

MARIN COUNTY | NAPA COUNTY | UNINCORPORATED CONTRA COSTA COUNTY | UNINCORPORATED SOLANO COUNTY BENICIA | CONCORD | DANVILLE | EL CERRITO | LAFAYETTE | MARTINEZ | MORAGA | OAKLEY | PINOLE PITTSBURG | RICHMOND | SAN PABLO | SAN RAMON | WALNUT CREEK

Agenda Page 1 of 1

Technical Committee Meeting Thursday, October 3, 2019 8:30 A.M.

Charles F. McGlashan Board Room, 1125 Tamalpais Avenue, San Rafael, CA 94901

Mt. Diablo Room, 2300 Clayton Road, Suite 1150, Concord, CA 94520

City of El Cerrito, 10890 San Pablo Avenue, Hillside Conference Room, El Cerrito, CA 94530

- 1. Roll Call/Quorum
- 2. Board Announcements (Discussion)
- **3.** Public Open Time (Discussion)
- **4.** Report from Chief Executive Officer (Discussion)
- Consent Calendar (Discussion/Action)C.1 Approval of 8.1.19 Meeting Minutes
- **6.** MCE 2020 Integrated Resource Plan (Discussion/Action)
- 7. First Agreement with Bidgely, Inc. (Discussion/Action)
- **8.** Information Security Overview and Planning (Discussion)
- **9.** Committee Matters & Staff Matters (Discussion)
- 10. Adjourn



DRAFT

MCE TECHNICAL COMMITTEE MEETING MINUTES August 1, 2019 8:30 A.M.

Mt. Diablo Room 2300 Clayton Road, Suite 1150 Concord, CA 94520

Charles F. McGlashan Board Room 1125 Tamalpais Avenue San Rafael, CA 94901

City of El Cerrito
10890 San Pablo Avenue, Hillside Conference Room,
El Cerrito, CA 94530

City of San Ramon 7000 Bollinger Canyon Road, Room 256 San Ramon, CA 94583

Present: Greg Lyman, City of El Cerrito, *El Cerrito*

Scott Perkins, City of San Ramon, San Ramon Kate Sears, County of Marin, San Rafael Justin Wedel, City of Walnut Creek, Concord

Ray Withy, City of Sausalito and City of Mill Valley, San Rafael

Absent: Kevin Haroff. City of Larkspur

Rob Schroder, City of Martinez

Staff

& Others: Jesica Brooks, Assistant Board Clerk

Kirby Dusel, Resource Planning & Renewable Energy Programs (PEA)

Brian Goldstein, Resource Planning & Implementation (PEA)

CB Hall, Power Supply Contracts Manager

Darlene Jackson, Board Clerk

Justin Kudo, Strategic Analysis and Rates Manager

Jay Marshall, IT Systems Manager Troy Nordquist, Legal Assistant

Justine Parmelee, Manager of Administrative Services

Dawn Weisz, Chief Executive Officer

1. Roll Call

Chair Sears called the regular Technical Committee meeting to order at 8:40 a.m. with quorum established by roll call.

2. Board Announcements (Discussion)

There were none.

3. Public Open Time (Discussion)

DRAFT

Chair Sears opened the public comment period and there were no comments.

4. Report from Chief Executive Officer (Discussion)

CEO, Dawn Weisz, reported the following:

- Briefly updated the Committee on the Regulatory front, regarding Resource Adequacy, and Integrated Resource Plan.
- Calendar invitations have been sent out for the September 18, 2019 Board Retreat taking place at the City of Richmond Memorial Auditorium from 9AM-5PM. Please RSVP as soon as possible.

5. Consent Calendar (Discussion/Action)

- C.1 Approval of 6.6.19 Meeting Minutes
- C.2 First Amendment to the First Agreement with Build It Green

Chair Sears opened the public comment period and there were no comments.

Action: It was M/S/C (Perkins/Withy) **to approve Consent Calendar**. Motion carried by unanimous vote. (Absent: Directors Haroff and Schroder).

6. MCE 2018 Annual Power Source Disclosure Report Attestation (Discussion/Action)

Kirby Dusel, Resource Planning & Renewable Energy Programs, presented this item and addressed questions from Committee members.

Chair Sears opened the public comment period and there were no comments.

Action: It was M/S/C (Wedel/Lyman) Based on staff's review and the noted third-party audit for Deep Green and Local Sol, endorse the accuracy of information presented in MCE's 2018 Power Source Disclosure report for Light Green service and approve the use of statistics reflected in MCE's 2018 annual PSD reports for purposes of preparing MCE's 2018 Power Content Label. Motion carried by unanimous vote. (Absent: Directors Haroff and Schroder).

7. <u>Proposed Confirmation Letter with Wellhead Power eXchange, LLC</u> (Discussion/Action)

Brian Goldstein, Resource Planning & Implementation, presented this item and addressed questions from Committee members.

Chair Sears opened the public comment period and there were no comments.

Action: It was M/S/C (Wedel/Withy) to authorize execution of Confirmation Letter with Wellhead Power eXchange, LLC for RA capacity. (Absent: Directors Haroff and Schroder).

DRAFT

8. Regulatory Impacts on GHG-free Targets (Discussion)

CB Hall, Power Supply Contracts Manager, presented this item and addressed questions from Committee members.

Chair Sears opened the public comment period and there were comments from member of the public, Dan Segelin from MCL.

Action: No action required.	

9. Time of Use Rates (Discussion)

Justin Kudo, Strategic Analysis and Rates Manager, introduced this item and addressed questions from Committee members.

Chair Sears opened the public comment period and there were no comments.

Action: No action required.

10. Committee & Staff Matters (Discussion)

Chair Sears opened the public comment period and there were no comments.

11. Adjournment

Chair Sears adjourned the meeting at 10:35 a.m. to the next scheduled Technical Committee Meeting on September 5, 2019.

Kate Sears, Chair	
Attest:	
Dawn Weisz, Secretary	



October 3, 2019

TO: MCE Technical Committee

FROM: CB Hall, Power Supply Contracts Manager

RE: MCE 2020 Integrated Resource Plan (Agenda Item #06)

ATTACHMENT: MCE 2020 Integrated Resource Plan

Dear Technical Committee Members:

MCE's Integrated Resource Plan ("IRP") is intended to articulate the energy procurement targets adopted by MCE's Board of Directors ("Board") and serves as a guideline to MCE staff regarding day-to-day operations and long-term portfolio planning and procurement activities. Your Board first approved MCE's ten-year resource plan in Chapter 6 ("Load Forecast and Resource Plan") of the Community Choice Aggregation Implementation Plan and Statement of Intent ("Implementation Plan"), dated January 2010. Regular updates to MCE's resource plans have been approved by your Board via subsequent revisions of the Implementation Plan and, since November 2012, annual IRP updates. In May 2016, your Board delegated authority to approve IRP updates to the Technical Committee via approval of the "Technical Committee Overview."

The IRP has four primary purposes:

- 1. Quantify resource needs, in conjunction with load expectations, over the Planning Period, which for this specific IRP is 2020 through 2029;
- 2. Prioritize resource preferences and articulate energy procurement policies;
- 3. Provide guidance to the energy procurement processes undertaken by MCE staff;
- 4. Communicate MCE's resource planning objectives and framework to the public and key stakeholders.

MCE's key resource planning policies, as set forth in the IRP, are as follows:

- Reduce Greenhouse Gas ("GHG") emissions and other pollutants associated with the electric power sector through increased use of renewable, GHG-free, and low-GHG energy resources.
- Maintain competitive electric rates and increase control over energy costs through management of a diversified resource portfolio.
- Benefit the local economy by offering competitive electricity rates and customer programs and investing in infrastructure, energy, and workforce development programs within MCE's service area.

- Help customers reduce energy consumption and electric bills by supporting and administering enhanced customer energy efficiency ("EE"), cost-effective distributed generation, and other demand-side programs.
- Enhance system reliability through investments in supply- and demand-side resources.
- Actively monitor and manage operating and market risks to promote MCE's continued financial strength and stability.
- Support supplier and workforce diversity as permitted by law.

The IRP translates these broad policy objectives into more specific planning elements focused on the use of various resource types, taking into consideration MCE's projected customer needs and MCE's existing resource commitments. The IRP identifies:

- 1. Projected customer demand and energy needs, specifically those for renewable and large hydroelectric/Asset Controlling Supply ("ACS") energy, as well as needs for fixed-price forward contracts and Resource Adequacy, over the Planning Period;
- 2. Estimated deliveries from contracted resources that will fill portions of these needs;
- 3. Subsequent "open positions" that result from the difference between future needs and commitments from currently contracted resources; these open positions dictate the timing and magnitude of additional procurement that may be required to meet specified resource goals; and
- 4. To the extent that open positions exist, the IRP describes the procurement methods and guidelines that MCE will utilize to meet them.

