stated above in response to **Question (7a.)**, MCE could easily and quickly modify and scale its existing direct install programs to meet the goals of the CEC's Equitable Building Decarbonization Program. The following specific program components enable MCE to quickly provide impactful customer benefits in an initial phase:

1. Existing administrative structure: MCE already works with experienced program implementers and can use existing administrative structures (such as program management and budgeting procedures) to quickly modify and (re-) launch Equitable Building Decarbonization programs.

¹⁵ UCLA Fielding School of Public Health Department of Environmental Health Sciences (April 2020), *Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California*, available at: <https://coeh.ph.ucla.edu/effects-of-residential-gas-appliances-on-indoor-and-outdoor-air-quality-and-public-health-in-california/>.

2. Existing community engagement and outreach strategies: MCE uses meaningful community engagement and community outreach strategies for its programs such as the neighborhood-level recruitment strategy for its HES program and CBO partnerships.
3. Experience with the installation of electrification measures: MCE partners with knowledgeable implementers with significant experience successfully installing electrification measures for low-to-moderate income customers and in building of older housing stock.
4. Experience with quickly, efficiently and effectively launching programs: MCE demonstrated it can quickly, efficiently and effectively launch programs in response to policy and customers' needs. In the winter of 2021, MCE proposed the scaling of its innovative, DR-focused [Peak FLEXmarket program](#) to the CPUC in response to the Governor's Grid Reliability Emergency Proclamation in the summer of 2021. Upon approval by the CPUC, MCE quickly modified its program rules and requirements and re-launched the pilot as a full fledged program in less than 5 months. MCE would similarly modify and expand its related decarbonization programs if awarded additional funding from the CEC.

III. Direct Install Eligible Equipment and Measures

8) The statutory direction on eligible measures is broad: "Projects eligible to be funded through the direct install program include installation of energy efficient electric appliances, energy efficient measures, demand flexibility measures, wiring and panel upgrades, building infrastructure upgrades, efficient air conditioning systems, ceiling fans, and other measures to protect against extreme heat, where appropriate, and remediation and safety measures to facilitate the installation of new equipment." The CEC plans to require the use of meter data driven analytical tools to inform what measures should be prioritized based on GHG reduction, energy reduction, and bill impacts.

a. What specific equipment and measures should be prioritized?

MCE's experience administering low-to-moderate-income EE programs designed to advance equitable decarbonization informs its understanding of existing barriers for specific equipment and measures. Existing federal, state and local decarbonization programs often do not cover all the supporting upfront capital costs required to decarbonize a household. MCE correspondingly recommends the CEC design the Equitable Building Decarbonization Program to mitigate these barriers and prioritize the following measures:

- Electric panel upgrades;
- 120-volt heat pump water heaters ("HPWH"). These may also be used for emergency replacements;
- Construction activities required to create the necessary physical space for decarbonization measures (e.g. HPWH are typically larger than their natural gas counterparts);
- Low global warming potential ("GWP") technologies approved in existing programs (e.g. by TECH, and SGIP);

- Energy efficiency measures that effectively lower kWh energy load, e.g. insulation, air and duct sealing;
- Health and safety upgrades required for the permitting to complete decarbonization measures;
- Measures that improve the health, safety and comfort of the residence or unit;
- Measures that improve energy affordability.

Additionally, MCE encourages the CEC to permit including to be identified measures acting as local barriers to decarbonization efforts identified by meaningful community engagement efforts. As stated throughout these comments, meaningful community engagement is required to identify all the relevant barriers and opportunities associated with equitable building decarbonization projects.

d. How should the CEC consider equipment and measures that mitigate impacts from extreme heat, wildfires, or local air pollution but increase individual energy use (e.g., installing a heat pump heating and cooling system in a home that previously did not have an air conditioner)? How does this align with the legislative direction that the program shall “reduce the emissions of greenhouse gases”?

MCE recommends the CEC consider the non-energy benefits (“NEBs”) of equipment and measures. Traditional energy efficiency and clean energy program’s evaluation of NEBs has been identified as a key barrier to decarbonization investments in low-to-moderate-income households and under-resourced communities.

MCE recommends further that the CEC consider program and portfolio wide greenhouse gas reductions (instead of project-specific ones) to satisfy its statutory requirements.

9) This program offers a significant opportunity to advance load flexibility in the residential sector and across the state. Load flexibility or load management provides residents with the ability to shift their energy usage in response to hourly energy prices, GHG emissions, or grid conditions. This can provide savings on consumer bills, as well as provide grid reliability support.

a. What load flexibility requirements should be included in the direct install program, and which load flexibility measures should be prioritized?

The CEC should *encourage* programmable or connected devices and enrollment in a demand response (“DR”) program. However, the equity goals of this program should be retained in designing corresponding program rules. MCE recommends against *requiring* participating customers to install programmable or connected devices and to participate in DR programs as they may be facing related barriers to implementation that are presently unforeseeable.

MCE recommends that the CEC should prioritize the following load flexibility measures:

- Smart thermostats;
- Heat pump water heaters and HVAC systems;
- Load tracking devices (e.g. Emporia Vue home energy monitor).

IV. Conclusion

MCE looks forward to ongoing collaborations with the CEC and stakeholders to ensure affordable access to building decarbonization and clean energy technologies in our service area and across California. Thank you for your consideration.

Sincerely,

/s/ _____
Wade Stano
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Policy Counsel
MCE

ATTACHMENT A



MCE LOW-INCOME FAMILIES AND TENANTS PILOT PROGRAM EVALUATION



August 5, 2021

MCE RFP 17-04



DNV

DNV provides assurance to the entire energy value chain through its advisory, monitoring, verification, and certification services. As the world's leading resource of independent energy experts and technical advisors, the assurance provider helps industries and governments to navigate the many complex, interrelated transitions taking place globally and regionally, in the energy industry. DNV is committed to realizing the goals of the Paris Agreement, and supports customers to transition faster to a deeply decarbonized energy system.



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1 EXECUTIVE SUMMARY

This report provides the results of DNV's evaluation of Marin Clean Energy's (MCE) Low-Income Families and Tenants (LIFT) pilot program for 2017-2020. This includes results across the key performance metrics of the program, focusing on successes and challenges. The conclusions are drawn from participant surveys, program records, and interviews for insights on program delivery and participant experience. Insights on initial program performance were also obtained from site visits and field measurements for a sample of participant heat pump projects.

1.1 Background

MCE is California's first Community Choice Aggregation program. MCE focuses on addressing climate change by reducing energy related greenhouse gas emissions through renewable energy supply and energy efficiency. MCE serves residents in Marin and Napa Counties, unincorporated Contra Costa and Solano Counties, and the Cities and Towns of Benicia, Concord, Danville, El Cerrito, Lafayette, Martinez, Moraga, Oakley, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, Vallejo and Walnut Creek.

In November of 2016, California Public Utilities Commission (CPUC) Decision (D.) 16-11-022 approved MCE's LIFT pilot program under the investor-owned utilities' (IOU) Energy Savings Assistance (ESA) and California Alternate Rates for Energy (CARE) Programs and Budget Applications.¹ The LIFT Pilot aimed to reduce the energy burden and improve the quality of life of residents in income qualified multifamily properties in MCE's service territory through energy efficiency, electrification, and health, safety and comfort upgrades. The CPUC granted MCE \$3.5 million over two years to deliver the LIFT pilot program. The pilot launched on October 31, 2017. In October 2019, LIFT was granted an initial timeline extension, which ended on May 31, 2021.²

Residents of income-qualified multifamily housing face multiple barriers to participating in energy efficiency programs, including fear of property owner retaliation, lack of control over any significant upgrades made to their units, concerns about sharing personal information, immigration enforcement actions, and financial constraints. MCE developed the LIFT program to better serve income-qualified multifamily property owners and tenants who are not currently benefiting from other low-income energy efficiency and decarbonization programs. The program aimed to incentivize switching gas and propane heating equipment to high-efficiency electric heat pumps to help decarbonize space and water heating loads.

In addition to heat pump incentives, the pilot program provided up to \$1,200 per unit for energy efficiency improvements that could be layered with MCE's existing Multifamily Energy Savings (MFES) program. With the additional incentives, LIFT covered a significant portion of total project costs (up to 80% if customers participated in both the LIFT and MFES programs).

¹ D.16-11-022, *Decision of Large Investor-Owned Utilities' California Alternate Rates for Energy ("CARE") and Energy Savings Assistance ("ESA") Program Applications*, Ordering Paragraph 148.

² D.21-06-015, issued June 7, 2021, authorized an extension of the LIFT pilot through 2023. Projects completed in the second phase of the pilot will be included in a future evaluation.

LIFT aimed to serve 1,482 dwelling units with energy efficiency measures and install 125 heat pumps serving 215 units.

1.2 Program Summary

MCE reported the following program expenses, savings, and households treated by the LIFT program for the period from 2017 – 2020.

MCE LIFT program period 2017 - 2020	
Program Expenses	\$1,083,482
Estimated kW Savings	0.94
Estimated kWh Savings	7,818
Estimated Therms Savings	669
Treated households	682

1.3 Research objectives and approach

MCE set DNV's objectives for the evaluation, which were to:

- Estimate LIFT's energy impacts (site and source)
- Estimate emissions reductions
- Calculate energy bill impacts of switching from furnaces to heat pumps
- Determine heat pump installation costs
- Gain insights into the enablers and barriers to program participation
- Measure participant satisfaction and ease of program participation
- Assess the program's non-energy impacts and tenant experience

To assess performance against the program theory and logic model, DNV conducted interviews with six contractors and 14 property managers, representing over half of all LIFT tenant units. DNV also designed an occupant survey administered to 128 participating tenants to measure their satisfaction and perceived impacts of the upgrades.

DNV's approach to Measurement and Verification (M&V) focused on five project sites that received heat pump upgrades, representing over half of the LIFT heat pump tenant units. DNV's M&V approach combines on-site data collection, equipment data logging, and utility meter data analysis to determine pre- and post-retrofit energy consumption and costs. DNV worked with MCE to develop and apply alternative source energy values that are specific to MCE.³

1.4 Findings and recommendations

MCE established 13 specific program metrics for LIFT. The evaluation key findings and implications for each metric are summarized in Table 1-1, followed by recommendations. Table rows are hyperlinked to the respective sections.

³ MCE offers customers rates that correspond to options ranging from 60% to 100% renewable energy content. The PG&E rate option corresponds to 29% renewable energy content.

Table 1-1. LIFT program performance metrics

Metric	Goal	Results	Data Source	Implications
Residents received program information in language other than English	40% meeting one or more of these three characteristics of "hidden communities"	42%	Occupant surveys	<p>Surpassed goal – LIFT program is effectively reaching the "hidden communities" it seeks to serve. Per the Center for American Progress report on extended families, 17% of all households in the nation fit this descriptor.</p> <p>The program included several senior housing participants, that comprise of smaller single or two-person households.</p> <p>Given the program requirement of reaching tenants residing in multifamily properties, the number of extended families that fit this descriptor available to the program is reduced.</p> <p>Furthermore, the program seeks to serve those outside CalEnviroScreen 2.0. The intersection of these requirements further reduces the total number of extended families that fit this descriptor and are available to the program.</p> <p>The two households that participated in the survey and fit the extended family descriptor also stated that the primary language spoken in the home was Spanish. The results indicate the intersectional characteristics of "hidden communities".</p>
LIFT residences are occupied by extended or multiple families		1.5%	Occupant surveys	
Residents outside of disadvantaged communities as defined by CalEnviroScreen 2.0		95%	Program tracking data	
Percent of units receiving comprehensive upgrades using both MCE's Energy Savings and LIFT program offerings	60%	76% units receiving comprehensive upgrades	Program tracking data	Surpassed goal – LIFT program is well integrated with other energy efficiency programs
Percent of eligible households that install efficiency measures through the LIFT program	1,482/56,087 - 3%	842/56,087 - 1.5%	Program tracking data	Short of goal on income eligible energy efficiency installations

Metric	Goal	Results	Data Source	Implications
Procurement and installation costs of heat pumps including costs of bulk purchase	Track, no goal set	On average, Central heat pump water heater - \$2,760 (5 invoices) In-unit heat pump water heater - \$3,420 (1 invoice), Ductless space heat pump - \$10,902 (10 invoices)	AEA pass through of contractor invoices and bids	Current heat pump incentives cover approximately 30% - 91% of installation cost with some costs shared across projects with multiple measures (space and water heating).
Savings per unit for LIFT program	Average per unit LIFT savings is greater than Pacific Gas & Electric's (PG&E) Energy Savings Assistance (ESA) program per unit	Overall, LIFT EE and HP measures saved 50 kWh and 32 therms per dwelling units compared to PG&E's ESA reported 96 kWh and 9 therms. This translates to 3,404 kBtu for LIFT EE and HP versus 1,227 kBtu for multifamily projects in PG&E's ESA program.	M&V sample, tracking data & PG&E ESA data	The program achieved its goal of higher per unit savings due to the contribution of significant gas savings from heat pump installations.
The impacts of fuel switching on bill savings and net costs to the customers	Track, no goal set	On average, fuel substitution customers save \$128 per year and fuel switching customers save \$1,123 per year. Overall, average bill savings from heat pumps measures are estimated at \$192 per year.	Site-level billing analysis, rates	There is strong evidence that fuel substitution customers are realizing bill savings from heat pump installations. It is likely that savings estimates for fuel switching are higher due to installation of solar at the sites concurrent with the program.
Reduction in greenhouse gas (GHG) emissions, nitrogen oxides, (NOx)	Track, no goal set	Heat pump fuel savings overall: 1.09 tons CO ₂ annually per unit; site savings 2.08 lbs. CO, 0.99 lb. NOx Heat pump fuel substitution savings: 0.91 tons CO ₂ annually per unit; site savings 2.22 lbs. CO, 0.87 lb. NOx Heat pump fuel switching savings: 3.69 tons CO ₂ annually per unit; site savings 0.10 lbs. CO, 2.80 lb. NOx	MCE and CAISO generation mix; CPUC gas assumptions; DNV Spot Measurements	The MCE Light Green generation mix (60% renewable) plus heat pump retrofit saves significant CO ₂ annually. CO ₂ savings increase for Deep Green (100% renewable) customers. All on-site customers (tenants and employees) experience a reduction in toxic on-site CO and NOx emissions.

Metric	Goal	Results	Data Source	Implications
Source British thermal units (Btu) savings impact	Average savings per unit for LIFT is more than the average savings per unit for PG&E's ESA program's 3.32 MMBtu saved per unit (baseline)	Savings per unit for LIFT HPs was 9.4 MMBtu annually. Note the evaluation of PG&E's ESA program showed savings of 1.5 MMBtu annually overall and 1.2 MMBtu annually for multifamily projects.	Source energy savings are calculated based on-site savings and CEC or MCE specific values reflecting generation power mixes.	The source Btu savings per unit are much higher than the reported and evaluated PG&E ESA savings and those savings include a majority single-family homes.
Percent of property owners/managers that rate the ease of participation as high	80% of participants rate it is easy to participate in the program	90% (n=10)	Property manager interviews	Surpassed goal, some opportunities for improvement on program requirements related to verification and documentation
Percent of residents who report comfort and satisfaction with the heat pump technology	80%	84% very/somewhat satisfied with heat pumps, 82% very/somewhat satisfied with LIFT (n=38)	Occupant survey	Customers are satisfied with the heat pumps they received, and reviews of the LIFT program are positive
Impacts on residents' health, comfort, and safety	Track, no goal set	Some evidence of increased comfort, improved air quality, and reduced noise	Occupant survey	Evidence of non-energy benefits of heat pumps strengthens value offered by technology

Overall, LIFT succeeded in its goals to overcome key barriers to installing heat pumps that reduce customer energy use, energy bills, and associated emissions. The tenants receiving measures cannot afford discounted equipment or are underserved by general market programs, and are multifamily renters who have not been served by Pacific Gas & Electric's Energy Savings Assistance (ESA) program.⁴ Many of the sites met MCE's initial target of small affordable housing areas within larger zip codes and census tracts that do not qualify for CalEnviroScreen disadvantaged communities (DAC) designation.

1.4.1 Key recommendations

Improve program tracking and record keeping requirements. Through the course of conducting the evaluation, DNV identified inconsistencies in program tracking data that required the implementer to rectify and reissue. Access to consumption data was a challenge due to issues with timeliness and completeness that required several iterative discussions and were ultimately only resolved partially.⁵ DNV found gaps in the occupant survey data that were missing some months of survey responses and had to be appended upon discovery. Not all contractor invoices included the details that could improve the

⁴ PG&E's Energy Savings Assistance Program provides qualified customers with energy-saving improvements at no charge. Participants must live in a house, mobile home, or apartment that is at least five years old. Income guidelines for the ESA program are same as those for CARE, the California Alternative Rates for Energy Program.

⁵ At one sampled project, three analyzed electric accounts had 1-2 months of post-retrofit meter data that the evaluation team was unable to obtain via the data requests made to MCE. For these missing data points, the analysis substitutes the average consumption across the remaining analyzed accounts (n=17) at that project as a proxy for the actual consumption that occurred.

usability of the data therein. As recommended in DNV's mid-term report, the program should also clarify expectations regarding contractor requirements for detailed cost information that breaks down hidden/soft costs such as for electrical panel upgrades.

Recognizing that the pilot was being developed and implemented simultaneously, DNV recommends that MCE address these gaps to improve data quality and evaluability of the program as it scales up. The program should develop and maintain a central, comprehensive, and compiled database that supports evaluability of key program metrics. The database should include granular information associated with each project site including, but not limited to: a unique identifier, building classification, project name, primary owner level contact (decision maker), site address, specific units treated, project status, measures installed, contractor information, incentives provided, equipment costs, labor costs, and survey responses etc. The data should be organized at the measure level with one measure per row, this is especially helpful to include as some measures have different number of units effected (e.g., central water heater boiler may serve multiple units in a building and may also include a mini-split which serves only a room within a unit.)

Continue with successful program elements. The LIFT program integrated well with the Multifamily Energy Savings (MFES) program and other program offerings. The program is reaching "hidden communities" of low-income tenants outside of designated DACs, those residing in extended families, and/or those who are in non-English/limited English-speaking households. The program is achieving most of its goals, the one exception being that the program is short of its goal to serve 1,482 income-eligible households at the current number of 842 income-eligible households served by the LIFT program. DNV recommends the program experiment further to increase the percentage of eligible customers who install measures by working with community organizations and deploying non-traditional marketing and enrollment methods. DNV also believes the program could leverage some of the techniques used by the investor-owned utility (IOU) programs, focusing on direct install and other⁶ methods to increase in-unit energy-efficiency measure installations.

Continue studying impacts because savings goals were met on average but were highly variable.

- Highly variable savings are common for pilots due to the limited cases available and studied. Because of the variability in project scope and pre-existing conditions for multifamily properties, the variability in savings may remain high even after additional M&V. More stable per-unit energy savings may emerge after more projects are completed, specifically mini-split heat pumps or central heat-pump water heaters (HPWHs).
- The two M&V projects for central HPWHs showed high potential to produce consistent savings and were less complex. Notably, the sites also have on-site solar power generation, which further reduces carbon emissions and costs based on thermal storage potential. The mini-split heat pump M&V projects were more varied in scope. For example, the existing technologies within the unit showed variation and the condition of

⁶ COVID related constraints may necessitate the use of virtual assistants that coach tenants and property managers on do-it-yourself measure installations.

the units varied as well, contributing to variability in savings. Therefore, future project evaluations will need to isolate heating system upgrades.

2 INTRODUCTION

Marin Clean Energy (MCE), California's first community choice aggregator (CCA), is a not-for-profit public agency that began service in 2010 with the goals of providing cleaner power at stable rates to its customers, reducing greenhouse emissions, and investing in energy programs that support communities' energy needs. MCE serves approximately 1,200 MW of peak load and provides generation services to more than 1.1 million people in 36 communities across Contra Costa, Marin, Napa, and Solano Counties.

On November 21, 2016, the California Public Utilities Commission (CPUC) granted MCE \$3.5 million to deliver the Low-Income Families and Tenants (LIFT) program, originally scheduled as a two-year pilot program.⁷ MCE developed the LIFT Program to better serve income-qualified multifamily properties and tenants who are not currently benefiting from other low-income programs. The pilot was originally scheduled to run until October 31, 2019. In October 2019, MCE was granted an extension of the pilot to the end of the then-current program cycle, with no additional funding, to meet the extended timelines of implementing energy efficiency upgrades in multifamily settings.

In addition to energy efficiency measures, the LIFT pilot offered additional incentives to encourage switching gas and propane heating equipment to high-efficiency electric heat pumps. Evaluating the performance of heat pumps in the low-income multifamily sector is a key research question for the LIFT pilot. MCE contracted with DNV to conduct this evaluation, and this report presents DNV's findings.

2.1 Background

MCE's LIFT pilot aimed to better serve income-qualified multifamily properties with additional incentives that would allow for deeper energy savings. The pilot program provided up to \$1,200 per unit for energy efficiency improvements that could be layered with MCE's existing MFES program offerings. When properties participated in both MFES and LIFT, the incentives and savings were tracked separately for each program. While a property may receive funding from both programs, each individual measure was funded through only one program and the savings were tracked to the program that funded the measure. With the additional incentives, the LIFT pilot covered a significant portion of total project costs (up to 80% if customers participated in both the LIFT and MFES programs). The three-year LIFT pilot program aimed to serve 1,482 dwelling units with energy efficiency measures and also aimed to install 125 heat-pump units.

The pilot included additional incentives to encourage switching gas and propane heating equipment to high-efficiency electric heat pumps to help decarbonize space and water heating loads. Heat pumps can also offer additional non-energy benefits related to increased comfort (and possibly improved health) for customers by adding cooling, while switching to a zero-emission and more efficient heating source.

The pilot was administered and implemented by the following entities:

⁷ D.16-11-022.

- **MCE** was responsible for program design, goal setting, preparing program materials, verifying income eligibility for LIFT measures, delivering incentives, and managing implementers. MCE also supported the pre- and post-occupant survey data collection efforts.
- **Association for Energy Affordability (AEA)** was the prime implementation contractor delivering both MFES and LIFT measures. For the LIFT pilot, AEA was responsible for daily operations, including but not limited to: identifying properties, pre-screening for eligibility, maintaining the database for all implementation data collected, vetting the measure selection, offering contractor support, technical assistance, day-to-day property manager interactions, project quality assurance and quality control, supporting project evaluation, measurement, and verification (EM&V) objectives and reporting progress to MCE.
- **Conservation Corps North Bay (CCNB)** for the first two years of the pilot, offered direct measure installations and supported the EM&V process with tenant surveying.
- **Franklin Energy** In 2020, Franklin took over the direct install⁸ and tenant surveying responsibilities for the LIFT program.

2.2 Research objectives

DNV's research objectives for MCE's LIFT pilot program evaluation were to:

- Estimate energy impacts (site and source), emissions reductions, and energy bill impacts of switching from furnaces to heat pumps
- Determine the potential impacts of alternative MCE rate structures that would encourage the use of heat pumps
- Determine the installation costs of heat pumps
- Measure the non-energy impacts such as improved health, increased comfort, reduced noise, etc. resulting from fuel switching and added cooling from electric heat pump;
- Measure the ease of program participation and participant satisfaction
- Provide insights on the program factors that drive increased interest in and purchase of heat pumps

2.3 Evaluation methodology

This section provides a high-level summary of the M&V methodology used for the impact evaluation and the primary research methodology used for the process evaluation. Appendices A-E include further details on the survey guides for the property managers, contractors, and participants, and details of the M&V site visit sample plan.

⁸ Measures direct installed under LIFT include low-flow showerheads and faucet aerators, LED bulbs and lighting fixtures, building insulation, Title-24 compliant windows, and Energy Star™ refrigerators.

DNV employed multiple data collection methods across the various delivery touchpoints to assess the pilot's progress and address the study objectives.

Program delivery. DNV conducted program staff and implementer interviews, contractor interviews, and property manager surveys across the various program touchpoints to assess program delivery.

Program performance. DNV's approach to M&V of energy and cost savings from heat pump retrofits involved combining on-site data collection, equipment data logging, and utility meter data analysis to determine pre- and post-retrofit energy consumption and costs at the point of consumption. DNV worked with MCE to develop and apply alternative source energy values that are specific to MCE.⁹ DNV performed spot measurements, short-term data logging, and collected utility meter data to quantify energy, cost, and emissions reductions resulting from natural gas- or propane-fueled heating, ventilation, and air conditioning (HVAC) and domestic hot water (DHW) equipment retrofits to electric heat pump equipment. DNV used this data collection on existing and retrofitted equipment to develop robust M&V results. DNV also performed pre-retrofit spot emissions testing on existing equipment to quantify in situ emissions and assess the applicability of established findings of emission. Section 0 below provides further detail on the sampling plan for the study.

Program experience. DNV analyzed responses from the pre- and post-occupant surveys, property manager surveys, and contractor interviews to gauge the program participant and provider experience. Table 2-1 summarizes the topics and research efforts undertaken to assess LIFT program delivery and program experience.

Table 2-1. Topics by research effort to assess program experience

Research Topic	Occupants (n=128)	Property Owners/ Managers (n=14)	Contractors (n=6)
Sources of program awareness	■	■	
Effectiveness of marketing and outreach		■	■
Enablers of participation		■	■
Barriers to participation		■	■
Referrals to other income-qualified programs (MFES, ESA, GHFI)		■	■
Satisfaction with program	■	■	■
Perceptions regarding bill savings	■	■	■
Non-energy impacts (safety, air quality, noise, comfort)	■		
Program recommendations		■	■
Demographics/firmographics	■	■	■

⁹ MCE offers customers rates that correspond to options ranging from 60% to 100% renewable energy content. The PG&E rate option corresponds to 29% renewable energy content.

2.3.1 Sampling

In order to produce results that would be available by the end of the pilot period, the LIFT impact evaluation assumed concurrent implementation and evaluation. Only the heat pump installations were targeted for on-site M&V and billing analysis as the EE measures were all well-established measures reported in other utility direct install programs in California. Because projects for on-site M&V needed to be selected before the pilot had concluded, there was not a fixed population sampled from and extrapolated to. All projects eligible for EM&V were targeted as a certainty sample given the time to enroll participants. Dwelling units within projects were sampled to conserve budget for sites enrolled later in the program's cycle. Table 2-2 shows the LIFT pilot program population and characteristics such as program year (PY), location, project scope, and number of LIFT impacted dwelling units. Only sites with heat pump scopes were sampled.

Table 2-2. Program population characteristics

Project Rebate Approval Date	PY	Project ID	Location	Heat Pump Measure Scope	Energy Efficiency Measure Name(s)	# of Dwelling Units
Dec-18	2018	5	Larkspur	-	Title 24 compliant windows	12
Dec-18	2018	7	Richmond	-	Title 24 compliant windows	4
Dec-18	2018	8	Richmond	-	Title 24 compliant windows	4
Dec-18	2018	4	San Rafael	-	Title 24 compliant windows	12
Jan-19	2019	6	San Rafael	Ductless HVAC (substitution)	ENERGY STAR® refrigerator	1
Mar-19	2019	2	Napa	Ductless HVAC (substitution)	Low-flow kitchen/bath aerators and showerheads, unit lighting	56
Jun-19	2019	3	Mill Valley	-	Low-flow kitchen/bath aerators and showerheads, LED Bulbs	24
Jul-19	2019	22	Belvedere	Ductless HVAC (substitution)	A19/21 LED bulbs	11 ¹⁰
Nov-19	2020	26	Mill Valley	-	Title 24 compliant windows, LED bulbs	1
Jun-20 ¹¹	2020	29	Oakley	Central domestic hot water (DHW) (substitution)	Package terminal heat pump	24
Jun-20 ¹²	2020	9	Rodeo	Central DHW (substitution)	Low-flow kitchen/bath aerators and showerheads, unit lighting	50
Jan-20	2020	4	Napa	Ductless HVAC (substitution)	-	40

¹⁰ 10 of 11 dwelling units received HP fuel substitution retrofits at this project.

¹¹ The M&V analysis recognizes a heat pump installation date of December 2019 for this project.

¹² The M&V analysis recognizes a heat pump installation date of December 2019 for this project.

Project Rebate Approval Date	PY	Project ID	Location	Heat Pump Measure Scope	Energy Efficiency Measure Name(s)	# of Dwelling Units
Feb-20	2020	11	Bolinas	Ductless HVAC & Central DHW (switching)	-	6
Feb-20	2020	13	Bolinas	Ductless HVAC & Central DHW (switching)	-	7
Jul-20	2020	26	Mill Valley	-	Title 24 compliant windows	1
Aug-20	2020	20	Point Reyes Station	-	Title 24 compliant windows, R-19 crawlspace insulation	2
Nov-20	2020	10	San Geronimo	Ductless HVAC & Central DHW (switching)	ENERGY STAR® refrigerator, LED Bulbs	6
Nov-20	2020	33	Richmond	Central DHW (substitution)	-	23
Dec-20	2020	38	San Rafael	Ductless HVAC (substitution)	Title 24 compliant windows	2
Jan-21	2021	36	Napa	-	Title 24 compliant windows	57
Mar-21	2021	34	San Rafael	-	Title 24 compliant windows	97
Mar-21	2021	16	Fairfax	Ductless HVAC (substitution)	Low-flow kitchen/bath aerators and showerheads, unit lighting	70
-	2021	30	Napa	-	LED Fixtures	146
-	2021	31	Napa	-	LED Fixtures	209

Since the program developed as the evaluation progressed, the tracking of project installations varied such that it caused some uncertainty in the identifying EM&V eligibility, i.e. whether sufficient time passed to allow for post measure installation measurement through utility meter data analysis, and lead to a recommendation to improve the consistency of the program's tracking. The overall sampling approach could not estimate precision prior to starting. The sampling focused on meeting a fixed number of heat pump units evaluated at all properties with heat pump scope if possible, to provide ex post rigor and insights on the pre-retrofit conditions, installation itself, and early feedback post installations from owners and tenants. Representation of space heating and water heating were factors as well as knowing many projects were underway but did not meet the timing for EM&V for the reporting schedule. Table 2-3 presents the subset of the overall pilot program population that benefitted from heat pump retrofits as well as details pertaining to each project's eligibility for and inclusion in the analysis for this report.

Table 2-3. Heat pump project population and analysis scope

Project Rebate Approval Date	PY	EM&V Scope	Sample Site ID	Project ID	Location	Heat Pump Project Scope	Net Metered During Analysis Period	Analyzed Dwelling Units	# of Dwelling Units
Jan-19	2019	Report eligible	A	6	San Rafael	Ductless HVAC (substitution)	-	0	1
Mar-19	2019	Analyzed	B-1	2	Napa	Ductless HVAC (substitution)	-	20	56
Jul-19	2019	Analyzed	C	22	Belvedere	Ductless HVAC (substitution)	Existing prior	8	10
Jun-20 ¹³	2020	Analyzed	D	29	Oakley	Central DHW (substitution)	Existing prior	24	24
Jun-20 ¹⁴	2020	Analyzed	E	9	Rodeo	Central DHW (substitution)	Existing prior	50	50
Jan-20	2020	Report eligible	B-2	4	Napa	Ductless HVAC (substitution)	-	0	40
Feb-20	2020	Analyzed	F-1	11	Bolinas	Ductless HVAC & Central DHW (switching)	Added during	6	6
Feb-20	2020	Report eligible	F-2	13	Bolinas	Ductless HVAC & Central DHW (switching)	Added during	0	7
Nov-20	2021	Not report eligible	G	10	San Geronimo	Ductless HVAC & Central DHW (switching)	Added during	0	6
Nov-20	2021	Not report eligible	H	33	Richmond	Central DHW (substitution)		0	23
Dec-20	2021	Not report eligible	I	38	San Rafael	Ductless HVAC (substitution)		0	2
Will complete 2021	2021	Not report eligible	J	16	Fairfax	Ductless HVAC (substitution)		0	70

The pilot's first project was a single dwelling unit and was not sampled. Beyond that, the sample consisted of heat pump units completed in time for EM&V reporting. A project had to have its retrofitted heat pump equipment installed by February 2020 to provide sufficient time for post-retrofit consumption data to accrue. Two of the three eligible projects that were not directly analyzed were properties adjacent to or staggered construction phases of projects represented in the analysis and are presumed to realize similar impacts as their analyzed counterparts. A total of eight projects at six sites constituting 194 dwelling units were eligible for analysis at onset of evaluation and when field activity occurred. From this pool, the heat pump measure analysis was conducted on five of these projects that had impacts on 108 dwelling units. Table 2-4 shows the composition of eligibility for EM&V analysis for the LIFT pilot heat pump projects.

Table 2-4. Composition of LIFT pilot heat pump project EM&V analysis eligibility

EM&V analysis eligibility	Installs by	EM&V Eligible	Number of projects and dwelling units
EM&V Pilot sample	February 2020	March 2021	5 projects with 108 dwelling units
MCE LIFT HP installs with sufficient post-data not sampled	Mid 2020	March 2021	1 project with 1 dwelling unit – Not adjacent 2 projects with 47 dwelling units – Adjacent to sampled projects
MCE LIFT recent installs still without sufficient post data	Mid 2020 - present	Late 2021- Early 2022	4 projects with 101 dwelling units

¹³ The M&V analysis recognizes a heat pump installation date of December 2019 for this project.

¹⁴ The M&V analysis recognizes a heat pump installation date of December 2019 for this project.

The estimated precision of results was better than 90/10, since five of six properties were included in the overall estimates and over half of the units were sampled exceeding the evaluation plan target. Additional analyses could be conducted, but they will unlikely change sampling precision since most units are adjacent and similar in construction and scope as sampled units. The largest projects did comprise more of the sample and no additional weighting was conducted. The original analysis plan was to evaluate 15 of 30 units in the first year and 15 of 60 in the second year for a total of 30 of 90 units. In the end, five of six timeline eligible properties were sampled for analysis comprising 108 impacted dwelling units out of possible pool of 194 timeline eligible impacted dwelling units.

3 LIFT PILOT – PROGRAM METRICS

DNV tracked progress against program-defined goals via a set of three overarching categories of metrics that map directly to the program design and anticipated outcomes—program delivery, program performance, and participant experience. This section presents the impacts of the program by individual metrics within each overarching category. For each metric, DNV provides the data source and definition, results achieved versus stated goals, and key findings.

3.1 Program delivery

In this section, DNV presents metrics related to program delivery. The metrics aim to capture whether the program provided services successfully to its target market of “hidden communities” and whether these services provided were comprehensive and cost-efficient. For the LIFT Pilot, MCE defined “hidden communities” as households meeting one or more of the following criteria: 1) residents receive program information in a language other than English, 2) the home is occupied by extended or multiple families, and/or 3) the property is located outside of a DAC according to CalEnviroScreen 2.0.

3.1.1 Percent of non-English speaking households

The 2019 American Community Survey indicates that 45% of California households speak a language other than English at home. The LIFT pilot aimed to track the proportion of multifamily residents that received program information in a language other than English. This is a key program delivery metric used to measure how effectively LIFT performed against its stated goal to ease program participation barriers for hidden community multifamily renters.

3.1.1.1 Data source and definition

The results of the pre-post occupant survey administered to LIFT multifamily program participants¹⁵ is the data source used to compute this metric. CCNB administered the in-person surveys in English and Spanish from 2017 to early 2019. In late 2019, the surveys shifted to Franklin Energy, which continued to conduct in-person surveys in both languages. In 2020, the survey transitioned to a telephone survey in response to COVID-19 restrictions.

Surveyors asked respondents to indicate the primary language spoken in their home. Response options included English, Spanish, Mandarin or Cantonese, Tagalog, Vietnamese, Korean, Farsi, Japanese, German, and Armenian. The full survey is presented in APPENDIX A.

¹⁵ A participating unit is generally defined as a unit that has passed the income-qualification process, paid a refundable good faith deposit, and received a site assessment from the program's technical assistance provider. All tenant survey respondents were qualified as participants. The 128 individual households that responded to the occupant survey are a mix of tenants intercepted at the pre-retrofit stage and/or the post-retrofit stage.

The metric is computed as follows:

Percent of non-English/limited English-speaking households =

(Number of non-English/limited English households survey respondents)/Total number of survey respondents

3.1.1.2 Results versus goals

The results presented here are based on responses from 128 individual households that were served by the LIFT program and that completed the survey. While all households that receive upgrades are invited to participate in the survey, the households included in the utility meter data analysis are restricted to a subset of projects that were timeline eligible. The program was unable to conduct surveys with every household served by the LIFT program. Survey activities were paused from March 2020 to September 2020 as Franklin Energy adapted the surveys to fit COVID-19 safety guidelines. The program pivoted to phone surveys due to the shelter-in-place order in effect at the time. Respondents were provided a gift card as an incentive to boost participation in the survey.

Results indicate that 42% of customers who received LIFT program services and responded to the survey (54 out of 128 individual households) are in non-English or limited English-speaking households. The LIFT program goal is to ensure that at least 40% of participants satisfy any one of the three “hidden community” characteristics.¹⁶ “Hidden communities” by definition are difficult to identify and it is not possible to know the total population of households that meet one or more of the characteristics while also being renters who qualify based on income. The goal of 40% was established through discussion with CPUC Energy Division staff as a reasonable target to ensure the program was reaching households that may not typically be served with EE programs.

3.1.1.3 Key finding

With 42% of LIFT pilot participants residing in non-English or limited English-speaking households, the program surpassed its goal of 40% of program participants meeting at least one “hidden community” criteria.

3.1.2 Percent of extended family households

The LIFT program tracks the percent of extended family households that participated in the program. This is a key program delivery metric used to measure how effectively it is performing against its stated goal to ease program participation for “hidden community” multifamily renters.

Recent census reports indicate that the US population living in extended families is approximately one-fifth of all households. The term “extended family” refers to the living arrangement of groups of individuals whose relationships to each other extend beyond the

¹⁶ Hidden community customer characteristics measured by this study include non-English or limited English-speaking households, extended family households, and households outside a disadvantaged community as defined by CalEnviroScreen 2.0.

nuclear family.¹⁷ Examples of extended families include families that take in parents who may be widowed, ill, disabled, or in need of economic and other types of support; and families that take in the householders' siblings or other relatives.

3.1.2.1 Data source and definition

The pre-post occupant survey administered to LIFT program participants is the data source used to compute this metric. CCNB administered the in-person surveys in English and Spanish from 2017 to early 2019. In late 2019, the surveys shifted to Franklin Energy, which continued to conduct in-person surveys in both languages. In 2020, the survey transitioned to a telephone survey in response to COVID-19 restrictions.

Surveyors asked respondents to describe their household. Response options included the following options: 1) one family, 2) extended family with relatives/multiple generations in the household, and 3) two or more unrelated families in the household. The full survey is presented in APPENDIX A.

The metric is computed as follows:

Percent of extended family households =

(Number of extended family households survey respondents)/Total number of survey respondents

3.1.2.2 Results versus goals

As noted in the previous section, the results presented here are based on responses from 128 individual households that participated in the LIFT program and completed the survey.

Results indicate that 1.6% of LIFT program participants who responded to the survey (2 out of 128 individual households) are in extended family households. The LIFT program goal was to ensure that at least 40% of participants satisfy any **one** of the three "hidden community" customer segment descriptors. The households that fit the extended family description also state that the primary language spoken in the home is Spanish.

3.1.2.3 Key finding

Though survey responses indicate that only 1.6% of households that received program services fit the extended family household description, the program surpassed its goal of at least 40% of participants satisfying any **one** of the three "hidden community" customer segment descriptors.

The program included several senior housing participants, that comprise of smaller single or two-person households. Given the program requirement of reaching tenants residing in multifamily properties, the number of extended families that fit this descriptor available to the program is reduced. Furthermore, the program seeks to serve those outside CalEnviroScreen 2.0. These requirements further reduce the total number of extended families that fit this descriptor and are available to the program.

¹⁷ Housing the Extended Family, Center for American Progress, October 2016. <https://cdn.americanprogress.org/wp-content/uploads/2016/10/18155730/ExtendedFamilies-report.pdf>.

The two households that participated in the survey and fit the extended family descriptor also stated that the primary language spoken in the home was Spanish. The results indicate the intersectional characteristics of “hidden communities”.

Per the Center for American Progress (CAP) report on extended families, 17% of all households in the nation fit this descriptor. The CAP report also states that the U.S. population living in extended families increased from 58 million in 2001 to 85 million in 2014. Given the paucity of affordable housing in Northern California that is a contributing factor to the prevalence of extended family households and the low-income target market for the LIFT program that is more likely to be found in such housing arrangements, DNV recommends that the LIFT program continue to track this metric.

3.1.3 Percent of households outside of CalEnviroScreen 2.0

CalEnviroScreen is a mapping tool that helps identify California communities that are most affected by multiple sources of pollution, and where people are often especially vulnerable to pollution’s effects. CalEnviroScreen uses environmental, health, and socioeconomic information to produce scores for every census tract in the state. An area with a high score is one that experiences a much higher pollution burden than areas with low scores. DACs are defined as the 25% top-scoring areas according to CalEnviroScreen, along with other areas that record high amounts of pollution and low populations.

The LIFT program seeks to identify and serve residents located outside of CalEnviroScreen 2.0 designated DACs. This metric tracks participants who are financially disadvantaged but may live in a more affluent or less polluted area.

3.1.3.1 Data source and definition

Program tracking data provided by the prime program implementation contractor, AEA, is the data source used to compute this metric. The metric is computed as:

Percent of LIFT treated income-qualified dwelling units outside CalEnviroScreen 2.0 designated DACs=

(Number of LIFT treated income-qualified dwelling units¹⁸ outside of CalEnviroScreen 2.0 DAC compliance)/Total number of LIFT treated income-qualified dwelling units

3.1.3.2 Results versus goals

Of the 865 units treated by the LIFT program, 842 units were income qualified and the remaining 23 units received LIFT program services as they were in properties where greater than 80% of the treated units were income qualified. Results indicate that 794 out of the 842 LIFT treated income-qualified dwelling units (94%) are outside of CalEnviroScreen 2.0 DAC compliance per the tracking data provided by AEA (Table 3-1).

¹⁸ Qualified dwelling units are those that meet the program eligibility criterion of income at or below 200% Federal Poverty Guidelines. This could include both units that have submitted an intent to proceed but not yet undertaken upgrades and units that have completed energy efficiency upgrades.

Table 3-1. CalEnviroScreen 2.0 DAC compliance

Description	In CalEnviroScreen 2.0 DAC compliance	Not in CalEnviroScreen 2.0 DAC compliance
Number of LIFT qualified dwelling units	48	794
Percent of LIFT qualified dwelling units	6%	94%

3.1.3.3 Key finding

Given that 94% of LIFT qualified dwelling units are outside of CalEnviroScreen 2.0 DAC compliance, the program surpassed its goal of at least 40% of participants satisfying any **one** of the three hidden community customer segment descriptors.

3.1.4 Percent of units receiving comprehensive upgrades

By blending LIFT program incentives with MFES program rebates, MCE aims to provide maximum incentives to property owners to achieve the full potential for comprehensive savings from energy upgrades. The desired outcome is cost effective delivery of program services with maximization of benefits to owners and tenants.

3.1.4.1 Data source and definition

Program tracking data provided by the prime program implementation contractor, AEA, is the data source used to compute this metric. The program aims to deliver comprehensive upgrades, which MCE refers to as projects receiving MFES rebates on top of LIFT incentives; and projects with measures that fall into two or more end-use categories (lighting, building envelope, space heating, etc.). The metric is computed as:

$$\text{Percent of dwelling units receiving comprehensive upgrades}^{19} = \frac{(\text{Number of dwelling units receiving comprehensive upgrades using both MCE's MFES and LIFT program offerings})}{\text{Total number of LIFT dwelling units}}$$

3.1.4.2 Results versus goals

Program tracking data indicate that 387 out of 510²⁰ dwelling units (76%) received comprehensive upgrades. The LIFT program goal is to ensure that at least 60% of dwelling units receive upgrades using both MCE's MFES and LIFT program offerings.

3.1.4.3 Key finding

The program defines comprehensive upgrades as projects with measures that fall in two or more end-use categories. Given that 76% of dwelling units received upgrades for two or

¹⁹ This metric is based on dwelling units that have completed energy efficiency upgrades and have received funding from MFES and LIFT combined.

²⁰ A base of 510 income eligible units is used to compute this metric (versus the total 865 income-eligible units treated by the LIFT program). While the remaining 355 additional units have received LIFT program services, at the time of completion of this report, these units were scheduled to but were yet to receive services from the MFES program and are hence excluded from inclusion in this metric. Program activity on the LIFT pilot continues to occur beyond the time of completion of this report in July 2021.

more end uses, the program has surpassed its goal of 60% of units served by the program receiving comprehensive upgrades.

3.1.5 Percent of eligible households that install EE measures through LIFT

Low-income multifamily renters face a higher energy burden and face market barriers, such as the need for owner approval to improve the units, financial constraints, potential rent increases after upgrades, and the lack of financial incentives. The LIFT program seeks to overcome these barriers by targeting landlords and property owners and reaching a higher number of units more efficiently.

3.1.5.1 Data source and definition

Program tracking data provided by the prime program implementation contractor, AEA, is the data source used to compute this metric. The LIFT program used the same income eligibility threshold as the ESA program (household income at or below 200% of the federal poverty level) but was available only to multifamily properties. The metric is computed as:

Percent of income eligible households that install efficiency measures through the LIFT program =
(Number of income eligible households served by LIFT)/Total number of income eligible households in MCE's territory

3.1.5.2 Results versus goals

Program tracking data indicate that 842 dwelling units have received or will receive program services and were verified as income-eligible out of a total of 865 units served/to be served by the program. This is because MCE applies the 80% ESA-eligible tenant multifamily household eligibility rule, which states that if at least 80% of units at a given property qualify as income-eligible, all units are income-eligible. Thus, for properties that satisfy the 80% rule, the total number of participating units equals to the total number of units at the property (i.e., both income-eligible units and units that do not meet the income eligibility requirements, but are located at a property where 80% or more of the units are income-qualified).

The program sought to serve 550 income eligible households in MCE's service territory in the first year of the program and 932 income eligible households in the second year, which translates to a goal of 1,482 households out of 56,087 income eligible households in MCE's service territory through a two-year program period.²¹

3.1.5.3 Key finding

The MCE LIFT program treated 842 income-eligible households out of the 56,087 income eligible households in MCE's service territory over a three-year period. This is significantly lower than its stated goal of treating 1,482 income-eligible households out of 56,087 income eligible households in a two-year period.

²¹ MCE. "MCE_LIFT Program Manual 4_16" 2018. PDF file.

3.1.6 Heat pump procurement and installation costs

The LIFT pilot aimed to value and quantify the full potential of fuel switching in space- and water-heating heat pump applications. The cost of implementing these measures is an important metric to measure as heat pumps are a more expensive retrofit as compared to a gas-fired replacement and thus currently necessitate an incentive to make them cost-competitive. Table 3-2 presents the incentives that MCE offered under the LIFT program for by measure for each dwelling type.

Table 3-2. MCE heat pump incentives for space and water heating measures

System Type	Heat Pump Type	Incentive per Dwelling
Hot Water Gas/Propane to HPWH	Central HPWH (not eligible for electrical upgrade add-ons)	\$1,500
	Apartment HPWH	\$2,000
	Apartment HPWH with newly installed hydronic fan coil/heat emitter	\$3,000
Space Heating Gas/Propane Heating, without A/C	Ductless Heat Pump (assumes newly installed)	\$5,000
	Central Heat Pump System (serving multiple units)	\$3,750
	Package Terminal Heat Pump (assumes newly installed)	\$2,500
	Ducted Split Heat Pump (assumes replacing gas furnace AHU)	\$4,500
Space Heating Gas/Propane Heating, with A/C	Ductless Heat Pump (assumes newly installed)	\$5,000
	Central Heat Pump System (serving multiple units)	\$3,750
	Package Terminal Heat Pump (assumed replacing existing PTAC)	\$1,500
	Ducted Split Heat Pump (assumes replacing existing split A/C)	\$3,500
	Rooftop Packaged Heat Pump (assumes replacing existing gas-pack)	\$3,000
Electrical Upgrades (as needed)	Panel Upgrade (Existing too small for newly added electrical load)	\$1,200
	New Electrical Conduit to Heat Pump (per circuit)	\$400

3.1.6.1 Data source

The evaluation team assessed contractor invoices provided by implementer AEA for 17 space heating and water heating heat pump projects. The team reviewed invoices with an intent to allocate procurement and installation costs for material, labor, and when necessary electrical or structural upgrades applied. Invoices for several projects were difficult to discern coupled with the absence of contractor tracking data scope, project cost and incentives paid. Invoices varied significantly; some were transparent while others consolidated all costs into a single line item. Projects varied widely as well from complete renovations, to rooftop or in-home unit installations. Through follow up data requests project details provided more scope. Therefore, for the purposes of the cost comparison, only total project costs are presented unless the contractors provided more detailed information.

3.1.6.2 Results versus goals

The program goal related to this metric is simply to gather information on procurement and installation costs of heat pumps including costs of bulk purchase to inform fuel switching

policies. The program aims to offer up to 80% of the cost when all measure opportunities are maximized. The following four tables present the total project costs for:

- Central HPWHs that serve multiple dwelling units
- In-unit HPWHs (tank) which typically serve individual dwelling units, but for this installation served multiple units
- Ductless heat pumps and central heat pump systems that provide heating and cooling to individual dwelling units
- Package terminal heat pumps that provide heating and cooling to individual dwelling units

Central HPWH. The costs associated with central HPWH projects, the number of dwelling units served by the water heaters, the cost by dwelling unit, and total cost as well as the incentive are provided in Table 3-3. The individual incentive for a central HPWH is \$1,500 per dwelling and the mean cost is \$2,763.

Central system water heaters vary in design based on the number of dwellings they are intended to serve, and because of this there are few similarities as it relates to equipment installation costs. Some HPWHs are similar to in-unit water heaters, with a larger capacity tank (e.g., 120-gal tank vs. 50-gal standard water heater tank), whereas others that serve numerous dwellings with a large capacity heat pump and separate water heater tanks.

DNV found the average cost of central water heating system per dwelling is \$2,760 with a standard deviation of \$813. The incentives for central HPWH systems vary widely due to the aforementioned variation in capacities and associated costs. In addition to the equipment cost, the following costs were included in the respective invoices:

- Project Richmond: Building Permit \$358, demolition of gas lines and vents and carpentry \$4,807, electrical, sub panel, wiring, conduit, sub panel \$12,678, plumbing, (tubbing, gauges, brackets), water heating system 4.5kW Heat Pump and 119-gallon storage tank
- Project Rodeo: Electrical \$13,514, recirculating pump and control \$4,850, retro commissioning \$3,604, and compressor warranty \$2,763.
- Project Bolinas #11: Heat Pump Water Heater with time and materials for plumbing \$1,800
- Project Bolinas #13: This is the same property as #11 and some costs are shared with this project which also included spacing heating. The water heater is a Heat Pump with the tank on the roof, includes roof penetrations \$1500, and crane rental was \$800. Additional cost added for lodging in remote area.
- Project Oakley: Electrical \$9,760, recirculating Pump \$5,200, and control, and retro-commissioning \$2,393.

Table 3-3. Central HPWH total installation cost

Project ID	Location	Number of Systems Installed	Dwelling Units Served	Equipment	Other	Cost per Dwelling Served w/out Incentive	Total Cost without Incentive	Incentive
33	Richmond	1	23	\$14,335	\$32,733	\$2,091	\$47,057	\$33,750
9	Rodeo	2	50	\$112,464	\$24,686	\$2,743	\$137,150	\$75,000
11	Bolinas	1	3	\$9,700	\$1,800	\$3,833	\$11,500	\$6,400
13	Bolinas	1	7	\$12,200	\$2,300	\$2,071	\$14,500	\$11,500
29	Oakley	1	24	\$79,871	\$5,200	\$3,545	\$85,071	\$36,000
Mean						\$2,760		
Standard Deviation						\$813		
Maximum						\$3,833		
Minimum						\$2,071		
Total		6	107	\$220,670	\$74,619	-	\$295,278	\$162,650



In-unit HPWH. Table 3-4 presents the single project with in-unit HPWH installation. This project was unique, as water heaters of this type and size (50-gallon tank) typically serve a single dwelling. However, these water heaters were plumbed to serve two dwellings for each water heater. The invoice included three hybrid heat pump water heaters that served six dwellings and at least one water heater included an expansion tank. The program adjusted the incentive to match a 'central system' design rebate at \$1500 per dwelling as compared to the \$2,000 per dwelling that would be typical if the water heater served a single dwelling. The incentive for the in-unit heat pump water heater covers approximately 44% of the total cost. Invoice details were limited on this project but included items for permits, pipe fitting and conduit.

Table 3-4: In-unit HPWH installation cost

Project ID	Location	# of Systems Installed	Dwelling Units Served	Equipment	Other	Cost per Dwelling Served	Total Cost without Incentive	Incentive
10	San Geronimo	3	6	\$17,443	\$3,076	\$3,420	\$20,519	\$9,000



Ductless heat pumps. Table 3-5 presents the most common measure installed by the program, the ductless heat pump systems, which provides both hot and cold air. The following table shows the associated costs for 203 ductless heat pump systems across 10 projects. DNV found an average cost without the incentive at \$10,902 per

ductless heat pump system with a standard deviation of \$4,268. The variation in costs is likely largely due to variation of equipment capacity. Higher capacity equipment typically costs more. With an incentive cost of \$5,000 per ductless mini-split and \$3,750 per central ductless heat pump, the incentive covers roughly 30% to 91% of the total cost. One

possible way to address the cost disparity is to incentivize by the installed capacity or by dollar per ton of cooling.

- Project San Rafael (#5): This project included a complete building renovation with a with ductless systems.
- Project Bolinas (12): Includes a 220V/ 20AMP circuit and moving a subpanel as well as new sub panel. Parts \$700, labor \$1100.
- Project Bolinas (13): This project is on the same property as site ID 12 and some costs and incentives are shared for building upgrades as well as contractor services (e.g., travel). It included a 220V, 20AMP panel, unit and sub panel as well as breaker (no line item costs were available).
- Fairfax: This project was a complete building renovation which included HVAC and electrical.
- Project Napa: Napa these two-phase projects were complete building renovations with a mini-split, multi-zone units, additional costs were wiring and interface kits.
- Project Belvedere: This project included a demolition of ceiling gas heaters, unit installation crane on roof, piping refrigerant, wiring, drain piping and permit (no line item costs were available).

Table 3-5. Ductless heat pump installation costs

Project ID	Project Name	# of Systems	Material & Parts	Other	Cost per Dwelling Unit	Total Cost w/o Incentive	Incentive
		Installed / Dwelling Units					
5	San Rafael	1	\$1,800		\$8,750	\$10,550	\$6,600
12	Bolinas	3		\$975	\$10,127	\$15,447	\$11,650
13	Bolinas	6			\$3,862	\$30,381	\$22,500
12	Bolinas	8			\$1,970	\$15,760	\$11,650
38	San Rafael	2			\$6,250	\$12,500	\$10,000
10	San Geronimo	6			\$15,630	\$24,771	\$22,500
16	Fairfax	70	\$10,928	\$3,529	\$14,458	\$1,012,036	\$350,000
3	Napa	40			\$6,763	\$411,024	\$196,000
2	Napa	56			\$6,763	\$575,434	\$173,800
22	Belvedere	11		\$16,960	\$8,018	\$105,160	\$54,000
Mean					\$10,902		
Standard Deviation					\$4,268		
Maximum					\$15,630		
Minimum					\$ 1,970		
Total		203	\$12,728	\$21,464		\$2,213,063	\$ 858,700

3.1.6.3 Key finding

There were several challenges with aligning the costs in the invoices to specific records. In some instances, the invoices may have included equipment for multiple records. In other cases, it wasn't always apparent what the scope of work was and how it was associated with costs. To ensure that the project costs are accurate, best practices can be adopted. In cases where invoices information is omitted, documentation can be annotated and corrected. The program allows properties to use their own contractors for additional flexibility. DNV

recommends that the program prescribe participating contractors to use a program form that includes the following information in addition to submitting invoices:

- Unique record identifier: project name or number
- Program project overview and description on the scope of work
- Install location: the address where the work was done. If the work is for only one of multiple phases, include notes like apartment unit numbers
- Scope of work: quantity, type of equipment, make and model numbers
- Total project costs associated with that record. If unrelated costs are included on the invoice these should be excluded from that total. In some cases, costs for multiple records might be included on the same invoice, to the extent possible these costs should be allocated to each project

3.2 Program performance

In this section, DNV presents results on program performance metrics related to savings estimates and Btu savings impacts of heat pumps, bill impacts, and GHG impacts.

The program performance analysis primarily relies upon a utility meter data analysis that was used to inform multiple metrics with short term equipment monitoring to inform and support the utility meter analysis and spot flue gas measurements that were focused on specific metrics. The utility meter analysis approach uses weather data to set energy consumption pre- and post-retrofit on equal weather footing to isolate the effect of the retrofit from weather effects. The regression model treats energy consumption as a function of heating and cooling degree days. DNV uses actual weather data to find optimal heating and cooling temperature setpoints. Once regression coefficients are obtained, climate zone 2018 (CZ2018) typical meteorological year (TMY) weather data are used to produce weather-normalized consumption estimates. DNV runs this regression process for both pre- and post-retrofit periods for each unit and site.

3.2.1 Savings per unit for LIFT program

The savings analysis of LIFT and other electrification programs differs from traditional energy efficiency programs because electric consumption is expected in many cases to increase (negative electric savings) and there will be significant reduction or elimination of gas consumption (high gas savings).

3.2.1.1 Data source and definition

The heat pump measure savings per unit for electric and gas were derived from the utility meter data analysis. 15-minute interval electric meter data and daily gas meter data were obtained for the analysis. The electric consumption was aggregated to the daily interval to match the resolution of the gas data, and the regression modeling was performed on daily-level, with outputs aggregated to the monthly interval. Peak demand savings estimates were not calculated for these heat pump measures. Impacts from the other energy

efficiency measures installed through the pilot program rely on program tracked deemed energy and demand estimates.

Three sampled heat pump projects also installed energy efficiency measures. One project claiming negligible lighting savings, one project claiming modest savings from a package terminal heat pump²², and one claiming electric savings from low-flow water fixtures. The impact of low-flow water fixtures could be confounded with the added electric load of the heat pump water heaters.

The most recently published ESA impact evaluation (2015-2017) showed lower savings than ex ante using a metering data analysis approach. So, the impact evaluation PG&E results are referenced as well as the 2016 Annual Report MCE used when defining the metrics at program launch. The ESA program reports roughly 75% of homes are single family, further complicating direct comparison.

3.2.1.2 Results vs goal

MCE set a Btu goal, but not specific kWh and therm targets. Noting the most recent ESA impact evaluation represents mostly single-family homes—the savings reported averaged 96 kWh and 9 therms for multifamily projects in PG&E territory over the four program years and thousands of homes. Overall ESA reported savings was 3.2 MMBtu and the evaluation showed 1.5 MMBtu savings.

Table 3-6 below summarizes the site savings per dwelling unit achieved by the LIFT program through the energy efficiency upgrade and heat pump fuel switching measures. Per the program tracking data, 733 dwelling units received energy efficiency measure upgrades resulting in an average per dwelling unit annual energy savings of 86 kWh, 0.006 kW, and 5 therms. One subset of 276 dwelling units benefited from receiving fuel substitution heat pump measures through LIFT, while another subset of 19 dwelling units benefitted from receiving fuel (propane) switching heat pump measures through the pilot program. The evaluated per dwelling unit heat pump fuel substitution impacts were determined to be an increase of 150 kWh and a decrease of 72 therms, whereas the heat pump fuel switching impacts were determined to be a decrease of 1,130 kWh²³ and a decrease of 241 therms. The sample data supporting these results can be found in Table 5-1 within APPENDIX D. No estimates of electric demand impacts were calculated for the LIFT heat pump measures. Overall, the LIFT program realized 50 kWh of electric energy savings and 32 therms of gas energy savings per dwelling unit. This corresponds to less electric savings than the ESA impact evaluation but greater than three times the gas savings, with the combined LIFT per unit Btu savings nearly three times that of ESA multifamily projects.

²² It is uncertain if this measure was installed under the same electric account that was analyzed for heat pump installation at this project.

²³ This value includes the impacts of onsite PV electric behind the meter generation installed during the analysis period for the single fuel switching project sampled. The other two fuel switching projects in the pilot program population also added onsite solar PV electric behind the meter generation during the analysis periods.

Table 3-6. Summary of LIFT site savings per dwelling unit for energy efficiency & heat pump measures

Measures	Total Number of LIFT Units	Electric Energy (kWh) Savings per Unit	Electric Demand (kW) Savings per Unit	Gas Energy (therm) Savings per Unit
LIFT Energy Efficiency	733	86	0.006	5
Heat Pump - Substitution	276	-150	-	72
Heat Pump - Switch	19	1,130	-	241
Total	865	50	0.005	32

3.2.1.3 Key Finding

LIFT far exceeded ESA gas savings through the heat pump measures but did not achieve ESA electric savings both because of the expected heat pump electric usage increase and because LIFT EE did not install all ESA weatherization measures.²⁴ Notably, unlike ESA, LIFT allowed properties to choose their own measures based on the property and units' needs. Several properties utilize the majority of their incentives to cover measures that improve the overall thermal comfort of the units and are not eligible under ESA such as windows.

3.2.2 Bill impact of fuel substitution or fuel switching

Uncertainty regarding potential utility bill increases is a key barrier to fuel substitution or fuel switching, whether it is tenant costs, heating costs, or property manager costs for central water heating systems. In addition to the LIFT program, customers could move to new time-of-use rates after retrofit, adding complexity. The evaluation analysis was designed to look at bill impacts the customer would have seen assuming the same rate before and after retrofit, as well as the actual monetary bill impact with the any rate changes that occurred.

3.2.2.1 Data source and definition

The customer bill impacts combine the utility meter analysis results and rate schedule information from MCE and the customers. Analysis was done using actual post-retrofit rates, all observed rate changes in the sample were from TOU-A to TOU-C rate schedules, as well as an alternative where the rates were assumed to stay the same to provide an apples-to-apples comparison of pre- and post-installation results.

3.2.2.2 Results versus goal

MCE did not set a goal for energy cost impacts resulting from fuel substitution or fuel switching heat pump measures but did seek to determine these impacts through the LIFT pilot evaluation. The results of the bill impact assessment are presented below in Table 3-7. On a per dwelling unit basis, LIFT heat pump recipients realized an annual energy cost

²⁴ ESA weatherization measures include attic insulation, weatherstripping, caulking, and door and building envelope repairs which reduce air infiltration. Per the tracking data, LIFT EE weatherization measures claimed include Title 24 compliant windows, crawl space insulation.

savings of \$192²⁵. This equates to a total annual savings of \$56,603 across the entire LIFT program heat pump population included in this evaluation.

We observe that the calculated bill savings from fuel switching are significantly higher than the bill savings from fuel substitution at \$1,123 versus \$128 due to addition of solar PV at the sample fuel switching sites during the analysis period. All three fuel switching projects in the pilot population added solar PV during the analysis period. Therefore, for fuel-switching, no heat pump impacts independent of the addition of solar PV are available for analysis. The overall bill impact is weighted more heavily towards the fuel substitution impacts as these projects comprise the majority of the program population.

The sample data supporting these results can be found in Table 5-2, Table 5-3, Table 5-4, and Table 5-5 within APPENDIX D. Over 82% of the realized cost savings stems from the reduction in gas consumption, with changes in electric consumption making up the balance. Underlying this result is a rate schedule change for some sampled projects that slightly increased bill savings further.

DNV performed an analysis of energy cost impacts using an alternative rate case, where the energy cost impacts were assessed without any rate schedule change. In the alternative rate case scenario, the per dwelling-unit annual energy cost savings would be \$187, and total annual savings across the LIFT program heat pump population would be \$55,244.

Table 3-7. Summary of annual bill savings from heat pump measures

Measures	Total Number of LIFT Heat Pump Units	Rate Case	Bill (\$) Savings per Unit	Bill (\$) Savings, Program Total
LIFT Heat Pump Gas Fuel Substitution	276	Actual	\$128	\$35,262
		Alternative	\$123	\$33,903
LIFT Heat Pump Propane Fuel Switching	19	Actual	\$1,123	\$21,342
		Alternative	\$1,123	\$21,342
All LIFT Heat Pump	295	Actual	\$192	\$56,603
		Alternative	\$187	\$55,244

3.2.2.3 Key Finding

LIFT heat pump measures result in non-trivial realized annual energy cost savings and the rate schedule changes had a small positive contribution to this outcome.

3.2.3 GHG impact of heat pumps

Fuel switching focuses on reducing greenhouse gas emissions as the electric generation mix continues to decarbonize through renewables. The evaluation included all aspects of GHG including direct burning of gas, methane leakage (methane is 72 times more potent than carbon dioxide), and the emissions from electricity generation and line losses to run the heat pumps.

²⁵ For centralized heat pump systems, such as is common for DHW equipment multifamily buildings, these fuel cost savings are likely realized by the property owners or managers, and not the dwelling unit tenants.

3.2.3.1 Data source and definition

The GHG reduction analysis combines the utility meter data analysis, flue gas measurements, critical assumptions from the CPUC and the California Energy Commission (CEC) (leakage rates, emissions assumptions, and distribution losses), and assumptions for the MCE Light Green (60% renewable) generation mix²⁶. The direct measurement of indoor air pollutants, which include carbon monoxide (CO) and nitrous oxides (NO_x) from gas-fired equipment do not have specific points of comparison.

3.2.3.2 Results vs goal

MCE set goals to reduce all emissions, but no specific GHG or other emissions targets. Overall, the program saves just over 1 metric ton of carbon dioxide annually per unit and 321 metric tons per year total across all heat pump sites. Notably, the dangerous indoor air pollutants, carbon monoxide (CO) and nitrogen oxide (NO_x) have OSHA limits measured in parts per million (PPM). Assuming an average size tenant unit and one air change per hour, the CO limit is 1 pound annually, not to exceed 50 PPM. The measured reduction was 2.08 lbs./unit. This means that before installation of heat pumps, the CO is over the national health and safety limit in tenant units or the space where the property management staff accesses the water heaters or both. The sample data supporting these results can be found in Table 5-6, Table 5-7, and Table 5-8 within APPENDIX D.

Table 3-8. Summary of annual GHG emissions impacts from fuel switching and fuel substitution heat pump measures

Measures	Total Number of LIFT Heat Pump Units	Emissions Savings per Unit	Emissions Savings, Program Total	Units
LIFT Heat Pump Gas Fuel Substitution	276	0.91	252	CO ₂ (tons)
		2.22	612	CO (lbs.)
		0.87	239	NO _x (lbs.)
LIFT Heat Pump Propane Fuel Switching	19	3.69	69	CO ₂ (tons)
		0.10	2	CO (lbs.)
		2.80	53	NO _x (lbs.)
All LIFT Heat Pump	295	1.09	321	CO₂ (tons)
		2.08	614	CO (lbs.)
		0.99	292	NO_x (lbs.)

3.2.3.3 Key finding

The LIFT program realized significant annual carbon dioxide (CO₂) GHG reductions through the heat pump fuel switching measures. NO_x, which is a GHG, was also reduced as a result of the heat pump measures, as well as CO, an indirect, toxic GHG.

²⁶ Savings would be significantly higher for customers receiving MCE's Deep Green service (100% renewable). DNV did not model those calculations for this report.

3.2.4 Btu savings impact of heat pumps

The source Btu impacts of switching from gas-fired equipment to electric heat pumps is a combination of the much greater efficiency of heat pumps and the energy used to generate the electricity. Some gas and other fuel are burned to generate electricity while also being subject to additional losses from transmission and distribution summarized in the site-to-source ratio. MCE generation mix at a minimum of 60% renewables means the site-to-source ratio is 2 or less and the heat pump's coefficient of performance is 3 to 4.

3.2.4.1 Data source and definition

Customer bill impacts were estimated using billing analysis results and MCE's generation mix which is minimum 60% renewables. DNV used the CPUC Avoided Cost Calculator and CAISO assumptions as a point of comparison for the kBtu/kWh assumptions. The ESA electric and therm savings translate into 3.2 source MMBtu which the program set as a target to exceed.

3.2.4.2 Results vs goal

Savings per unit of 9.4 MMBtu annually for LIFT HPs is almost triple the savings of 3.2 MMBtu documented in PG&E's 2016 ESA program report. The sample data supporting these results can be found in Table 5-9 within APPENDIX D.

Error! Reference source not found. summarizes the total number of dwelling units benefiting from LIFT heat pump fuel substitution or switching measures, the per dwelling unit annual source energy savings²⁷, and the program total annual source energy savings.

Table 3-9. Summary of source energy savings from fuel switching and fuel substitution heat pump measures

Measures	Total Number of LIFT Heat Pump Units	Source Energy (kBtu) Savings per Unit	Source Energy (kBtu) Savings, Program Total
LIFT Heat Pump Substitution	276	7,394	2,040,769
LIFT Heat Pump Switching	19	38,033	722,633
All LIFT Heat Pump	295	9,367	2,763,402

The evaluated savings for PG&E's ESA program was lower at 1.5 MMBtu than the reported value of 3.2 MMBtu. The source Btu savings per unit for LIFT were much higher than the reported and evaluated PG&E ESA savings. The ESA program includes larger residences that use more energy with more potential savings because they include a majority single family homes while LIFT served exclusively multifamily properties with lower per unit consumption.

²⁷ This estimate is for dwelling units only and is exclusive of common areas.

Compared to savings for multifamily projects in PG&E territory from the ESA 2015-2017 impact evaluation, LIFT's savings were almost eight times higher at 9.4 MMBtu versus of 1.2 MMBtu for ESA.

3.2.4.3 Key Finding

The source Btu savings per unit for LIFT were much higher than the reported and evaluated PG&E ESA savings.

3.3 Participant experience

In this section, DNV presents metrics on the program participant experience. The metrics capture property manager satisfaction with the program process and tenant satisfaction with the upgrades received.

3.3.1 Property owner/manager satisfaction

MCE designed the LIFT program to address some of the problems resulting from programs operating with siloed pots of funding. At the same time, there were opportunities to achieve greater cost efficiency, participation, and customer satisfaction. The LIFT program's vision was to deliver property owners, managers, and tenants maximum support by combining incentives and providing comprehensive upgrades for more significant benefits. The program sought to capture satisfaction levels by gathering feedback from property owners and managers that received heat pump and energy efficiency upgrades through the LIFT program.

3.3.1.1 Data source

The results presented in this section are based on responses from property managers who participated in the LIFT program and completed in-depth telephone interviews. The property manager interview guides for properties with and without heat pump installations are presented in APPENDIX B and APPENDIX A. DNV completed interviews with 11 out of the population of 20 property managers engaged by the program. DNV made a maximum of three contact attempts to reach property managers with working phone numbers to minimize the potential for non-response bias. These property managers had installed one or more of the heat pump measures for both central and point of use water heaters and/or space heaters. Five respondents represented individual properties, but all worked for the same organization.

Table 3-10. Sample disposition for property manager interviews

Interview disposition	Properties with heat pump installations	Properties without heat pump installations	Total (n=20)
Completed interviews	9	2	11
Incomplete interviews	2	1	3
No survey, non-response or disconnected			6

The interviews were primarily designed to gather input on the heat pump electrification measure and feedback on program experience. The interviews also included questions for property managers who participated in the program but did not install heat pumps in order to gain insights on their decision to not install and perceived barriers. Interviews also contained questions related to firmographics and program marketing and outreach.