MCE's IRP is updated annually, typically in the fall – after summer's procurement activities have concluded and in anticipation of the next year's procurement planning.

BRIEF SUMMARY OF CHANGES:

The 2020 IRP is provided as an attachment to this report. It provides an updated customer load forecast that takes into account increasing activity behind the meter, including Net Energy Metering, electric vehicle charging and energy efficiency programs. It highlights MCE's campaign to facilitate opt-ups to Deep Green service and correspondingly accounts for a significant increase in Deep Green retail sales over the planning horizon. It describes MCE's broad suite of Customer Programs, including efforts to increase resiliency and reduce emissions for local hospitals, fire stations and other vital agencies that rely on diesel-powered back-up generators.

The 2020 IRP affirms MCE's goal of providing 100% of its Light Green portfolio with renewables, large hydroelectric and ACS energy by 2022. However, it importantly clarifies that MCE will strive for such renewables to be comprised entirely of Product Content Category ("PCC") 1 product by 2022, in order to mitigate the GHG impacts of Assembly Bill 1110 on PCC 2 product. In addition, MCE's 2020 IRP clarifies that MCE's 2022 goal for the Light Green portfolio equates to a roughly 99% GHG-Free metric, based on MCE staff's proposed calculation methodology. Finally, MCE's 2020 IRP considers ramping up the use of PCC 1 renewables in place of large hydroelectric/ACS, starting in 2025. Some considerations for this alternate proposal are the implications for MCE's budget and/or customer rates.

RECOMENDATION: Approve MCE's 2020 Integrated Resource Plan.



MCE 2020 Integrated Resource Plan



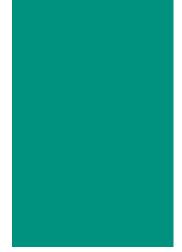




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I. Introduction

Executive Summary

MCE plans for and secures commitments from a diverse portfolio of generating resources to reliably serve the electricity supply requirements of its customers over near-term, mid-term and long-term planning horizons. This Integrated Resource Plan (IRP), which is voluntary, publicly available and updated on an annual basis, documents MCE's resource planning policies and objectives over the upcoming ten-year planning period from 2020 through 2029 (the "Planning Period").¹

Highlights of this IRP update include the following:

MCE has outpaced the State of California in both its renewable and Greenhouse Gas-free ("GHG-Free") portfolio content, while proving MCE's customers with an estimated \$50.2 million in rate saving versus the incumbent utility through 2018 (see figures 1 and 2 directly below).

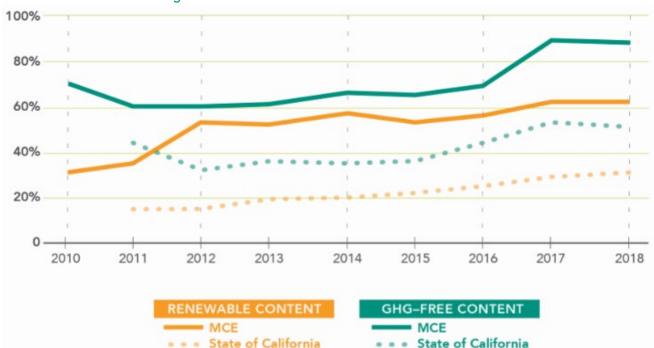


Figure 1: MCE Trendline for Renewable and GHG-Free Content²

² As reported to the California Energy Commission's Power Source Disclosure Program.

¹ As mandated by California's Senate Bill 350, passed in 2015, MCE is also required to submit a biennial IRP to the California Public Utilities Commission (CPUC) in even years. This "SB 350 IRP" is based on different templates and assumptions, but MCE is working closely with CPUC staff to better align the two IRP processes. The next SB 350 IRP is due to the CPUC in May 2020.

Figure 2: MCE Customer Cost Savings



- Throughout the Planning Period, 60% or more of MCE's Light Green service option will continue to be comprised of renewable energy; MCE has maintained this 60% level since 2017. With respect to the remaining 40% of the Light Green portfolio, MCE plans to procure an increasing portion from large hydroelectric resources³ and/or Portfolio Content Category 1 ("PCC" 1) renewable energy. MCE has set 2022 as the target year for its Light Green portfolio to become fully supplied by only three resource categories: (1) PCC 1 renewable energy; (2) large hydroelectric energy; (3) asset-controlling supplier ("ACS") energy, the vast majority of which is large hydroelectric energy. With this 2022 target portfolio, MCE is planning to provide its Light Green customers with electricity that is approximately 99% GHG-Free.⁴
- MCE continues to provide customers with two 100% renewable energy service options: (1) Deep Green, which is wholly sourced from solar and wind projects located in California; (2) Local Sol, which began supplying participating customers in July 2017 with 100% solar photovoltaic ("PV") energy from facilities that are located entirely within MCE's service area. Both Deep Green and Local Sol options are 100% GHG-free.
 - MCE is projecting a significant increase in Deep Green retail sales, from 168,000 MWh (2018 results) to 370,000 MWh in 2029, driven by an MCE campaign to proactively reach out to customers and facilitate opt-ups to Deep Green service. As of June 30, 2019, MCE has more than 10,000 customer accounts on Deep Green.
 - In 2018, Local Sol retail sales totaled 919 MWh. As of June 30, 2019, MCE has 182 customer accounts on Local Sol.
- MCE continues to directly support the development of local renewable energy projects as follows: (1) through its Net Energy Metering ("NEM") program; (2) through its Feed-In Tariff ("FIT") programs; (3) through other PPAs for local renewables that don't qualify for MCE's FIT programs. Notable achievements in this area include the following:
 - As of June 30, 2019, MCE serves 33,485 NEM customers, representing 7.1% of total accounts served. These NEM customers have installed 337 MW of behind-the-meter photovoltaic solar capacity.⁵

³ Large hydroelectric resources are greater than 30 MW. While such resources provide GHG-Free power, they do not qualify as renewable power that can be used to meet California's Renewables Portfolio Standard ("RPS") requirements, per the California Energy Commission's RPS Eligibility Guidebook.

⁴ Beginning with MCE's 2019 results, MCE's Light Green GHG-Free percentage will be derived as follows: [MCE Light Green MT CO2e, per CEC Power Content Label] / [(MWh of MCE Light Green Retail Sales) x (0.428 MT CO2e/MWh)]. For reference, 0.428 MT CO2e/MWh is the emissions factor for unspecified electricity, per the California Air Resources Board.

⁵ Based on 337 MW of capacity, using a capacity factor of 16%, MCE expects 472 GWh of behind-the-meter generation in 2019.

- Since 2012, MCE has allocated \$535,000 for solar rebates and has provided \$193,900 in rebates to contribute to the installation of 239 solar systems, 220 of which occurred on the homes of low-income customers, in partnership with GRID Alternatives. These rebates supported 643 kW of new solar generation, 519 kW of which was provided to low income customers. GRID Alternatives estimates that the program participants will save more than \$3.5 million on their monthly utility bills over 20 years and eliminate more than 6,400 metric tons of GHG emissions over the 25-year lifespan of the installations. Starting in 2018, Net Energy Metering customers can now choose to transfer their excess solar credits to this rebate program, providing more rebates and access to solar for communities that otherwise would not have the option.
- MCE continues to administer one of California's most generous FIT programs for locally situated, smaller-scale renewable generating resources that supply wholesale electricity to MCE. This program utilizes standard offer (i.e. non-negotiable) contracts that are available on a first-come, first-served basis for up to 45 MW of qualifying renewable energy projects within MCE's service area. Specific terms and conditions for the FIT program are available on MCE's website.
- In addition to procuring through its FIT programs, MCE continues to procure energy from other renewable generating facilities that are constructed in MCE's service territory. For example, MCE procures approximately 30,000 MWh of renewable energy and associated capacity annually from the 4 MW Redwood Landfill power generation facility, which is located in Novato, CA and achieved commercial operation in September 2017. Another example is the 10.5 MW MCE Solar One, a PV project that MCE helped develop on a brownfield site next to Chevron's oil refinery in the City of Richmond, CA. The installation, which achieved commercial operation in December 2017, generates approximately 22,000 MWh per year. Both the Redwood Landfill and MCE Solar One facilities are under contract to MCE for a 20-year term.
- MCE's existing and planned supply commitments throughout the Planning Period will enable MCE to meet all required regulatory mandates and voluntary procurement targets related to renewable, large hydroelectric and ACS energy. MCE has taken important steps to ensure delivery of a reliable, environmentally responsible power supply portfolio, including:
 - Contracting for state-mandated Renewable Portfolio Standard ("RPS") compliance requirements as well as for MCE's voluntary renewable energy targets. MCE is 13 years ahead of schedule in procuring for state-mandated renewables, as MCE in 2017 began meeting the SB 100 RPS requirement of 60% by 2030.
 - Increasing energy purchases from new, renewable energy resources that are California-based (and often based within MCE's service territory).
 - Procuring Resource Adequacy (i.e., capacity) in accordance with California regulations.
 - Contracting for supply that provides a hedge against MCE's California Independent System Operator (CAISO) load payments - thereby reducing exposure to wholesale market price volatility.
- MCE is working toward a long-term goal of offsetting 2% of its annual energy and capacity requirements with energy efficiency ("EE") and distributed energy resource ("DER") programs. MCE is also exploring a number of innovative DER strategies aimed at reducing customer costs and associated GHG emissions. Specific to capacity requirements, MCE's goal is to provide 5% of

its annual Resource Adequacy ("RA") capacity via demand response ("DR") programs by the end of the Planning Period.

Every year, MCE staff updates the IRP and submits it for approval to MCE's Board or Technical Committee, which includes a subset of MCE Board members. Such approval is made in consideration of applicable regulatory requirements, MCE's resource planning policies, energy market conditions, anticipated changes in electricity consumption, planned inclusion of new member communities, ongoing procurement activities, and any other considerations that may affect the manner in which MCE carries out its resource planning activities.

MCE's IRP has four primary purposes:

- 1. Quantify resource⁶ needs, in conjunction with load expectations, over the Planning Period;
- 2. Prioritize resource preferences and articulate relevant energy procurement policies;
- 3. Provide guidance to the energy procurement processes undertaken by MCE staff; and
- 4. Communicate MCE's resource planning objectives and framework to the public and key stakeholders.

MCE Overview

MCE is California's first Community Choice Aggregation Program, 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 targeted energy programs that support communities' energy needs. As a load-serving entity, MCE has approximately 473,000 customer accounts, serving more than one million residents and businesses in 34 member communities across four Bay Area counties: Napa, Marin, Contra Costa, and Solano. MCE delivers more than 5,000 GWhs annually to its customers and has a peak demand of approximately 1,000 MW.⁷

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⁶ Within this IRP, resources include renewable energy, hydroelectric energy, Asset Controlling Supplier energy, energy storage, Resource Adequacy, hedges against CAISO load payments, behind-the-meter generation, demand response and energy efficiency.

⁷ As of 6/30/2019

 Calistoga •St. Helena Napa County Yountville Napa Solano American Canyon County County Martinez Pittsburg Concord San Pablo • Fl Cerrito • Walnut Creek **Contra Costa** Danville County • San Ramon

Figure 3: MCE Service Area, including new communities receiving MCE service in 2020

MCE provides service to more than 86% of electricity customers within its service area and is the default electric generation provider for any new or relocated customers therein.

As a mission-driven organization, MCE works towards the following:

- Reducing GHG emissions and accelerating the supply of clean energy being delivered to the grid.
- Developing community programs and local energy projects to expand access to competitively priced renewable energy and energy efficiency programs for all customers.

II. MCE Customers and Load Forecast

MCE's long-term load forecast is driven primarily by two variables: (1) the number of customers that MCE expects to serve; (2) weather. The long-term load forecast for resource planning incorporates the seasonal electricity consumption patterns of MCE's projected customer base, including adjustments for load modifying effects of distributed energy resources, energy efficiency and electric vehicles.

Enrolled Customers

The scope of this IRP is limited to MCE's Board-approved service area. In accordance with Policy No. 007 - New Customer Communities, MCE may include additional communities that request service during the Planning Period. Any specific resource planning impacts related to future inclusion of additional member communities would be addressed by MCE's Board prior to the completion of such processes and incorporated into future IRPs.

Customer participation rates are expressed as the proportion of customers that are currently served by MCE relative to the number of customers that are eligible to receive service. The difference between current customers and eligible customers represents the subset of customers that have chosen to opt-out of the MCE program. These customers receive bundled service from Pacific Gas & Electric ("PG&E"), the incumbent Investor Owned Utility in MCE's service area. The vast majority of customer opt-outs occur within a 120-day period beginning 60 days prior to each customer's scheduled MCE service commencement and continuing for 60 days thereafter – this period of time is generally referred to as the "enrollment period."

During the enrollment period, prospective and enrolled customers receive a minimum of four mailed notices, which explain MCE's service options and the opt-out process among other terms and conditions of service. Some of these notices target unique messages for special customer classes. For example, low-income customers on the energy discount programs such as California Alternate Rates for Energy ("CARE") or Family Electric Rate Assistance ("FERA") or Medical Baseline will be informed that their discounts remain with MCE service and that they do not need to reapply. These notices are complemented by a variety of targeted marketing and community outreach efforts to raise awareness of the upcoming change to electric service. Much of this strategy is captured in the Community Outreach Plan written by MCE staff with input from local leaders, community staff, and elected officials. The community outreach strategy includes tabling events, presentations to local groups, contacting high electricity users, local print and digital advertising, and creating a Community Leader Advisory Group to help guide MCE's outreach strategy to maximize awareness and education about Community Choice. MCE's outreach strategies particularly emphasize reaching special populations, such as low-income and fixed-income populations, as well as those who speak English as a second language.

The customer participation rate associated with MCE's initial enrollments of Marin County is 78%. Customer participation rates have increased in subsequent MCE enrollment phases: 81% of customers who were offered service following inclusion of the City of Richmond have continued with MCE; 86% in MCE's subsequent expansion footprint of Benicia, San Pablo, El Cerrito, and unincorporated Napa County; 89% involved in the September 2016 inclusion of American Canyon, Calistoga, Lafayette, Napa, St. Helena, Walnut Creek, and Yountville; and 90% involved in the April 2018 inclusion of Concord, Danville, Martinez, Moraga, Oakley, Pinole, Pittsburg, San Ramon, and unincorporated Contra Costa County. This trend reflects the impact of MCE's outreach efforts, increased awareness of the MCE brand and service advantages, legislation limiting certain Investor Owned Utility ("IOU") marketing tactics against CCAs, and a growing familiarity with the CCA service model. The various phases of MCE's growth are summarized and illustrated in Table 1 and Figure 4, respectively.

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⁸ This does not include Direct Access customers operating within the new communities being enrolled.

Table 1: MCE Expansion Phases

MCE Phase	Description	Number of Accounts (as of the Enrollment Date)	Implementation Date
Phase 1	MCE Member (municipal) accounts & a subset of residential, commercial and/or industrial accounts, comprising approximately 20% of total customer load within MCE's original Member Agencies.	8,500	May 7, 2010
Phase 2A	Additional commercial and residential accounts, comprising approximately 20% of total customer load within MCE's original Member Agencies (incremental addition to Phase 1).	6,100	August 2011
Phase 2B	Remaining accounts within Marin County.	79,000	July 2012
Phase 3	Residential, commercial, agricultural, and street lighting accounts within the City of Richmond.	35,000	July 2013
Phase 4A	Residential, commercial, agricultural, and street lighting accounts within the unincorporated areas of Napa County.	14,000	February 2015
Phase 4B	Residential, commercial, agricultural, and street lighting accounts within the City of San Pablo, the City of Benicia and the City of El Cerrito.	30,000	May 2015
Phase 5	Residential, commercial, agricultural, and street lighting accounts within the Cities of American Canyon, Calistoga, Lafayette, Napa, Saint Helena, Walnut Creek and the Town of Yountville.	the Cities of American Canyon, Calistoga,	
Phase 6	Residential, commercial, agricultural, and street lighting accounts within the Cities of Concord, Danville, Martinez, Moraga, Oakley, Pinole, Pittsburg, San Ramon, and unincorporated Contra Costa County.	216,300	April 2018

500,000 Phase 6 450.000 400.000 350.000 300.000 ACTIVE ACCOUNTS Phase 5 250,000 200.000 Phase 4B Phase 4A 150,000 Phase 3 Phase 2B 100.000 50,000 Phase 2A Phase 1 Feb-12 May-12 Nov-13 Aug-11 Nov-11 Aug-13 Feb-14 Aug-14 Nov-14 12 Nov-12 May-14 Ü 8 13 γaγ

Figure 4: Active MCE Customers Per Phase Rollout

Baseline Customer and Consumption Forecast

MCE's electricity demand forecast starts with a forecast of customers by end-use classification (residential, commercial, etc.). Monthly energy consumption estimates, derived from historical data, are applied to yield a monthly energy forecast by customer class. Hourly class-specific load profiles are then used to break down the monthly energy forecast into more granular time-of-use and peak demand values. MCE makes adjustments to the forecast to account for the load impacts of its DER programs, solar growth, energy efficiency and electric vehicle ("EV") charging.