3.3.1.2 Data source and definition

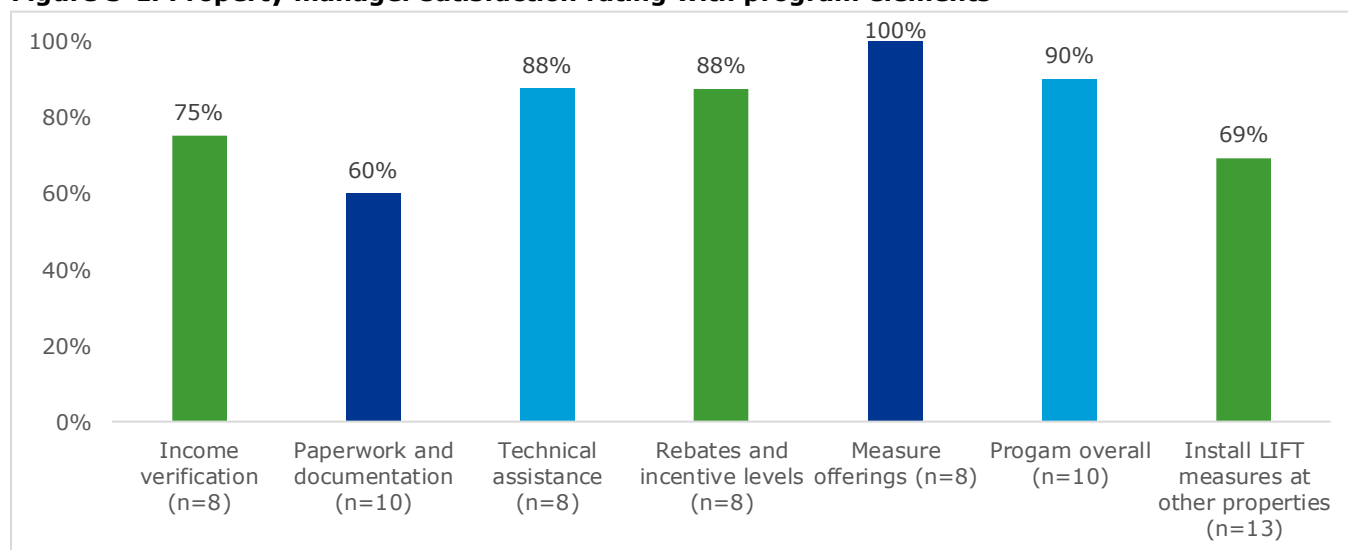
The program aims to achieve a satisfaction rating of 80% or better for ease of participation. To address the overall program experience, DNV inquired on six aspects of participation. Respondents rated their level of satisfaction on a 5-point Likert scale where “5” represents very satisfied and “1” represents very dissatisfied with the following program elements:

- Income verification process
- Paperwork or documentation requirements
- Project management and technical assistance provided
- Rebates and incentive levels
- The measure selection, heat pumps and energy efficiency
- Overall program satisfaction
- Likelihood of installing LIFT measures at other properties

3.3.1.3 Results versus goals

Figure 3-1 summarizes results for each satisfaction metric where respondents rated a 4 or 5 on a 5-point scale. As illustrated, a satisfaction rating of 80% or better was achieved on 3 of the 6 metrics and fell short slightly for income verification, program paperwork/documentation, and likelihood of installing LIFT measures at other properties.

Figure 3-1. Property manager satisfaction rating with program elements



3.3.1.4 Key findings

Advancing electrification in a predominately natural gas driven economy requires agility, credible information, and an enticing incentive offering.

High overall program satisfaction. Survey respondents echoed these sentiments as part of their post-project feedback and engagement with the program. The program surpassed its goal of satisfaction ratings of 80% for 3 of the 6 metrics and respondents were overall very satisfied with the program. Some of the open-ended feedback illustrate these findings:

"On a scale of 1 of 5, I give them a 6."

"Very effective, meet expectations and to the point, they were very responsive."

"It was really compelling. The only issue we had was the funding. We had to pick and choose – we started small and moved to the water heaters that included the rebate."

"Very effective. The MCE part has been great, I went through all the steps, the reason we haven't done more is its very costly."

Some challenges with specific aspects of program delivery. Satisfaction with income verification and paperwork and documentation are slightly below the 80% goal at 75% and 60%, respectively. Property managers who installed heat pumps were more satisfied than those who did not. The satisfaction rating increased for income verification from 75% to 86% and ratings increased for the paperwork/documentation requirements from 60% to 75% among respondents who installed the heat pump measures.

Respondents were also asked if they would leverage the LIFT program at any of the other properties they managed. Nearly 70% of respondents stated they would install LIFT measures at other properties they manage. Reasons for not installing at other properties included: income requirements are too stringent, measures are not needed, limited financing, or building structural limitations (for heat pumps).

Some of the more specific program challenges with respect to satisfaction included:

- The program's implied or expressed requirement to install additional measures beyond the heat pumps resulted in dissatisfaction among some participants. A few respondents (n=3) expressed dissatisfaction and confusion related to whether they "had to" install the additional measures. Among them, two of the three stated they reluctantly went ahead with the additional measures.

DNV recommends the program make clear requirements concerning added energy efficiency measures e.g., LEDs in-unit and that all additional measures are optional. By not installing the recommended measures lower incentives should be expected but they are not required. At least one respondent expressed dissatisfaction that they had to update their already existing LED lighting from screw-based to hard-wire to meet an implied program requirement.

- Another challenge for one property owner was that the installation costs for heat pumps were still not cost competitive as compared to the gas-fired units and the income requirements were too stringent, thus limiting their opportunity to expand the program to their other properties.

- A few respondents expressed frustration with the multiple visits and necessity to engage occupants to collect surveys.

Reasons for Installing Heat Pumps. The survey probed on a number of questions central to the theme of what convinced them to install heat pumps.

Electrification of space and water heating poses a number of hurdles. Commonly known one-for-one replacement barriers include, but are not limited to: gas-fired equipment offers a lower first cost, low or no reason for a panel or structural upgrades, users are already familiar with equipment operation and maintenance practices, and gas fired equipment often results in a lower operating cost when compared to standard electric rate plans.

Additional challenges in the advancement of electrification, as acknowledged by participants, include the necessity for a more robust HVAC workforce. Contractor awareness of the technology is low thus complicating the ability to get knowledgeable, competitive bids and quality installations. Typically, programs can rely on HVAC contractors as a trade ally resource to drive products and services to the market but knowledge gaps due to minimal use of heat pumps on the West Coast poses a gap that program staff have to bridge or make up by serving as an equipment advocate and educator.

Faced with the above challenges and more, the program sought to convince income qualified existing building property owners to electrify water heaters (in-unit and central) and space heating. Survey responses indicate the value of education and incentives as core components that ultimately convinced owners to electrify. Other drivers included: necessity as equipment was at the end of its useful life (this was a primary driver for all), lower cost of operation especially when paired with photovoltaics or when property owners were responsible for operating costs, and non-energy benefits: safety, corporate sustainability goals, and improved occupant comfort (through added air conditioning). As one respondent stated:

"It was just a really good opportunity to update our older units. We are in a time of growth and it is a nice message to the community that you are updating – want to show we are good at property management. And just the savings over time, more comfort to the tenants, and the program itself...is hard to say to no to with such a generous incentive."

3.3.2 Tenant satisfaction

Given the newness of the technology and the lack of customer exposure to it, there could be potential misconceptions about and misuse of heat pump technology. The program sought to measure tenants' satisfaction level with the heat pump technology, the information they received about the upgrade, and the LIFT program overall.

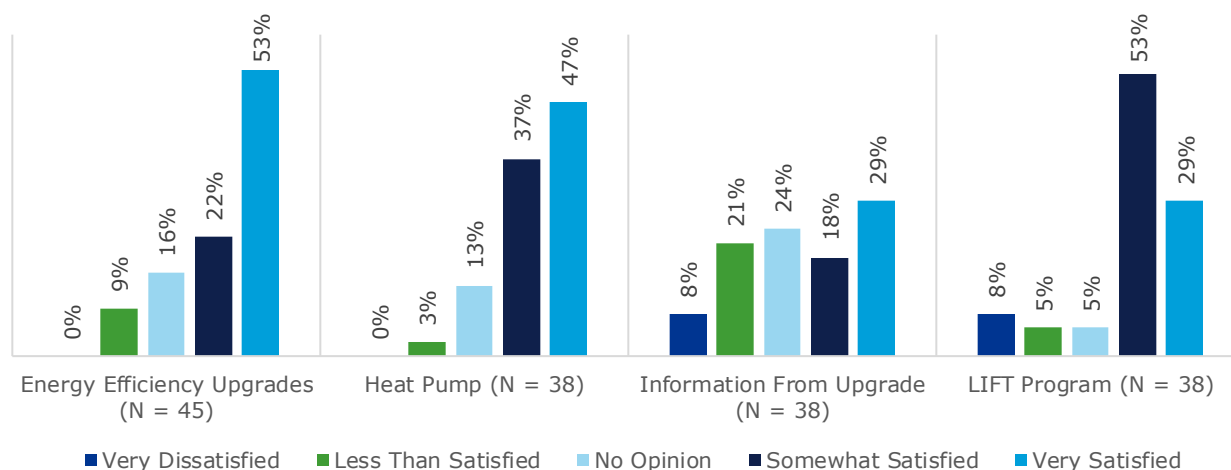
3.3.2.1 Data source and definition

The pre-post occupant survey, administered to customers who received services through the LIFT program, is the data source used to compute this metric. The full survey is included in APPENDIX A .Survey respondents were asked to rate their satisfaction with their energy efficiency upgrades, new heat pump, information on the benefits from the upgrade, and with the LIFT program overall.

3.3.2.2 Results versus goals

Seventy-five percent indicated that they were very or somewhat satisfied with their energy efficiency upgrades, 84% indicated satisfaction with the heat pump, 47% indicated satisfaction with information on program benefits, and 82% indicated satisfaction with the LIFT program overall (Figure 3-2).

Figure 3-2. Tenant satisfaction with LIFT



3.3.2.3 Key finding

With 84% customer satisfaction with the heat pump and 82% satisfaction with the LIFT program overall, the program is meeting its goal of 80% satisfaction for tenants with their heat pumps.

3.3.3 Non-energy impacts of fuel switching

The costs of fuel switching measures like heat pumps and heat pump water heaters are harder to justify when the health, comfort, and other non-energy impacts are not considered when compared to existing technology. The program seeks to measure tenant perceptions of the non-energy impacts from the upgrades in order to capture the full potential of fuel switching measures that may otherwise not be quantified and hence be undervalued.

3.3.3.1 Data source and definition

The pre-post occupant survey, administered to customers who received services through the LIFT program, is the data source used to capture information on non-energy impacts. The full survey is presented in APPENDIX A. Respondents who received energy efficiency upgrades through the LIFT program were asked about their level of comfort in the home, the air temperature in their apartment in hot and cold weather, the air quality, and noise level of their HVAC system.

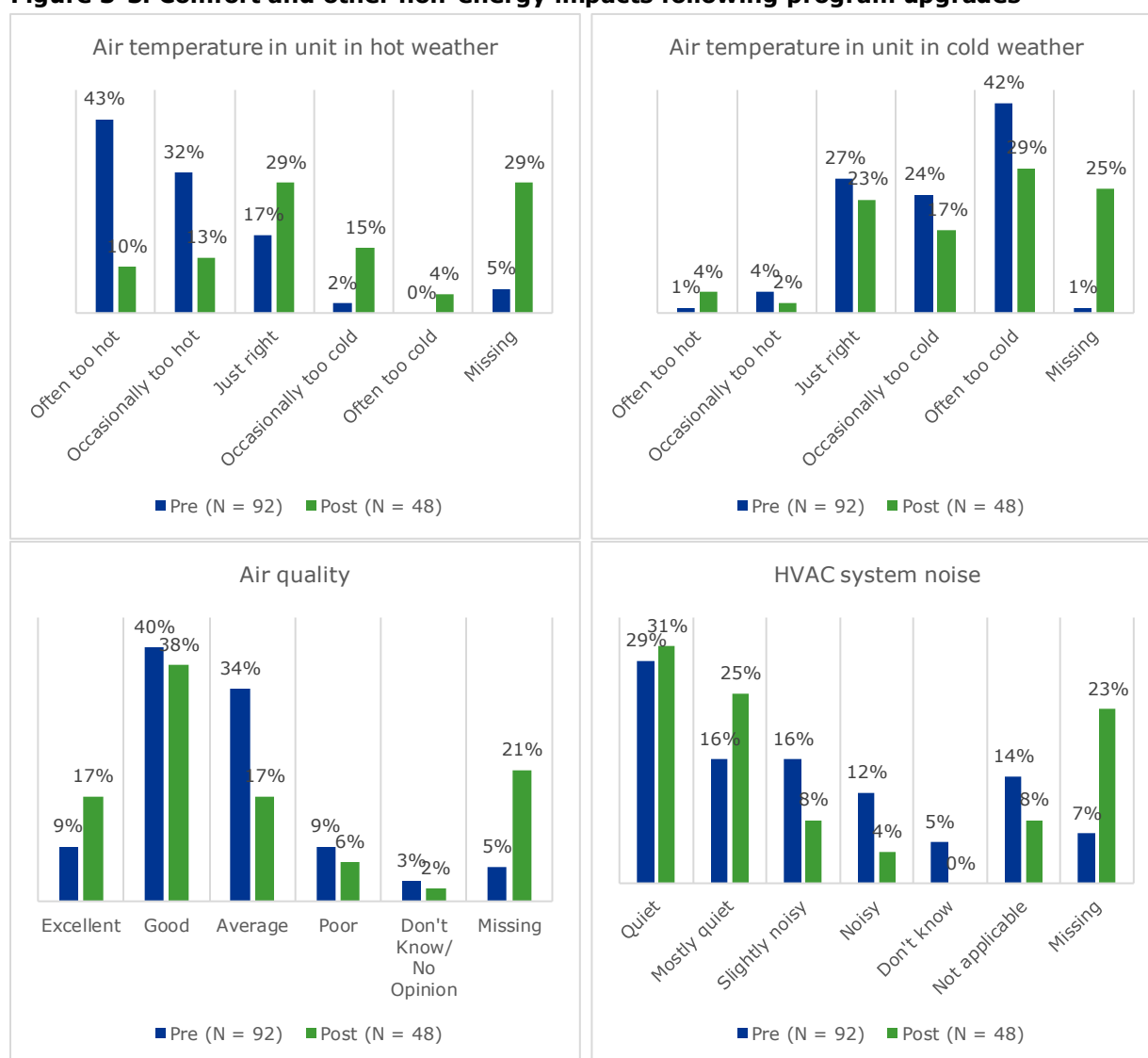
3.3.3.2 Results versus goals

The program does not have any metrics specified or goals related to non-energy impacts and mainly aims to track tenant perceptions of impacts. DNV discusses results related to tenant perceptions of the potential non-energy impacts of LIFT program upgrades in this section.

While results from occupant survey responses are not based on an exact matched set (pre-post), taken in aggregate these results provide directional insight on the potential non-energy impacts from fuel switching. Results indicate that tenants that received services from the LIFT program reported:

- indoor air temperature being just right even on very hot days
- better air quality
- lower noise from their HVAC systems

Figure 3-3. Comfort and other non-energy impacts following program upgrades



3.3.3.3 Key finding

There is some evidence of non-energy impacts perceived by tenants that received services through the LIFT program. The program can communicate the value of these benefits to property owners/managers and tenants to boost participation.

3.4 Contractor experience

DNV conducted interviews with heat pump installation contractors and contractors or consultants who participated in the MCE LIFT program sponsored workforce training class. The full contractor survey is presented in APPENDIX D.

The evaluation team contacted 11 contractors of which, six interviews were completed. Among the six interviewees, four provided installation services to the program and two did not as presented in the table below.



Figure 3-4. Contractor interview sample disposition

Interviews	(N=11)
Not reachable	5
LIFT HP contractors – completes	4
Non-installing HP contractors – completes	2
Total - completes	6


3.4.1 Workforce education and training

The program recognizes that there is a knowledge gap in contractor marketplace readiness to support fuel-switching measures. Typically, programs can rely on contractors as a trade ally resource to drive products and services to the market, but this technology is still new to the California market.

At the onset of the program, in 2018, MCE and Sonoma Clean Power partnered to offer a free training on heat pump best practices, refrigerant management, and indoor air quality issues.

To address this limitation, program staff serve as an advocate and educator providing information on aspects such as the amount of

Heat Pumps for Space and Water Heating: Applications and Considerations



Class Description: This all-day class will provide an overview of electric heat pumps for space heating, including both ducted and ductless systems, as well as heat pumps for water heating. The space heating discussion will touch on installation best practices, refrigerant management, and indoor air quality issues. The water heating portion will cover installation best practices and interaction with other water heating equipment such as solar thermal and recirculation systems.

Instructor: Dan Pernuko, Balance Point Home Performance

Hosted by: MCE and Sonoma Clean Power

Location: The North Coast Builder's Exchange, 1030 Apollo Way, Santa Rosa, CA 95407

Date and Time: Tuesday March 13, 2018 | 9:00 AM to 5:00 PM

For additional information, please call (707) 542-9502

Presented by:

energy a customer could save by switching and are working with installing contractors to develop additional workforce training and participation.

The advancement of electrification will require a more robust and educated HVAC and plumber workforce. A minority of contractors offer heat pump fuel switching as part of their business model, and those that do are contractors that focus on more expensive, comprehensive upgrades. Because knowledge of the technology is low, there are resource limitations to acquire competitive bids and quality installations. Due to contractor inexperience, with the measure and scope of work, implementer AEA has found that project bids vary significantly for a single project.

The program aims to continue to support workforce education and training to develop contractors to serve the program but has had limited success engaging them. Interviews with the implementer, AEA, have found contractors are resistant to support this measure in their business model because installations are not “business as usual.” Heat pumps require a larger suite of services and skillsets, particularly for existing buildings where installations may involve plumbing, HVAC, electrical, and carpentry, which can result in additional permit and building compliance requirements.

3.4.1.1 Market barriers and enablers

The survey asked respondents if their company promoted fuel switching from gas fired to all electric heat pumps. While respondents had a favorable opinion on the prospects of fuel switching, lack of experience was a key reason why some do not promote it. DNV asked contractors about their perception of barriers to adoption of heat pumps. Contractor responses to perceived barriers to heat pump adoption may be broadly categorized as financial, educational, structural, and operational (Table 3-11).

Table 3-11. Contractor perceived barriers to heat pump adoption

Financial Barriers	Education Barriers	Structural/ Technology Barriers	Operational Barriers
<p><i>High upfront equipment costs</i></p> <p><i>Insufficient incentives to attract customers.</i></p> <p><i>Insufficient savings/ payback is not favorable, cost more to operate (Market is not big enough to make it worthwhile due to) ...incentive eligibility limitations – serving only income qualified customers.</i></p>	<p><i>Most contractors are unfamiliar and inexperienced with products.</i></p> <p><i>Fewer contractors and technicians are knowledgeable and familiar with heat pumps.</i></p> <p><i>Not very common. Can't always predict how much they will save, but if they couple with PV it makes sense to use heat pumps.</i></p>	<p><i>Building likely needs to upgrade electrical panels and related costs.</i></p> <p><i>Products may not be drop-in (physical, electric, plumbing) for existing natural gas equipment.</i></p> <p><i>Need better support from manufacturers – need technical guides for design build projects.</i></p> <p><i>Less availability of equipment</i></p>	<p><i>Maintenance needs to be done annually because systems use refrigerant. Remote controls can go wrong, it takes more upkeep of the system.</i></p> <p><i>Heat pumps heat slower and change temperatures slower than natural gas, in retrofits.</i></p> <p><i>Automation, they cycle on/off and need to defrost, fans can be loud.</i></p> <p><i>Noise of water heaters is an issue.</i></p> <p><i>Service requires different contractor skill set.</i></p>

DNV also asked contractors about their perception of enablers to adoption of heat pumps, and their responses broadly fell under sustainability/non-energy benefits or financial enablers (Table 3-12).

Table 3-12. Contractor perceived enablers to heat pumps

Sustainability/Non-Energy Benefits	Financial
<p><i>A lot of people want to be green and lower their carbon footprint.</i></p> <p><i>Net zero goals.</i></p> <p><i>Meets corporate sustainability goals.</i></p> <p><i>Non-energy benefits: increased safety, increase occupant comfort, improve health issues (indoor air quality, fires, explosions).</i></p>	<p><i>Lower cost of operation when coupled with photovoltaics.</i></p> <p><i>Lower utility bills can allow owners to charge higher rents.²⁸</i></p> <p><i>New construction, avoiding the cost of natural gas connections and infrastructure.</i></p> <p><i>Incentives from MCE.</i></p> <p><i>Heat pump products can positively differentiate a business from competitors, wanting to keep up with latest technology.</i></p>

²⁸ These are benefits as quoted by contractors. MCE will develop renter protection measures for Naturally Occurring Affordable Housing (NOAHs), eliminating the potential risk of property owners benefiting from the upgrades.

4 CONCLUSIONS AND RECOMMENDATIONS

Overall, LIFT succeeded in its goals to overcome key barriers to install heat pumps that reduce customer energy use, energy bills, and emissions for tenants. The tenants receiving measures cannot afford discounted equipment or are underserved by mass market programs and are multifamily renters who are not fully served by the ESA program.²⁹ Many of the sites met MCE's initial target of small affordable housing areas within larger zip codes and census tracts that do not qualify for disadvantaged communities designation.

Presented below are key recommendations based on the findings from this evaluation for MCE's LIFT program.

4.1 Key recommendations

Improve program tracking and record keeping requirements. Through the course of conducting the evaluation, DNV identified inconsistencies in program tracking data that required the implementer to rectify and reissue. Access to consumption data was a challenge due to issues with timeliness and completeness that required several iterative discussions and were ultimately only resolved partially. DNV found gaps in the occupant survey data that were missing some months of survey responses and had to be appended upon discovery. Not all contractor invoices included the detail that could improve the usability of the data therein. As recommended in DNV's mid-term report, the program should also clarify expectations regarding contractor requirements for detailed cost information that breaks down hidden/soft costs such as for electrical panel upgrades.

Recognizing that the pilot was being developed and implemented simultaneously, DNV recommends that MCE address these gaps to improve data quality and evaluability of the program as it scales up. The program should develop and maintain a central, comprehensive, and compiled database that supports evaluability of key program metrics. The database should include granular data associated with each project site including, but not limited to: a unique identifier, building classification, site address including specific units treated, project status, measures installed, contractor information, incentives provided, equipment costs, labor costs, survey responses etc.

Continue with successful program elements. The LIFT program integrated well with the Multifamily Energy Savings (MFES) program and other program offerings. The program is reaching "hidden communities" of low-income tenants outside of designated DACs, e.g. those residing in extended families, and/or those who are in non-English/limited English-speaking households. The program is short of its goal to serve 1,482 income-eligible households at the current number of 842 income-eligible households through the LIFT program. DNV recommends the program experiment further to increase the percentage of eligible customers who install measures by working with community organizations and deploying non-traditional marketing and enrollment methods. DNV also believes the program could leverage some of the techniques used by the investor-owned utility (IOU)

²⁹ PG&E's Energy Savings Assistance Program provides qualified customers with energy-saving improvements at no charge. Participants must live in a house, mobile home or apartment that is at least five years old. Income guidelines for the ESA program are same as those for CARE, the California Alternative Rates for Energy Program.

programs, focusing on direct install and other³⁰ methods to increase in-unit energy-efficiency measure installations.

Continue studying impacts because savings goals were met on average but were highly variable.

- Highly variable savings are common for pilots due to the limited cases available and studied. Because of the variability in project scope and pre-existing conditions for multifamily properties, the variability in savings may remain high even after additional M&V. More stable per-unit energy savings may emerge after more projects are completed, specifically mini-split heat pumps or central heat-pump water heaters (HPWHs).
- The two M&V projects for central HPWHs showed high potential to produce consistent savings and were less complex. Notably, the sites also have on-site solar power generation, which further reduces carbon emissions and costs based on thermal storage potential. The mini-split heat pump M&V projects were more varied in scope. For example, the existing technologies within the unit showed variation and the condition of the units varied as well, contributing to variability in savings. Therefore, future projects' evaluations will need to isolate heating system upgrades.

4.2 Additional recommendations

Below DNV provides additional insights and recommendations that are broader and combine findings from this study with DNV's knowledge of the market, policy, and technological expertise for MCE's consideration and improved program outcomes:

- **Enhance Participant Experience.** To improve the participant experience, DNV recommends that MCE develop a customer journey map for the LIFT program that summarizes the roles, responsibilities, and touchpoints for all actors from start to finish and identifies opportunities to streamline and consolidate program process and reduce the transaction burden for participants, especially in cases where the upgrades involve multiple measure installations. Clarify program requirements as it relates to measure offerings and what is optional versus what is mandatory.
- **Quantify Non-energy Benefits (NEBs).** There is some evidence of customer perception of the non-energy-benefits from installation of heat pumps. MCE should emphasize the value of NEBs, in addition to energy savings, for decision-makers contractors, property owners, and tenants.
- **Leverage Funding.** MCE should continue to leverage funding sources from other programs, such as TECH and Self-Generation Incentive Program, to stack incentives to deliver comprehensive upgrades for maximum benefit. Other low-interest financing for "green" projects can also be explored.

³⁰ COVID related constraints may necessitate the use of virtual assistants that coach tenants and property managers on do-it-yourself measure installations.

- **Expand Program Technologies:**

- MCE should consider synergistic measure offerings to heat pump water heaters and heat pumps – couple solar PV, EV chargers, and battery storage, electric appliances like heat pump dryers and cooktops.
- MCE should consider low-amperage technologies to reduce program/end-user cost for panel upgrades as electrification measure adoption increases. A parallel effort should be undertaken to educate contractors on low-amperage alternatives.

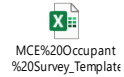
- **Expand Market for LIFT:**

- Income eligibility was a notable barrier expressed by property managers and contractors to develop the market for this program. Expanding the program offering by requiring less stringent income requirements and/or decreasing the minimum threshold of income qualified units in a property could boost participation.
- Conduct follow-up interviews with participating property managers and installation contractors. Post-project feedback with participants may provide leads to additional projects. MCE should target potential participants with testimonials from past participants that can serve as a recommendation for the program.

- **Further Workforce Education and Training.** MCE should continue workforce education and training initiatives. Develop partnerships with leading contractors and equipment manufacturers to provide property managers with an informed supply chain resource.

5 APPENDICES

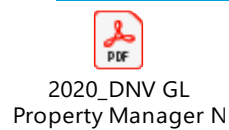
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APPENDIX B. PROPERTY MANAGER SURVEY



APPENDIX C. NON-HEAT PUMP PROPERTY MANAGER SURVEY



APPENDIX D. HEAT PUMP M&V SAMPLE

Table 5-1. Fuel switching and substitution heat pump measure energy impact by fuel

Sample Site ID	py	Number of Dwelling Units Sampled	Heat Pump Project Scope	Fuel	Pre-retrofit annual energy	Post-retrofit annual energy	Difference in annual energy	Units
F-1	2020	6	Fuel switching ductless HVAC & central DHW	Electricity	38,297	31,516	-6,781	kWh
				Propane	2,096	515	-1,581	Gallons
C	2019	8	Fuel substitution ductless HVAC	Electricity	19,265	20,135	871	kWh
				Gas	306	0	-306	therms
B-1	2019	20	Fuel substitution ductless HVAC	Electricity	74,376	51,723	-22,654	kWh
				Gas	7,083	4,264	-2,819	therms
E	2020	50	Fuel substitution central DHW	Electricity	17,734	37,358	19,625	kWh
				Gas	2,677	278	-2,398	therms
D	2020	24	Fuel substitution central DHW	Electricity	-3,451	14,012	17,464	kWh
				Gas	2,891	1,041	-1,850	therms

Table 5-2. Fuel switching and substitution heat pump measure bill impacts of actual rate schedule analysis by fuel type

Sample Site ID	PY	Number of Dwelling Units Sampled	Heat Pump Project Scope	Fuel	Pre-retrofit Annual Energy Cost	Post-retrofit Annual Energy Cost	Difference in Annual Energy Cost
F-1	2020	6	Fuel switching ductless HVAC & Central DHW	Electricity	\$7,603	\$6,257	-\$1,346
				Gas	\$6,940	\$1,547	-\$5,393
C	2019	8	Fuel substitution ductless HVAC	Electricity	\$3,294	\$3,556	\$261
				Gas	\$365	\$0	-\$365
B-1	2019	20	Fuel substitution ductless HVAC	Electricity	\$14,766	\$8,728	-\$6,038
				Gas	\$9,751	\$5,713	-\$4,038
E	2020	50	Fuel substitution Central DHW	Electricity	\$1,414	\$3,932	\$2,518
				Gas	\$4,375	\$389	-\$3,987
D	2020	24	Fuel substitution Central DHW	Electricity	-\$93	\$1,004	\$1,097
				Gas	\$3,632	\$1,151	-\$2,481

Table 5-3. Fuel switching and substitution heat pump measure bill impacts of actual rate schedule analysis for overall project and per dwelling unit

Sample Site ID	Program Year	Number of Dwelling Units Sampled	Heat Pump Project Scope	Overall Difference in Annual Energy Cost	Overall Difference in Annual Energy Cost per Dwelling Unit
F-1	2020	6	Fuel switching ductless HVAC & central DHW	-\$6,739	-\$1,123
C	2019	8	Fuel substitution ductless HVAC	-\$104	-\$13
B-1	2019	20	Fuel substitution ductless HVAC	-\$10,075	-\$504
E	2020	50	Fuel substitution central DHW	-\$1,468	-\$29
D	2020	24	Fuel substitution central DHW	-\$1,384	-\$58

Table 5-4. Fuel switching and substitution heat pump measure bill impacts of alternative rate schedule analysis by fuel type

Sample Site ID	PY	Number of Dwelling Units Sampled	Heat Pump Project Scope	Fuel	Pre-retrofit Annual Energy Cost	Post-retrofit Annual Energy Cost	Difference in Annual Energy Cost
F-1	2020	6	Fuel switching ductless HVAC & Central DHW	Electricity	\$7,603	\$6,257	-\$1,346
				Gas	\$6,940	\$1,547	-\$5,393
C	2019	8	Fuel substitution ductless HVAC	Electricity	\$3,294	\$3,479	\$185
				Gas	\$365	\$0	-\$365
B-1	2019	20	Fuel substitution ductless HVAC	Electricity	\$14,766	\$10,268	-\$4,497
				Gas	\$9,751	\$5,713	-\$4,038
E	2020	50	Fuel substitution Central DHW	Electricity	\$1,414	\$2,977	\$1,563
				Gas	\$4,375	\$389	-\$3,987
D	2020	24	Fuel substitution Central DHW	Electricity	-\$93	\$998	\$1,091
				Gas	\$3,632	\$1,151	-\$2,481

Table 5-5. Fuel switching and substitution heat pump measure bill impacts of alternative rate schedule analysis for overall project and per dwelling unit

Sample Site ID	Program Year	Number of Dwelling Units Sampled	Heat Pump Project Scope	Overall Difference in Annual Energy Cost	Overall Difference in Annual Energy Cost per Dwelling Unit
F-1	2020	6	Fuel switching ductless HVAC & central DHW	-\$6,739	-\$1,123
C	2019	8	Fuel substitution ductless HVAC	-\$181	-\$23
B-1	2019	20	Fuel substitution ductless HVAC	-\$8,535	-\$427
E	2020	50	Fuel substitution central DHW	-\$2,423	-\$48
D	2020	24	Fuel substitution central DHW	-\$1,390	-\$58

Table 5-6. Fuel switching and substitution heat pump measure CO₂ impacts³¹

Sample Site ID	Program Year	Number of Dwelling Units Sampled	Heat Pump Project Scope	Fuel	Pre-retrofit annual CO ₂	Post-retrofit annual CO ₂	Difference in annual CO ₂	Units
F-1	2020	6	Fuel switching ductless HVAC & central DHW	Electricity	0.734	0.604	-.0130	tCO ₂
				Propane	4.621	0.649	-3.486	tCO ₂
C	2019	8	Fuel substitution ductless HVAC	Electricity	0.277	0.289	0.013	tCO ₂
				Gas	0.492	0.000	-0.492	tCO ₂
B-1	2019	20	Fuel substitution ductless HVAC	Electricity	0.428	0.297	-0.130	tCO ₂
				Gas	4.554	2.742	-1.813	tCO ₂
E	2020	50	Fuel substitution central DHW	Electricity	0.041	0.086	0.045	tCO ₂
				Gas	0.688	0.072	-0.617	tCO ₂
D	2020	24	Fuel substitution central DHW	Electricity	-0.017	0.067	0.084	tCO ₂
				Gas	1.549	0.558	-0.992	tCO ₂

³¹ Propane and gas CO₂ impacts derived from spot flue gas measurement of existing combustion equipment and extrapolated to annual mass utilizing the utility meter data analysis results and equipment specifications. Electricity CO₂ impacts derived from rates taken from the MCE's Light Green service and extrapolated to annual mass utilizing the utility meter data analysis.

Table 5-7. Fuel switching and substitution heat pump measure CO impacts³²

Sample Site ID	Program Year	Number of Dwelling Units Sampled	Heat Pump Project Scope	Fuel	Pre-retrofit annual CO	Post-retrofit annual CO	Difference in annual CO	Units
F-1	2020	6	Ductless HVAC & Central DHW	Electricity				
				Propane	0.13	0.03	-0.10	Lbs. CO
C	2019	8	Ductless HVAC	Electricity				
				Gas	8.53	0.00	-8.53	Lbs. CO
B-1	2019	20	Ductless HVAC	Electricity				
				Gas	0.10	0.06	-0.04	Lbs. CO
E	2020	50	Central DHW	Electricity				
				Gas	3.51	0.36	-3.14	Lbs. CO
D	2020	24	Central DHW	Electricity				
				Gas	0.00 ³³	0.00	0.00	Lbs. CO

Table 5-8. Fuel switching and substitution heat pump measure NO_x impacts³⁴

Sample Site ID	Program Year	Number of Dwelling Units Sampled	Heat Pump Project Scope	Fuel	Pre-retrofit annual NO _x	Post-retrofit annual NO _x	Difference in annual NO _x	Units
F-1	2020	6	Ductless HVAC & Central DHW	Electricity	1.36	1.12	-0.24	Lbs. NO _x
				Propane	3.39	0.83	-2.56	Lbs. NO _x
C	2019	8	Ductless HVAC	Electricity	0.56	0.58	0.03	Lbs. NO _x
				Gas	0.07	0.00	-0.07	Lbs. NO _x
B-1	2019	20	Ductless HVAC	Electricity	0.86	0.60	-0.26	Lbs. NO _x
				Gas	3.93	2.36	-1.56	Lbs. NO _x
E	2020	50	Central DHW	Electricity	0.08	0.17	0.09	Lbs. NO _x
				Gas	0.74	0.08	-0.66	Lbs. NO _x
D	2020	24	Central DHW	Electricity	-0.03	0.14	0.17	Lbs. NO _x
				Gas	1.77	0.64	-1.13	Lbs. NO _x

³² Propane and gas CO impacts derived from spot flue gas measurement of existing combustion equipment and extrapolated to annual mass utilizing the utility meter data analysis results and equipment specifications. Electricity CO impacts derived from rates taken from the Avoided Cost Calculator and extrapolated to annual mass utilizing the utility meter data analysis.

³³ Measurements indicate 0 carbon monoxide emissions.

³⁴ Propane and gas NO_x impacts derived from spot flue gas measurement of existing combustion equipment and extrapolated to annual mass utilizing the utility meter data analysis results and equipment specifications. Electricity NO_x impacts derived from rates taken from the Avoided Cost Calculator and extrapolated to annual mass utilizing the utility meter data analysis.

Table 5-9. Fuel switching and substitution heat pump measure source kBtu impacts³⁵

Sample Site #	Program Year	Number of Dwelling Units Sampled	Heat Pump Project Scope	Fuel	Pre-retrofit annual kBtu	Post-retrofit annual kBtu	Difference in annual kBtu	Units
F-1	2020	6	Ductless HVAC & Central DHW	Electricity	42,190	34,720	-7,470	kBtu
				Propane	40,515	9,952	-30,563	kBtu
C	2019	8	Ductless HVAC	Electricity	15,917	16,637	719	kBtu
				Gas	4,434	0	-4,434	kBtu
B-1	2019	20	Ductless HVAC	Electricity	24,581	17,094	-7,487	kBtu
				Gas	41,081	24,730	-16,352	kBtu
E	2020	50	Central DHW	Electricity	2,344	4,939	2,594	kBtu
				Gas	6,210	645	-5,564	kBtu
D	2020	24	Central DHW	Electricity	-950	3,859	4,810	kBtu
				Gas	13,974	5,030	-8,944	kBtu

APPENDIX E. CONTRACTOR SURVEY



2020 DNV GL
Contractor Survey L

³⁵ Source kBtu impacts derived from rates taken from the Avoided Cost Calculator and extrapolated to annual mass utilizing the utility meter data analysis.