Customer Energy Choices

Light Green Service

MCE's offers its customers a Light Green service option, at least 60% of which is sourced with RPS-qualifying renewable energy. This renewable-heavy portfolio is currently rounded out with large hydroelectric energy, ACS energy and a declining contribution from CAISO system power. MCE's Light Green Service product is the default option and currently accounts for the vast majority of customer accounts and load.

Deep Green Service

MCE offers a voluntary 100% renewable energy option, known as Deep Green service, to all customers. The Deep Green supply portfolio relies exclusively on bundled renewable energy resources produced by California-based generators. Customer participation in Deep Green service directly impacts the quantity of incremental renewable energy volumes that MCE must procure to ensure that its broader supply portfolio includes sufficient renewable energy volume to support Light Green and Deep Green participation. Additionally, half of the premium charged to Deep Green customers is allocated to the Local Renewable Energy Reserve Fund. This fund is allocated towards development of local projects and programs such as the MCE Solar One 10.5 MW solar PV project in Richmond, California, and MCE's electric vehicle charging infrastructure program. As a result, increased participation in Deep Green not only reduces a customer's electricity-related GHG emissions, but also supports local economic benefits, "green-collar" jobs within MCE's service area, and programs that provide benefits to MCE customers as a whole.

In 2018, MCE Deep Green sales totaled 168 GWh (3.8% of MCE's total retail sales); in 2019, Deep Green sales are projected to increase slightly to 170 GWh, as private and public sector commercial customers are opting up to Deep Green service to achieve their sustainability goals and meet emissions reduction targets. As of June 30, 2019, 18 MCE member municipalities have enrolled their government accounts in Deep Green service, with 17 of these member municipalities enrolling all of their accounts.

Total MCE Residential Non-Residential Total Deep Green Deep Green Deep Green Number of Customer 473,520 7,389 2,654 10,043 Accounts as of 6/30/19 1.56% 0.56% 2.12% 4,436,963 2018 Retail Sales (MWh) 31,231 136,773 168,004 0.70% 3.08% 3.79%

Table 2: MCE Deep Green Participation, as of June 20199

Local Sol Service

In 2014, MCE established its voluntary Local Sol service option. An alternative to MCE's Light Green or Deep Green service options, Local Sol's community-based service enables customers to sign up for 100% local solar generation from projects located within MCE's service area. Local Sol began serving customers in July 2017, following commercial operation of the supporting local generator at Novato's Cooley Quarry. Based on customer interest and subject to Board approval, MCE may consider expansion of the Local Sol program once the current program capacity is reached.

Project Name	Program Capacity (Customer Accounts)	Program Capacity (MWh/year)	Number of Customer Accounts (as of 6/30/19)	2018 Retail Sales (MWh)
Cooley Quarry	~300	2,885	182	919

Table 3: MCE Local Sol Participation 10

⁹ Percentages indicate portion of total MCE customers and retail sales, respectively.

¹⁰ Local Sol service capacity is based on usage of enrolled customers. As of 6/30/19, 182 customer accounts – of an estimated capacity of 300 - have enrolled.

Power Content Label

MCE's Power Content Label ("PCL") is a key customer communication tool that provides information regarding MCE's proportionate use of various fuel sources during each year of operation. The 2018 PCL, which is MCE's most recent, quantifies MCE's aggregate renewable energy use: 61% renewable for Light Green customers; and 100% renewable for Deep Green customers. See figure 5 directly below for more detail.

Figure 5: MCE 2018 Power Content Label

2018 POWER CONTENT LABEL MCE — mceCleanEnergy.org/energy-sources

ENERGY RESOURCES	2018 MCE LIGHT GREEN POWER MIX	2018 MCE DEEP GREEN POWER MIX	2018 MCE LOCAL SOL POWER MIX	2018 CA POWER MIX** (for comparison)
Eligible Renewable	61%	100%	100%	31%
Biomass & biowaste	4%	0%	0%	2%
Geothermal	3%	0%	0%	5%
Eligible hydroelectric	2%	0%	0%	2%
Solar	11%	50%	100%	11%
Wind	39%	50%	0%	11%
Coal	0%	0%	0%	3%
Large Hydroelectric	13%	0%	0%	11%
Natural Gas	0%	0%	0%	35%
Nuclear	0%	0%	0%	9%
Other	13%	0%	0%	<1%
Unspecified sources of power*	13%	0%	0%	11%
TOTAL	100%	100%	100%	100%

^{* &}quot;Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

^{**} Percentages are estimated annually by the California Energy Commission based on the electricity generated in California and net imports as reported to the Quarterly Fuel and Energy Report database and the Power Source Disclosure Program.

For specific information about these electricity products, contact:	MCE 1 (888) 632-3674 info@mceCleanEnergy.org
For general information about the Power Content Label, please visit:	www.energy.ca.gov/pcl
For additional questions, please contact the California Energy Commission at:	Toll-free in California: 1 (844) 454-2906 Outside California: 1 (916) 653-0237

These figures may not sum up to 100 percent due to rounding.

Under energy resources, "Other" represents electric power registered by the California Air Resources Board and assigned an emission factor near zero metric tons of carbon dioxide equivalent per megawatt hour.

Distributed Energy Resources (DERs)

MCE defines Distributed Energy Resources ("DERs") to include behind-the-meter generation and storage, demand response, load shifting, electric vehicles and energy efficiency. MCE expects to utilize DERs to drive forward renewable energy, reduce GHG emissions, increase local workforce opportunities

and help customers save money. While DER deployment is an emerging market opportunity, there are also numerous challenges to successful implementation. MCE is actively addressing these challenges by developing tools and pilot programs to usher in wider-scale DER deployment both within its service area as well as statewide.

MCE's DER strategies include: development of local energy projects; exploration of market designs; creation of analytical tools to quickly analyze and evaluate the suitability of specific DER solutions; emphasis on DER pilots that reduce MCE's exposure to wholesale market volatility; and shifting energy use away from peak evening hours when renewable energy production is low and market prices are high.

Current DER Programs and Projects

Building Efficiency Optimization

In 2017, the California Energy Commission ("CEC") awarded MCE a Local Government Challenge Grant of \$1.75 million to pursue an innovative Building Energy Efficiency Optimization ("BEO") pilot. The goal of this project is to facilitate scalability of DERs via a strong, data-driven siting and targeting approach, which will be applied to and validated by three demonstration projects.

The goals for this project are as follows: 1) to examine the role that CCAs, as local, independent government agencies, can play in navigating barriers that currently prevent broad and rapid deployment of targeted DERs; 2) to deliver an innovative and replicable CCA program solution that enables targeted DER portfolios to be coordinated, integrated, optimized, and dispatched rapidly across CCA service areas, thereby accelerating state and local climate action and progress toward GHG reduction goals. This solution will be available to use across MCE's service area by Q4 2020.

Demand Response (DR)

MCE continues to analyze both the residential and commercial sectors for DR opportunities while also facilitating third-party DR programs in its service area. In addition, MCE customers are eligible for many of the DR programs administered by PG&E, and MCE receives DR allocations from PG&E administered programs equal to approximately 3% of MCE's peak capacity requirement. Between MCE-implemented programs, those managed by third parties, and PG&E allocations, MCE intends for DR to account for 5% of its RA requirements by the end of the Planning Period.

MCE is currently developing limited-scope, pilot DR programs with a particular interest in exploring platforms and opportunities for aggregating and shifting load away from evening peak hours. In order to complement its PG&E DR allocations and MCE's own programs, MCE is also working to gain a better understanding of third-party DR programs operating within its service area to learn where services are being provided and where gaps exist. Depending on the outcome of these activities, MCE may launch new DR programs and possibly seek funding from other sources for more robust programs in this sector.

Advanced Energy Rebuild Napa

In 2018 MCE partnered with the Bay Area Air Quality Management District, Napa County, BayREN, and PG&E, to administer up to \$1 million for electrification and solar rebates for single family homes affected by the 2017 and 2018 wildfires in Napa County. Homeowners who are starting to rebuild from the devastation can access up to \$17,500 in incentives for these electrification measures (including high performance attics and walls, efficient windows, heat pump water and space heaters, smart thermostats, EV charging, solar plus storage). This process braids multiple funding sources through one application process. There is an additional 20% incentive provided to income-qualified households.

Transportation Electrification

As part of its broader strategy to help electrify buildings and transportation within its service territory (and accordingly reduce GHG emissions), MCE has been working on several electric vehicle ("EV") related initiatives over the last 24 months. These initiatives have included DR-enabled charging devices, incentives for electric buses, funding for charging stations, and a strategic plan & infrastructure analysis in partnership with the U.S. EPA to analyze local EV market trends and their impact to MCE's customer demand.