Application: 22-05-022, 22-05-023, 22-05-024

Exhibit No.: _____

Date: January 20, 2023

Witness(es): Various

**PREPARED TESTIMONY
ON BEHALF OF
THE JOINT COMMUNITY CHOICE AGGREGATORS AND CITY AND
COUNTY OF SAN FRANCISCO**

PUBLIC VERSION

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1 **I. INTRODUCTION AND SUMMARY**

2 Clean Power Alliance of Southern California (“CPA”), the City and County of San
3 Francisco, acting by and through its Public Utilities Commission CleanPowerSF
4 (“CleanPowerSF”), East Bay Community Energy (“EBCE”), Lancaster Choice Energy (“LCE”),
5 Marin Clean Energy (“MCE”), Peninsula Clean Energy Authority (“PCE”), Pico Rivera
6 Innovative Municipal Energy (“PRIME”), San Diego Community Power (“SDCP”), San Jacinto
7 Power (“SJP”), and San José Clean Energy (“SJCE”) (collectively the “Joint CCAs”) present this
8 testimony in the consolidated Application (“A.”) 22-05-022 *Application of Pacific Gas and*
9 *Electric Company (“PG&E”) for Review of the Disadvantaged Communities-Green Tariff,*
10 *Community Solar Green Tariff and Green Tariff Shared Renewables Programs*, A.22-05-023
11 *Application of San Diego Gas & Electric Company (“SDG&E”) to Review Green Access*
12 *Programs Pursuant to Decisions 18-06-027 and 21-12-036* and A. 22-05-024 *Application of*
13 *Southern California Edison Company (“SCE”) for Review of the Disadvantaged Communities-*
14 *Green Tariff, Community Solar Green Tariff, and Green Tariff Shared Renewables Programs*
15 (collectively the “Green Access Program Applications” or “GAP Applications”). This testimony
16 has been prepared on behalf of the Joint CCAs by various witnesses.

17 As set forth in Decision (“D.”) 18-06-027 and D.21-12-036, the proceeding for the
18 Investor-Owned Utilities’ (“IOUs”) GAP Applications was determined as the forum in which the
19 California Public Utilities Commission (“CPUC” or “Commission”) would review the Green
20 Access Programs, including the Disadvantaged Communities Green Tariff (“DAC-GT”),
21 Community Solar Green Tariff (“CSGT”), and Green Tariff Shared Renewables (“GTSR”)
22 programs.¹

¹ See D.18-06-027 at 104, Ordering Paragraph (“OP”) 16; D.21-12-036 at 55-56, OP 11.

1 In D.18-06-027, the Commission authorized Community Choice Aggregators (“CCAs”)
2 to implement Disadvantaged Communities Green Tariff (“DAC-GT”) and Community Solar
3 Green Tariff (“CSGT”) programs within their respective service areas.² Resolution E-4999 was
4 subsequently adopted by the Commission providing for the capacity allocations for each CCA
5 under the DAC-GT and CSGT programs. Pursuant to the process set forth in Resolution E-4999,
6 various CCAs have sought and received authorization to implement DAC-GT and CSGT
7 programs. CPA submitted its implementation advice letter (“AL”) on December 27, 2019 (CPA
8 AL 0004-E), which was approved by Resolution E-5102 on November 5, 2020.³ On May 7,
9 2020, MCE filed its implementation AL (AL 42-E), followed by EBCE’s (AL 14-E) on
10 September 11, 2020. CleanPowerSF, PCE, SJCE, LCE, PRIME, and SJP submitted their
11 respective advice letters in December 2020 (CPSF AL 12-E; PCE AL 11-E; SJCE AL 15-E;
12 LCE AL 13-E; PRIME AL 8-E; and SJP AL 6-E). In Resolution E-5124, adopted April 15, 2021,
13 the Commission approved CPSF AL 12-E, MCE AL 42-E, EBCE AL 14-E, PCE AL 11-E, and
14 SJCE AL 15-E.⁴ On September 9, 2021, the Commission approved LCE AL 13-E, PRIME AL 8-
15 E, and SJP AL 6-E In Resolution E-5130.⁵ SDCP submitted its implementation AL (AL 10-E) on
16 October 12, 2022, which is currently awaiting approval by the Commission.

17 Subsequently, Assembly Bill (“AB”) 2316 (Ward, 2022) was passed by the California
18 Legislature, directing the Commission to evaluate the performance of the Green Access
19 Programs. Pursuant to the *Assigned Commissioner’s Scoping Memo and Ruling*, issued on
20 December 2, 2022 (“December 2 Scoping Memo”), the Commission determined that the
21 evaluation of the programs, as required by AB 2316, should be conducted by parties as part of

² See D.18-06-027 at 104, OP 17.

³ See Resolution E-5102 at 15, OP 1.

⁴ See Resolution E-5124 at 32, OP 1.

⁵ See Resolution E-5130 at 13-14, OP 1.

1 this testimony in conjunction with the review of the IOU GAP Applications.⁶

2 In this Testimony, the Joint CCAs do not address issues related to the Green Tariff
3 Shared Renewables (“GTSR”) programs. As the Joint CCAs are only eligible to become program
4 administrators (“PA”) for the DAC-GT and CSGT programs, the Joint CCAs limit their
5 evaluation of the Green Access Programs to the DAC-GT and CSGT programs only.

6 The Joint CCAs have a direct interest in issues raised in the IOU GAP Applications as
7 well as a direct interest in the evaluation of the DAC-GT and CSGT programs. This testimony
8 focuses on (i) the evaluation of the existing CCA DAC-GT and CSGT programs, and (ii)
9 recommendations for improving these programs.

10 **PART A. EVALUATION OF THE DISADVANTAGED COMMUNITIES GREEN**
11 **TARIFF AND COMMUNITY SOLAR GREEN TARIFF PROGRAMS**

12 **II. WORKING DEFINITIONS AND CRITERIA OF AB 2316**

13 As directed by AB 2316 (Ward, 2022) and pursuant to Public Utilities Code section
14 769.3(b)(1), the Commission shall evaluate the performance of the existing Green Access
15 Programs to determine whether programs meet the following three goals identified in the statute:
16 (a) efficiently serves distinct customer groups; (b) promotes robust participation by low-income
17 customers; and (c) minimizes duplicative offerings. As mentioned above, the Commission
18 determined that this evaluation was to be conducted by the parties through this testimony.⁷ The
19 Commission further requested that the parties propose working definitions and criteria for the
20 three goals identified in AB 2316.⁸

21 For the DAC-GT and CSGT programs, the Joint CCAs propose the following working
22 definitions and criteria for each of these goals.

⁶ December 2 Scoping Memo at 2.

⁷ *Id.*

⁸ *Id.* at 3.

1 **A. Efficiently Serves Distinct Customer Groups**

2 The Joint CCAs interpret the plain language of the goal “efficiently serves distinct
3 customer groups” to refer to a specific targeted customer group that can be readily determined or
4 defined. For the DAC-GT and CSGT programs, PAs are required to satisfy specific statutory
5 conditions pursuant to Pub. Util. Code section 2827.1(b)(1), as enacted by AB 327 (Perea, 2013),
6 which directed the Commission to:

7 Ensure that the standard contract or tariff made available to eligible customer-generators
8 ensures that customer-sited renewable distributed generation continues to grow
9 sustainably and include specific alternatives designed for growth among residential
10 customers in disadvantaged communities.

11 In D.18-06-27, the Commission developed the guidelines for the DAC-GT and CSGT
12 programs, modeled after the GTSR Programs adopted in D.15-01-051. The DAC-GT and CSGT
13 programs are intended as specific alternatives to the GTSR programs to further promote the
14 installation of renewable generation among disadvantaged communities⁹ (“DACs”), with a
15 particular focus on low-income customers who meet the income eligibility requirements for the
16 California Alternate Rates for Energy (“CARE”) and Family Electric Rate Assistance (“FERA”)
17 programs¹⁰. The programs are intended to provide residential low-income customers in DACs
18 with access to clean renewable energy options and the resulting benefits at a discount compared
19 to their otherwise applicable tariff.¹¹ While AB 327 did not specifically direct these programs to
20 target low-income customers, this customer group faces the most barriers to adoption of
21 renewables, therefore the Commission found it reasonable to focus efforts on this distinct

⁹ See D.18-06-027 at 2.

¹⁰ *Id.* at 3.

¹¹ *Id.* at 3-4.

customer group.¹²

Based on the Commission’s intent and the above statutory requirements, the Joint CCAs propose the following specific criteria for evaluating whether the DAC-GT and CSGT programs efficiently serve distinct customer groups:

1. Do the programs provide eligible customers with access to 100 percent renewable resources by further developing and increasing the number of renewable energy projects installed in DACs? To evaluate this criterion, the Joint CCAs provide details on each of the CCA’s procurement efforts to date in Section III below.
2. Are the programs an efficient way to enable bill savings for low-income residential customers in DACs while also promoting renewable energy uptake among this customer type? To evaluate this criterion, the Joint CCAs provide details on customer bill impacts in Section III below.

B. Promotes Robust Participation By Low-Income Customers

AB 2316 requires programs to be evaluated on whether they “promote robust participation by low-income customers.” As noted in Evergreen Economics’ (“Independent Evaluator”), Independent Evaluator Report, the explicit goal of the DAC-GT program is to “provide low-income customers in DACs the opportunity to access the benefits of GTSR programs and provide multiple green energy options for these customers”.¹³ Furthermore, access need not strictly imply awareness or engagement.¹⁴ Therefore PAs should aim to reach program

¹² See D.18-06-027 at 18.

¹³ *Process Evaluation of Disadvantaged Communities Green Tariff and Community Solar Green Tariff Programs: Bill Impacts of CPA’s DAC-GT Program* (“Independent Evaluator Report”), Evergreen Economics, March 31, 2021 at 52. (The purpose of the Evergreen Economics’ Independent Evaluator Report was to provide early feedback to the CPUC on the DAC-GT, CSGT, and GTSR programs implementation. The objectives of the report were to (i) examine program design elements, (ii) develop and review program metrics, and (iii) assess the evaluability of the programs.)

¹⁴ *Ibid.*

1 capacity by increasing enrollment numbers through a variety of methods.

2 Subsequent to establishing the DAC-GT and CSGT programs, the Commission directed
3 PG&E in D.20-08-008 to automatically enroll customers based on prioritizing those at highest
4 risk of disconnection to help mitigate the financial impact of increasing bills due to the COVID-
5 19 pandemic.¹⁵ In addition, automating enrollment further helps to meet the Commission’s
6 Environmental and Social Justice (“ESJ”) Action Plan’s objective of improving and increasing
7 access to existing clean energy programs in ESJ communities.¹⁶ The Commission allowed CCAs
8 to similarly implement automatic enrollment, or a combination of auto-enrollment and self-
9 enrollment methods, in their own DAC-GT programs, recognizing that automating the process
10 lowers barriers for customers in accessing programs, such as time invested by customers and the
11 application process itself.¹⁷

12 The Joint CCAs propose that awareness is an integral component of promoting robust
13 participation by low-income customers even if it is not an explicitly stated goal of the DAC-GT
14 program and may only be an implicit goal of the CSGT program, with regard to local
15 engagement and connection to community solar projects that provide an “indirect community
16 ‘ownership’ opportunity”.¹⁸ Nevertheless, targeted marketing, education and outreach
17 (“ME&O”) strategies should continue to be employed to increase customers’ overall awareness
18 of the program (or if self-enrolled, awareness of one’s participation in the program) per the
19 Commission’s updated ESJ Action Plan. The ESJ Action Plan’s fifth goal outlines several
20 objectives around enhancing outreach and engagement to ensure that ESJ audiences can
21 participate in, and benefit from, CPUC programs, as well as deepening relationships with

¹⁵ D.20-08-008 at 5.

¹⁶ *Id.* at 4.

¹⁷ Resolution E-5124 at 19.

¹⁸ *Independent Evaluator Report* at 52.

community-based organizations (“CBOs”) throughout the state.¹⁹

The Joint CCAs propose the following specific criteria for evaluating whether the DAC-GT and CSGT programs promote participation by low-income customers:

1. Are the programs on track to reach program capacity, whether through auto-enrollment or self-enrollment methods? To evaluate this criterium, the Joint CCAs provide a description of each of their enrollment processes and status in Section III below.

2. Are the programs raising the target customers’ awareness about the programs specifically, and the use of renewable generation in general, via effective ME&O efforts? To evaluate this criterium, the Joint CCAs describe their ME&O efforts on the programs in Section III below.

C. Minimizes Duplicative Offerings

The Joint CCAs understand the remaining goal of AB 2316 is to require that programs avoid making offerings that are duplicative or redundant. However, this should not mean that programs cannot be comparable to existing programs or complementary to one another. The DAC-GT and CSGT programs were intended to provide multiple options for residential low-income customers in DACs to gain access to clean energy where one option may be more accessible than another.²⁰

The California Energy Commission’s *SB 350 Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantage Communities* describes a number of challenges low-income customers and customers located in DACs face in accessing both solar

¹⁹ California Public Utilities Commission’s *Environmental & Social Justice Action Plan Version 2.0*, April 7, 2022 at 24-25.

²⁰ D.18-06-027 at 2.

1 and other types of renewable energy. Due to a lack of home ownership, some customers may be
2 unable to take advantage of other offerings, like the Solar on Multifamily Affordable Housing
3 (“SOMAH”) or the Disadvantaged Communities Single-Family Affordable Solar Homes
4 (“DAC-SASH”) programs.²¹ Low-income homeowners may also face other barriers, such as
5 insufficient access to capital, lack of credit, and property structure issues related to roof condition
6 and location that prevent them from investing in on-site solar.²²

7 In addition, the DAC-GT and CSGT programs were designed based on the GTSR model
8 but were modified to offer an additional alternative to residential low-income customers.²³ The
9 Commission found that renters have few options to participate in a solar program outside the
10 existing GTSR programs which typically offer products at a premium price.²⁴ Recognizing the
11 added cost as a barrier, the Commission created the DAC-GT and CSGT programs with a 20
12 percent bill discount so that low-income customers could affordably access local renewable
13 energy resources that they would not otherwise be able to access.²⁵

14 Since the DAC-GT and CSGT programs were created to expand renewable energy
15 offerings to residential low-income customers in DACs due to the way that customers may be
16 differently situated and the types of barriers they may face, the criteria for this definition should
17 be limited to whether both programs minimize duplication by not replicating other existing
18 program offerings. The Joint CCAs propose the following specific criteria for evaluating whether
19 the DAC-GT and CSGT programs minimize duplicative offerings:

²¹ D.18-06-027 at 3.
²² Barriers Study at 34-38.
²³ D.18-06-027 at 50.
²⁴ D.18-06-027 at 50.
²⁵ D.18-06-027 at 53.

1 1. How do the DAC-GT and CSGT programs differ from, and complement, the ratepayer-
2 funded GTSR programs?

3 2. How do the DAC-GT and CSGT programs differ from, and complement, the ratepayer-
4 funded DAC-SASH and SOMAH programs?

5 The Joint CCAs provide a response to each of these questions in Section III below. It
6 must be noted that this analysis applies to all of the CCAs' DAC-GT and CSGT programs and is
7 hence described in an overarching chapter before the evaluation of the individual CCA programs.

8 **III. EVALUATION OF DAC-GT AND CSGT PROGRAMS APPLYING**
9 **OBJECTIVES OF AB 2316**

10 **A. Scope of the Joint CCA's Program Evaluation**

11 In accordance with the December 2 Scoping Memo, the Joint CCAs provide the
12 following evaluations of their DAC-GT and CSGT programs, applying the above proposed
13 working definitions and criteria to establish the goals of AB 2316. As described in the
14 introduction to this Testimony, the Joint CCAs are at various stages of their program
15 implementation based on the timing of their program approval. The following evaluation of the
16 Joint CCAs' DAC-GT and CSGT program focuses on those CCA programs that are currently
17 operational; i.e., those that have enrolled customers and/or completed project solicitation rounds.
18 This includes those CCAs that received program approval from the Commission in late 2020 and
19 early 2021; i.e. CPA, CleanPowerSF, EBCE, MCE, PCE, and SJCE.²⁶

20 Three additional CCAs - SJP, LCE, and PRIME (collectively the "CalChoice CCAs") -
21 were approved by the Commission as program administrators in September 2021. However, the
22 CalChoice CCAs are not included in this evaluation as they have not launched their DAC-GT

²⁶ See Resolution E-5102 approving CPA's DAC-GT and CSGT programs; See Resolution E-5124 approving CleanPowerSF's EBCE's, MCE's, PCE's and SJCE's DAC-GT and CSGT programs.

1 programs to date. The main reason for the delay in program launch for the CalChoice CCAs was
2 the transition from CalEnviroScreen (“CES”) 3.0 to CES 4.0 in 2021 which left SJP without any
3 eligible DACs in its service area. As the CalChoice CCAs had pooled their capacity allocations
4 to offer a shared DAC-GT Request for Offers (“RFO”), this paused the DAC-GT RFO process
5 for all of the CalChoice CCAs until this issue could be resolved. CalChoice, along with EBCE,
6 filed Petitions for Modification of Resolution E-4999 to rectify the problems created by the
7 implementation of CES 4.0.²⁷ These petitions were addressed in Resolution E-5212 which
8 modified the CES DAC census tract eligibility to include the CES census tract in place from the
9 time at which a Program Administrator’s DAC-GT or CSGT implementation advice letter is
10 approved.²⁸ With the adoption of Resolution E-5212, the CalChoice CCAs plan to resume their
11 DAC-GT procurement activities. However, as their DAC-GT program has not yet launched, they
12 are excluded from this evaluation. Additionally, while SDCP has filed its advice letter requesting
13 approval of its DAC-GT and CSGT programs, the Commission has yet to approve the program,
14 and therefore, SDCP is also excluded from this evaluation.²⁹

15 **B. Evaluation of Generally Applicable Criteria for All CCA DAC-GT and CSGT**
16 **Programs**

17 As mentioned above, the Joint CCAs believe there are some objectives and criteria
18 contained in AB 2316 that can be evaluated across all of the CCA DAC-GT and CSGT
19 programs. This includes some program components that could be improved upon to be
20 considered under the first objective, “efficiently serves distinct customer group”, and the
21 entirety of the third objective “minimizes duplicative offerings”. The Joint CCAs evaluate those

²⁷ *California Choice Energy Petition for Modification of Resolution E-4999*, February 23, 2022;
East Bay Community Energy Petition for Modification of Resolution E-4999, April 12, 2022.

²⁸ See Resolution E-5212.

²⁹ SDCP AL 10-E.

1 issues here.

2 **a) Efficiently Serves Distinct Customer Group**

3 The individual CCA program evaluations, described in Section III.C through Section
4 III.H below, explain how the respective CCA DAC-GT and CSGT programs are successfully
5 meeting the first objective of AB 2316 to “efficiently serve a distinct customer group.” However,
6 the Joint CCAs note that there are certain inefficiencies in the implementation rules of the DAC-
7 GT and CSGT programs that should be addressed by the Commission to make program
8 implementation even more streamlined and efficient. The Joint CCAs briefly highlight these
9 issues here and then provide more detailed recommendations on how to improve on these
10 inefficiencies in Part B below.

11 First, the timeline for the programs’ budgeting process does not align with the timeline
12 needed to provide a complete reporting of the prior year’s actual accounting. Second, the manual
13 billing and data transfer processes between the IOUs and the CCA program administrators has
14 the potential to cause unnecessary burdens on the IOUs and CCAs, as well as a risk for increased
15 human error. Third, the lack of a methodology to adjust the DAC-GT program allocation upon
16 the expansion of a CCA, or to reallocate any excess capacity if a program administrator has
17 ceased procurement activities, leads to unused program capacity. This unused program capacity
18 could be utilized by one of the many CCA program administrators that have reached, or are on
19 the path towards reaching, their DAC-GT program cap. These issues, along with additional
20 recommendations for the improvement of the DAC-GT and CSGT programs are addressed
21 below in Part B.

22 **b) Minimizes Duplicative Offerings**

23 The CCA DAC-GT and CSGT programs minimize duplicative offerings while still

1 providing multiple options for low-income customers to participate in 100% renewable energy
2 programs. In this section, the Joint CCAs evaluate how the DAC-GT and CSGT programs differ
3 from, and complement, other ratepayer-funded solar programs, namely the GTSR programs (i.e.,
4 the Green Tariff (“GT”) and Enhanced Community Renewables (“ECR”) programs) and the
5 DAC-SASH and SOMAH programs.

6 Regarding the GTSR programs, it is important to highlight that they do not target DACs
7 or low-income customers. In fact, historically, in PG&E’s service area, the GT program (or
8 “PG&E’s SolarChoice” program) has been offered at a premium and has, therefore, may not be
9 attractive to many low-income customers.³⁰ Additionally, if low-income customers were to
10 participate in the GTSR programs, there is no guaranteed bill discount associated with the
11 programs.

12 With regards to the DAC-SASH and SOMAH programs, while these programs are
13 targeting low-income customers, they target homeowners that wish to install solar on their
14 homes.³¹ The DAC-GT and CSGT programs, on the other hand, can benefit renters or other
15 customers who may not be able to install solar on their homes. The DAC-GT and CSGT
16 programs hence provide options for those low-income customers to access solar and renewable
17 energy in DACs without the need to own a home or install solar themselves.

18 While the DAC-GT and CSGT programs target the same customer group, i.e., low-
19 income customers in DACs, these programs are complimentary to each other, not duplicative. As
20 noted in D.18-06-027, the DAC-GT program is only available to residential DAC customers who

³⁰ See *PG&E Electric Schedule E-GT*.

³¹ See D.18-06-027 at 2 (“The DAC-Single-family Solar Homes (DAC-SASH) program...will provide assistance in the form of up-front financial incentives towards the installation of solar generating systems on the homes of low-income homeowners.”); See D.17-12-022 at 2 (“[T]he new SOMAH Program will provide incentives for the installation of solar distributed generation projects sited on existing multifamily affordable housing.”).

1 are eligible for either the CARE or FERA programs, while the CSGT program is available to
2 both income-qualified and non-income-qualified residential DAC customers.³² Furthermore, it is
3 the intent of the CSGT program to promote a *community-based* solar project while the DAC-GT
4 program focuses more on ease of customer participation by simply offering a tariff option to
5 customers. D.18-06-027 highlights the point that different types of customers have different
6 barriers and needs related to the use of renewable energy, noting that households “face different
7 situations, have different expected lengths of residence in their homes, and have different
8 priorities.”³³ The adoption of the multiple programs in D.18-06-027 was, in part, intended to
9 address these concerns and “reach out to different communities than previous decisions related to
10 solar and distributed generation options.”³⁴

11 **c) CSGT Program Evaluations**

12 It is important to note that no CCA has enrolled customers under its CSGT program to
13 date. In fact, only one CCA has received approval from the Commission to procure a specific
14 CSGT project to date.³⁵ Due to the lack of procured capacity and enrolled customers, the Joint
15 CCAs are unable to evaluate enrollment numbers or bill impacts for the CSGT programs. The
16 evaluation of the Joint CCA’s CSGT programs provided below hence focuses on procurement
17 efforts to date, as well as outreach to potential solar developers and CBO sponsors to recruit their
18 participation in the program.

32 See D.18-06-027.

33 D.18-06-027 at 12.

34 D.18-06-027 at 12.

35 See CPA AL 0019-E. CPA requested approval of two CSGT power purchase agreements and the Commission accepted CPA AL 0019-E on January 17, 2023.

1 **C. Evaluation of Clean Power Alliance of Southern California’s DAC-GT and**
2 **CSGT Programs**

3 **a) DAC-GT**

4 **1. Efficiently Serves Distinct Customer Group**

5 CPA has launched three RFOs in connection with its DAC-GT program and has
6 concluded two of those RFOs, resulting in six executed power purchase agreements (“PPAs”).
7 CPA’s initial DAC-GT RFO launched on December 23, 2020 and accepted offers through March
8 15, 2021. As a result of this RFO, CPA executed one PPA with a solar generation facility with a
9 nameplate capacity of 3 megawatts (“MWs”).³⁶ CPA launched its second DAC-GT RFO on
10 December 8, 2021 and accepted offers through June 1, 2022. As a result of CPA’s second RFO,
11 CPA executed five PPAs with an aggregate nameplate capacity of 5.92 MWs.³⁷ CPA’s two
12 completed DAC-GT RFOs have resulted in 8.92 MWs of total executed contract capacity. CPA’s
13 DAC-GT program capacity allocation is 12.19 MWs, so the six PPAs comprise 73% of CPA’s
14 allocated capacity. On December 12, 2022, CPA launched its third DAC-GT RFO with bids
15 from project developers due on June 1, 2023.

16 CPA’s DAC-GT program has effectively provided bill discounts to enrolled participants
17 in accordance with the program goal of providing a 20 percent bill reduction. CPA began serving
18 enrolled customers in program year 2021 and served customers with the use of interim resources.
19 An analysis of CPA’s customer billing data that was performed by the Independent Evaluator
20 found that participation in CPA’s DAC-GT program “had a significant impact in decreasing
21 participant bill costs”.³⁸ Using regression analyses, the Independent Evaluator concluded that the

³⁶ See CPA Advice Letter 0010-E, October 29, 2021.

³⁷ CPA Advice Letter 0019-E, December 14, 2022.

³⁸ *Addendum to Process Evaluation of Disadvantaged Communities Green Tariff and Community Solar Green Tariff Programs: Bill Impacts of CPA’s DAC-GT Program*, Evergreen Economics, August 5, 2022, at 3.

1 amount of the DAC-GT program’s bill impacts approximated the program goal of a 20 percent
2 bill reduction.³⁹ The Independent Evaluator also conducted qualitative surveys and report that
3 “forty percent of CPA participants and 25 percent of PG&E participants who took the survey
4 reported struggling somewhat less or much less with their bills after participating in the DAC-GT
5 program.”⁴⁰ In 2021, CPA’s DAC-GT customers saved \$119,515 in aggregate, averaged out to
6 \$14.39 in direct bill savings per customer. From January 1, 2022 through November 30, 2022,
7 DAC-GT customers saved \$725,418.40, averaging out to \$20.02 in direct bill savings per
8 customer.

9 **2. Promotes Robust Participation by Low-Income Customers**

10 CPA elected to have customers self-enroll in order to enhance participant awareness
11 about the DAC-GT program and solar energy in general. The Independent Evaluator found that
12 CPA’s self-enrolled customers have a greater awareness of the DAC-GT program, clean energy,
13 and local solar developments as compared to PG&E customers that were automatically enrolled
14 into their DAC-GT program.⁴¹ More information about CPA’s approach and customer
15 knowledge is found in Section VI below.

16 CPA began enrolling customers into the DAC-GT program in January 2021 and the
17 program was fully enrolled as of October 2022. The DAC-GT program has fluctuating
18 enrollment levels due to changes in customer enrollment status, mainly due to customers moving

³⁹ *Id.* at 3: “DAC-GT program led to an average reduction in bill costs of 18 percent, with a 95 percent confidence interval of 14 to 22 percent; this estimate is not statistically significantly different than the program target of a 20 percent bill reduction.”

⁴⁰ *Id.* at 5.

⁴¹ Independent Evaluator Report at 144-148. Awareness of GHG reduction was greater by 12% amongst CPA participants than PG&E participants, awareness of clean energy was greater by 6% amongst CPA participants than PG&E participants, and awareness of investments in local solar development was greater by 10% amongst CPA participants than PG&E participants. Looking at all surveyed program elements, CPA’s self-enrolled DAC-GT participants had an average knowledge level that was 8% higher than PG&E’s auto-enrolled DAC-GT participants.

1 or no longer being on CARE/FERA, and new participants enrolled from a waitlist maintained by
2 CPA. CPA considers a program to be fully enrolled if program participation approximates
3 enrollment targets set by CPA, which are updated on a quarterly basis. As of December 31, 2022,
4 the DAC-GT program continued to be fully enrolled with 6,045 participants being served by
5 interim resources.

6 CPA used a combination of a broad-based media campaign, a targeted media campaign,
7 and building relationships with CBOs to outreach to customers that were eligible for the DAC-
8 GT program. Broad-based outreach included use of CPA's website, social media, radio
9 advertising, and community events. Targeted media included direct mail, targeted e-mails to
10 customers, and use of in-language materials to distinct customer groups. CPA also partnered
11 with Active San Gabriel Valley, a local non-profit focusing on mobility and climate advocacy, to
12 table at events and canvass eligible households to enroll participants. The overarching message
13 included in CPA's materials and outreach efforts was to emphasize that qualifying customers
14 save 20% off their monthly electric bill and receive 100% renewable power.

15 **b) CSGT**

16 **1. Efficiently Serves Distinct Customer Group**

17 CPA has launched three RFOs in connection with its CSGT program and has concluded
18 two of those RFOs, resulting in two executed PPAs. CPA's initial CSGT RFO launched on
19 December 23, 2020 and accepted offers through March 15, 2021. As a result of this RFO, CPA
20 shortlisted two bids but were unable to execute PPAs due to deficiencies with the proposed
21 projects. CPA launched its second DAC-GT RFO on December 8, 2021 and accepted offers
22 through June 1, 2022. As a result of CPA's second RFO, CPA executed two PPAs with an

1 aggregate nameplate capacity of 0.67 MW.⁴² CPA's CSGT program capacity allocation is 3.37
2 MWs, so the two PPAs comprise 20% of CPA's allocated capacity. On December 12, 2022,
3 CPA launched its third CSGT RFO with bids from project developers due on June 1, 2023.

4 CPA has completed two RFOs for its CSGT program and has executed two PPAs as a
5 result of these solicitation efforts. Outreach included a Request for Information process for
6 CPA's initial CSGT RFO, RFO webinars for both solicitations, marketing to energy developers,
7 and corresponding with multiple parties that were interested in becoming community sponsors.
8 CPA's distribution list included 352 contacts for its 2020 RFO, 369 contacts for its 2021 RFO,
9 and 402 contacts for its 2022 RFO. CPA's engagement with bidders and potential bidders did
10 not involve the CPA staff that evaluated RFO bids.

11 CPA has received feedback from energy developers and potential community sponsors
12 that the siting rules for the CSGT program are particularly restrictive and that there are few
13 eligible sites within DACs that present opportunities for project development. Potential
14 community sponsors found program requirements to be onerous and many needed an explanation
15 of program rules and an understanding of what their responsibilities would be as a CSGT
16 community sponsor.

17 **D. Evaluation of CleanPowerSF's DAC-GT and CSGT Programs**

18 **a) DAC-GT**

19 **1. Efficiently Serves Distinct Customer Group**

20 CleanPowerSF opened for enrollment its DAC-GT program, branded as SuperGreen
21 Saver, on June 1, 2022 using an interim generating resource.⁴³ CleanPowerSF began receiving
22 energy deliveries from a DAC-GT eligible interim resource in May 2022 to serve its SuperGreen

⁴² See CPA Advice Letter 0019-E, December 14, 2022.

⁴³ Resolution E-4999 at 24 (interim resources can be used to serve DAC-GT customers).

1 Saver load through a power purchase agreement with Marin Clean Energy. SuperGreen Saver
2 has a program capacity allocation of 1.826 MW.⁴⁴

3 In September 2021, CleanPowerSF issued its first solicitation for new resources for its
4 DAC-GT program. In August 2022, CleanPowerSF initiated exclusive negotiations with the top-
5 ranked bidder for a project with energy deliveries slated to begin in 2024. However, due to late-
6 arising permitting issues which made the project not viable for CleanPowerSF, negotiations
7 concluded without reaching an agreement. CleanPowerSF will issue a new solicitation for long-
8 term resources to serve DAC-GT customers in 2023. CleanPowerSF has procured interim
9 resources through a bilateral contract with MCE through the end of 2024.

10 **2. Promotes Robust Participation by Low-Income Customers**

11 As noted above, SuperGreen Saver opened for enrollment on June 1, 2022. Consistent
12 with its AL 12-E, CleanPowerSF targeted customers participating in the Arrearage Management
13 Program (“AMP”) with service addresses in a San Francisco DAC for auto-enrollment in
14 SuperGreen Saver. The AMP program incentivizes customers to remain current on their monthly
15 bills by forgiving a portion of their arrears after each on-time monthly payment. CleanPowerSF
16 selected AMP customers for auto-enrollment because one of the eligibility requirements for
17 AMP is CARE/FERA enrollment, which is a complementary goal of the DAC-GT program. In
18 addition, because such customers are at the highest risk of disconnection, therefore, by
19 leveraging the DAC-GT bill discount, CleanPowerSF could create the conditions for these
20 customers to remain eligible for AMP debt forgiveness. Automatic enrollment began in August
21 2022 and continues. Concurrently, CleanPowerSF is also enrolling eligible customers on an opt-
22 in basis. One hundred and seventy-six customers are currently enrolled in the DAC-GT program.

⁴⁴ Resolution E-5124 at 18, Table 3.

1 Consistent with Res. E-5124, CleanPowerSF engaged in a “hybrid” ME&O strategy
2 which is partially focused on educating auto-enrolled customers and partially focused on
3 customer outreach.⁴⁵ Customers are invited to enroll in SuperGreen Saver with messages on the
4 CleanPowerSF website and social media campaigns, if they meet eligibility requirements.
5 CleanPowerSF staff conducted grassroots outreach to engage directly with residents at
6 community events and to those eligible CleanPowerSF customers living in affordable housing
7 properties in DACs. Staff conducted Town Halls and held office hours at these sites to enroll
8 customers in the DAC-GT program. In September 2022, program staff initiated direct mail
9 outreach to existing CARE/FERA customers and potentially eligible customers who live in DAC
10 census tracts. Postcards were created in English, Spanish, Chinese and Tagalog. Direct mail
11 outreach continued through December 31, 2022.

12 CleanPowerSF has found that enrollment of eligible customers participating in AMP and
13 via opt-in has not resulted in high enrollments in its DAC-GT program. Part of the reason for this
14 is that AMP program enrollment itself is declining, which CleanPowerSF did not anticipate when
15 designing the auto-enrollment program. In the short-term, CleanPowerSF will continue enrolling
16 eligible AMP participants into SuperGreen Saver through the first part of calendar year 2023. In
17 the longer-term, CleanPowerSF plans to widen the criteria for auto-enrollment by transitioning to
18 a lottery-based process for eligible DAC-GT customers in alignment with the requirements of
19 D.20-07-008. In a lottery-based process, CleanPowerSF would select a DAC-GT eligible
20 customer for enrollment based upon a number randomly assigned to that customer.

21 CleanPowerSF anticipates that the lottery-based process will lead to full enrollment because
22 there are over six thousand eligible customers in CleanPowerSF’s service area, which is more

⁴⁵ Resolution E-5124 at 28.

1 than enough customers to reach its current allocated capacity.

2 In addition, partnering with community-based organizations (“CBOs”) is a critical
3 component of CleanPowerSF’s ME&O plan. CBOs have intimate knowledge of their
4 communities and will serve as valuable resources for how best to conduct outreach for the DAC-
5 GT and CSGT programs. In December 2021, CleanPowerSF solicited CBO participation for
6 CleanPowerSF’s DAC-GT and CSGT program outreach through a request for proposals
7 (“RFP”). Unfortunately, no proposals were submitted, and the solicitation was closed. However,
8 staff are in the process of working on a new RFP. This RFP could lead to the award of four-year
9 contracts to up to four CBOs. Winning CBOs will enroll qualifying residents into the
10 CleanPowerSF DAC-GT program, engage with their community members on the CARE and
11 FERA discount programs, and provide general information on clean energy benefits.

12 **b) CSGT**

13 **1. Efficiently Serves Distinct Customer Group**

14 On September 13, 2021, CleanPowerSF issued its first solicitation for new resources for
15 its CSGT program. Bids from project developers were due by December 15, 2021. However,
16 CleanPowerSF did not receive any bids for this solicitation and has not entered into a long-term
17 agreement for CSGT renewable energy supplies. CleanPowerSF will be issuing a new request for
18 proposals for the CSGT program in 2023. Project site eligibility requirements remain a challenge
19 for finding eligible CSGT developers and projects. Expansion of project site eligibility
20 requirements, as recommended in Section VII, could aid CleanPowerSF in securing an eligible
21 project.