MCE has identified workplace EV charging as an opportunity to shift demand of the 25,066 (and growing) EV drivers in its service area to hours of the day when energy is frequently cheaper, cleaner, and when excess renewable generation might otherwise be curtailed. MCE Solar Charge at its San Rafael office opened in April and demonstrates that vision to MCE's staff and customers. MCE recently launched its Drive Deep Green initiative, which encourages drivers to switch to the Time-of-Use EV rate and opt up to MCE's Deep Green 100% renewable generation service - since EVs are only as clean as the electricity that powers them. With competitive prices being offered for the vehicles, themselves, MCE sees EVs as a key value proposition for customers, given the fuel (i.e., electricity) that is largely generated from clean and abundant sources.

With respect to EV charging infrastructure, MCE has supported or funded 651 Level 2 charging ports for workplaces or multi-family properties since August 2018 across two programs. Of those supported or funded, 126 ports have been installed to-date. MCE is coordinating with PG&E on their EV Charge Network program and providing a supplemental rebate to customers who participated in that program. MCE is also managing a stand-alone 3-year EV charging program (MCEv Charging) that actively facilitates the alignment of available funding sources and technical assistance for commercial and multi-family customers interested in charging infrastructure for the primary use of their employees and tenants. MCEv Charging was re-launched in May 2019 with an increased per port rebate to cover more of the installation costs, a rebate bonus for opting up to Deep Green, and expanded technical assistance.

MCE is also offering a program that includes a rebate for income-qualified customers interested in purchasing a new or used electric vehicle with the goal of increasing access by customer groups that may have difficulty paying for an electric vehicle.

Energy Efficiency (EE)

Alongside the IOUs and Regional Energy Networks, MCE serves as one of California's administrators of ratepayer-funded EE programs. Ratepayer funding is derived through collection of the public purpose program charge from all customers, including those served by both CCAs and IOUs; disposition of public purpose program funds is administered by the CPUC. MCE has received CPUC funding approval for EE programs to be administered through 2025 and currently administers programs in multifamily, single family, commercial, agriculture and industrial sectors. Furthermore, MCE administers the Low-Income Families and Tenants ("LIFT") Program, a program serving income qualified, multifamily properties which includes a fuel switching component to incentivize property owners to replace gas-fired space and water heaters. The forecasted cumulative savings of MCE-administered EE programs are based on average lifecycle and reflected below **Figure** savings are

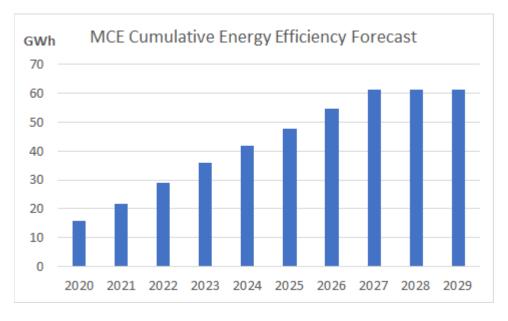


Figure 6: MCE Cumulative Energy Efficiency Impacts (GWh)

MCE also supports multiple workforce development initiatives to encourage the growth of green-collar jobs. Through the approval of its Energy Efficiency Business Plan, MCE has been able to allocate non-resource dollars to fund workforce development initiatives beyond the Multifamily Energy Savings Direct Install service. MCE is also coordinating closely with PG&E to maximize community benefits and ensure gaps are filled.

Behind the Meter Energy Storage and Resilience

MCE is exploring opportunities to partner with vendors, offer financing and deploy rate design strategies to encourage the adoption of behind the meter storage. As mentioned above (see "Building Efficiency Optimization" program), MCE and its project partners received funding from the CEC to demonstrate the optimal deployment of behind the meter distributed energy resources across a CCA service area. This project will result in a replicable software tool that can provide the data needed to develop programming. Early versions of the tool are focusing on the benefits of storage for existing NEM customers. The project is expected to be complete in June of 2020.

Furthermore, MCE sees storage as an important component of climate resilience. As the impacts of climate change on its service area grows, MCE will continue collaborating with local, state, and national agencies to make our communities stronger and greener. This includes making long-term investments that will reduce strain on the grid, including resource adequacy, demand savings, load scheduling, and grants to optimize resources for customers with existing solar-powered battery storage. MCE is also working with partners to increase resiliency and reduce emissions for local hospitals, fire stations, and other vital agencies that rely on diesel-powered back-up generators.

Net Energy Metering (NEM) and Rooftop Solar Rebates

Through its NEM program, MCE supports customer-sited distributed generation within its service area. MCE's NEM program offers incentives not typically found in utility programs, including rollover of NEM generation credits from year-to-year (up to a cap of \$5,000 for most customer classes), as well as the opportunity to receive a cash payment for the retail value of those credits. In 2018, eligible credit balances for cash-out exceeded \$1.8 million, with some of the largest beneficiaries including school districts and other public agencies. MCE's NEM program currently includes more than 33,000 customers

(7.1% of all MCE accounts) with aggregate installed renewable generating capacity of approximately 337 MW.

Beyond NEM, MCE incentivizes local rooftop solar development for low income customers. MCE has a strong partnership with California's Single Family Affordable Solar Housing ("SASH") program administrator, GRID Alternatives. MCE contributes \$900 per solar installation to low-income single family customers who qualify for GRID Alternative's service or are CARE customers. By leveraging multiple sources of funding, GRID Alternatives installs these systems in disadvantaged communities at little-to-no cost for the customer. In addition to MCE's single family solar rebate program, MCE also offers \$0.41 per watt (AC) rebate for low income multifamily properties that install solar which has a portion of the benefits allocated toward their tenants. From 2012-2019, MCE allocated \$535,000 toward these two rebate programs and has supported the installation of 220 residential solar PV systems on low-income homes, representing 519 kW of new, local renewable capacity and helping low-income families to pay less on monthly energy bills.

Disadvantaged Communities

Disadvantaged Community Solar Program

MCE is collaborating with the CPUC, other CCAs and the Investor-Owned Utilities to develop a community solar program (and corresponding implementation rules) focused on customers in disadvantaged communities ("DACs"). The DAC Green Tariff, a CPUC-funded program, offers low-income customers in disadvantaged communities a 20% discount on their electric bill when subscribing to a community solar project and offsetting 100% of their electric usage with solar energy. Under the program, 70 MW of new solar will be developed in DACs in PG&E's service territory. MCE is expecting to implement this program in 2020.

Community Power Coalition

To facilitate direct community feedback in the development, progress, and evolution of all its customer programs, MCE engages the Community Power Coalition. Formed in 2014, the Community Power Coalition seeks to represent the interests of underrepresented and historically marginalized communities through collaboration and open dialogue with MCE. As of June 2019, this group is comprised of 34 local organizations and meets every other month to discuss regulatory and legislative issues, build community awareness of new MCE programs and policies, and provide timely and specific feedback on MCE's wide assortment of programs.

III. Planning Policies

MCE policy, established by MCE's founding documents and directed on an ongoing basis by MCE's Board, guides the development of this IRP and related procurement activities. MCE's key resource planning policies are as follows:

- Reduce GHG emissions and other pollutants associated with the electric power sector through increased use of renewable, GHG-free, and low-GHG energy resources.
- Maintain competitive electric rates and increase control over energy costs through management of a diversified resource portfolio.
- Benefit the local economy by offering competitive electricity rates and customer programs and investing in infrastructure, energy, and workforce development programs within MCE's service area.
- Help customers reduce energy consumption and electric bills by supporting and administering enhanced customer EE, cost-effective distributed generation, and other demand-side programs.
- Enhance system reliability through investments in supply- and demand-side resources.
- Actively monitor and manage operating and market risks to promote MCE's continued financial strength and stability.
- Support supplier and workforce diversity as permitted by law.

The IRP translates these broad policy objectives into a more specific energy procurement strategy, taking into consideration MCE's projected customer needs and existing resource commitments over the Planning Period.

Regulatory Considerations

Renewable Portfolio Standard (RPS)

California's Renewable Portfolio Standard ("RPS") requires California load serving entities to supply their retail sales with minimum quantities of eligible renewable energy. As shown in Table 4 below, the RPS requirements have increased over the years, and such requirements (expressed as percentages of retail sales) are enforced within compliance periods. For each compliance period, load-serving entities ("LSEs"), such as MCE, are required to meet the weighted average of the RPS requirements for that period, with retail sales providing the weights. For example, in compliance period #3, LSEs are required to supply their retail sales with at least the following portion of renewable energy: [(2017 sales x 27%) + (2018 sales x 29%) + (2019 sales x 31%) + (2020 sales x 33%)] / [2017 through 2020 sales]

Table 4: RPS Requirements by Compliance Period

Year	Compliance Period	RPS Requirement (% of Retail Sales)
2011	1	20.0
2012	1	20.0
2013	1	20.0
2014	2	21.7
2015	2	23.3
2016	2	25.0
2017	3	27.0
2018	3	29.0
2019	3	31.0
2020	3	33.0
2021	4	35.8
2022	4	38.5
2023	4	41.3
2024	4	44.0
2025	5	46.7
2026	5	49.3
2027	5	52.0
2028	6	54.7
2029	6	57.3
2030	6	60.0

In order to supply their retail sales with minimum portions of renewable energy, load-serving entities must acquire and retire renewable energy credits ("RECs"). Each REC represents the environmental/renewable attributes associated with 1 MWh of eligible renewable energy and is created when the electricity is generated; accordingly, each REC is assigned a vintage year and month. RECs are created in a database known as the Western Renewable Energy Generation Information System ("WREGIS"), which is used across the Western Interconnection to track the environmental/renewable attributes of wholesale electricity. When acquiring and retiring RECs to meet its RPS requirements, MCE must also comply with additional requirements related to three Portfolio Content Categories (PCCs), defined as follows:

- PCC 1: RECs bundled with electricity from renewable facilities with a first point of interconnection within a California Balancing Authority ("CBA"), or RECs from facilities that schedule electricity into a CBA, and without substitute energy. In other words, these are RECs that are bundled with electricity all coming from the renewable energy facility. If that facility is outside a CBA, the electricity must be scheduled into the CBA, and only the fraction of the schedule actually generated by the renewable facility may count (i.e., any Ancillary Services needed to support the schedule are not counted).
- PCC 2: RECs bundled with electricity from renewable facilities, where the physical renewable generation is sunk outside of a California Balancing Authority ("CBA"), and substitute energy is imported into a CBA within the same calendar year. In other words, these are RECs that are bundled with electricity, but the electricity scheduled into the CBA does not have to come from the renewable energy facility. Instead, the electricity is provided by a substitute facility, as long as the electricity is scheduled into the CBA within the same calendar year.
- PCC 3: RECs produced by a renewable facility, but unbundled and sold without the associated electricity.

In accordance with its RPS requirements, MCE must acquire and retire RECs in line with PCC-related restrictions. Table 5 below shows the PCC-related restrictions for the current compliance period.

Table 5: RPS PCC Restrictions for Compliance Period 3

Year	Compliance Period	RPS Requirement (% of Retail Sales)		PCC 3 Maximum (% of RPS)
2017	3	27.0	75	10
2018	3	29.0	75	10
2019	3	31.0	75	10
2020	3	33.0	75	10

Long-Term Contracting Obligation

Starting with Compliance Period 4 (which begins 1/1/2021), at least 65% of the RECs retired for the purpose of meeting the Procurement Quantity Requirement ("PQR") must come from contracts that are 10 or more years in duration, pursuant to SB 350.

Senate Bill 100

Senate Bill ("SB") 100, signed by California's Governor in September 2018, directs all LSEs to procure 60% of their portfolios from RPS-eligible resources by 2030 (as explained in the RPS section above). SB 100 also directs LSEs to source 100% of their retail sales from zero-carbon resources (or eligible renewable resources) by 2045. In January 2021, California regulators (CEC, CARB, CPUC) are required to issue a joint agency report to clarify which specific resources should count towards meeting the 2045 requirement.

Power Source Disclosure

DOUBLE CHECK REGULATIONS BEFORE FINAL SUBMISSION.

AB 1110, signed into law in September of 2016, directs the CEC to adopt a methodology for the calculation of GHG emissions intensity for each electricity product offered by a retail supplier. The CEC has issued multiple draft implementation proposals with the opportunity for stakeholders to comment on each iteration. Based on pre-rulemaking activities thus far, it is likely that PCC 2 resources will be assigned GHG emissions based on the intensity of the substitute power that is being imported into California. If the CEC does move forward with this proposed accounting methodology, it would have a significant impact on the value of PCC 2 renewables. The CEC is also proposing to disaggregate ACS power into its underlying technology types (the vast majority being large hydroelectric). These proposed regulations are still subject to change until the CEC has formally adopted them.

Resource Adequacy (RA)

Resource Adequacy ("RA"), a California program jointly administered by the CPUC, CEC and CAISO, directs LSEs to secure forward capacity that then must be offered into the CAISO's Day-Ahead and Real-Time markets, ensuring that such markets will be able to clear (i.e., there will be enough supply in the right locations and with sufficient ramping capability to meet load). The RA program facilitates the formation of a bilateral capacity market amongst LSEs and generation owners that determines capacity payments, which can be used to offset a portion of fixed generation costs not recovered in the energy market. The RA program is comprised of three products: (1) System RA; (2) Local RA; (3) Flexible RA.

In order to meet its <u>System RA</u> requirements, MCE must demonstrate that it has secured capacity equal to 115% of its expected peak load for each month of the year. However, instead of making such a demonstration all at once, MCE is instead required to make a year-ahead filing as well as twelve individual month-ahead filings. For the year-ahead filing (October 31st of the preceding year), MCE must

demonstrate 90% of the 115% requirement for the coming year's five summer months: May through September. For the 12 monthly filings (each submitted 45 days in advance of the month), MCE must demonstrate 100% of the 115% requirement. For reference, the 115% requirement is often referred to as the expected peak load plus a 15% "planning reserve margin." When demonstrating System capacity, MCE must count only the "Net Qualifying Capacity" of each resource it includes in its filings. The Net Qualifying Capacity ("NQC") of a resource, published by the CAISO, is the capacity (one number for each month of the year) that can be relied upon to meet that month's peak load system conditions. For wind and solar resources, the NQC calculations must consider the intermittent and seasonal nature of such resources and are based on an Effective Load Carrying Capacity ("ELCC") methodology.

In order to meet its <u>Local RA</u> requirements, MCE must demonstrate that it has secured capacity in specific transmission-constrained (i.e., "Local") areas equal to its assigned share of the CAISO's need for each month of the year. In accordance with CPUC Decision 19-02-022, MCE must procure Local RA three years in advance, beginning with the fall 2019 compliance filing, and MCE must demonstrate 100% of its year 1 requirement, 100% of its year 2 requirement and 50% of its year 3 requirement. For example, MCE must demonstrate on 10/31/19 that it has secured 100% of its 2020 and 2021 local requirements and 50% of its 2022 local requirement. The assigned requirement for each local area is one number for the entire year, but MCE must show that it has secured enough capacity in each month to meet this number. The CAISO has established a list of seven local areas in PG&E's transmission area: (1) Humboldt; (2) North Coast/North Bay; (3) Sierra; (4) Stockton; (5) Greater Bay Area; (6) Greater Fresno; (7) Kern.

In order to meet its Flexible RA requirements, MCE must demonstrate that it has secured Flexible capacity equal to its assigned share of the CAISO's flexibility need (based in part on the largest expected three-hour ramp of system load) for each month of the year. However, instead of making such a demonstration all at once, MCE is instead required to make a year-ahead filing as well as twelve monthly filings. For the year-ahead filing (October 31st of the preceding year), MCE must demonstrate 90% of its assigned flexible capacity requirement for each month of the coming year. For the twelve individual monthly filings (each submitted 45 days in advance of the month), MCE must demonstrate 100% of its assigned flexible capacity requirement. When demonstrating Flexible capacity, MCE must count only the "Effective Flexible Capacity" of each resource it includes in its filings. At a high level, the Effective Flexible Capacity ("EFC") of a resource, published each year by the CAISO, is the capacity (one number for each month of the year) that can be relied upon to help meet that month's system ramping needs. For this reason, only resources that can ramp and sustain energy output for at least three hours are eligible to receive an EFC value. Flexible RA is offered in the market as a bundled product, so LSEs will purchase either System or Local resources which are coupled with an EFC value.

Energy Storage

The California Energy Storage Bill, AB 2514, was signed into law in September of 2010, and, as a result, the CPUC established energy storage targets for IOUs, CCAs, and other LSEs in September 2013. The applicable CPUC Decision established an energy storage procurement target for CCAs and electric service providers equal to 1% of their forecasted 2020 peak load. Based upon current load forecasts, the decision requires MCE to install 11 MW of energy storage no later than 2024. Beginning on January 1, 2016, and every two years thereafter, MCE must file an advice letter demonstrating compliance with this requirement, progress toward meeting this target, and a description of the methodology for ensuring projects are cost-effective.

In Decision (D) 17-04-039, the CPUC adopted an "automatic limiter" that modifies the CCA programs' energy storage obligation. By applying the limiter, each CCA's total energy storage obligation should not exceed the energy storage obligation of the incumbent IOU, including any IOU-procured storage resources that receive cost recovery from the CCA's customers through distribution rates and non-bypassable charges.