22 While CleanPowerSF does not expect to offer the CSGT program in 2024, outreach and
23 education work will need to be conducted to lay the groundwork for a successful program

1 launch. CleanPowerSF plans to leverage the CBO contracts awarded through a new RFP to
2 increase awareness of discount programs available to customers, including CARE, FERA, and
3 the DAC programs. CleanPowerSF expects that improving awareness of the CSGT discount
4 programs will increase enrollment. The benefits of increased CARE/FERA enrollment are
5 twofold: 1) customers who are eligible for bill discounts under CARE/FERA will receive them
6 even before CSGT program launch; and 2) there will be a larger pool of income-eligible
7 customers for the purpose of CSGT outreach when CleanPowerSF is ready to enroll customers.
8 This will help CleanPowerSF to meet the 50% low-income requirement of the CSGT program.

9 **E. Evaluation of East Bay Community Energy's DAC-GT and CSGT Programs**

10 **a) DAC-GT**

11 **1. Efficiently Serves Distinct Customer Group**

12 EBCE's DAC-GT program efficiently serves customers who live in DACs and are served
13 under CARE and FERA rates through front-of-meter 100% renewable resources. This customer
14 group typically faces larger barriers to participating in other 100% renewable offerings.

15 EBCE launched its first RFO for DAC-GT resources on September 13, 2021 which was
16 then closed on December 10, 2021. EBCE did not receive any bids for its 5.762 MW of DAC-
17 GT program capacity. Currently, EBCE has a request for offers for the DAC-GT/CSGT
18 programs. Responses are due March 2, 2023.

19 EBCE launched its DAC-GT program in September 2021 using an interim solar resource.
20 This has allowed EBCE to deliver solar energy and the associated 20% bill discount to
21 participating customers. As a result, through November 30, 2022, EBCE's DAC-GT program has
22 delivered \$545,499.55 in bill savings to these participating customers. This equates to an average
23 of \$23.60 in direct savings for each participating customer on their monthly electric bill.

2. Promotes Robust Participation by Low-Income Customers

Automatic enrollments began when EBCE's DAC-GT program was launched in September 2021. During the initial automatic enrollment, eligible customers were randomly selected and enrolled in the program until customer subscriptions reached EBCE's authorized capacity of 5.726 MW. EBCE randomly selected customers for auto-enrollment that (1) met the program eligibility requirements, including enrollment in CARE or FERA, and (2) were living in a top 15% DAC. The criterion to live in a top 15% DAC is more restrictive than the default program eligibility requirements of living in a top 25% DAC established by the CPUC. On a monthly basis, EBCE's billing implementor auto-enrolls customers from a DAC-GT waitlist when space in the program becomes available.

EBCE's auto-enrollment process and criteria have successfully enrolled 1,627 eligible customers as of November 30 2022, 100% subscribing all 5.726 MW of the program capacity. Additionally, welcome kits are sent directly to the DAC-GT participant informing them of their enrollment. The welcome kits also include billing information so customers are able to directly identify the discount. The letters are also written in Spanish and Chinese.

b) CSGT

1. Efficiently Serves Distinct Customer Group

In 2021, EBCE did not receive any bids for CSGT and therefore has been unable to procure any of its allocated capacity for this program. There is an open solicitation currently for EBCE's CSGT program. EBCE will conduct several webinars for prospective community sponsors and solar project developers in order to raise awareness of the program's process and benefits. The EBCE team intends to work closely with community members including the Community Advisory Committee to find ways to streamline the RFO process and decrease

1 potential access barriers.

2 **F. Evaluation of Marin Clean Energy's DAC-GT and CSGT Programs**

3 **a) DAC-GT**

4 **1. Efficiently Serves Distinct Customer Group**

5 MCE's DAC-GT program efficiently serves its distinct target customer group; i.e.
6 residential low-income customers living in DACs, who face the greatest barriers to accessing
7 renewable energy. The program successfully offers these historically excluded customers access
8 to 100% renewable energy and provides direct bill savings, while also building new renewable
9 energy in disadvantaged communities.

10 MCE ran its first DAC-GT RFO from August 27th to November 19th of 2021. The 2021
11 DAC-GT RFO resulted in three offers. MCE selected a bid from the 2021 solicitation that filled
12 its entire DAC-GT program capacity, procuring 100% of the 4.64 MW allocated for MCE's
13 DAC-GT program. The PPAs for this project were executed on March 20th, 2022. Per program
14 requirements, the project is located in a top 25% DAC per CalEnviroScreen. While the project is
15 being developed, MCE has been using the 12 MW Cottonwood Solar Project as an interim
16 resource to supply the program and begin offering the bill discount. This project is also located
17 in a DAC in PG&E's service territory.

18 MCE launched its DAC-GT program on September 1st of 2021. In 2021, DAC-GT
19 customers saved \$60,488.87, average out to \$19.63 in direct bill savings per customer. In 2022
20 through November 30th, DAC-GT customers saved \$660,494.02, averaging out to \$202.05 in
21 direct bill savings per customer.

22 **2. Promotes Robust Participation by Low-Income Customers**

23 MCE implemented auto-enrollment for the DAC-GT program, which has promoted

robust participation by low-income customers. To establish its auto-enrollment criteria, MCE further narrowed the program's eligibility requirements per D.18-06-027 to focus on customers located in DACs with a CES score of 90% or higher. In addition to the CES score, MCE initially also prioritized customers in arrearages using the following tiers:

- Tier 1: customers in arrears with 4 or more payments in the last 6 months
- Tier 2: customers in arrears with 3 or more payments in the last 6 months
- Tier 3: customers in arrears with 2 or more payments in the last 6 months

At program launch, MCE identified all customers meeting the auto-enrollment criteria described above and enrolled them into the program. The remaining program capacity was filled with customers located in the census tracts with the highest CES scores.

MCE's auto-enrollment process and criteria have successfully enrolled 3,265 eligible customers to its DAC-GT program, subscribing 100% of the 4.64 MW program capacity. All customers in MCE's DAC-GT program are enrolled in CARE or FERA. The program serves communities in Pittsburg and Richmond, which experience the highest CES scores in MCE's service area. To bolster customer awareness of the program, and renewable generation more broadly, program participants receive a postcard in the mail upon enrollment, directing them to MCE's program webpage.⁴⁶ The webpage informs customers of where they can find the DAC-GT discount on their PG&E bill and provides additional information about the program. Customers may also contact MCE's call center for further information.

b) CSGT

1. Efficiently Serves Distinct Customer Group

MCE ran solicitations for the CSGT program from August 27th to November 19th in 2021

⁴⁶ <https://www.mcecleanenergy.org/greenaccess/>

1 and from August 26th to November 18th in 2022 but did not receive any offers in either year.
2 MCE has therefore been unable to procure any of its allocated capacity for this program. MCE
3 plans to run a solicitation again in 2023.

4 MCE conducts outreach to both project developers and potential CBO sponsors. As
5 standard practice, MCE informs its developer distribution list about upcoming solicitation
6 opportunities several months prior to issuance of an RFO, as well as upon release of the RFO.
7 MCE's CSGT developer distribution list contains 288 diverse renewable energy project
8 developers. In addition to the email campaign, MCE also held multiple webinars after the release
9 of the RFO to educate interested developers about the programs and answer questions. Finally,
10 MCE advertised the solicitation through MCE's social media sites upon release of the RFO.

11 To engage with potential CBO or local government sponsors, MCE conducted email
12 outreach to eight community-based organizations, informing them about the program, the role of
13 community sponsors, and the benefits of fulfilling this role. The email directed target
14 organizations to a webpage about the community sponsor role, as well as an interest form which
15 MCE uses to match interested organizations with project developers.⁴⁷ Six of the eight
16 organizations contacted filled out the form expressing interest in taking on a community sponsor
17 role.

18 Overall, it has proven difficult to procure for the CSGT program. Based on developer
19 feedback, MCE understands that it is challenging to site a renewable energy project in one of the
20 top 25% DACs in MCE's service area due to the urban nature of MCE's eligible DACs. In urban
21 environments, land availability tends to be limited and project costs are high.

⁴⁷ <https://www.mcecleanenergy.org/community-solar-sponsor/>

G. Evaluation of Peninsula Clean Energy Authority's DAC-GT and CSGT Programs

a) DAC-GT

1. Efficiently Serves Distinct Customer Group

PCE's DAC-GT program efficiently serves customers who live in DACs and are served under CARE and FERA rates through front-of-meter 100% renewable resources. This distinct customer group typically faces larger barriers to participating in other 100% renewable offerings.

PCE launched its first RFO for DAC-GT and CSGT resources on November 22, 2021 which was then closed on January 31, 2022. PCE received 4 bids for its 2.57 MW of DAC-GT program capacity. PCE subsequently selected a bid for a project that will serve 100% of PCE's program capacity. The new project will also be constructed in a DAC that is near the City of Los Banos, a community that was enrolled in PCE's generation service in April 2022 and has 3 DACs within its city limits.

PCE launched its DAC-GT program in early 2022 using an interim solar resource. This has allowed PCE to deliver solar energy and the associated 20% bill discount to participating customers. As a result, through November 31, 2022, PCE's DAC-GT program has delivered \$315,948.79 in bill savings to these participating customers. This equates to an average of \$326.73 in direct savings for each participating customer on their electric bill.

2. Promotes Robust Participation by Low-Income Customers

PCE implemented auto-enrollment that effectively targets customers that are at high risk of disconnection through a three-tier customer identification process.

- Tier 1 – all customers that are currently participating in the AMP with service addresses in a DAC served by PCE and meet all other DAC-GT criteria;

- Tier 2 – all customers that are eligible for the AMP but are not participating and with service addresses in a DAC served by PCE and meet all other DAC-GT criteria;
- Tier 3 – using a random selection protocol to identify all remaining PCE customers that are eligible for DAC-GT and have service addresses in a DAC.

This auto-enrollment criteria has proven successful, allowing PCE to eliminate barriers eligible customers may face to receiving the solar energy and the bill discount. As a result, 958 PCE income-qualified customers have been enrolled in the DAC-GT program, amounting to 100% of PCE's DAC-GT program capacity.

Customers who are enrolled in the DAC-GT program receive a welcome letter from PCE that explains what PCE's DAC-GT program is, where they can find the savings on their future electric bills, how it is calculated using CARE/FERA electric rates, how customers are determined to be eligible to participate in the program, that the energy delivered through the program is 100% solar, how they can unenroll if they should choose, and where they can find more information on the program on both PCE's and the CPUC's webpages. The letter also directs interested customers to reach out to PCE through email or by phone if they would like more information.

b) CSGT

1. Efficiently Serves Distinct Customer Group

PCE did not receive any bids for its CSGT program in response to the RFO launched in 2021. As the CSGT program rules do not allow for the use of interim resources, PCE is currently unable to serve customers through this program. PCE launched a second RFO on December 21, 2022 with responses due February 28, 2023. Following the successful procurement of a permanent resource for the DAC-GT program, PCE submitted the 2022 CSGT RFO to the same developer

1 distribution list. The RFO is still open, but PCE has heard from developers that the Community
2 Sponsor requirement is challenging as it is not typically an element that is required when bidding
3 for a standard renewable project.

4 **H. Evaluation of San José Clean Energy's DAC-GT and CSGT Programs**

5 **a) DAC-GT**

6 **1. Efficiently Serves Distinct Customer Group**

7 SJCE issued its initial and only RFO from power suppliers for the DAC-GT portfolio on
8 September 1, 2021. SJCE only received bids from the developer that they eventually entered a
9 PPA with on May 8, 2022. The capacity from this contract will satisfy one hundred percent of
10 SJCE's obligation under the DAC-GT program once it comes online.

11 For Program Year 2022, SJCE total bill impact, the actual total dollar discounts applied
12 on the given year, was \$197,900.00. The per-customer bill impact, calculated by taking a
13 customer's total bill charges in 2022 after the CARE discount is applied and providing a 20% bill
14 discount, for that same year was an average of \$22.59 per month. It should be noted that SJCE's
15 DAC-GT program was not fully subscribed until Q3 2022, so the actual impact listed is less than
16 the impacted based on the per customer average.

17 **2. Promotes Robust Participation by Low-Income Customers**

18 SJCE takes a hybrid approach to enrollment that includes marketing and outreach as well
19 as auto-enrollment. Applications are prioritized on a first come, first serve basis, and accounts
20 are only auto enrolled if there is sufficient capacity remaining. For autoenrollment priority, SJCE
21 maintains a list of qualifying accounts that is randomized. This list is updated on a regular basis
22 to ensure new customers are not left out of the pool. SJCE also continues to conduct marketing
23 and outreach to encourage customers to enroll in a waitlist, and each month, waitlisted customers

1 are enrolled in any open spots before any auto-enrollment.

2 Through May 2022, SJCE solely used marketing and outreach with CBOs to fill customer
3 spots. This resulted in 720 submitted applications and filled most available spots. Starting June
4 2022, SJCE filled remaining spots with auto-enrollment to maintain 100% participation each
5 month. SJCE has auto-enrolled 312 accounts to date. SJCE continues to contract with CBOs to
6 promote the program to eligible customers.

7 SJCE explains to customers that the bill discount will be applied to the SJCE portion of
8 their bill and included as a line item. This information is also provided to customers in their
9 “Welcome” materials as well as in the FAQ section of SJCE’s website.

10 As previously described, SJCE uses a hybrid approach to enroll customers in its DAC-GT
11 program. SJCE engages in extensive marketing and outreach efforts to encourage customers to
12 submit applications prior to utilizing autoenrollment to fill the remaining capacity. In 2022,
13 SJCE reached approximately 8,300 customers in outreach efforts (all CARE/FERA customers
14 living in DACs).

15 CBOs called over 2,000 eligible customers and distributed over 1,000 flyers in qualifying
16 neighborhoods and discussed the business reply card (“BRC”) with customers. This resulted in
17 340 applications submitted over the phone and 230 applications returned via BRC Mail. SJCE’s
18 digital ads also received over 315,000 impressions in target zip codes with DAC neighborhoods.

19 Additionally, 5,983 emails were sent to customers with 41% average open rate and 2.7%
20 average click-through rate.

21 SJCE employs a hybrid approach to enrolling customers in its DAC-GT program and
22 before engaging in autoenrollment, conducts extensive marketing and outreach efforts to allow
23 customers to submit applications to obtain a spot in the program.

1 To attract program participants to submit applications, SJCE targeted outreach to eligible
2 customers in English, Spanish, and Vietnamese using digital and non-digital approaches. To
3 ensure all eligible customers had the opportunity to hear about Solar Access and apply, SJCE
4 sent customers a trilingual mailer with a BRC. The BRC allowed those without internet or email
5 addresses to apply easily. SJCE received hundreds of BRCs in all languages.

6 In addition, SJCE funded three CBOs to assist with outreach. The CBOs are focused on
7 improving the lives of their clients. They are trusted sources of information for the community,
8 which helps improve SJCE's relationship with the community. CBOs helped identify the most
9 appropriate outreach strategies for the communities they serve. Phone banking was the main
10 approach used to reach eligible customers and led to about 350 applications, including over 300
11 applications from customers who speak a language other than English. SJCE also ran digital ads
12 in target zip codes and emailed all eligible customers with email on file about the program.

13 Together, ICAN and Alviso Community Fund called over 2,000 eligible customers,
14 resulting in over 340 applications submitted over the phone. Additionally, META distributed
15 over 1,000 flyers in qualifying neighborhoods and talked to customers about the BRC. SJCE
16 received over 230 BRCs in the mail due to this effort.

17 SJCE issued its initial RFO from power suppliers for DAC-GT portfolio resources on
18 September 1, 2021. Notice of the RFO was emailed to SJCE's email distribution list and RFO
19 details were added to SJCE's website. SJCE also hosted the 2021 DAC-GT RFO webinar on
20 September 9, 2021 explaining the administration of the DAC-GT RFO and responding to
21 questions from webinar participants. Interested parties were also presented with the opportunity
22 to submit questions via email by September 13, 2021. In addition to issuing the initial RFO for
23 the DAC-GT program, to attract developers operating from DACs, SJCE issued the attached

1 market notice via e-mail and on its website on August 6, 2021, about the upcoming RFO to
2 prime the market.

3 The marketing and outreach materials for solar developers can be found on SJCE's
4 website under the heading "San Jose Clean Energy Disadvantaged Community Green Tariff
5 Program Request for Offers (RFO)."⁴⁸

6 **IV. CONSIDERATION OF CCA GROWTH**

7 CCAs are continuing to grow and expand in California. For example, in 2022, five CCAs
8 submitted Implementation Plan Addendums with the Commission addressing expansion in
9 2023.⁴⁹ Expansion of CCAs into new service areas can impact the DAC-GT program if eligible
10 and/or enrolled customers transition from IOU to CCA electricity generation service. The Joint
11 CCAs provide the following evaluation of how CCA growth and expansion has impacted the
12 DAC-GT programs to date.

13 Under the current program rules, there is no mechanism in place to ensure that customers
14 enrolled in an IOU DAC-GT program, that transition to an expanding CCA, can retain their
15 DAC-GT program benefits. In fact, if a CCA does not have sufficient program capacity to
16 include incoming customers in their existing DAC-GT program, the IOU currently has control
17 over whether to transfer IOU unprocured program capacity to the expanding CCA to allow

⁴⁸ <https://sanjosecleanenergy.org/2021-energy-procurement/>

⁴⁹ See Central Coast Community Energy Addendum No. 4 to the Community Choice Aggregation Implementation Plan and Statement of Intent Addressing Expansion to Include the City of Atascadero, submitted December 7, 2022; Clean Energy Alliance Addendum No. 2 to the Community Choice Aggregation Implementation Plan and Statement of Intent to Address Expansion to the Cities of Oceanside and Vista, submitted on December 13, 2022; East Bay Community Energy Addendum No. 2 to the Community Choice Aggregation Implementation Plan and Statement of intent to Address Expansion to the City of Stockton, submitting on December 13, 2022; Clean Power Alliance of Southern California Addendum No. 4 to the Community Choice Aggregation Implementation Plan and Statement of Intent to Address Expansion to the Cities of Hermosa Beach, Monrovia, and Santa Paula, submitted on December 14, 2022; and Pioneer Community Energy Addendum No. 2 to the Community Choice Aggregation Implementation Plan and Statement of Intent Addressing Expansion to the Cities of Grass Valley and Nevada City, submitted on December 16, 2022.

1 transitioning customers to continue to be enrolled in the DAC-GT program. Additionally, there
2 is no mechanism to re-evaluate the DAC-GT program capacity allocation in the event of a
3 CCA's expansion that results in an increased number of eligible DAC-GT customers in the
4 CCA's service territory, regardless of whether the customers were previously enrolled in the IOU
5 DAC-GT program. CCAs and IOUs have previously had to work together to establish an
6 individualized process for each CCA expansion affecting the DAC-GT program.

7 As described in PCE AL 27-E, as PCE was expanding into the city of Los Banos, PCE
8 found that its DAC-GT program capacity allocation was not sufficient to accommodate the
9 transfer of incoming Los Banos customers who were already enrolled in PG&E's DAC-GT
10 program. As a result, unless a transfer of DAC-GT capacity occurred between PG&E and PCE,
11 Los Banos customers enrolled in PG&E's DAC-GT program faced the potential loss of DAC-GT
12 program enrollment and benefits upon taking service from PCE. PCE and PG&E collaborated to
13 determine the appropriate capacity amount that should be transferred to ensure that Los Banos
14 customers could continue to participate in, and benefit from, the DAC-GT program following
15 PCE's expansion. The billing and programs staff for each program administrator worked closely
16 together to guarantee that customers in Los Banos previously enrolled in PG&E's DAC-GT
17 program would experience a smooth transition to PCE's DAC-GT program. Through this
18 process, 366 customers previously participating in PG&E's DAC-GT program were able to be
19 enrolled in PCE's DAC-GT program.

20 Additionally, on September 29, 2021, SDCP submitted AL 004-E requesting 14.39 MW
21 of DAC-GT program capacity and 4 MW of CSGT program capacity in order to become a
22 program administrator for the DAC-GT and CSGT programs. This request was approved by the
23 Commission in October 2021. Subsequently, the SDCP Board voted to accept the city of

1 National City as a new member of SDCP which affected the number of eligible customers within
2 SDCP's territory. SDCP and SDG&E collaborated on the appropriate allocation of program
3 capacity for both DAC-GT and CSGT programs and requested the capacity transfers
4 accordingly.⁵⁰

5 Although, in these instances, the respective CCA and IOU were able to collaborate and
6 ensure that customers in both the CCA and IOU territories are afforded the same opportunities to
7 access the DAC-GT and CSGT programs, this is not always the case. In fact, SCE has
8 maintained that SCE should not be required to allocate its capacity to expanding CCAs.⁵¹
9 Additionally, without a clear methodology, this individualized approach between a CCA and
10 IOU upon a CCA expansion can be very time-consuming and has the potential to result in
11 procurement delays while the program administrators attempt to work through this process.

12 To provide clarity for both DAC-GT program administrators and customers on how to
13 handle customer transitions between IOUs and CCAs in the future, the Joint CCAs propose
14 specific modifications to how program capacity allocations should be handled if a CCA grows or
15 expands in section IX below.

16 **PART B. RECOMMENDATIONS FOR IMPROVING THE DISADVANTAGED** 17 **COMMUNITIES GREEN TARIFF AND COMMUNITY SOLAR GREEN TARIFF PROGRAMS**

18 **V. INCREASING DAC-GT PROGRAM CAPACITY CAP**

19 As detailed in the Evaluation section above, the DAC-GT program has been operating
20 successfully in the CCA service areas, with CPA, MCE, PCE, and SJCE at full, or close to full,
21 program subscription. Goal 2 of the Commission's ESJ plan sets the intention of "[i]ncreas[ing]

⁵⁰ See SDCP AL 10-E (awaiting Commission approval).

⁵¹ Testimony of Southern California Edison Company in Support of Application for Review of the Disadvantaged Communities-Green Tariff ("DAC-GT"), Community Solar Green Tariff ("CSGT"), and Green Tariff Shared Renewables ("GTSR") Programs at 8.

investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.” In the work plan for this goal, one step includes considering modifications of existing programs, including DAC-GT, to ensure maximum impact for ESJ communities.

The Joint CCAs propose that the DAC-GT program's capacity should be increased for program administrators when they have reached full enrollment and if they wish to expand their programs. The Joint CCAs propose that the Commission allocate enough capacity to the program so that for each PA approximately 50% of eligible customers can enroll in the program. Across the currently operational CCAs’ service areas, this would look as follows in the Table 1 below. This suggestion serves as a potential upper limit for capacity expansion under this proposal, as not all program administrators may want to expand their programs.

Table 1: Example of Proposed Increase in Allocated Capacity

CCA/PA	Eligible Customers ⁵²	Target Enrollment ⁵³	Capacity Allocation Required to Meet Target Enrollment ⁵⁴	Current Allocated Capacity	Change in Allocated Capacity
CPA	77,483	38,742	53.81 MW	12.19 MW	41.62 MW
CleanPowerSF	6,093	3,047	4.23 MW	1.826 MW	2.41 MW
EBCE	21,247	10,624	14.76 MW	5.726 MW	9.03 MW
MCE	17,134	8,567	11.90 MW	4.64 MW	7.26 MW
PCE	9,080	4,540	6.31 MW	2.57 MW	3.74 MW
SJCE	8,174	4,087	5.68 MW	1.736 MW	3.944 MW
Total	139,211	69,607	96.69 MW	28.688 MW	68.002 MW

The Joint CCAs provide this methodology as one example of a possible methodology to expand the capacity for the DAC-GT program. The Joint CCAs are open to discussing other

⁵² From CCA responses to PAO data request on 1/10/2022, except for CleanPowerSF. CleanPowerSF provides its number as part of its testimony.

⁵³ Target enrollment is 50% of eligible customers.

⁵⁴ Capacity allocation required given the following assumptions: 300 kWh monthly energy usage, 30% capacity factor.

methodologies to calculate a future program capacity cap and allocation methodology as proposed by other stakeholders and/or as modified by the Commission.

VI. USE OF AUTO-ENROLLMENT

The decision to auto-enroll customers should continue to be at the discretion of each program administrator. Self-enrollment can greatly enhance customer awareness of the program, awareness of the underlying purpose of the program to promote the increased use of renewable energy in DACs, and engagement with energy issues more generally. At the same time, auto-enrollment likely removes barriers to participation for a subset of customers. Ultimately, auto-enrollment may be appropriate for some program administrators and not for others. Program administrators should be afforded the flexibility to decide whether to use auto-enrollment, manual enrollment, or a combination of both.

For example, CPA began customer enrollment for its DAC-GT program in 2021 and elected to have customers self-enroll. CPA's decision to have participants self-enroll is supported by the Evaluation Report finding that self-enrollment is associated with greater customer awareness of the DAC-GT program. The Independent Evaluator contacted participants from CPA and PG&E's DAC-GT programs and compared results of the different customer groups. The Independent Evaluator found that self-enrolled CPA customers had greater awareness about the DAC-GT program, clean energy, and local solar developments (among other categories) than PG&E customers that were auto-enrolled into PG&E's DAC-GT program.⁵⁵ CPA DAC-GT participants were also more knowledgeable about program elements such as GHG reduction

⁵⁵ Independent Evaluator Report at 144-148. Awareness of GHG reduction was greater by 12% amongst CPA participants than PG&E participants, awareness of clean energy was greater by 6% amongst CPA participants than PG&E participants, and awareness of investments in local solar development was greater by 10% amongst CPA participants than PG&E participants. Looking at all surveyed program elements, CPA's self-enrolled DAC-GT participants had an average knowledge level that was 8% higher than PG&E's auto-enrolled DAC-GT participants.

benefits and usage of clean energy than CPA customers that did not participate in the program.⁵⁶ This enhanced understanding of program objectives supports the primary purpose of the DAC-GT program: to “promote the installation of renewable generation among residential customers in disadvantaged communities” as directed by state legislation.⁵⁷ CPA plans to continue to use self-enrollment to maintain full enrollment of its DAC-GT program and to enroll customers in its CSGT program once contracted projects near commercial operation.

Program administrators are best positioned to make decisions regarding customer outreach and education and CPA has found that this approach best satisfies its program objectives. Furthermore, the Commission should refrain from making adjustments to enrollment plans for existing program administrators because marketing materials and enrollment processes are already in place. Changing the operational process for program administrators after the launch of programs is likely to create new and unnecessary administrative costs and may confuse customers.

VII. METHDOLOGY FOR DETERMINING QUALIFYING DISADVANTAGED COMMUNITIES AND PROJECT SITE ELIGIBILITY

Overall, the Joint CCAs believe the Commission should expand siting eligibility and maintain minimum siting requirements for the DAC-GT and CSGT programs to ensure that the programs target the most impacted communities within each service area effectively. To reach this goal, the Joint CCAs propose the following modifications to the project siting requirements of the DAC-GT and CSGT programs. First, the Joint CCAs propose that existing DAC census tracts be allowed to retain their eligibility status each time a new version of CES is released. The release of CES 4.0 in 2021 was disruptive to the implementation and administration of several

⁵⁶ Independent Evaluator Report at 148.

⁵⁷ D.18-06-027 at 2.

1 CCA programs and left one CCA program administrator, SJP, without any eligible DACs in its
2 service territory. Additionally, several early-stage generation projects were rendered ineligible
3 for CSGT programs due to the update. In response to Petitions for Modification of Resolution E-
4 4999, the Commission issued Resolution E-5212 modifying the DAC-GT and CSGT program
5 rules to expand DAC-GT and CSGT program eligibility to include all eligible DACs from prior
6 versions of CES, beginning from the time at which a program administrator's DAC-GT or CSGT
7 implementation advice letter is approved, as well as federally recognized Tribes given their CES
8 4.0 DAC designation.⁵⁸ However, the Resolution indicated that this would only be considered an
9 interim approach until the Commission makes a determination on whether and how to modify the
10 eligibility criteria in this Application.⁵⁹ The Joint CCAs propose that the interim approach
11 adopted in Resolution E-5212 be permanently adopted by the Commission.

12 Second, the Joint CCAs propose to expand the locational siting requirements of DAC-GT
13 and CSGT projects. To address concerns of inadequate developer participation, SCE's
14 application proposes to expand the DAC-GT and CSGT project site requirement to make
15 projects within 5 miles from an eligible DAC eligible to participate in the programs.⁶⁰ The Joint
16 CCAs support this recommendation and request that the expanded eligibility be applied
17 statewide across all PA territories, and not solely implemented in SCE's service area. The
18 Independent Evaluator Report describes challenges with project siting in PA territories reported
19 by solar developers and cites land cost and availability across the state as a contributing factor.⁶¹
20 This proposed modification would enhance developer flexibility and broaden developers'

⁵⁸ See Resolution E-5212.

⁵⁹ *Id.* at 11.

⁶⁰ SCE Application for Review of the Disadvantaged Communities-Green Tariff (DAC-GT), Community Solar Green Tariff (CSGT), and Green Tariff Shared Renewables (GTSR) Programs at 3.

⁶¹ Independent Evaluator Report at 32.

1 chances of acquiring more affordable land.⁶² For more densely populated, urban areas where
2 land costs are high and DAC census tracts are non-contiguous, the expanded site eligibility
3 requirement could enable developers to site projects in areas directly bordering top 25% DAC
4 communities but are located in a non-top 25% DAC eligible census tract.

5 For example, CleanPowerSF has evaluated potential sites throughout San Francisco
6 suitable for development, including covered reservoirs, that could accommodate solar projects.⁶³
7 One such potential site, University Mound Reservoir, is located immediately adjacent to, and
8 one-block away from, a qualifying 4.0 DAC census tract, but the site itself is not located in an
9 eligible DAC census tract. A 5-mile limit to the project siting requirements would allow sites like
10 University Mound Reservoir to be eligible and still preserve the locational benefits of both
11 programs, in terms of developing clean energy resources near DAC customers and offering
12 potential local workforce development opportunities. The requested modification would be
13 limited to project siting eligibility only and not apply to customer eligibility requirements.

14 Third, the Joint CCAs propose modifications to DAC eligibility in SDCP's service area
15 specifically. As noted by SDG&E, siting projects in top 25% DACs in SDG&E's service
16 territory is challenging for solar developers given space constraints and less affordable land.⁶⁴
17 Similarly, SDCP has held discussions with potential developers and learned that the urbanized
18 nature of the region's DACs is an impediment to the developers in finding suitable sites.
19 Therefore, in order to ensure program success, SDCP supports the Independent Evaluator's
20 findings of increasing the DAC threshold from 25 percent to 40 percent in SDG&E's service

⁶² Testimony of Southern California Edison Company in Support of Application for Review of the Disadvantaged Communities-Green Tariff (DAC-GT), Community Solar Green Tariff (CSGT), and Green Tariff Shared Renewables (GTSR) Programs at 4.

⁶³ *Local Renewable Energy Report for CleanPowerSF*, March 8, 2020 at 28.

⁶⁴ Testimony of SDG&E in Support of Application to Review Green Access Programs Pursuant to Decisions 18-06-027 and 21-12-036 at 34.

territory only. In alignment with the Independent Evaluator Report, increasing the DAC threshold leads to more rural land as an option.⁶⁵ SDCP further recommends that the top 40 percent of DACs in Imperial County be eligible for project siting for SDCP’s DAC-GT program. This additional increase would provide more opportunities for SDCP to secure projects and serve customers. SDCP notes that the proposed use of Imperial County DACs is not unique, as SDG&E’s ECR program may currently locate projects in the Imperial Valley as well.⁶⁶

VIII. EXPANSION OF ELIGIBLE TECHNOLOGY TYPES TO INCLUDE CO-LOCATED SOLAR AND STORAGE

The Commission should specifically authorize the use of additional technology types to incentivize and further increase accessibility of renewable technologies in DACs. AB 327 directed the Commission to develop these programs for “renewable electrical generation”⁶⁷ and did not limit the programs to solar energy generation only. The Commission should include concise language expanding eligible technology types, including details about co-located solar and storage, not specified in the legislation, as it increases accessibility of the programs and overall benefits to grid reliability. A helpful clarification will be for the Commission to make explicit its already implicit eligibility of co-located solar plus storage projects.

That such projects are eligible becomes apparent when one “connects the dots” from Decision 18-06-027 which refers to Decision 17-12-005, which in turn adopts Southern California Edison’s “Alternative 1,” Allowing for co-located storage as long as the storage is behind the same output meter as the renewable generation and not powered from the grid. To

⁶⁵ Independent Evaluator Report at 41.

⁶⁶ See Resolution E-4734 at 21.

⁶⁷ Defined as “The facility uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and any additions or enhancements to the facility using that technology.”

1 simplify things for future generations of program administrators and project developers, the
2 Commission should simply state that storage co-located behind the meter with an eligible
3 renewable resource is eligible for use in DAC-GT and CSGT programs. Specific language is
4 proposed below.

5 In a related vein, program administrators pursuing co-located solar and storage for its
6 DAC-GT and CSGT programs must simultaneously navigate CPUC and California Air Resource
7 Board's ("CARB") requirements as they are both governing and funding entities of these
8 programs. The responsibility falls on the DAC-GT and CSGT program administrator to ensure
9 that co-located solar and storage also aligns with cap-and-trade regulations. Due to this, the Joint
10 CCAs request that the Commission recognize this fact in its Decision here. Ensuring that the
11 following findings of facts are included in the final Decision will help align program
12 administration with the dual agency policies, saving time and resources for program
13 implementation.

- 14 • Pursuant to Decision 18-06-072, storage is acceptable if it meets the adopted rules of
15 Decision 17-12-005, "whereby the virtual net energy metering generator and the storage
16 device would be located behind the same output meter."⁶⁸
- 17 • According to CARB rules section 95892(d) of the Cap-and-Trade Regulation, storage is
18 permissible because it benefits ratepayers and results in reducing greenhouse gas
19 emissions.

20 **IX. PROGRAM CAPACITY ALLOCATION AND CCA EXPANSION**

21 The primary goal of the DAC-GT and CSGT Programs, as outlined in D.18-06-027, is to
22 bring new-build projects online to serve DACs and to "ensure low-income households have

⁶⁸ D. 17-12-005 OP 1, issued on December 21, 2017, at 23.

1 similar opportunities as other households to access clean and innovative energy offerings.”⁶⁹
2 Determination of the capacity allocation between IOU and CCA program administrators for each
3 of these programs should be based in consideration of those objectives and the Joint CCAs
4 propose the following program modifications in pursuit of these objectives.

5 First, unprocured program capacity should be offered to other program administrators
6 prior to a program administrator’s termination of a program and/or termination of solicitation
7 activities under a program. A program administrator should be required to demonstrate that they
8 offered any remaining capacity to other program administrators prior to Commission
9 authorization to terminate procurement efforts.

10 Second, program allocation should be re-examined upon a CCA’s expansion. Customers
11 in CCA territories should be afforded the same opportunities to benefit from the DAC-GT and
12 CSGT programs as customers in the IOU service territories.⁷⁰ If an expanding CCA has a DAC-
13 GT program, but does not have available capacity, the IOU should transfer any unprocured
14 capacity to that CCA in proportion with the number of DAC-GT customers transferring to the
15 CCA.

16 The Commission should create an established process for these determinations. An IOU
17 should not be able to unilaterally determine not to transfer unused program capacity to an
18 expanding CCA as this would be contrary to the purpose of the programs and would prioritize
19 customer access to DAC-GT and CSGT programs in IOU territories over CCA customers.

20

⁶⁹ See D.18-06-027 at 2, 9. (“This decision adopts three new programs to promote the installation of renewable generation among residential customers in [DACs], as directed by the California Legislature in [AB] 327...”)

⁷⁰ See D.18-06-027 at 87. (The Commission reasoned that “both groups of customers pay for the programs, and because the potential benefits of the program should not be limited based upon the retail energy choice of customers.”)

X. BUDGET ADVICE LETTER FILING DATE

The Joint CCAs support the proposal offered in PG&E’s Application to move the due date for submitting annual budget requests to April 1 of each year.⁷¹ The timeline for the programs’ budgeting process should be revised to enable actual expenses to be included in the budget advice letter in an efficient and streamlined manner. At this time, the deadline for the Annual Budget Advice Letter is February 1. However, the CCAs have found that providing a complete accounting of the prior year’s actual expenses by the current budget submission deadline is difficult. The main challenge for program administrators is that actual energy procurement costs (which are used to calculate the above market generation costs) are only available approximately 70 days after the closing month, which means that actual costs for the months of November and December may not be available by February 1st of the subsequent year.

XI. AUTOMATIC DATA TRANSFERS FOR CCA CUSTOMER BILLING

The CCAs in PG&E’s service area have previously identified inefficiencies associated with the manual transfer of data between the CCAs and IOUs as well as potential automated solutions that can increase program efficacy and improve cost-effectiveness.⁷² This issue was partially addressed through Resolution E-5124 which required PG&E to include in their 2022 Budget Advice Letter, “efforts taken by PG&E to eliminate manual data transfers between PG&E and participating CCAs through IT software updates or other automated processes.”⁷³ However, in response to this requirement, in the supplement to PG&E’s 2022 Budget Advice Letter, PG&E indicated it would “evaluate the costs and benefits of a complete billing solution, including an analysis of the costs and benefits of the current system as compared to a fully

⁷¹ See Application of PG&E for Review of the Disadvantaged Communities-Green Tariff, Community Solar Green Tariff and Green Tariff Shared Renewables Programs at 9.

⁷² See Joint CCA’s Protest to PG&E’s AL 6490-E filed on February 22, 2022 at 4-5.

⁷³ Resolution E-5124 at 13; OP 4.

1 automated solution” in 2023.⁷⁴ To the Joint CCA’s knowledge, this analysis has not yet occurred
2 in 2023. In accordance with Resolution E-5124, the Joint CCAs request that PG&E t provide a
3 detailed scope and cost estimate of developing a fully automated billing solution for CCA
4 customers that follows the same billing process that is provided to participating IOU customers.
5 The Joint CCAs further request that the Commission direct PG&E in the final Decision of this
6 Application proceeding to provide a timeline for when this evaluation will be conducted and
7 completed. Based on this scope and cost estimate, the Commission, the program administrators,
8 and stakeholders can make informed decisions about whether switching to an automated data
9 transfer process for CCA customer billing is a prudent use of ratepayer funds.

10 **XII. CALCULATION AND PRESENTATION OF BILL DISCOUNT**

11 The IOUs are required to render consolidated bills for all customers who receive CCA
12 electric generation service.⁷⁵ Due to this, CCAs are responsible for sending their charges to the
13 IOUs in a timely manner within the bill window but the onus of ensuring that a consolidated bill
14 that is accurate and ultimately sent to the customer in a timely manner rests solely with the IOUs.
15 While the CCAs located in SCE and PG&E’s service areas and the incumbent IOUs have
16 collaborated and established generally agreeable processes for CCA customer billing and
17 discount presentation (with the shortcomings described in Section XI above), SDCP and SDG&E
18 have not yet been able to come to a mutually agreeable billing solution for customers in SDCP’s
19 future DAC-GT and CSGT programs. Specifically, SDCP and SDG&E have not yet been able to
20 come to an agreement on the underlying mechanics that need to be utilized in the calculation of
21 the 20 percent bill discount nor its presentation on the CCA customer bills. The Joint CCAs

⁷⁴ PG&E AL 6490-E-A at 4.

⁷⁵ See Pub. Util. Code § 366.2(c)(9) (The incumbent IOU shall “provide all metering, billing, collection, and customer services to retail customers that participate in [CCA] programs.”)

1 appreciate the collaboration between the CCAs and IOUs and propose that those CCAs and IOUs
2 that have come to an agreement on billing issues be allowed to continue with those processes as
3 established.

4 However, as this is not yet the case with SDCP and SDG&E, SDCP requests that the
5 Commission consider, require and approve a baseline process for the SDG&E billing practices as
6 it relates to DAC-GT and CSGT customers. Unless SDCP and SDG&E are able to come to an
7 agreement on an alternative process, the Commission should require, as a default, that SDG&E
8 calculate the transmission and distribution portion of the 20 percent discount only with the CCA
9 calculating the 20 percent discount on the generation portion, as SDCP is not responsible for the
10 transmission and distribution portion of customer bills. Additionally, the Commission should
11 establish a standard location on the SDCP customer bills to indicate that the 20 percent discount
12 is reflected on the full portion of the bill. Again, as SDG&E ultimately renders the bills for
13 SDCP's customers, without direction or collaboration, there is a concern that the discount may
14 be reflected on the bill in a way that implies the discount is only on the IOU portion of the bill.

15 In aiming for the best customer experience and to minimize confusion, it is appropriate
16 for SDG&E to articulate the transmission and distribution discount and for SDCP to articulate
17 the generation portion on the customers' bills.

18 **XIII. CONSIDERATIONS FOR MODIFICATIONS OR TERMINATION OF** 19 **PROGRAMS**

20 **A. Reconciliation of Existing Power Purchase Agreements**

21 Program administrators have entered into long-term PPAs in reliance upon cost recovery
22 provisions under the DAC-GT and CSGT programs, and for the reasons stated below, any
23 proposal to modify or terminate such programs must preserve cost recovery for the above market
24 generation cost associated with these Commission-approved PPAs. Removal or substantial

1 modification of the cost recovery provisions would amount to an undue financial encumbrance
2 by the Commission, burden all customers with higher rates, and erode confidence by customers
3 and numerous other stakeholders in future Commission-funded programs. The resulting
4 uncertainty will have significant negative downstream impacts.

5 First, the intended policy objective of the DAC-GT and CSGT programs was to fix cost
6 recovery of above market generation costs in the long-term. D.18-06-027 ordered the creation of
7 the DAC-GT and CSGT programs with the policy goal of incentivizing the development of new
8 solar resources to be sited in or near DACs and Resolution E-4999 (which implements D.18-06-
9 027) provides for cost-recovery of above market generation costs in connection with these new
10 resources.⁷⁶ Recent legislative activity also points to the California State Legislature’s intent to
11 preserve existing cost-recovery avenues under the DAC-GT and CSGT programs. AB 2316 calls
12 for an evaluation of existing GAPs, including DAC-GT and CSGT. AB 2316’s author,
13 Assembly Member Chris Ward, expressed to the Commission that it was not the intent of the
14 legislation to create “unwarranted stranded costs to ratepayers” as a result of existing program
15 resources becoming stranded if no longer eligible for cost recovery.⁷⁷

16 Second, a failure to continue cost recovery for above market generation costs would
17 erode market confidence in Commission-ordered programs. Contract prices for CPA’s executed
18 PPAs are provided in Confidential Table 2 below: [REDACTED]

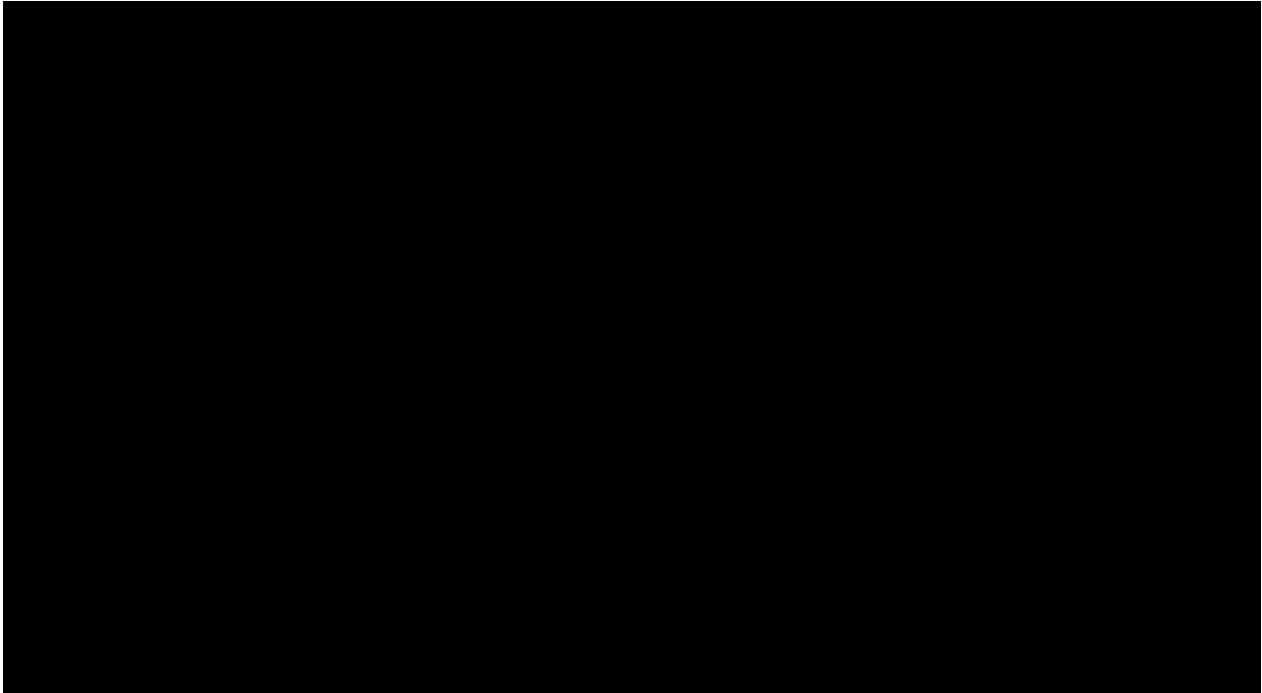
⁷⁶ Resolution E-4999, OP 2 at 67.

⁷⁷ *Re: Implementation of AB 2316*, from Assembly Member Christopher M. Ward to Alice Reynolds, President, California Public Utilities Commission (Dec. 9, 2022) (“Ward Letter”). The Ward Letter further states the following: “Concerns have been raised to my office over the potential impact of existing infrastructure becoming stranded assets if programs are shut down, which could lead to higher rates for utility customers. While AB 2316 expressly states its intent for program consolidation, it is my intent, as the author, that during the evaluation of existing programs, these potential stranded assets be taken into consideration before termination.” In connection with procedural steps to introduce its testimony into the record, the Joint CCAs are prepared to file a Motion for Official Notice of the Ward Letter. A copy of the Ward Letter is appended hereto as Appendix C.

1 [REDACTED]

2 [REDACTED]

3 **Confidential Table 2: Contract Prices for CPA Executed PPAs**



4 Shifting the cost burden for these agreements or creating an uncertainty about funding for
5 these long-term power purchase agreement costs to a program administrator would create a
6 disincentive for implementing or administering future programs. Such an outcome would also
7 have a chilling effect on developers, community sponsors, program participants, and other
8 stakeholders that are critical to program success and generally frustrate the state's goal of
9 expanding use of renewable energy amongst disadvantaged communities.

10 Furthermore, failure to continue cost recovery for above market generation costs would
11 create higher costs for ratepayers in contravention with the stated objectives of D.18-06-027.
12 CPA has entered into eight PPAs to date, each with 15-year terms, with the expectation that the
13 above market generation costs related to PPA prices will be eligible for cost-recovery in
14 accordance with Resolution E-4999. If these programs were to be terminated, CPA's ratepayers

1 would bear the cost burden for the full contract price under each PPA executed with the intention
2 of being included in CPA's DAC-GT and CSGT programs. This consequence would contravene
3 the Commission's conclusion that it is appropriate for all customers to pay for the DAC-GT and
4 CSGT programs.⁷⁸

5 Pursuant to D.18-06-027, the legislative intent of AB 2316, and the policy reasons stated
6 above, the Commission should provide for the continued cost-recovery of the above market
7 generation costs of PPAs approved under the DAC-GT and CSGT programs.

⁷⁸ D.18-06-027 at 54, 85.

**THE JOINT COMMUNITY CHOICE AGGREGATORS AND
CITY AND COUNTY OF SAN FRANCISCO**

APPENDIX A

STATEMENT OF QUALIFICATIONS

Statement of Qualifications of Matthew Rutherford

Q1: Please state your name, position, and address.

A1: My name is Matthew Rutherford, and I am a Senior Regulatory Analyst for Peninsula Clean Energy Authority located at 2075 Woodside Road, Redwood City, CA 94061.

Q2: Please describe your responsibilities at Peninsula Clean Energy Authority (PCE).

A2: At PCE I am responsible for PCE's engagement and strategy around regulatory proceedings that are relevant to PCE's customer programs efforts such as transportation electrification, building decarbonization, and distributed energy resources. I lead the development of PCE's DAC-GT and CSGT Programs Implementation Advice Letter filed in December 2020 as well as all subsequent compliance Advice Letters related to the DAC-GT and CSGT programs.

Q3: Please summarize your educational and professional background.

A3: I received a Bachelor of Arts degree in History from the University of Connecticut in 2010. In 2013, I received a Master of Environmental Law and Policy with a Concentration in Energy Law from Vermont Law School. From 2014 to 2020, I was employed at the Town of Stowe Electric Department in Stowe, Vermont as the Manager of Regulatory Compliance where I managed the municipal utility's needs. This included the development of customer decarbonization programs to comply with Vermont's Renewable Energy Standard, representing the utility through hearings and filings before the Vermont Public Utility Commission and the state legislature, and various compliance responsibilities

Q4: What is the purpose of your testimony?

A4: I am sponsoring the following testimony on behalf of the Joint Community Choice Aggregators and City and County of San Francisco:

- Section I. Introduction and Summary.

Q5: Does this conclude your statement of qualifications?

A5: Yes, it does

Statement of Qualifications of Cheryl Taylor

Q1: Please state your name, position, and address.

A1: Cheryl Taylor, CleanPowerSF Operations Manager; 525 Golden Gate Avenue, 7th Floor; SF, CA 94102.

Q2: Please describe your responsibilities at CleanPowerSF.

A2: Energy planning. regulatory compliance reporting, budget preparation and monitoring.

Q3: Please summarize your educational and professional background.

A3: A.B. in U.S. History from Stanford University and Master of City Planning from the Massachusetts Institute of Technology. Over two decades as a finance leader in governmental, private and non-profit organizations. Lead finance staff in start-up and launch of CleanPowerSF in 2016.

Q4: What is the purpose of your testimony?

A4: I am sponsoring the following testimony on behalf of the Joint Community Choice Aggregators and City and County of San Francisco:

- Section II: Working Definitions and Criteria of AB 2316
 - Section II.A: Efficiently Serves Distinct Customer-Groups
 - Section II.B: Promotes Robust Participation By Low-Income Customers
 - Section II.C: Minimizes Duplicative Offerings
- Section III: Evaluation of DAC-GT and CSGT Programs Applying Objectives of AB 2316
 - Section III.B: Evaluation of Generally Applicable Criteria for All CCA DAC-GT and CSGT Programs
 - Section III.D: Evaluation of CleanPowerSF's DAC-GT and CSGT Programs

- Section VII: Methodology for Determining Qualifying Disadvantaged Communities and Project Site Eligibility

Q5: Does this conclude your statement of qualifications?

A5: Yes, it does

Statement of Qualifications of Kathleen Wells

Q1: Please state your name, position, and address.

A1: My name is Kathleen Wells, Energy Programs Manager for CalChoice
6138 West Avenue L-12, Lancaster, CA 93536.

Q2: Please describe your responsibilities at CalChoice.

A2: Main role includes developing and managing energy efficiency programs on behalf of CalChoice member CCAs. Other responsibilities include assisting CCAs with customer rate analyses, customer care efforts, marketing and outreach, and implementing innovative customer energy programs for the benefit of member CCAs.

Q3: Please summarize your educational and professional background.

A3: 23 years experience working with municipalities, and 8 years with community choice aggregation. I served on the initial team that Lancaster Choice Energy, the first CCA in Southern California Edison territory, and managed customer care and energy programs for the CCA. Received my MBA in Energy and Sustainability Studies from Franklin Pierce University.

Q4: What is the purpose of your testimony?

A4: I am sponsoring the following testimony on behalf of the Joint Community Choice Aggregators and City and County of San Francisco:

- Section III.A: Scope of the Joint CCA's Program Evaluation
- Section IV: Consideration of CCA Growth
- Section VII: Methodology for Determining Qualifying Disadvantaged Communities and Project Site Eligibility
- Section IX: Program Capacity Allocation and CCA Expansion

Q5: Does this conclude your statement of qualifications?

A5: Yes, it does

Statement of Qualifications of Joanne O'Neill

Q1: Please state your name, position, and address.

A1: Joanne O'Neill, Director of Customer Programs, 801 S. Grand Ave. Suite 400, Los Angeles, CA 90017.

Q2: Please describe your responsibilities at Clean Power Alliance of Southern California.

A2: Lead the Customer Programs team which is responsible for designing and delivering programs focused on resilience and grid management, electrification, and local renewable procurement in Los Angeles and Ventura Counties.

Q3: Please summarize your educational and professional background.

A3: Experienced leader in the clean energy industry with over 17 years of experience in non-profit, utility, and consulting companies. This includes her current role at Clean Power Alliance, 5 years leading the California team at CLEAResult, the largest provider of carbon reduction programs in North America, where her team specialized in energy efficiency, decarbonization, electric vehicle, and solar and storage programs. Additionally, she spent 10 years at Pacific Gas and Electric Company in the Customer Energy Solutions department, where she held numerous roles in leadership, program delivery, and product management for customer energy management programs and services. Joanne holds a Master of Business Administration degree in Sustainable Business, Bachelor of Arts in Environmental and Physical Geography and Environmental Studies, and certifications in Lean Six Sigma and Product Management.

Q4: What is the purpose of your testimony?

A4: I am sponsoring the following testimony on behalf of the Joint Community Choice Aggregators and Clean Power Alliance:

- Section III.C: Evaluation of Clean Power Alliance of Southern California's DAC-GT and CSGT Programs

- Section VI: Use of Auto-Enrollment
- Section X: Budget Advice Letter Filing Date
- Section XIII: Considerations for Modifications or Termination of Programs

Q5: Does this conclude your statement of qualifications?

A5: Yes, it does

Statement of Qualifications of JP Ross

Q1: Please state your name, position, and address.

A1: JP Ross, Vice President of Local Development, Electrification and Innovation, 1999
Harrison St., Oakland, CA 94612

Q2: Please describe your responsibilities at EBCE.

A2: JP leads EBCEs local development and innovation programs, to deliver benefits to residents and businesses in Alameda County.

Q3: Please summarize your educational and professional background.

A3: After completing a Masters Degree from the University of California at Berkeley from the Energy and Resources Group, JP joined Greenpeace, to advocate for wind and solar instead of 50GW of gas plants in response to the California Energy crisis. JP then moved to Vote Solar, and successfully campaigned for California's Million Solar Roofs initiative that commercialized the California markets. JP lead Vote Solar's activities in pro-solar rate design regulatory proceedings across the US. In 2007, JP moved to Sungevity, and helped grow the business from 4 to 750 employees as the third largest residential solar installer in the US. JP's responsibilities included developing Sungevity's procurement and installation capabilities, market expansion, strategy and channel development. JP then joined Origin Energy, Australia's largest energy utility, where he lead the development of Origin's Business Solar PPA, IT Program and Channel Strategy.

Q4: What is the purpose of your testimony?

A4: I am sponsoring the following testimony on behalf of the Joint Community Choice Aggregators and City and County of San Francisco:

- Section III.E: Evaluation of East Bay Community Energy's DAC-GT and CSGT Programs

- Section VIII: Expansion of Eligible Technology Types to Include Co-Located Solar and Storage

Q5: Does this conclude your statement of qualifications?

A5: Yes, it does

Statement of Qualifications of Zae Perrin

Q1: Please state your name, position, and address.

A1: Zae Perrin, Manager of Customer Operations, MCE, 1125 Tamalpais Ave, San Rafael, CA 94901.

Q2: Please describe your responsibilities at MCE.

A2: As the Manager of Customer Operations at MCE I oversee customer billing, all customer service inquiries, support all customer communications and am the main contact and liaison with PG&E. My team manages MCE's DAC-GT program.

Q3: Please summarize your educational and professional background.

A3: I have my BS from San Diego State University and my MBA from East Carolina University. Along with my education I carry over 25 years of professional experience within the fields of organizational change management, business operations, marketing, retail operations, and customer service and communications.

Q4: What is the purpose of your testimony?

A4: I am sponsoring the following testimony on behalf of the Joint Community Choice Aggregators and City and County of San Francisco:

- Section III.F: Evaluation of Marin Clean Energy's DAC-GT and CSGR Programs
- Section V: Increasing DAC-GT Program Capacity Cap
- Section XI: Automatic Data Transfers for CCA Customer Billing

Q5: Does this conclude your statement of qualifications?

A5: Yes, it does

Statement of Qualifications of Peter Levitt

Q1: Please state your name, position, and address.

A1: My name is Peter Levitt and I am the Programs Manager, DERs for Peninsula Clean Energy located at 2075 Woodside Road, Redwood City, CA 94061.

Q2: Please describe your responsibilities at Peninsula Clean Energy Authority (PCE).

A2: At PCE I am responsible for creating strategies and programs designed to sustainably scale DER penetration across our service territory, driving demand side management that can complement our renewable energy deployments and reduce customer greenhouse gas emissions. I focus primarily on solar, storage, and load shaping efforts.

Q3: Please summarize your educational and professional background.

A3: I received a Bachelor of Sciences degree in Entrepreneurial Management, as well as a Bachelor of Arts degree in Spanish from Pennsylvania State University in 2014. From 2014 to 2018, I worked as a Project Development Manager for SolarCity and Tesla Energy, focused on developing solar and storage projects for C&I and small utility customers in CA and the northeast US, as well as developing the first buy-side and sell-side project M&A practices at those firms. In 2019 I transitioned to my current role at PCE focused on DER strategy and programs.

Q4: What is the purpose of your testimony?

A4: I am sponsoring the following testimony on behalf of the Joint Community Choice Aggregators and City and County of San Francisco:

- Section III G - Evaluation of Peninsula Clean Energy Authority's DAC-GT and CSGT Programs

Q5: Does this conclude your statement of qualifications?

A5: Yes, it does

Statement of Qualifications of Marcos Santiago

Q1: Please state your name, position, and address.

A1: Marcos Santiago, Power Resources Specialist, 200 E Santa Clara St., San José, CA 95113.

Q2: Please describe your responsibilities at San José Clean Energy (SJCE).

A2: I am the Decarbonization Programs Specialist at SJCE and serve as the Program Administrator for DAC-GT as well as helping maintain SJCE's San Jose Home Appliance Savings Program, San Jose Energy Efficient Business Program, and CALeVIP Program. In addition, I also work on program design for upcoming SJCE program offerings such as a local Demand Response Program, and several EV targeted efforts.

Q3: Please summarize your educational and professional background.

A3: I received my BS in Energy and Environmental Studies and a minor in Green Engineering in Fall of 2019, I've been at San Jose Clean Energy since early 2020 during which time I've served as the Analyst for the team, engaging directly with residential and large commercial customers and managed customer assistance programs during the height of the COVID 19 pandemic, such as the state's CAPP and AMP programs. More recently I have shifted to the program role described in A2.

Q4: What is the purpose of your testimony?

A4: I am sponsoring the following testimony on behalf of the Joint Community Choice Aggregators and City and County of San Francisco:

- Section III.H: Evaluation of San José Clean Energy's DAC-GT and CSGT Programs

Q5: Does this conclude your statement of qualifications?

A5: Yes, it does

Statement of Qualifications of Leslie Brown

Q1: Please state your name, position, and address.

A1: My name is Leslie Brown and I am the Director of Account Services at Peninsula Clean Energy Authority located at 2075 Woodside Road, Redwood City, CA 94061.

Q2: Please describe your responsibilities at Peninsula Clean Energy Authority (PCE).

A2: At PCE my team is responsible for billing operations, rate management and customer care for all PCE customers. I also serve as the primary liaison with PG&E and our backend services provider Calpine Energy Solutions for customer operations, including overseeing enrollment in CCA service and coordination for special programs like DAC-GT.

Q3: Please summarize your educational and professional background.

A3: I have a Bachelors of Science in Environmental Studies from San Jose State University and an MBA in Sustainable Management from Presidio Graduate School. From 2000-2017 I worked for Silicon Valley Power (SVP), the City of Santa Clara's municipal electric utility. I held various roles within the Customer Service and Marketing Division at SVP such as; Energy Conservation Specialist, Key Accounts Representative and Business Analyst. My primary duties were to manage the city's solar incentive and net metering program, promote energy efficiency and renewable energy adoption throughout the city, and customer outreach and education. In January of 2017 I joined PCE as the Manager of Customer Care and oversaw our enrollment of San Mateo County customers to CCA service throughout 2017. I was subsequently promoted to the Director of Customer Care in 2018 and then Director of Account Services in 2021. In 2022 I coordinated the enrollment of our newest service territory, the City of Los Banos.

Q4: What is the purpose of your testimony?

A4: I am sponsoring the following testimony on behalf of the Joint Community Choice

Aggregators and City and County of San Francisco:

- Section IV: Consideration of CCA Growth
- Section VI: Use of Auto Enrollment
- Section IX: Program Capacity Allocation and CCA Expansion
- Section XI: Automatic Data Transfers for CCA Customer Billing

Q5: Does this conclude your statement of qualifications?

A5: Yes, it does

Statement of Qualifications of Sebastian Sarria

Q1: Please state your name, position, and address.

A1: Sebastian Sarria, Policy Manager at San Diego Community Power, 12716 PO Box, San Diego, CA 92101.

Q2: Please describe your responsibilities at San Diego Community Power (SDCP).

A2: I am responsible for leading and tracking SDCP's involvement in a variety of solar access programs proceeding, including DAC-GT/CSGT, GTSR, and the recent Net Billing Tariff. I was also the lead staff member who submitted SDCP's implementation plan to become a program administrator for DAC-GT/CSGT. I also lead SDCP's engagement in their General Order (GO) 156 and supplier diversity efforts.

Q3: Please summarize your educational and professional background.

A3: I have a Master of Public Policy in Energy and Environment from UC San Diego School of Global and Strategy. I also hold a Bachelor of Arts in Political Science from the University of Central Florida. I have worked as a Clean Energy Coordinator for Climate Action Campaign, led the technical development of the city of San Diego's Climate Equity Index report, and have worked for San Diego Community Power since its inception three and a half years ago.

Q4: What is the purpose of your testimony?

A4: I am sponsoring the following testimony on behalf of the Joint Community Choice Aggregators and City and County of San Francisco:

- Section IV: Consideration of CCA Growth
- Section VII: Methodology for Determining Qualifying Disadvantaged Communities and Project Site Eligibility
- Section IX: Program Capacity Allocation and CCA Expansion

- Section XII: Calculation and Presentation of Bill Discount

Q5: Does this conclude your statement of qualifications?

A5: Yes, it does

**THE JOINT COMMUNITY CHOICE AGGREGATORS AND
CITY AND COUNTY OF SAN FRANCISCO**

APPENDIX B

CONFIDENTIALITY DECLARATION

CLEAN POWER ALLIANCE OF SOUTHERN CALIFORNIA
DECLARATION OF MATTHEW LANGER IN SUPPORT OF CONFIDENTIAL TREATMENT

I, Matthew Langer, declare as follows:

1. I am an officer representing the Clean Power Alliance of Southern California (“CPA”) in this matter. I am authorized to make this declaration on behalf of CPA. The statements in this declaration are based on my knowledge, information, or belief.
2. I have reviewed or caused to be reviewed Prepared Testimony on behalf of the Joint Community Choice Aggregators, dated January 20, 2023 (“Opening Testimony”).
3. Those portions of the confidential Opening Testimony identified in Table 1 below and marked in dark gray in the attached file (“Confidential PPA Information”) (Confidential PPA Information shall be referred to as “CPA Confidential Information”) are eligible for confidential treatment and protection. CPA provides a public version (fully redacted) and a confidential version (with the gray highlights) of the CPA Confidential Information.

Table 1: Identification of Confidential PPA Information

PPA Contract Information	Type of Data	Matrix Category
• Contract Price	• Contract Price	(IV)(C) Bilateral Contracts

4. CPA requests that the Confidential PPA Information be kept under seal, exempt from disclosure, and withheld pursuant to Commission General Order 66-D; Public Utilities Code Section 583; California Government (“Govt.”) Code Section 6255; Govt. Code 6245(k), Evidence Code Section 1060, and Civil Code Section 3254, et seq, as well as Decision (“D.”) 06-06-066 and D.08-04-023 and the Matrix of Allowed Confidential Treatment for Energy Service Provider Data (“ESP Matrix”) attached as Appendix B to the latter decision, as explained below.
5. The CPA Confidential Information for which CPA requests confidential treatment and thereby protection from public disclosure are the types of information and correspond to a category or categories specified in D.06-06-066 and D.08-04-023 and the ESP Matrix.
6. In addition to the ESP Matrix and D.06-06-066/D.08-04-023, the CPA Confidential Information contains confidential and market-sensitive information, and disclosure of this information would place CPA and its counterparties at a market disadvantage, including through the release of proprietary or trade secret information. Therefore, the CPA Confidential Information are exempt from public disclosure under Govt. Code Section 6245(k), Evidence Code Section 1060, and Civil Code Section 3254, et seq.
7. The CPA Confidential Information is also exempt under Govt. Code Section 6255 because publicly releasing this information could provide market participants and market competitors

insight into CPA's procurement position and strategy, which would unfairly undermine or undercut CPA's bargaining power. The harm to CPA's bargaining power could impact CPA's rates and customers leading to harm to the public. Therefore, the public interest in not disclosing this information outweighs the public interest in disclosure.

8. The data for which CPA is claiming confidentiality is not already public.
9. The confidentiality of the data for which CPA is claiming confidentiality would not be compromised if it were first aggregated with the equivalent data of all other load serving entities before being made public. Other than by the aforesaid process, the data cannot be aggregated, redacted, summarized, masked, or otherwise protected in a way that allows partial disclosure.
10. CPA requests that all Confidential information be kept confidential and exempt from disclosure in accordance with Commission General Order 66-D and pursuant to the California Public Records Act.

Declared under penalty of perjury that the aforesaid is true of my knowledge, information, or belief.

Dated: January 20, 2023

/s/ Matthew Langer

Matthew Langer
Chief Operating Officer
Clean Power Alliance of Southern California
801 S. Grand Ave., Ste. 400
Los Angeles, CA 90017 (213) 713-7012

**THE JOINT COMMUNITY CHOICE AGGREGATORS AND
CITY AND COUNTY OF SAN FRANCISCO**

APPENDIX C

**IMPLEMENTATION OF AB 2316
LETTER FROM ASSEMBLY MEMBER CRHISTOPHER M. WARD**

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Assembly California Legislature



CHRISTOPHER M. WARD
ASSISTANT MAJORITY LEADER
ASSEMBLYMEMBER, SEVENTY-EIGHTH DISTRICT

COMMITTEES
EMERGENCY MANAGEMENT
HOUSING AND COMMUNITY
DEVELOPMENT
LABOR AND EMPLOYMENT
TRANSPORTATION
WATER, PARKS AND WILDLIFE
JOINT LEGISLATIVE COMMITTEE ON
EMERGENCY MANAGEMENT

December 9, 2022

Alice Reynolds, President
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: Implementation of AB 2316

Dear President Reynolds:

As the author of Assembly Bill (AB) 2316, I wish to clarify the intent of Section 769.3(b)(1)(C) of the Public Utilities Code, as added by my bill AB 2316. Concerns have been raised that the provision could unnecessarily result in unwarranted stranded costs to ratepayers.

Section 769.3(b)(1)(C) was drafted in collaboration with the Assembly and Senate policy committee staff to authorize the termination of a program that does not meet the goals, as outlined in AB 2316. The intent of this Section was to direct the California Public Utilities Commission to evaluate and consolidate existing programs and reduce duplicative programming.

Concerns have been raised to my office over the potential impact of existing infrastructure becoming stranded assets if programs are shut down, which could lead to higher rates for utility customers. While AB 2316 expressly states its intent for program consolidation, it is my intent, as the author, that during the evaluation of existing programs, these potential stranded assets be taken into consideration before termination.

As the author, I believe the Section is clear, but I want to make sure that this intent was conveyed as the California Public Utilities Commission (CPUC) begins the implementation phase of AB 2316.

Thank you for your attention to this important policy issue. If you have any questions, please do not hesitate to contact Charles Loudon, with my office, at (916) 319-2078.

Sincerely,

A handwritten signature in black ink, appearing to read "CW", with a long, sweeping horizontal line extending to the right.

CHRISTOPHER M. WARD
Assemblymember, 78th District

CMW:cl

FEBRUARY FILINGS

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Continue
Electric Integrated Resource Planning and
Related Procurement Processes.

R.20-05-003

**CALIFORNIA COMMUNITY CHOICE ASSOCIATION'S COMMENTS
ON THE PROPOSED DECISION ORDERING SUPPLEMENTAL MID-TERM
RELIABILITY PROCUREMENT (2026-2027) AND TRANSMITTING ELECTRIC
RESOURCE PORTFOLIOS TO CALIFORNIA INDEPENDENT SYSTEM OPERATOR
FOR 2023-2024 TRANSMISSION PLANNING PROCESS**

Evelyn Kahl,
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CALIFORNIA COMMUNITY CHOICE
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February 2, 2023

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SUMMARY OF RECOMMENDATIONS

- The Proposed Decision (PD) must provide a pathway to transition away from the practice of ordering procurement in a rushed and unpredictable manner that is not supported by robust analysis;
- The PD errs in failing to allocate requirements in a manner consistent with cost causation principles;
- The PD errs in rejecting California Community Choice Association's (CalCCA) proposed modifications to the penalty structure on the basis that it would relieve load serving entities (LSEs) of penalties up front;
- The PD errs by failing to clarify how procurement ordered in this proceeding interacts with procurement being considered in the Aliso Canyon proceeding;
- The PD errs by failing to clarify how resource procurement and transmission planning will reduce reliance on carbon-emitting resources in local areas;
- The PD errs by continuing to order procurement considering the California Independent System Operator (CAISO) system-wide needs, rather than the needs of California Public Utilities Commission (Commission) jurisdictional LSEs;
- If the Commission orders additional procurement, the PD must be clarified to expressly state each LSE's requirement and Effective Load Carrying Capabilities through a decision, rather than through the service list;
- If the Commission orders additional procurement, the PD must be clarified to expressly allow procurement from earlier years to count towards future obligations;
- The Commission must clarify the baseline "swap" process to protect against the exercise of developer market power;
- The PD errs in adopting Cost Allocation Mechanism cost recovery for procurement obligations taken on by an Investor-Owned Utility from a deregistering LSE with no consideration for the timing in which customer returns occur;
- The Commission errs in rejecting CalCCA's deliverability proposal on the basis that it is detrimental to reliability; and
- The Commission must clarify the PD to outline steps the Commission must take in response to Maximum Import Capability expansion requests that are denied by the CAISO due to lack of existing transmission capacity.

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Continue
Electric Integrated Resource Planning and
Related Procurement Processes.

R.20-05-003

**CALIFORNIA COMMUNITY CHOICE ASSOCIATION'S COMMENTS
ON THE PROPOSED DECISION ORDERING SUPPLEMENTAL MID-TERM
RELIABILITY PROCUREMENT (2026-2027) AND TRANSMITTING ELECTRIC
RESOURCE PORTFOLIOS TO CALIFORNIA INDEPENDENT SYSTEM OPERATOR
FOR 2023-2024 TRANSMISSION PLANNING PROCESS**

The California Community Choice Association (CalCCA)¹ submits these comments pursuant to Rule 14.3 of the California Public Utilities Commission's (Commission) Rules of Practice and Procedure on the *Proposed Decision Ordering Supplemental Mid-Term Reliability Procurement (2026-2027) and Transmitting Electric Resource Portfolios to California Independent System Operator for 2023-2024 Transmission Planning Process* (PD or Proposed Decision), mailed on January 13, 2023.

I. INTRODUCTION

The Proposed Decision provides modest but important measures to ease pressure on the short-term energy market, but still reflects the continued challenges the Integrated Resource Planning (IRP) proceeding has had in adequately coordinating procurement decisions with the planning process, considering the impacts of increased electrification, climate change, resource retirements, and other factors. Despite a separate track of the IRP proceeding aimed at developing a programmatic approach to procurement, the Proposed Decision circumvents that

¹ California Community Choice Association represents the interests of 24 community choice electricity providers in California: Apple Valley Choice Energy, Central Coast Community Energy, Clean Energy Alliance, Clean Power Alliance, CleanPowerSF, Desert Community Energy, East Bay Community Energy, Energy For Palmdale's Independent Choice, Lancaster Choice Energy, Marin Clean Energy, Orange County Power Authority, Peninsula Clean Energy, Pico Rivera Innovative Municipal Energy, Pioneer Community Energy, Pomona Choice Energy, Rancho Mirage Energy Authority, Redwood Coast Energy Authority, San Diego Community Power, San Jacinto Power, San José Clean Energy, Santa Barbara Clean Energy, Silicon Valley Clean Energy, Sonoma Clean Power, and Valley Clean Energy.