MCE Light Green Procurement Targets

99% GHG-Free by 2022

Reducing GHG emissions is at the heart of MCE's mission. With this in mind, MCE is structuring a Light Green portfolio that will be approximately 99% GHG-Free¹¹ in 2022 and beyond, subject to market and/or regulatory changes. To structure such a clean Light Green portfolio by 2022, MCE will procure three products: (1) RPS-eligible renewable energy; (2) large hydroelectric energy; (3) Asset Controlling Supplier energy, the vast majority of which is large hydroelectric.¹² With respect to the first product (RPS-qualifying renewable energy), which will continue to account for at least 60% of MCE's Light Green portfolio, MCE is planning to phase out its use of PCC 2 renewables by 2022 and will ramp up its use of PCC 1 renewables to make up the difference. This steady phase-out of PCC 2 renewables is a decision by MCE to prepare for the most likely scenario of AB 1110 implementation (explained in the regulatory section above), where PCC 2 renewables will be assigned the GHG emissions of the associated substitute power.

For its Light Green customers, MCE is targeting a 99% GHG-Free portfolio and not a 100% GHG-Free portfolio for the following reasons: (1) as part of its PCC 1 renewable energy portfolio, MCE has contracts for geothermal and biofuel that are known to produce "small" or trace amounts of carbon dioxide and other GHGs during electric power generation; (2) MCE procures Asset Controlling Supplier (ACS) energy that includes small portions of GHG-emitting power. A significant portion of the large hydroelectric power in the Pacific Northwest is embedded in ACS and MCE has determined that the benefits of this hydroelectric supply offsets the minimal emissions in ACS.

MCE's Light Green portfolio targets appear in Table 6a below. Actual content percentages may differ from projections if resource availability or market conditions preclude cost-effective procurement or if annual load comes in higher or lower than expected. For consideration by MCE's Technical Committee, MCE staff has also provided Table 6b, which shows a Light Green portfolio that ramps up considerably on PCC 1 starting in 2025 and correspondingly ramps down on large hydroelectric/ACS.

10-Year Light Green Portfolio Targets (%) 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 PCC 1 Renewable 48% 54% 60% 60% 60% 60% 60% 60% 60% 60% PCC 2 Renewable 12% 6% 0% 0% 0% 0% 0% 0% 0% 0% 40% 40% 40% 40% 40% 40% 40% Large Hydro + ACS 34% 37% 40% **CAISO System Power** 6% 3% 0% 0% 0% 0% 0% 0% 0% 0% **Total Renewable** 60% 60% 60% 60% 60% 60% 60% 60% 60% 60% Total Renewable + Large Hydro + ACS 94% 97% 100% 100% 100% 100% 100% 100% 100% 100%

Table 6a: MCE Light Green Portfolio Targets

Table 6b: MCE Light Green Portfolio Targets (For Technical Committee Discussion)

¹¹ Beginning with MCE's 2019 results, MCE's Light Green GHG-Free percentage will be derived as follows: [MCE Light Green MT CO2e, per CEC Power Content Label] / [(MWh of MCE Light Green Retail Sales) x (0.428 MT CO2e/MWh)]. For reference, 0.428 MT CO2e/MWh is the emissions factor of unspecified electricity, per the California Air Resources Board.

¹² The California Air Resources Board (CARB) recognizes three asset-controlling suppliers: Bonneville Power Administration, Powerex and Tacoma Power. On its website, CARB publishes the emissions factors for each of these three suppliers: https://ww2.arb.ca.gov/mrr-acs

¹³ Technology-specific emissions factors can be found in Table A.III.2 of the 2014 IPCC report available at: https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_annex-iii.pdf.

10-Year Light Green Portfolio Targets (%)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PCC 1 Renewable	48%	54%	60%	60%	60%	65%	70%	75%	80%	85%
PCC 2 Renewable	12%	6%	0%	0%	0%	0%	0%	0%	0%	0%
Large Hydro + ACS	34%	37%	40%	40%	40%	35%	30%	25%	20%	15%
CAISO System Power	6%	3%	0%	0%	0%	0%	0%	0%	0%	0%
Total Renewable	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Total Renewable + Large Hydro + ACS	94%	97%	100%	100%	100%	100%	100%	100%	100%	100%

Workforce and Supplier Diversity

This section may need to be revised depending on SB 255 (expected by mid-October 2019)

MCE is committed to supporting the economic health and sustainability of communities in its service area and seeks opportunities to contract with businesses that are historically underrepresented in utilities' procurement of energy resources, goods, and services. MCE's guidelines for diversity in procurement support MCE's efforts to procure energy resources, goods, and services from historically underrepresented and/or economically disadvantaged businesses and communities as allowed by law.

MCE will facilitate and encourage diversity and a sustainable workforce through its support for:

- 1. Fair compensation in direct hiring, renewable development projects, customer programs, and procurement services;
- 2. Development of locally generated renewable energy within the MCE service area;
- 3. Direct use of union members from multiple trades;
- 4. Quality training, apprenticeship, and pre-apprenticeship programs;
- 5. Direct use of businesses local to the MCE service area;
- 6. Development of California based job opportunities;
- 7. Business and workforce initiatives located in low-income and disadvantaged communities;
- 8. Direct use of Disabled Veteran-owned Enterprises ("DVBE") and LGBT-owned Business Enterprises;
- 9. Direct use of green and sustainable businesses; and
- 10. Use of direct hiring practices that promote diversity in the workplace.

In line with these workforce priorities, MCE has various requirements for employing local labor, including apprentices, providing prevailing wages, and complying with project labor agreements. In an effort to further MCE's tracking and reporting of labor practices and General Order 156 diverse suppliers of its energy providers, in 2018 MCE used the CPUC's Supplier Diversity Clearinghouse to engage certified suppliers. MCE has also added an optional "Supplier Diversity and Labor Practices" questionnaire to its Open Season offer form to request that power supply contractors voluntarily disclose their certification status. In compliance with Proposition 209, MCE explicitly does not give preferential treatment to bidders based on race, sex, color, ethnicity, or national origin. If such information is provided in the optional questionnaire, this information does not impact the Open Season selection process. Additionally, MCE has added workforce and diverse supplier reporting requirements to its form Power Purchase Agreement.

IV. Resources

Existing Resource Commitments

As of September 15, 2019, MCE has active contracts with approximately 60 unique counterparties which supply MCE with renewable energy, large hydroelectric/ACS energy, CAISO load hedging and Resource Adequacy (RA). Table 7 directly below lists MCE's active contracts with the 40 unique counterparties which provide renewable energy, large hydroelectric/ACS energy and CAISO load hedging (via fixed-price forward contracts).