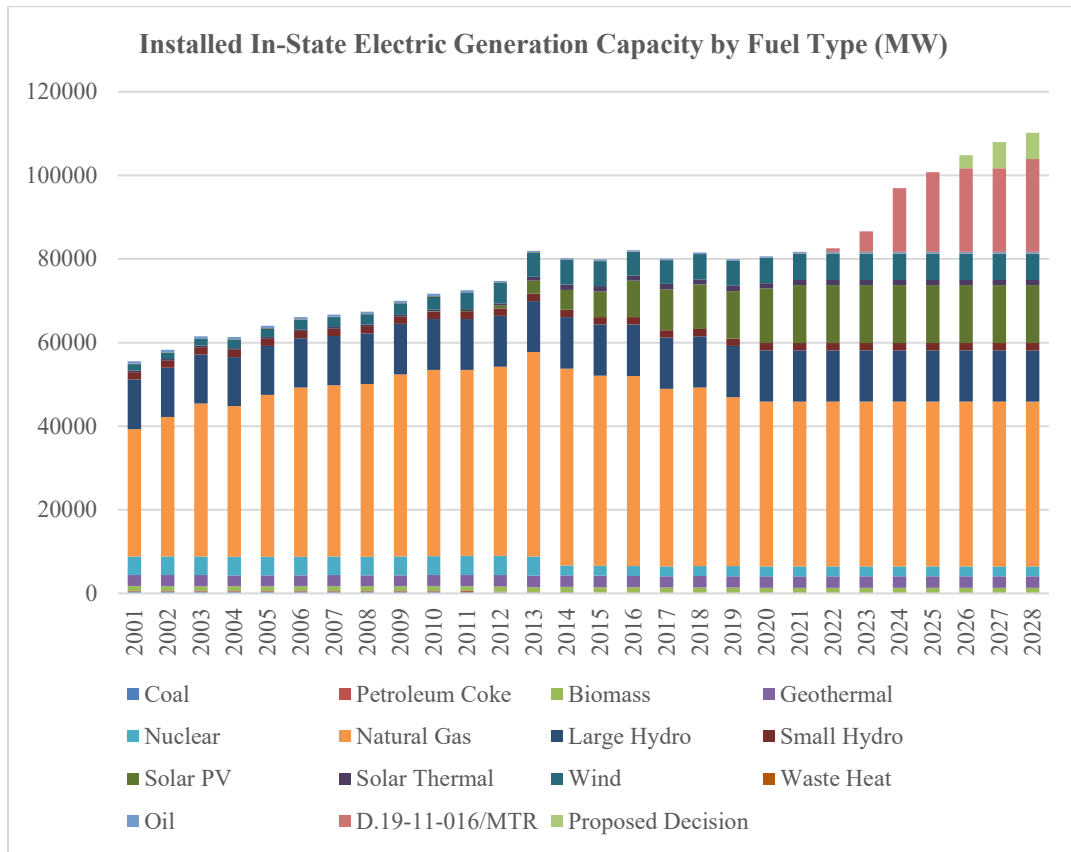
process by ordering procurement which is not based upon loss of load expectation (LOLE) analysis, setting compliance targets that do not allow sufficient flexibility for load serving entities (LSEs) to conduct orderly procurement, and exposing LSEs to penalties for non-compliance with aggressive requirements.

To date, the IRP and its successor have not adequately accounted for and planned for resource retirements. For many years, the state had excess capacity with thermal resources still operating and renewable resources coming online. Eventually, excess capacity suppressed resource adequacy (RA) and energy prices, making it difficult for resources to plan for the revenues they will receive and commit to making capital improvements needed to keep operating. Those conditions led to it being uneconomic to continue operating, resulting in a number of plants retiring. Since then, the IRP process has yet to catch up with this economic dynamic, and the state has yet to plan in manner that adequately replaces those resources to maintain excess capacity and ensure competitive RA prices. Instead, the state has razor-thin RA margins, making compliance difficult if not impossible, and with insufficient excess capacity to ensure competitive market forces keep prices reasonable.

To remedy this, LSEs have procured new resources at record paces in the last several years and will continue to do so. Figure 1 below shows actual and projected installed capacity from 2001 to 2028, including the procurement ordered through Decision (D.)19-11-016, D.21-06-035, and this Proposed Decision.² Procurement ordered in years 2021-2028 far surpasses the pace of procurement at any other time this century. In fact, the build rate between 2022-2028 is two and a half times higher than the build rate following the post 2000-2001 energy crisis build out from 2002-2008.

² Installed capacity values for procurement orders estimated using California Energy Commission (CEC) assumptions from its *SB 846 – Diablo Canyon Extension and CERIP* Presentation, at slides 37 and 38, and assumes no retirements between 2022 and 2028: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=248455&DocumentContentId=82897>.

Figure 1



While it is abundantly clear that transitioning to a clean system while maintaining reliability will require aggressive new resource build, this proceeding lacks a routine and systematic process for assessing portfolio needs and ordering procurement. Procurement ordered through D.19-11-016, D.21-06-035, and this Proposed Decision totals 18,800 megawatts (MW) of net qualifying capacity (NQC) or roughly 35 percent of the existing NQC on the system.

The Commission's goal in the IRP proceeding should be to achieve the right balance of clean, reliable, and affordable procurement. It is not possible to achieve the affordability objective with unsystematic and unpredictable procurement orders that require LSEs to rush to procure resources to meet a need not justified by robust, probabilistic analysis. Additionally, compliance deadlines set in one-year tranches rather than longer blocks of time give significant market power to developers and significantly limit LSE' flexibility to deliver resources cost-effectively. Adopting the three-year compliance periods utilized in the Renewable Portfolio Standard would alleviate some of this market power and provide valuable flexibility to LSEs. Without a clear and steady path to procure, affordability is not possible.

CalCCA supports aspects of the Proposed Decision, including the baseline proposal that would provide a pathway for fully developing all baseline resources, subject to modifications, and the clarification that LSEs can trade compliance obligations. However, the Commission should modify the Proposed Decision consistent with the following recommendations:

- The PD must provide a pathway to transition away from the practice of ordering procurement in an unsystematic and unpredictable manner that is not supported by robust analysis;
- The PD errs in failing to allocate requirements in a manner consistent with cost causation principles;
- The PD errs in rejecting CalCCA's proposed modifications to the penalty structure on the basis that it would relieve LSEs of penalties up front;
- The PD errs by failing to clarify how procurement ordered in this proceeding interacts with procurement being considered in the Aliso Canyon proceeding;
- The PD errs by failing to clarify how resource procurement and transmission planning will reduce reliance on carbon-emitting resources in local areas;
- The PD errs by continuing to order procurement considering the California Independent System Operator (CAISO) system-wide needs, rather than the needs of Commission jurisdictional LSEs;
- If the Commission orders additional procurement, the PD must be clarified to expressly state each LSE's requirement and Effective Load Carrying Capabilities (ELCCs) through a decision, rather than through the service list;
- If the Commission orders additional procurement, the PD must be clarified to expressly allow procurement from earlier years to count towards future obligations;
- The Commission must clarify the baseline "swap" process to protect against the exercise of developer market power;
- The PD errs in adopting Cost Allocation Mechanism (CAM) cost recovery for procurement obligations taken on by an Investor-Owned Utility (IOU) from a deregistering LSE with no consideration for the timing in which customer returns occur;
- The Commission errs in rejecting CalCCA's deliverability proposal on the basis that it is detrimental to reliability; and
- The Commission must clarify the PD to outline steps the Commission must take in response to Maximum Import Capability (MIC) expansion requests that are denied by the CAISO due to lack of existing transmission capacity.

Ultimately, the Commission must transition away from the order-by-order approach to procurement and prioritize the development of a programmatic approach to need determination, need allocation, and compliance.

II. PROCUREMENT ORDER

A. The PD Must Provide a Pathway to Transition Away from the Practice of Ordering Procurement in a Rushed and Unpredictable Manner that is Not Supported by Robust Analysis

The Proposed Decision adopts 4,000 MW of new procurement between 2026 and 2027 to account for load forecast increases, climate change impacts, and additional retirements that may occur in advance of assumed retirement dates.³ The procurement ordered in the Proposed Decision is not based upon a robust probabilistic analysis that indicates the selected procurement amounts will result in a targeted level of reliability. Importantly, the Proposed Decision does not indicate the level of LOLE the ordered procurement will result in each year, so it remains unclear the amount of shortfall that exists without such procurement or the level of reliability the system would achieve with this new procurement. For these reasons, the Proposed Decision must further explain how the assumptions about climate change impacts and additional retirements were determined and how these assumptions support the 4,000 MW ordered in the Proposed Decision.

Additionally, the Commission and parties are currently considering a programmatic approach to procurement aimed at moving away from the order-by-order approach to procurement. As Staff has correctly pointed out, the order-by-order approach has “proved unpredictable for LSEs, cannot fully address load migration, does not facilitate proactive LSE self-provision of the needed resource attributes, and does not expressly address existing resource retention, which can result in uncertainty for LSEs and the broader market, ultimately posing a barrier to efficient procurement and putting reliability at risk.”⁴ The Proposed Decision short circuits this effort, in another example of procurement orders failing to rely on the modeling and other processes in IRP.

To ensure the Commission does not repeat the practice of rushed order-by-order procurement in the future, the Commission must focus on developing a more transparent long-

³ Proposed Decision at 20.

⁴ *Reliable and Clean Power Procurement Program Staff Options Paper*, R.20-05-003 (Sept. 2022): <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K684/496684997.PDF>.

term programmatic procurement framework that routinely assesses needs, establishes realistic procurement schedules, and provides more stability to the market and customers in the long term.

B. The PD Errs in Failing to Allocate Requirements in a Manner Consistent with Cost Causation Principles

The Proposed Decision indicates that the Commission will allocate the 4,000 MW of incremental procurement in the same way that it allocated the 11,500 MW from D.21-06-035 – by load ratio share. Allocating requirements by load ratio share fails to follow cost causation principles by not allocating the procurement responsibility to LSEs that have moved slowly to build new clean resources. LSEs that have done more than their fair share of clean resource build should not be allocated more responsibility by “peanut-buttering” requirements across all LSEs. Instead, the Commission should make allocations on a net clean capacity need basis, as described in CalCCA’s Opening Comments to the Staff Options Paper considering a programmatic approach to procurement.⁵ This approach would allocate the need in terms of each LSE’s share of the total need for clean capacity and allow LSEs to show total clean resources procurement from new and existing clean resources. This avoids the problem of penalizing early procurers of clean capacity present in a load ratio share allocation approach.

C. The PD Errs in Rejecting CalCCA’s Proposed Modifications to the Penalty Structure on the Basis that it Would Relieve LSEs of Penalties up Front

The Proposed Decision rejects CalCCA’s modified version of Southern California Edison Company’s (SCE’s) penalty waiver proposal on the basis that it would relieve LSEs of penalties up front, therefore loosening the penalty structure and potentially harming ratepayers that did not receive a waiver.⁶ CalCCA’s proposal would not waive penalties upfront. Instead, it would allow LSEs to defer compliance for one year if the LSE took reasonable efforts, yet its procurement faced delays for reasons outside the control of the LSE. CalCCA even discussed in its proposal the evidence an LSE would need to submit to demonstrate that it made good faith efforts to qualify for a single year deferral of penalties. This would not result in a waiver of penalties up front, as the LSE would maintain responsibility for bringing the resource online. The Commission would simply defer the assessment of penalties to allow the LSE and project

⁵ *California Community Choice Association’s Comments on Administrative Law Judge’s Ruling Seeking Comments on Staff Paper on Procurement Program*, R.20-05-003 (Dec. 12, 2022): <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M499/K887/499887293.PDF>.

⁶ Proposed Decision at 32.

developer to complete the project on an extended timeline. The Commission should revise the Proposed Decision to adopt this proposal given the exogenous factors happening in the market that could result in project delays.

D. The PD Errs by Failing to Clarify How Procurement Ordered in This Proceeding Interacts with Procurement Being Considered in the Aliso Canyon Proceeding

Separate from the 4,000 MW of incremental procurement adopted in this Proposed Decision, the Commission is considering procurement of a similar magnitude in I.17-02-002 to reduce reliance on Aliso Canyon. In testimony submitted in I.17-02-002, CalCCA stressed the importance of performing procurement planning within the IRP proceeding rather than within both the IRP proceeding and the Aliso Canyon proceeding.⁷ Concentrating procurement efforts within one proceeding will ensure that the Commission assesses procurement needs considering multiple drivers (in this case, reduced reliance on Aliso Canyon and reliability) and issues procurement orders in a coordinated manner. For this reason, the Commission must modify the Proposed Decision to clarify how the incremental procurement ordered here and the incremental procurement currently being considered in the IRP proceeding interact. If the two are separate, the Commission should provide additional assurance that they are not duplicative. If LSEs can procure in a manner that meets the objectives of both proceedings, the Commission should also make that clear so as not to over procure at the expense of customer affordability.

E. The PD Errs by Failing to Clarify How Resource Procurement and Transmission Planning will Reduce Reliance on Carbon Emitting Resources in Local Areas

The Proposed Decision lists “accelerating goals for clean energy production and reductions in greenhouse gas (GHG) emissions through 2045 and earlier”⁸ as one of the driving factors behind previous procurement orders and the need for additional procurement. Accelerating clean energy production and reducing GHG emissions will be difficult without considering local capacity area constraints, given many local areas currently rely on fossil fuel resources to maintain reliability and meet local RA requirements. Without robust upfront

⁷ *Prepared Direct Testimony of Andrew D. Mills, Ph.D. on Behalf of the California Community Choice Association in Order Instituting Investigation Pursuant to Senate Bill 380 to Determine the Feasibility of Minimizing or Eliminating the Use of the Aliso Canyon Natural Gas Storage Facility Located in the County of Los Angeles While Still Maintaining Energy and Electric Reliability for the Region, I.17-02-002 (Dec.12 2022).*

⁸ Proposed Decision at 6-7.

planning focused specifically on how to reliably phase out local carbon-emitting resources, California risks jeopardizing the fast-approaching Senate Bill (SB) 100 target of zero-carbon resources supplying 100 percent of electric retail sales to end-use customers by 2045.

The state can achieve local reliability by locating generation within the local area or building new transmission to relieve the local area constraints. The ability to retire fossil fuel resources in local areas will depend on either (1) eliminating transmission constraints that limit the number of resources capable of serving load in the local area, or (2) bringing online enough effective carbon-free resources inside of the local area to replace the existing fossil fuel resources. Despite this, the Proposed Decision is devoid of any discussion of where to locate the incremental 4,000 MW to reduce reliance on local area gas resources. Additionally, the Proposed Decision declines to adopt a TPP sensitivity portfolio that would consider transmission needed to eliminate reliance on local area gas resources. Rapid procurement orders without considering the need to locate resources strategically complicates transmission planning. To remedy this, the Commission should modify the Proposed Decision to direct the CAISO to study as a sensitivity the transmission needed to reliably serve local areas without relying on gas resources and direct Energy Division to consider ways to incentivize local area procurement.

F. The PD Errs by Continuing to Order Procurement Considering CAISO System-Wide Needs, Rather than the Needs of Commission Jurisdictional LSEs

The Proposed Decision continues to “... require procurement for our IRP jurisdictional LSEs, without regard to procurement needs that may be attributable to load being served by publicly-owned utilities within the CAISO.”⁹ In doing so, the Commission risks requiring its LSEs to take on more than their fair share of procurement and/or requiring its LSEs to conduct procurement that is duplicative of non-Commission jurisdictional entities’ procurement efforts. Commission jurisdictional LSEs make up 88 percent of CAISO load with the remaining 12 percent being the load of non-Commission jurisdictional entities. By assessing procurement needs of the CAISO system as a whole, rather than procurement needs of its own entities, the Commission could risk ordering 12 percent excess procurement. The Commission must immediately modify this practice to assess future procurement needs of its jurisdictional LSEs and allocate only those needs to its LSEs.

⁹ Proposed Decision at 29.

G. If the Commission Orders Additional Procurement, the PD Must Be Clarified to Expressly Allow Procurement from Earlier Years to Count towards Future Obligations

The Proposed Decision states:

Finally, with respect to concerns raised by GPI, among other parties, we encourage LSEs to continue procuring resources in advance of any additional orders or our adoption of a comprehensive procurement program framework. Using whatever mechanism we adopt, we expect to give credit for and take into account proactive and early procurement by LSEs.¹⁰

CalCCA supports encouraging LSEs to procure in advance of a need. The Commission must make it expressly clear that LSEs can count excess procurement from one compliance year in future compliance years. Failure to do so introduces unnecessary risk upon LSEs which proactively meet or exceed compliance requirements. Indeed, as noted in section II.B. above, the Commission's load share allocation ignores the procurement already done by early moving LSEs and is inconsistent with the Commission's statement above. The Commission should therefore modify the Proposed Decision to expressly state excess procurement from one compliance period will count in future compliance periods, rather than framing it as an expectation.

H. If the Commission Orders Additional Procurement, the PD Must Be Clarified to Expressly State Each LSE's Requirement and ELCCs Through a Decision, Rather than Through the Service List

The Proposed Decision fails to expressly state LSEs' individual procurement requirement allocations and leaves parties uncertain of the value of resources the Commission could order them to procure to meet these requirements. Unlike the previous approach in D.21-06-035 where LSEs' procurement requirement allocations were individually listed, the Proposed Decision provides the additional 4,000 MW ordered for 2026 and 2027 as an aggregate procurement obligation across all LSEs and indicates that the Commission may provide new ELCCs that would apply to this procurement by the end of 2023 via notice to the service list.¹¹ In its current form, the Proposed Decision's delay in providing LSEs' individual procurement requirement allocations complicates the process of timely fulfilling those requirements. Further, the Proposed Decision's method of notifying individual LSE procurement requirements through the service list is unclear around the process for contesting any potential errors. If the Commission orders

¹⁰ Proposed Decision at 30.

¹¹ *Id.* at 27.

additional procurement, the Commission must modify the Proposed Decision to (1) expressly provide individual LSE obligations through a table in a Decision featuring each LSE's load share amount, akin to the table provided in D.21-06-035 so LSEs can adequately plan for the ordered amount of incremental procurement, and (2) provide ELCCs through a ruling and Decision process that allows parties to properly vet well in advance of the compliance deadline.

III. OTHER MID-TERM PROCUREMENT ISSUES

A. The Commission Must Clarify the Baseline “Swap” Process to Protect Against the Exercise of Developer Market Power

CalCCA generally supports the proposed baseline “swap” process adopted in the Proposed Decision which would give an LSE the option to swap a resource they hold in the baseline to count it towards its IRP obligation provided it adds the same amount of capacity to its procurement obligation at a later date.¹² This process balances preserving the baseline while providing a pathway for fully developing all resources included in baseline, even in the event of project delay.

The Commission must modify two elements of the swap process, however, to protect against the exercise of market power by developers and avoid duplicative obligations. First, the Proposed Decision indicates that the Commission would allow a new LSE to contract for and count a baseline resource towards its IRP procurement obligation, when that LSE had previously not held a contract with the project and the original purchasing LSE has terminated its contract with the resource.¹³ The Commission must modify the Proposed Decision to only allow this type of swap if the contract between the original LSE and developer had been terminated by the developer prior to the date of issuance of this Proposed Decision or if the contract between the original LSE and developer had been terminated by the original LSE. The Commission must make this modification to prevent the situation in which a developer of a resource in the baseline terminates a contract in order to contract with an LSE for its IRP procurement obligations at a higher price.

Second, the Commission should clarify the Proposed Decision to allow resources in the D.21-06-035 baseline to count towards an LSE's D.21-06-035 procurement requirements as long as the LSE fulfilled its D.19-11-016 obligation with the equivalent NQC of another eligible

¹² *Id.* at 17.

¹³ *Id.*

resource. For example, assume a 50 MW solar resource A was in the D.21-06-035 baseline and was used to meet an LSE's D.19-11-016 procurement requirement. Solar resource A did not get built. However, 50 MW solar resource B (which was not in the D.21-06-035 baseline) did get built. If solar resource A then gets built in time to meet 2023 or 2024 D.21-06-035 requirements, then the Commission should allow the LSE to count solar resource A towards its 2023 or 2024 obligation without a "swap" and therefore without adding additional requirements to its 2025 obligation. This change is necessary to maintain consistency with previous guidance provided by the Commission and accurately recognize the interaction of the two Decisions. Staff guidance issued earlier this year applied consistent treatment, and outlined a procedure for allowing a resource in the D.21-06-035 baseline to count for D.21-06-035 compliance if replacement capacity is found to satisfy D.19-11-016.¹⁴ Defining this as a "swap" and adding a supplemental obligation in 2025 in this case would be duplicative given that a resource procured for D.21-06-035 already represents cumulative incremental capacity compared with the original baseline assumptions. To avoid double-counting and provide consistent treatment with recent directives, the Commission should clarify the Proposed Decision would require supplemental obligations for swapped resources in both the D.19-11-016 and D.21-06-035 baselines to allow resource in the D.21-06-035 baseline to count towards its D.21-06-035 procurement requirements as long as the LSE fulfilled its D.19-11-016 obligation with the same NQC of another eligible resource.

B. The PD Errs in Adopting CAM Cost Recovery for Procurement Obligations Taken on by an IOU from a Deregistering LSE with no Consideration for the Timing in Which Customer Returns Occur

The Proposed Decision adopts CAM cost recovery for procurement done by the IOU in its role as Provider of Last Resort (POLR) if the IOU takes on the obligation of an LSE no longer providing retail service and if the LSE's customers are not already paying for the same capacity under the Modified Cost Allocation Mechanism (MCAM).¹⁵ The Proposed Decision claims, "this is the most fair mechanism, because the IOU's bundled customers should not be obligated

¹⁴ See *Filing Requirements Overview for February 1, 2023, IRP Procurement Compliance Filing & Data Request*, R.20-05-003 (Jan. 4, 2023): https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/february-2023-irp-procurement-compliance-and-dr-overview_20230104.pdf.

¹⁵ Proposed Decision (O¶) 10.

to take on the full responsibility for the costs on behalf of customers previously served by another LSE.”¹⁶

The Proposed Decision adopts this rule in error. The issue the Proposed Decision attempts to resolve is one of timing. If customers return from a deregistering LSE to the POLR on a date that falls close to IRP compliance deadline, then the IOU as POLR may need to quickly procure resources to meet their IRP obligations. This could result in the IOU paying higher prices than it otherwise would have if it had further forward notice to meet its obligations. However, the PD errs by putting no time bounds on the rule adopted in Ordering Paragraph (OP) 10, such that any IRP procurement done on behalf of returning customers could be charged to all customers via CAM, even if the IRP compliance is many years into the future, which would allow the IOU sufficient time to conduct procurement in advance to meet the increased compliance obligation.

In the POLR proceeding, parties have made alternative proposals on this issue. CalCCA proposed a deferral process that would allow the IOU additional time to procure so that they can avoid rushed procurement and pay competitive prices for their procurement.¹⁷ If the Commission adopted such a mechanism here, there would be no reason for the IOU to CAM the costs of IRP procurement to serve the returning customers, as the returning customers are now bundled customers and fall under the IOUs’ procurement responsibility.

The Commission should modify the Proposed Decision to direct the Commission to consider this issue in the POLR proceeding including the solutions proposed by CalCCA and SCE. If the Commission does move forward with CAM cost recovery for IRP procurement done by the IOU in its role as POLR, the Commission must modify the Proposed Decision to put time bounds on the proposal. The Commission should modify the Proposed Decision to only allow for CAM cost recovery if the time to procure between notification of customer return and D.21-06-035 compliance deadlines is less than 24 months and after the life of the contract, the resource is taken out of CAM. Further, the contract should not allow for any contract extension provisions as this would have all customers pay for a bundled load asset during a period in which

¹⁶ *Id.* at 39.

¹⁷ In its Mar. 28, 2022 comments in the POLR proceeding (R.21-03-011), CalCCA has proposed a deferral process, in which the IOUs could request a deferral of IRP obligations if customers return shortly before compliance deadlines. See 11-13 at: <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M463/K619/463619721.PDF>.

the IOU is not facing a decision with limited time to execute which was the original basis for SCE's proposal. Instead, the resource would become available to the market and the IOU could choose to pursue a new contract with the resource for its bundled load customers. This would ensure CAM cost recovery only applies when timelines to procure are short enough such that procurement cannot be done in a cost-effective manner. Additionally, any POLR CAM procurement should be authorized by a decision of the Commission that follows a stakeholder process that is tailored to the urgency of the reliability concern.

C. The Commission Errs in Rejecting CalCCA's Deliverability Proposal on the Basis that it is Detrimental to Reliability

In its Opening Comments on near-term actions to support reliability, CalCCA proposed that the Commission allow projects without a deliverability study to count towards D.21-06-035 requirements temporarily as long as the project completes the deliverability study process, obtains full capacity deliverability status, or performs the necessary upgrades to obtain full capacity deliverability status.¹⁸ The Proposed Decision declines to adopt this proposal and states, "... the interconnection study process is important to ensure reliability, and therefore the deliverability studies should not be subjected to shortcuts." CalCCA agrees that the interconnection and deliverability study process is important for reliability, and did not suggest shortcuts to the deliverability study process in its proposal. Instead, CalCCA's proposal would require all resources counting towards D.21-06-035 requirements to go through the existing deliverability study process with no changes to the methodology. If, after completion of the deliverability study, the resource is not fully deliverable, network upgrades must be conducted to make the resource fully deliverable, or the LSE must show a new fully deliverable resource. Additionally, LSEs would still need to meet their RA requirements with fully deliverable resources while waiting for their D.21-06-035 project to obtain full capacity deliverability status. The alternative is to hold the IRP procurement process hostage to the timing of the deliverability study process, creating uncertainty for each project as to whether any individual project may or may not eventually count toward IRP targets. Therefore, the Proposed Decision errs in suggesting that the CalCCA proposal would result in a "shortcut" in the deliverability study process and would harm reliability and should be modified to adopt CalCCA's proposals.

¹⁸ *California Community Choice Association's Comments on Section 2 of the Administrative Law Judge's Ruling Seeking Comments on Potential Near-Term Actions to Encourage Additional Procurement*, R.20-05-003 (Sept. 26, 2022), at 10.

IV. CAISO TRANSMISSION PLANNING PROCESS RECOMMENDATIONS

A. The Commission Must Clarify the PD to Outline Steps the Commission Must Take in Response to MIC Expansion Requests that are Denied by the CAISO Due to Lack of Existing Transmission Capacity

In its November 17, 2022, 2022-2023 Transmission Planning Process (TPP) presentation, the CAISO presented the results of its assessment of MIC expansion requests. The assessment indicated that, given the current transmission system, all the MIC expansion requests studied by the CAISO failed the TPP deliverability study, meaning the CAISO cannot expand MIC. MIC expansion would necessitate transmission upgrades due to a lack of available deliverability.

While the Proposed Decision asks the CAISO to continue the studies that will inform MIC expansion opportunities to support the development of incremental transmission capacity to support long-lead-time resources in the base portfolio,¹⁹ the Proposed Decision does not explain what steps the Commission will take when the CAISO cannot expand MIC due to a lack of existing transmission capacity. It will be very difficult for LSEs to invest in the development of new out-of-state resources necessary to satisfy the variety of requirements (Renewable Portfolio Standard (RPS), clean energy, IRP, and RA) with significant uncertainty that those resources will count due to the lack of MIC both short and long-term.

The Commission should therefore clarify in the Proposed Decision that if a MIC expansion request results in a “fail” of the CAISO’s deliverability assessments, the Commission would use those requests to inform future base case resource portfolios for study in the next TPP cycle if those requests include projects that are not already included in previous base cases. This will allow the CAISO to study transmission needs that would allow for the expansion of MIC associated with MIC expansion requests. The CAISO has stringent requirements for studying MIC expansion requests (*e.g.*, LSE demonstration of an executed contract), so the Commission should take MIC expansion requests as an indication that there are high levels of commercial interest in the resources at those locations.

¹⁹ Proposed Decision at 51.

V. CONCLUSION

CalCCA appreciates the opportunity to submit these comments and requests adoption of the recommendations proposed herein. For all the foregoing reasons, the Commission should modify the Proposed Decision as provided in Attachment A.

Respectfully submitted,

A handwritten signature in blue ink that reads "Evelyn Kahl".

Evelyn Kahl,
General Counsel and Director of Policy
CALIFORNIA COMMUNITY CHOICE
ASSOCIATION

February 2, 2023

**ATTACHMENT A
TO
CALIFORNIA COMMUNITY CHOICE ASSOCIATION'S COMMENTS
ON THE PROPOSED DECISION ORDERING SUPPLEMENTAL MID-TERM
RELIABILITY PROCUREMENT (2026-2027) AND TRANSMITTING ELECTRIC
RESOURCE PORTFOLIOS TO CALIFORNIA INDEPENDENT SYSTEM OPERATOR
FOR 2023-2024 TRANSMISSION PLANNING PROCESS**

**PROPOSED CHANGES TO FINDINGS OF FACT,
CONCLUSIONS OF LAW AND ORDERING PARAGRAPHS**

FINDINGS OF FACT

New: A programmatic approach to IRP procurement will result in more effective procurement than the order-by-order approach.

CONCLUSIONS OF LAW

3. CAM resources should not be eligible to participate in a baseline resource swap for reasons of cost allocation fairness. Resources with a contract with a new purchasing LSE and a terminated contract with the original purchasing LSE shall be eligible only if the contract with the original LSE had been terminated prior to the date of issuance of this Proposed Decision, January 13, 2023.

4. The Cal Advocates proposal for an additional 4,000 MW NQC of procurement is reasonable and should be adopted, with modifications. For future procurement orders, the Commission should avoid repeating the practice of order-by-order procurement not based on an LOLE study by developing a programmatic procurement framework that routinely assesses needs, establishes realistic procurement schedules, and allocates procurement in a manner that considers past clean resource procurement.

7. The D.21-06-035 2,000 MW NQC requirements for LLT resources that were due in 2026 should be adjusted to be required before 2028, similar to the timeframe already provided for in D.21-06-035. An LSE should not be required to seek an extension of the 2026 deadline, but should instead be allowed to use the LLT resources defined in D.21-06-035 to count toward its obligations at any time during 2026 through 2028. If an LSE already has procured its share of the LLT resources by 2026 or 2027, it may substitute that resource for the requirements of this order and conduct additional procurement in 2028, such that in each year the total procurement obligations of all LSEs will be met with 2,000 MW NQC in each year, inclusive of the LLT resources. If an LSE already has procured its share of procurement for one compliance period, it may count any excess procurement from that compliance period in future compliance periods.

8. Capacity requirements to individual LSEs should be on the same basis as assigned in D.21-06-035, for reasons of fairness in cost allocation. Future procurement requirements should be allocated procurement in a manner that considers past clean resource procurement, for reasons of

avoiding penalizing early actors.

15. CAM cost recovery is the most reasonable approach to the situation where an IOU takes on the D.21-06-035 or this order's compliance obligations because the LSE is in bankruptcy or no longer providing retail service only if the compliance deadline falls within 24 years of date the IOU is notified of customer return and the resource is taken out of CAM after the life of the contract, if the LSE's customers are not already paying for the same capacity under the MCAM mechanism. This provision is subject to change based upon the outcome of the POLR proceeding.

19. The Commission should seek CAISO TPP analysis of ~~one~~ two sensitivity cases in this TPP cycle: a case that tests the transmission needs of a significant amount of offshore wind and a portfolio that assumes the retirement of gas plants in local capacity areas.

New: The Commission should consider procurement needs identified in the Aliso Canyon proceeding within this proceeding to ensure procurement efforts are aligned.

New: The Commission should assess future procurement needs of its jurisdictional LSEs, rather than CAISO system-wide needs, and allocate only those needs to its LSEs.

New: CalCCA's proposal that the Commission allow projects without a deliverability study to count towards D.21-06-035 requirements temporarily as long as the project completes the deliverability study process, obtains full capacity deliverability status, or performs the necessary upgrades to obtain full capacity deliverability status is adopted.

ORDERING PARAGRAPHS

1. Any load-serving entity subject to procurement requirements from Decision (D.) 19-11-016 or D.21-06-035 may file a Tier 2 Advice Letter seeking to count an individual electric generation or storage resource listed on the baseline generator list for either decision toward its obligation, but then must have an equal amount of net qualifying capacity added to its procurement requirement associated with D.21-06-035 for 2025. The capacity counting will be based on the relevant effective load carrying capability (ELCC) value for the order for which the resource is being counted, and the additional 2025 capacity procurement will be based on 2025 ELCC values. Commission staff shall maintain on our web site and up-to-date baseline generator list for both D.19-11-016 and D.21-06-035 compliance purposes. Resources with costs allocated under the Cost Allocation Mechanism shall not be eligible for this capacity swap. Resources with a contract with a new purchasing LSE and a terminated contract with the original purchasing LSE shall be eligible only if the contract with the original LSE had been terminated prior to the date of issuance of this Proposed Decision, January 13, 2023.

5. Any penalties associated with failure to comply with the requirements of Decision 21-06-035 or this order will be based on a calculation of the net cost of new entry, a calculation which the Commission will maintain for this purpose. The penalty will be assessed for each relevant compliance year. LSEs will be able to request a deferral of penalty assessments for one year if the LSE can demonstrate it took reasonable efforts to procure yet faced delays for reasons outside the control of the LSE.

10. If an investor-owned utility takes on the D.21-06-035 compliance obligation of another load serving entity (LSE) due to a bankruptcy or other reason for the LSE no longer providing retail service, cost recovery for capacity procurement shall be through the Cost Allocation Mechanism only if the compliance deadline falls within 24 years of date the IOU is notified of customer return and the resource is taken out of CAM after the life of the contract, unless the LSE's customers are already paying for the same capacity under the Modified Cost Allocation described in Decision 22-05-015.

13. The Commission transfers to the California Independent System Operator for its 2023-2024 Transmission Planning Process ~~one~~ two policy-driven sensitivity portfolios for study purposes, that ~~have~~ been updated with assumptions from the California Energy Commission's 2021 Integrated Energy Policy Report: a portfolio that tests the transmission needs associated with approximately 13 gigawatts of offshore wind and a portfolio that assumes the retirement of gas plants in local capacity areas. The details of the portfolio will be posted at the following link: <https://www.cpuc.ca.gov/industries-and-topics/electricalenergy/electric-power-procurement/long-term-procurement-planning/2022-irpcycle-events-and-materials/portfolios-and-modeling-assumptions-for-the-2023-2024-transmission-planning-process>.

New: The Commission shall issue a decision allocating requirements to individual LSEs and providing ELCCs to be used for procurement in this order.



ADVICE LETTER SUMMARY

ENERGY UTILITY



MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.:

Utility type:

☐ ELC ☐ GAS ☐ WATER
☐ PLC ☐ HEAT

Contact Person:

Phone #:

E-mail:

E-mail Disposition Notice to:

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas WATER = Water
PLC = Pipeline HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #:

Tier Designation:

Subject of AL:

Keywords (choose from CPUC listing):

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☐ One-Time ☐ Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested? ☐ Yes ☐ No

If yes, specification of confidential information:

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required? ☐ Yes ☐ No

Requested effective date:

No. of tariff sheets:

Estimated system annual revenue effect (%):

Estimated system average rate effect (%):

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected:

Service affected and changes proposed¹:

Pending advice letters that revise the same tariff sheets:

¹Discuss in AL if more space is needed.

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102
Email: EDTariffUnit@cpuc.ca.gov

Name:
Title:
Utility Name:
Address:
City:
State: Zip:
Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email:

Name:
Title:
Utility Name:
Address:
City:
State: Zip:
Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email:

ENERGY Advice Letter Keywords

Affiliate	Direct Access	Preliminary Statement
Agreements	Disconnect Service	Procurement
Agriculture	ECAC / Energy Cost Adjustment	Qualifying Facility
Avoided Cost	EOR / Enhanced Oil Recovery	Rebates
Balancing Account	Energy Charge	Refunds
Baseline	Energy Efficiency	Reliability
Bilingual	Establish Service	Re-MAT/Bio-MAT
Billings	Expand Service Area	Revenue Allocation
Bioenergy	Forms	Rule 21
Brokerage Fees	Franchise Fee / User Tax	Rules
CARE	G.O. 131-D	Section 851
CPUC Reimbursement Fee	GRC / General Rate Case	Self Generation
Capacity	Hazardous Waste	Service Area Map
Cogeneration	Increase Rates	Service Outage
Compliance	Interruptible Service	Solar
Conditions of Service	Interutility Transportation	Standby Service
Connection	LIEE / Low-Income Energy Efficiency	Storage
Conservation	LIRA / Low-Income Ratepayer Assistance	Street Lights
Consolidate Tariffs	Late Payment Charge	Surcharges
Contracts	Line Extensions	Tariffs
Core	Memorandum Account	Taxes
Credit	Metered Energy Efficiency	Text Changes
Curtailable Service	Metering	Transformer
Customer Charge	Mobile Home Parks	Transition Cost
Customer Owned Generation	Name Change	Transmission Lines
Decrease Rates	Non-Core	Transportation Electrification
Demand Charge	Non-firm Service Contracts	Transportation Rates
Demand Side Fund	Nuclear	Undergrounding
Demand Side Management	Oil Pipelines	Voltage Discount
Demand Side Response	PBR / Performance Based Ratemaking	Wind Power
Deposits	Portfolio	Withdrawal of Service
Depreciation	Power Lines	



MARIN COUNTY | NAPA COUNTY | UNINCORPORATED CONTRA COSTA COUNTY | UNINCORPORATED SOLANO COUNTY
BENICIA | CONCORD | DANVILLE | EL CERRITO | FAIRFIELD | LAFAYETTE | MARTINEZ | MORAGA | OAKLEY
PINOLE | PITTSBURG | PLEASANT HILL | RICHMOND | SAN PABLO | SAN RAMON | VALLEJO | WALNUT CREEK

February 1, 2023

California Public Utilities Commission
Energy Division
Attention: Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, CA 94102-3298

MCE Advice Letter 65-E

RE: 2024 Budget Request and Marketing, Education and Outreach Plan for the Disadvantaged Communities Green Tariff and the Community Solar Green Tariff Programs

Pursuant to Ordering Paragraphs (“OP”) 2 and 4 of Resolution E-4999,¹ and OP 3 of Resolution E-5125,² Marin Clean Energy (“MCE”) hereby submits this Tier 2 Advice Letter (“AL”) to submit the program budget request and marketing, education and outreach (“ME&O”) plan for the Disadvantaged Communities Green Tariff (“DAC-GT”) and Community Solar Green Tariff (“CS-GT”) programs for the program year (“PY”) 2024.

TIER DESIGNATION

This AL has a Tier 2 designation pursuant to OP 3 of Resolution E-5125.

EFFECTIVE DATE

Pursuant to G.O. 96-B, MCE requests that this Tier 2 AL become effective on March 3, 2023, which is 30 calendar days from the date of this filing.

1. BACKGROUND

On June 21, 2018, the California Public Utilities Commission (“Commission” or “CPUC”) approved D.18-06-027, adopting two new community solar programs to promote the use of renewable generation among residential customers in disadvantaged communities (“DACs”),³ as

¹ OP 2 and 4 of Resolution E-4999 specifically directed Pacific Gas and Electric Company, Southern California Edison and San Diego Gas & Electric Company to submit annual program budget estimates and ME&O plans to the Commission by February 1 of each year. MCE’s implementation Advice Letter, MCE AL 42-E/E-A/E-B was approved in Resolution E-5124, which brought MCE under the same program rules and reporting structure applicable to the IOUs.

² OP 3 of Resolution E-5125 directed that DAC-GT and CS-GT Annual Budget Advice Letters are to be submitted as Tier 2 ALs to allow for additional review and oversight.

³ DACs are defined under D.18-06-027 as communities that are identified in the most current version of

directed by the California Legislature in Assembly Bill (“AB”) 327 (Perea), Stats. 2013, ch 611. The DAC-GT and the CS-GT programs offer 100% solar energy to eligible customers and provide a 20% discount on the electric portion of the utility bill.

D.18-06-027 allows Community Choice Aggregators (“CCAs”) to develop their own DAC-GT and CS-GT programs, and states that CCAs that elect to offer DAC-GT and CS-GT must abide by all rules and requirements adopted in that decision.⁴ Pursuant to OP 17 of D.18-06-027, MCE filed its Implementation AL (MCE AL 42-E) on May 7, 2020. The Commission approved AL 42-E in Resolution E-5124, issued April 15, 2021.

Resolution E-4999 from May 2019 approved the investor-owned utilities’ (“IOUs”) implementation ALs for the DAC-GT and CS-GT programs and established the budgeting procedures and timelines for the programs. The Resolution sets the deadline for submitting annual DAC-GT and CS-GT program budget requests and ME&O plans for the upcoming PY by February 1st of each year.⁵ The Resolution also provides details regarding the budget submission requirements and process. Furthermore, Resolution E-4999 specifies that Program Administrators must reconcile prior year budget forecasts and expenditures in their annual budget requests.⁶

Per D.18-06-027, the budget requirements outlined in Resolution E-4999 apply to participating CCAs as well. The submission and approval of this budget AL is the prerequisite of having the DAC-GT and CS-GT budgets included in the IOUs’ Energy Resource Recovery Account (“ERRA”) Forecast in June each year. The ERRA Forecast in turn enables cost recovery under the programs. Therefore, MCE is submitting this cover letter to ensure timely cost recovery for its programs.

PURPOSE

MCE hereby submits the budget request for PY 2024 for the DAC-GT and CS-GT programs. Per Resolution E-4999, the budget request includes both the budget reconciliation for the previous PY (i.e., PY 2022) and the budget forecast for the upcoming PY (i.e., PY 2024). Additionally, MCE includes a correction for an inadvertent error in calculating the actual program costs in last year’s budget AL (MCE AL 58-E). In summary, MCE requests a total budget of \$929,566 for the DAC-GT and CS-GT programs for PY 2024. Additional details can be found in Appendix A.

Once the Commission approves MCE’s budget request, PG&E will be responsible for including the total budget request for MCE’s DAC-GT and CS-GT programs in the 2024 ERRA Forecast filing, due on May 15th of 2023.⁷ Once PG&E receives approval of its ERRA Forecast from the

CalEnviroScreen as among the top 25 percent of census tracts statewide, plus the census tracts in the highest five percent of CalEnviroScreen’s Pollution Burden that do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data. For purposes of this AL, MCE is using CalEnviroScreen 4.0, which was adopted in October 2021.

⁴ D.18-06-027, p. 104, OP 17.

⁵ Resolution E-4999, OP 2.

⁶ Resolution E-4999, OP 4.

⁷ D.22-01-023, p. 28, OP 3. Modifies the due date for PG&E to file this annual Application to May 15, 2023.

Commission, PG&E will set aside the requested MCE budget in a sub-account of its DAC-GT and CS-GT balancing accounts. PG&E will then transfer program funds to MCE as determined in Resolution E-5124.⁸

In addition to the budget request, MCE submits its updated ME&O plan for PY 2024 as Appendix B.

CONCLUSION

MCE respectfully requests the Commission approve the budgets proposed herein and direct PG&E to transfer funds sufficient to meet MCE's approved annual budgets per the funding mechanisms set forth in Resolution E-5124.

NOTICE

A copy of this AL is being served on the official Commission service list for Rulemaking R.14-07-002.

For changes to this service list, please contact the Commission's Process Office at (415) 703-2021 or by electronic mail at Process_Office@cpuc.ca.gov.

PROTESTS

Anyone wishing to protest this advice letter filing may do so by letter via U.S. Mail, facsimile, or electronically, any of which must be received no later than 20 days after the date of this advice filing. Protests must be submitted to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102
Email: EDTariffUnit@cpuc.ca.gov

In addition, protests and all other correspondence regarding this advice letter shall be sent electronically to the attention of:

Amulya Yerrapotu
Policy Associate
Marin Clean Energy
1125 Tamalpais Ave

At its January 27, 2021 voting meeting, the Commission adopted a PD that, among other things, sets the ERRRA forecast filing due date at May 15 of each year. As of the date of preparation for this AL, that decision had not yet been assigned a Decision number.

⁸ Resolution E-5124, p. 10.

San Rafael, CA 94901
Email: ayerrapotu@mcecleanenergy.org

There are no restrictions on who may file a protest, but the protest shall set forth specifically the grounds upon which it is based and shall be submitted expeditiously.

CORRESPONDENCE

For questions, please contact Amulya Yerrapotu at (415) 464-6664 or by electronic mail at ayerrapotu@mcecleanenergy.org.

/s/ Amulya Yerrapotu

Amulya Yerrapotu
Policy Associate
MARIN CLEAN ENERGY
1125 Tamalpais Avenue
San Rafael, CA 94901
Telephone: (415) 464-6664
Email: ayerrapotu@mcecleanenergy.org

Appendices

Appendix A: PY 2024 Budget Request
Appendix B: PY 2024 ME&O Plan

cc: Service List for R.14-07-002

APPENDIX A

**Budget Forecast for the Disadvantaged Communities Green
Tariff and Community Solar Green Tariff Programs for
Program Year 2024**

Proposed by Marin Clean Energy



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1. BACKGROUND

MCE is a program administrator (PA) of the Disadvantaged Communities (DAC) Green Tariff (DAC-GT) and Community Solar Green Tariff (CS-GT) programs. Per Resolution E-4999, annual program budgets must be presented by program and include the following budget line items:¹

1. Generation cost delta, if any;²
2. 20 percent bill discount for participating customers;
3. Program administration costs:
 - a. Program management;
 - b. Information technology (IT);
 - c. Billing operations;
 - d. Regulatory compliance;
 - e. Procurement;
 - f. CCA Integration Costs³
4. Marketing, education and outreach (ME&O) costs:
 - a. Labor costs;
 - b. Outreach and material costs;
 - c. Local CBO/ sponsor costs (for CS-GT only).

In this program budget, MCE includes both the budget reconciliation for the previous program year (PY) (i.e., PY 2022) and the budget forecast for the upcoming PY (i.e., PY 2024). Additionally, MCE includes a correction for an inadvertent error in calculating the actual program costs in last year's budget AL (MCE AL 58-E).

In addition to budget reconciliation and forecast, annual program budget submissions also include details on program capacity and customer enrollment numbers for both programs. More specifically, MCE reports on:

1. Existing solar generation capacity at previous PY's close (i.e., December 31, 2022);
2. Forecasted solar generation capacity under contract for procurement in the upcoming PY;
3. Customers served at previous PY's close (i.e., December 31, 2022); and
4. Forecasted customer enrollment for the upcoming PY.

¹ A detailed description of each budget line item can be found in MCE's Implementation Plan, submitted in Appendix A to MCE Advice Letter 42-E filed on May 7, 2020.

² Resolution E-4999 establishes that *above market* generation costs should include net renewable resource costs in excess of the otherwise applicable class average generation rate that will be used to calculate the customers' bills. In conversations with the CPUC's Energy Division after the release of the Resolution, it was clarified that this budget line item is intended to cover both a potential higher, as well as lower, cost of the DAC-GT/ CS-GT resources than the otherwise applicable class average generation rate. Hence, the term is updated to state the "*Delta of generation costs* between the DAC-GT/ CS-GT resources and the otherwise applicable class average generation rate."

³ Resolution E-5124, p. 11 establishes that PG&E must coordinate with participating CCAs and provide them with the CCA integration cost information by December 1 of each year. Each CCA will then include this cost information in their annual budget submission due on February 1 the following year. PG&E will report actual CCA integration costs for each CCA for the previous PY by January 15 of each year to the CCA. These integration costs will count toward each CCAs' administration cost cap and not PG&E's administration cost cap, as the CCAs have voluntarily chosen to participate in the DAC-GT and CSGT programs and to utilize GHG allowance proceeds and ratepayer funding in exchange for participation.

Finally, MCE will submit the following workpapers to the California Public Utilities Commission's (CPUC or Commission) Energy Division staff directly:

1. Calculation of the generation cost delta;
2. Calculation of the 20% bill discount to participating customers.

2. BUDGET FORECAST FOR PY 2024

For PY 2024, MCE forecasts a total budget of \$1,439,044 for the DAC-GT and CS-GT programs. A detailed budget forecast for each program by budget line item can be found in the table below.

Table 1: MCE Budget Forecast for PY 2024

Tab	Category	DAC-GT	CS-GT
1	Generation Cost Delta	\$ 136,469	\$ -
2	20% Bill Discount	\$ 957,919	\$ -
	Program Administration		
3a	Program Management	\$ 35,964	\$ 19,980
3b	Information Technology	\$ 11,840	\$ 3,700
3c	Billing Operations	\$ 97,430	\$ 9,620
3d	Regulatory Compliance	\$ 11,750	\$ 11,750
3e	Procurement	\$ 27,710	\$ 25,876
3f	CCA Integration Costs	\$ -	\$ -
	Subtotal Program Administration	\$ 184,694	\$ 70,926
	Marketing, Education & Outreach		
4a	Labor Costs	\$ 5,772	\$ 32,264
4b	Outreach and Material Costs	\$ 20,500	\$ 20,500
4c	Local CBO/ Sponsor Costs		\$ 10,000
	Subtotal ME&O	\$ 26,272	\$ 62,764
	Total	\$ 1,305,354	\$ 133,690
			\$ 1,439,044

MCE provides a brief description of each of the budget line items below.

Generation Cost Delta

To date, MCE has been using interim solar generation resources to support the DAC-GT program while it is procuring a dedicated solar facility for the program. On June 20, 2022, the Commission approved MCE's request to approve its dedicated DAC-GT power purchase agreement (PPA).⁴ MCE subsequently executed a contract with the dedicated solar generation facility that is expected

⁴ See Disposition of MCE AL 63-E, MCE Disadvantaged Communities Green Tariff Program 2022 Power Purchase Agreement Approval.

to come online in late 2023 or early 2024. As such, the DAC-GT generation cost delta budget forecast for 2024 is based on the PPA price of the dedicated resource, compared to the costs of serving customers under MCE’s residential base tariff, the “Light Green” tariff.

MCE did not receive any bids for CS-GT projects in its 2022 solicitation and does not expect to have a generation resource online in 2024 for the CS-GT program. Hence, MCE does not forecast any generation cost delta or 2024 for the CS-GT program.

20 Percent Bill Discount

As set forth in Resolution E-5124, MCE calculates the 20% bill discount on both the generation and transmission and distribution (T&D) portion of the electric bill for the customers participating in its programs. The bill discount is then fully included on the generation portion of customer bills, i.e., the discount reduces the electric generation costs of a customer’s bill only.⁵ MCE then recovers these program costs via this budget AL filing.

In PY 2024, MCE only expects to have customers enrolled in the DAC-GT program. As described above, MCE has not been successful to date to procure a solar generation facility for the CS-GT program. The PY 2024 forecast for the 20 percent bill discount is based on the actual average monthly bill discount provided to participating customers in 2022, with a 25% increase to account for forecasted increases in electricity rates.

Program Administration Costs

Program management includes program development, management, budgeting, and reporting. IT costs include the costs to develop program tools and updating existing systems to accommodate program enrollment and billing. Billing operations cover costs for ongoing billing operations and customer support, including the costs of MCE’s third-party billing provider. Regulatory covers costs for regulatory compliance and related program filings with the Commission. Procurement covers the costs to develop and manage the solicitations for solar resources under the program, ongoing contract management, as well as annual renewable energy credit (REC) retirement and compliance functions. CCA Integration Costs covers costs that PG&E incurs to facilitate participation of unbundled customers under the DAC-GT and CS-GT programs.

Marketing, Education and Outreach (ME&O)

ME&O budgets are split in three categories – (1) MCE labor costs; (2) MCE direct costs for outreach and material; and (3) funds provided to the local CBOs who function as the sponsor for the CS-GT program.

3. BUDGET CAPS

Resolution E-4999 establishes a cap of 10% of the total budget for program administration costs and a cap of 4% of the total budget for ME&O costs, to apply beginning with each administrator’s third program year.⁶ Subsequently, in recognition that these programs may exceed the established caps because of their relatively small size, the time it takes to launch, and the management-

⁵ Resolution E-5124, p. 12.

⁶ Resolution E-4999, p. 27.

intensive program design of CS-GT, and other factors, the Commission permits PAs whose budgets exceed the established caps to submit a rationale supporting the exceedance in their Annual Budget Advice Letters (ABAL).⁷ The ABAL was elevated from Tier 1 to Tier 2 to allow for additional review of this and other ABAL components.⁸

The 2024 budget forecast summarized above in Table 1 results in program administration budgets of 14% for DAC-GT and 53% for CS-GT, and ME&O budgets of 2% for DAC-GT and 47% for CS-GT. As such, MCE requests an adjustment to the program administration budget cap for both DAC-GT and CS-GT, and to the ME&O budget cap for CS-GT, for PY 2024. The factors contributing to these forecasts are described below.

2024 DAC-GT Program Administration Budget Forecast

Two main factors contribute to MCE exceeding the cost cap on administrative costs for the DAC-GT program. First and foremost, MCE continues to calculate and provide the bill discount to participating customers in a manual fashion, instead of an automated fashion as implemented under the IOUs' programs. Manual billing procedures are costly - they account for 53% of MCE's total administrative costs for the DAC-GT program. Without these manual billing costs, MCE would meet the cost cap with admin costs of 7% of the total DAC-GT budget. MCE has been advocating with the Commission for an automated billing solution to mitigate these annual billing costs.⁹ Until such an automated billing solution is implemented, the CCAs' administrative costs must be viewed differently than the IOU's administrative costs. The IOU PAs were able to recover the costs to implement an automated billing solution in the first two years of program operation, i.e., when the cost cap did not apply to the programs yet.¹⁰ Instead of incurring high IT/billing operations costs in the first two years of program implementation, the Joint CCAs will incur annual high billing costs throughout the duration of the program due to the manual nature of the billing solution for participating CCA customers.

A second factor contributing to MCE's relatively higher admin costs compared to previous years is the fact that MCE anticipates serving customers with a dedicated DAC-GT resource beginning in late 2023 or early 2024. This new resource is substantially less expensive than the interim resource currently supplying participating customers. As a result, the generation cost differential is reduced, making program administration costs a comparatively larger share of overall program expenses in 2024. Furthermore, as this new resource comes online, MCE anticipates additional procurement and program administration staff time to facilitate the integration of the new resource into the program. MCE anticipates that these will be one-time costs associated with the transition.

These factors, in conjunction with the relatively small capacity allocation assigned to MCE,¹¹ cause MCE's program administration budget forecast to exceed 10% of its total DAC-GT budget.

⁷ Resolution E-5125, p. 7.

⁸ *Id.*

⁹ A.22-05-022, Public Prepared Testimony on Behalf of the Joint Community Choice Aggregators and City and County of San Francisco, Joint Community Choice Aggregators and City and County of San Francisco, 1/20/23

¹⁰ Per PG&E AL 5750-E, PG&E recovered \$1,161,165 million for IT costs in 2019

¹¹ Per Resolution E-5124, MCE's capacity allocation for DAC-GT is 4.646 MW.

2024 CS-GT Program Administration Budget Forecast

As noted above, MCE has not yet received any qualifying bids for CS-GT projects, and therefore does not include any generation cost delta or bill discount forecasts for CS-GT in its PY 2024 forecast. However, program administration costs are still being incurred, as MCE works to identify qualifying projects, create and refine billing and other administrative processes, and prepare to launch its program.

As discussed in Resolution E-5125, CS-GT may be particularly difficult to hold to a 10% program administration cost cap because of its management-intensive program design, relatively small capacity allocations,¹² and extended procurement and customer enrollment time frames. MCE has experienced some of these challenges to date in its attempts to identify potential community sponsors and project sites that meet CS-GT criteria. MCE includes in its forecast sufficient staff time to properly support CS-GT rollout, including procurement and customer enrollment, in anticipation of receiving successful project bids in its next solicitation.

2024 CS-GT ME&O Forecast

As noted above, to date MCE has no CS-GT generation cost delta or bill discount forecasts to accompany the ME&O costs. As detailed in the accompanying ME&O plan for 2024 (Appendix B), MCE anticipates incurring ME&O costs in 2024 as it will continue to work to identify qualifying projects for the CS-GT program. Additionally, the design of the CS-GT program allows for financial support of community sponsors, which MCE has included in its 2024 budget forecast in anticipation of securing a qualifying project. These factors contribute to a CS-GT ME&O forecast in excess of the established 4% cap.

4. BUDGET RECONCILIATION FOR PY 2022

MCE submitted a budget forecast for PY 2022 as a part of its 2022 Budget Request and Marketing, Education, and Outreach Plan in AL 47-E on February 1, 2021. The table below shows the forecasted and actual costs for PY 2022 per budget line item, as well as the true-up amount that will be carried forward to future program years.

¹² Per Resolution E-5124, MCE's capacity allocation for CS-GT is 1.2825 MW.

Table 2: MCE Budget Reconciliation for PY 2022

Tab	Category	DAC-GT			CS-GT		
		Forecast	Actual	True-up	Forecast	Actual	True-up
1	Generation Cost Delta	\$ 1,220,491	\$ 879,175	\$ 341,316	\$ -	\$ -	\$ -
2	20% Bill Discount	\$ 488,549	\$ 766,335	\$ (277,786)	\$ -	\$ -	\$ -
	Program Administration						
3a	Program Management	\$ 101,250	\$ 14,424	\$ 86,826	\$ 136,950	\$ 3,778	\$ 133,172
3b	Information Technology	\$ 40,604	\$ 7,212	\$ 33,392	\$ 22,007	\$ 1,889	\$ 20,118
3c	Billing Operations	\$ 37,342	\$ 66,762	\$ (29,420)	\$ 10,308	\$ 1,889	\$ 8,419
3d	Regulatory Compliance	\$ 14,280	\$ 6,911	\$ 7,369	\$ 14,280	\$ 4,402	\$ 9,878
3e	Procurement	\$ 18,235	\$ 34,280	\$ (16,045)	\$ 31,682	\$ 6,332	\$ 25,350
3f	CCA Integration Costs	\$ 31,014	\$ 3,941	\$ 27,074	\$ 31,014	\$ -	
	Subtotal Program Administration	\$ 242,725	\$ 133,529	\$ 109,197	\$ 246,241	\$ 18,291	\$ 196,936
	Marketing, Education & Outreach						
4a	Labor Costs	\$ 18,445	\$ 1,002	\$ 17,443	\$ 54,740	\$ 258	\$ 54,482
4b	Outreach and Material Costs	\$ 2,800	\$ 13,410	\$ (10,610)	\$ 53,500		\$ 53,500
4c	Local CBO/ Sponsor Costs	\$ -	\$ -	\$ -	\$ 25,000	\$ -	\$ 25,000
	Subtotal ME&O	\$ 21,245	\$ 14,412	\$ 6,833	\$ 133,240	\$ 258	\$ 132,982
	Total	\$ 1,973,011	\$ 1,793,451	\$ 179,560	\$ 379,481	\$ 18,548	\$ 329,918

5. CORRECTION OF 2021 ACTUAL COSTS

While preparing its 2024 Budget Advice Letter, MCE noticed and corrected an inadvertent error in its calculation of the 2021 Actual Generation Cost Delta for the DAC-GT program. MCE AL 58-E incorrectly reported the 2021 Actual Generation Cost Delta as \$151,027. After correcting the error, MCE's 2021 Actual Generation Cost Delta is \$148,473. The difference in cost delta amounts to \$2,554. MCE submits this correction as a separate line item in its 2024 Budget Request in Section 6.

6. 2024 BUDGET REQUEST

Based on the budget forecast for PY 2024 presented in Section 2, the budget reconciliation for PY 2022 presented in section 4, and the correction for PY 2021 presented in section 5, MCE is requesting a total budget of \$929,566 for the DAC-GT and CS-GT programs in this budget AL.

Table 3: MCE Budget Request for PY 2024

	DAC-GT	CS-GT	Total
Budget Forecast for PY 2024	\$ 1,305,354	\$ 133,690	\$ 1,439,044
Budget Carry-over from PY 2022	\$ (179,560)	\$ (329,918)	\$ (509,478)
Gen Cost Actuals Correction PY 2021	\$ (2,554)		
TOTAL	\$ 1,123,240	\$ (196,228)	\$ 929,566

7. PROGRAM CAPACITY AND ENROLLMENT NUMBERS

MCE reports existing program capacity and customer enrollment numbers as of December 31, 2022 in Table 4 below. In PY 2022, enrolled customers were served with an interim solar resource, as discussed above.

Table 4: Program Capacity and Enrollment Count for DAC-GT and CS-GT for PY 2022

Category	DAC-GT	CS-GT
Existing program capacity (MW)	4.646	0
Participating customers (#)	3,265	0

In Table 5, MCE reports forecasted capacity and customer enrollment for PY 2024. As noted above, MCE is currently in contract negotiations for a dedicated solar project to support DAC-GT, and estimates that the new project will come online in late 2023 or early 2024. However, having received no qualifying bids for CS-GT projects in 2022, MCE does not anticipate launching a CS-GT program and enrolling customers in 2024. Therefore, MCE does not have any forecasted program capacity under contract for 2024.

Table 5: Forecasted Program Capacity and Enrollment Count for DAC-GT and CS-GT for PY 2024

Category	DAC-GT	CS-GT
Estimated capacity to be procured (MW)	4.646	0
Estimated customer enrollment (#)	3,265	0

APPENDIX B

**Marketing, Education and Outreach Plan for the Disadvantaged
Communities Green Tariff and Community Solar Green Tariff
Programs for Program Year 2024**
Proposed by Marin Clean Energy



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1. PURPOSE AND GOALS

MCE will develop and implement a targeted customer marketing, education, and outreach (ME&O) campaign under the Disadvantaged Communities Green Tariff (DAC-GT) and Community Solar Green Tariff (CS-GT) programs to ensure potential customers in disadvantaged communities (DACs) are aware of the opportunity to benefit from the programs.

MCE will develop and implement separate targeted customer marketing, education, and outreach (ME&O) campaigns for the DAC-GT and CS-GT programs due to the differing enrollment processes of the two programs. Eligible customers for DAC-GT will be identified and automatically enrolled in the program by MCE. Hence, no customer recruitment for program participation is required. Eligible customers for CS-GT will not be automatically enrolled in the program; instead, interested customers will be required to opt their accounts into the program by completing an enrollment form. For both ME&O campaigns, MCE aims to achieve meaningful and diverse customer engagement through a culturally-competent, multilingual approach.

MCE's ME&O strategy for the DAC-GT program has three main goals:

1. Notify DAC-GT customers that their account has been automatically enrolled in the program;
2. Provide information (i.e., FAQs) about the program; and
3. Notify DAC-GT customers if they no longer meet eligibility criteria for the program (i.e., moved, installed solar, or no longer enrolled in CARE or FERA) and provide instructions on how to continue their program participation (if applicable).

MCE's ME&O strategy for the CS-GT program also has three main goals:

1. Enroll eligible customers in the CS-GT program (expected in 2025);
2. Increase awareness and enrollment in California Alternate Rates for Energy (CARE) and Family Electric Rate Assistance (FERA) programs; and
3. Address barriers to program participation and leverage best practices to ensure that outreach to DAC and historically impacted customers is accessible and equitable.

2. GUIDING PRINCIPLES

MCE is committed to developing diverse and culturally appropriate communication strategies to ensure that stakeholders can participate in decisions and actions that impact their communities. As such, MCE commits to the following guiding principles throughout the ME&O engagement process for the DAC-GT and CS-GT programs. MCE aims to:

- Achieve diverse and meaningful engagement that reflects the demographics of DAC communities to ensure equitable outreach across race, income and age barriers;

- Maintain transparency and accessibility by bringing information directly to customers' neighborhood, community, or interest space to better engage them in the process; and
- Build a collaborative process with community partners to ensure barriers and benefits to participation are considered in the ME&O activities to the maximum extent possible.

3. TARGET AUDIENCE

For the DAC-GT program, in 2021 MCE automatically enrolled eligible customers that live in one of the top 10% of DAC census tracts statewide that are in MCE's service area, as defined by CalEnviroScreen 4.0. Priority was given to customers who made an effort to pay, as defined by at least 4 full or partial payments in the last 8 months (category 1). If program capacity remains unsubscribed after enrolling these customers, MCE will enroll additional customers in the following order:

- Customers who have made at least 3 full or partial payments in the past 8 months (category 2)
- Customers who have made at least 2 full or partial payments in the past 8 months (category 3)¹

After its initial enrollment for the DAC-GT program, which prioritized customers in arrears who have made payments, there was additional capacity for the program. MCE then enrolled customers enrolled in CARE or FERA in 90th percentile DACs. As capacity becomes available, MCE continues to enroll all CARE/FERA customers living in 90th percentile DACs, with priority given to those who have been on the waitlist for the greatest amount of time.

If there is insufficient program capacity to enroll all customers in a category under the DAC-GT program, customers from the eligible category will be randomly selected for program enrollment. MCE will monitor program attrition on a monthly basis and enroll additional customers from the waitlist as appropriate.

Figure 1 shows the list of eligible census tracts for DAC-GT auto-enrollment.

Figure 1. Qualifying Neighborhoods in MCE Service Area for DAC-GT Auto-enrollment

90% CalEnviroScreen Score			
Census Tract	California County	ZIP	Nearby City (to help approximate location only)
6013379000	Contra Costa	94804	Richmond
6013312000	Contra Costa	94565	Pittsburg
6013365002	Contra Costa	94801	Richmond
6013377000	Contra Costa	94801	Richmond

.

¹ MCE has the capacity to serve approximately 3,265 customers under the DAC-GT program, based on an allocated program capacity of 4.646 MW.

For the CS-GT program, the target audience for the ME&O strategy are existing and eligible CARE/FERA customers living in top 25% DAC census tracts as defined by CalEnviroScreen 4.0. Figure 2 shows the list of eligible census tracts for CS-GT in MCE’s service area.

Figure 2. Qualifying Neighborhoods in MCE Service Area for CS-GT

Census Tract	California County	ZIP	Nearby City (to help approximate location only)
6013305000	Contra Costa	94509	Antioch
6013306002	Contra Costa	94509	Antioch
6013306003	Contra Costa	94509	Antioch
6013307102	Contra Costa	94509	Antioch
6013314102	Contra Costa	94565	Pittsburg
6013314103	Contra Costa	94565	Pittsburg
6013314200	Contra Costa	94565	Pittsburg
6013336201	Contra Costa	94520	Concord
6013365002	Contra Costa	94801	Richmond
6013369001	Contra Costa	94806	San Pablo
6013376000	Contra Costa	94801	Richmond
6013377000	Contra Costa	94801	Richmond
6013379000	Contra Costa	94804	Richmond
6013380000	Contra Costa	94804	Richmond
6013382000	Contra Costa	94804	Richmond
6095250701	Solano	94590	Vallejo
6095250900	Solano	94590	Vallejo
6095251000	Solano	94590	Vallejo
6095251600	Solano	94590	Vallejo
6095251803	Solano	94589	Vallejo
6095251901	Solano	94589	Vallejo

4. ME&O TACTICS AND STRATEGIES

4.1. Communications and Media Content

MCE will continue to use the communications and media content originally developed to promote DAC-GT, including mailers and web. Similar materials will be developed in preparation for the CS-GT launch, currently expected in 2025. At launch, MCE will promote CS-GT through digital, social media, and print advertisements; and customer emails and mailers in multiple languages to encourage program enrollment.

4.2. Community Outreach

To meet its ME&O goals, MCE will develop an outreach and engagement strategy leveraging the key community outreach tactics summarized below. The community outreach strategy will include a multilingual and culturally competent approach to engagement and consider the specific needs of eligible communities in MCE's service area. CS-GT outreach will be informed by data (including census tracts, the 4013 customer data file from PG&E, etc.) in order to identify customers who are most likely to enroll in the program.

4.2.1. Grassroots Outreach

MCE will conduct grassroots outreach to engage directly with community members at community events. MCE already regularly attends and sponsors many community events throughout its service area, including neighborhood festivals, farmers markets, holiday celebrations, and special events. Under the community outreach strategy for the CS-GT program, MCE will focus on expanding the breadth of events attended in DAC neighborhoods.

MCE will utilize the expertise of community leaders to identify impactful events, and will offer workshops and webinars as appropriate. As community events and workshops are held, MCE will closely track the diversity in race, age and income of participants, to ensure that participation reflects census distribution demographics of the DAC communities. MCE will ensure that all MCE-hosted meetings and events, either virtual or in-person, are ADA accessible. MCE will also endeavor to ensure that all in-person events are accessible by public transportation.

At this time, it is difficult to predict whether COVID-19 and associated public health precautions will continue to impact community engagement in 2024. Where required, recommended, or appropriate, MCE will conduct virtual workshops and webinars, and make use of digital toolkits, to ensure community members can safely learn about and enroll in CS-GT. MCE will continue to participate in in-person community outreach events as long as it is safe to do so.

4.2.2. Partnerships with Community Based Organizations

Partnering with Community Based Organizations (CBOs) is a critical facet of MCE's ME&O plan. CBOs have intimate knowledge of the local communities they serve and will serve as valuable resources for how best to conduct outreach that makes sense for members of their communities. In engaging with CBO partners, MCE seeks to establish open dialogue, build awareness and understanding among community members, identify community-specific issues, and develop

methods for disseminating relevant information. For example, CBOs can help coordinate program-specific workshops to disseminate program information to their constituencies. MCE will provide funding for CBOs to conduct outreach for the CS-GT program.

Additionally, many other local City departments already conduct outreach in the same communities in which MCE will conduct CS-GT outreach. MCE will investigate and pursue opportunities to collaborate as appropriate.

4.3. Program Leveraging

California offers a plethora of clean energy, energy efficiency, and energy storage programs, with several of them targeting income-qualified customers or customers in DACs. Complementing the state's programs, MCE has also developed a wide range of in-house program offerings, many of which also focus on low-income customers and/or customers in DACs. MCE's Any Open Door model provides "behind-the-scenes" coordination with various programs and funding sources in order to provide MCE's customers with the comprehensive, streamlined "one-stop-shop" guidance they need to navigate and enroll in these different offerings, maximizing the benefit to the customers while interweaving the value of all leveraged programs.

Under the DAC-GT/CS-GT ME&O plan, MCE will leverage its relationships and interactions with customers through existing programs to inform, educate and encourage program participation through its Any Open Door model. For example, MCE will leverage the following programs for joint outreach efforts: MCE's Energy Storage Program, MCE's Low-Income Families and Tenants (LIFT) pilot that offers electrification and energy efficiency upgrades to low-income multifamily properties, MCE's electric vehicle rebate and grant programs for low-income customers, and debt relief programs like the Arrearage Management Program (AMP) and the Low Income Home Energy Assistance Program (LIHEAP).

Additionally, MCE will pursue program leveraging with relevant programs administered by partners, other local CBOs, and local government entities.

Figure 3. MCE ME&O Tactics and Strategies



*Component of CS-GT ME&O only. Due to auto enrollment provisions and to limit customer confusion about program eligibility, these tactics will not be used for the DAC-GT program.

5. METRICS TRACKING

Because MCE is using multiple tactics for ME&O, a variety of metrics will be used to evaluate the effectiveness of each effort. Our primary measure of effectiveness is the number of customers reached, which can be measured by:

- DAC-GT
 - Number of customers enrolled based on auto enrollment criteria; and
 - Number of customers opting to cancel program participation.
- CS-GT²
 - Total number of enrollees;
 - Total CARE and FERA enrollment achieved through CS-GT outreach;
 - Total number of customers reached;
 - Diversity in race, age and income of event participants, with participation that reflects census distribution demographics of MCE's DAC communities;
 - Direct mail and email - email click-through and open rates;

² MCE anticipates CS-GT will launch in 2025. To the extent that marketing efforts begin in late 2024 in preparation for launch, MCE will design its ME&O efforts to align with these metrics.

- Indirect website visits and page views, social media engagement and impressions;
and
- Total number of events and distribution of events by neighborhood.

By regularly monitoring these measures, MCE will be able to make changes in its approach or shift the mix of ME&O channels to improve the effectiveness of outreach, if necessary. Additionally, feedback from CBO partners, surveys, on-the-ground interactions, and message testing could lead MCE to alter its strategy to improve its effectiveness.