Table 7: MCE Portfolio of Resources as of 9/15/2019¹⁴

Counterparty	Generation Facility	Generation Technology	Contract MW	Term	Annual GWh	Generation Location
Renewables: Contract Terms ≥ 10 ye	ears					
BayWa	Strauss Wind	Wind	98.83	2020-2035	300	Lompoc, CA
Calpine	Geysers	Geothermal	10	2017-2026	88	Lake Co, Sonoma Co, CA
CMSA	CMSA (FIT)	Solar PV	0.75	2019-2039	1.3	San Rafael, CA
ConEdison	Great Valley Solar 1	Solar PV	100	2018-2033	279-290	Fresno Co, CA
Dominion	Cottonwood -Buck Institute	Solar PV	1	2016-2041	1.7	Novato, CA
Dominion	Cottonwood-City of Corcoran	Solar PV	11	2015-2040	25-30	Kings Co, CA
Dominion	Cottonwood-Goose Lake	Solar PV	12	2015-2040	29-34	Kern Co, CA
DRES Quarry, LLC	Cooley Quarry 1 (FIT)	Solar PV	0.99	2017-2037	2.9	Novato, CA
DRES Quarry, LLC	DRES Quarry 2.4 (FIT)	Solar PV	0.1	2019-2038	0.30	Novato, CA
EBMUD	Pardee & Camanche Powerhouses	Small Hydro	34	2016-2025	70	Mokelumne River, CA
EDF	Desert Harvest	Solar PV	80	2020-2040	237-262	Riverside Co, CA
First Solar	Little Bear 1 Solar	Solar PV	40	2020-2040	99-109	Fresno Co, CA
First Solar	Little Bear 3 Solar	Solar PV	20	2020-2040	50-55	Fresno Co, CA
First Solar	Little Bear 4 Solar	Solar PV	50	2020-2040	124-137	Fresno Co, CA
First Solar	Little Bear 5 Solar	Solar PV	50	2020-2040	124-137	Fresno Co, CA
G2Energy	G2 Hay Road	Landfill Gas	1.4	2013-2033	11	Solano Co, CA
G2Energy	G2 Ostrom Road	Landfill Gas	1.7	2013-2031	12	Yuba Co, CA
Genpower	Energy 2001 - Lincoln Landfill	Landfill Gas	4.8	2013-2033	27	Lincoln, CA
Hayworth-Fabian LLC	Oakley RV & Boat Storage (FIT)	Solar PV	0.99	2018-2037	1.8	Oakley, CA
Larkspur Real Estate Partnership 1	Cost Plus Plaza Larkspur (FIT)	Solar PV	0.261	2016-2036	0.5	Larkspur, CA
Northshore Solar Partners LLC	Freethy Industrial Park 1 (FIT)	Solar PV	0.998	2016-2036	1.8	Richmond, CA
Northshore Solar Partners LLC	Freethy Industrial Park 2 (FIT)	Solar PV	0.998	2016-2036	1.8	Richmond, CA
Recurrent Energy	RE Mustang 4	Solar PV	30	2018-2032	79-84	Fresno Co, CA
RP Napa Solar 1, LLC	American Canyon A (FIT)	Solar PV	0.99	2019-2039	2.6	Napa, CA
RP Napa Solar 1, LLC	American Canyon B (FIT)	Solar PV	0.99	2019-2039	2.6	Napa, CA
RP Napa Solar 1, LLC	American Canyon C (FIT)	Solar PV	0.99	2019-2039	2.6	Napa, CA
RP Napa Solar 2, LLC	Soscol Ferry Solar C (FIT)	Solar PV	0.99	2019-2039	2.6	Napa, CA
RP Napa Solar 2, LLC	Soscol Ferry Solar D (FIT)	Solar PV	0.99	2019-2039	2.6	Napa, CA
RP Napa Solar 3, LLC	Silveira Ranch A (FIT)	Solar PV	0.999	2020-2040	2.6	Novato, CA
RP Napa Solar 3, LLC	Silveira Ranch B (FIT)	Solar PV	0.999	2020-2040	2.6	Novato, CA
RP Napa Solar 3, LLC	Silveira Ranch C (FIT)	Solar PV	0.999	2020-2040	2.6	Novato, CA
San Rafael Airport LLC	San Rafael Airport (FIT)	Solar PV	0.972	2012-2032	1.7	San Rafael, CA
San Rafael Airport LLC	San Rafael Airport 2 (FIT)	Solar PV	0.972	2019-2038	2	San Rafael, CA
Small World Trading Co.	EO Products (FIT)	Solar PV	0.056	2018-2037	0.1	San Rafael, CA
sPower	Antelope Expansion 2	Solar PV	105	2018-2038	284-312	Mojave Desert, CA
sPower	MCE Solar One	Solar PV	10.5	2017-2037	22	Richmond, CA
Terra Gen	Voyager Wind III	Wind	42	2018-2030	138	Mojave, CA
Waste Management	Redwood Landfill	Landfill Gas	3.5	2017-2037	30.7	Novato, CA

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¹⁴ Table 7 above excludes MCE's RA-only contracts but includes all other active contracts

Counterparty	Generation Facility	Generation Technology	Contract MW	Term	Annual GWh	Generation Location
Renewables: Contract Terms < 10 ye	ave.	recillology	IVIVV		GWII	
3 Phases Renewables Inc.	Wind Portfolio	PCC 2 Wind	N/A	2018-2019	150-160	Colorado
3 Phases Renewables Inc.	Renewables Portfolio	PCC 2 Renewables	N/A	2020	75-100	Western Interconnection
ConEdison	Solar Portfolio	PCC 1 Solar PV	N/A	2018-2019	37-50	California
DTE	Renewables Portfolio	PCC 2 Renewables	N/A	2018-2019	155	Western Interconnection
DTE	Renewables Portfolio	PCC 2 Renewables	N/A	2019	110	Western Interconnection
Morgan Stanley	PCC 1 Wind Portfolio	PCC 1 Wind	N/A	2019	75-90	Washington,Oregon
Morgan Stanley	PCC 2 Wind/Biomass Portfolio	PCC 2 Wind.Biomass	N/A	2018-2020	50	Washington,Oregon,Idaho
Morgan Stanley	PCC 2 Wind/Biomass Portfolio	PCC 2 Wind,Biomass	N/A	2020-2021	18-45	Washington,Oregon,Idaho
<u> </u>	FPL Energy Green Power Wind	PCC 1 Wind	15.5	2019-2023	25.2	Riverside Co, CA
NextEra PG&E	PCC 1 Renewables Portfolio	PCC 1 Wind PCC 1 Renewables	N/A	2019-2025	200-300	California,Nevada,Arizona
Portland General	PCC 2 Wind Portfolio	PCC 1 Renewables	•	2019-2020	150	
	PCC 2 Wind Portfolio PCC 2 Wind/Biomass Portfolio		N/A			Washington,Oregon
Powerex	PCC 2 Wind Portfolio	PCC 2 Wind,Biomass PCC 2 Wind	N/A N/A	2017-2019	25-125 75	BC, Washington
Powerex	PCC 2 Wind Portfolio	PCC 2 Wind PCC 1 Wind	1.41.1	2019	75 25-50	BC, Washington
Powerex	r ce i wind r craicine		N/A			British Columbia
SCE	PCC 1 Solar/Wind Portfolio	PCC 1 Solar,Wind	N/A	2019-2020	200	California,Nevada
Shell Energy North America	PCC 2 Portfolio	PCC 2 Renewables	N/A	2019	100	Western Interconnection
TGP Energy Management, LLC	PCC 1 Solar/Wind Portfolio	PCC 1 Solar,Wind	N/A	2018-2020	300	California,Arizona
Turlock Irrigation District	PCC 1 Small Hydro Portfolio	PCC 1 Small Hydro	N/A	2019-2020	18	California
Large Hydroelectric / ACS						- 15 11 1
Bonneville Power Administration	BPA ACS	BPA ACS	25	2020	219.6	Pacific Northwest
Brookfield Renewable Partners	Large Hydro/ACS Portfolio	Large Hydro/ACS	N/A	2019	126	Pacific Northwest
Brookfield Renewable Partners	Large Hydro/ACS Portfolio	Large Hydro/ACS	N/A	2019	55	Pacific Northwest
Direct Energy Business Marketing	BPA ACS	BPA ACS	N/A	2019	400-408	Pacific Northwest
Morgan Stanley	Large Hydro Portfolio	Large Hydro	N/A	2018-2020	160-330	Washington, Idaho
Shell Energy North America	Colgate & Narrows 2 Powerhouses	Large Hydro	N/A	2019	360	California
Shell Energy North America	Colgate & Narrows 2 Powerhouses	Large Hydro	N/A	2020	150	California
Shell Energy North America	Colgate & Narrows 2 Powerhouses	Large Hydro	N/A	2023	200	California
Shell Energy North America	Colgate & Narrows 2 Powerhouses	Large Hydro	N/A	2024	200	California
Tenaska Power Services	Middlefork & Ralston Powerhouses	Large Hydro	N/A	2018-2022	300-600	California
TransAlta Energy Marketing US	Large Hydro/ACS Portfolio	Large Hydro/ACS	N/A	2019	102	Pacific Northwest
Western Area Power Administration	Central Valley Project	Large Hydro	N/A	2015-2024	25	California
Fixed Price Forward Contracts						
Direct Energy Business Marketing	N/A (Fixed Payment for NP15 Revenue)		Variable	2018-2020	310-483	N/A
Direct Energy Business Marketing	N/A (Fixed Payment for NP15 Revenue)	N/A	Variable	2019	667	N/A
Direct Energy Business Marketing	N/A (Fixed Payment for NP15 Revenue)	N/A	Variable	2021	109.5	N/A
Exelon Generation Company	N/A (Fixed Payment for NP15 Revenue)	N/A	50	2018-2019	438	N/A
Exelon Generation Company		N/A	Variable	2020	461	N/A
Morgan Stanley	N/A (Fixed Payment for NP15 Revenue)		Variable	2018-2020	188-588	N/A
Morgan Stanley	N/A (Fixed Payment for NP15 Revenue)		Variable	2019-2020	208-216	N/A
Morgan Stanley	N/A (Fixed Payment for NP15 Revenue)	N/A	Variable	2021-2022	332-472	N/A
Shell Energy North America	N/A (Fixed Payment for NP15 Revenue)		Variable	2018-2020	623-739	N/A
Shell Energy North America	N/A (Fixed Payment for NP15 Revenue)	N/A	Variable	2019	366	N/A
Shell Energy North America	N/A (Fixed Payment for NP15 Revenue)	N/A	Variable	2019-2020	168-448	N/A
Shell Energy North America	N/A (Fixed Payment for NP15 Revenue)	N/A	Variable	2019-2022	353-950	N/A

Projected 2020 Resource Mix

As mentioned in Chapter 3 above, MCE is anticipating that 94% of its 2020 Light Green portfolio will be sourced from renewables, large hydroelectric and ACS. When aggregated with its Deep Green and Local Sol portfolios (both of which are 100% renewable), MCE anticipates that 95% of its total 2020 retail sales will be sourced from renewables, large hydroelectric and ACS. Figure 7 below illustrates MCE's anticipated 2020 resource mix for its retail sales.

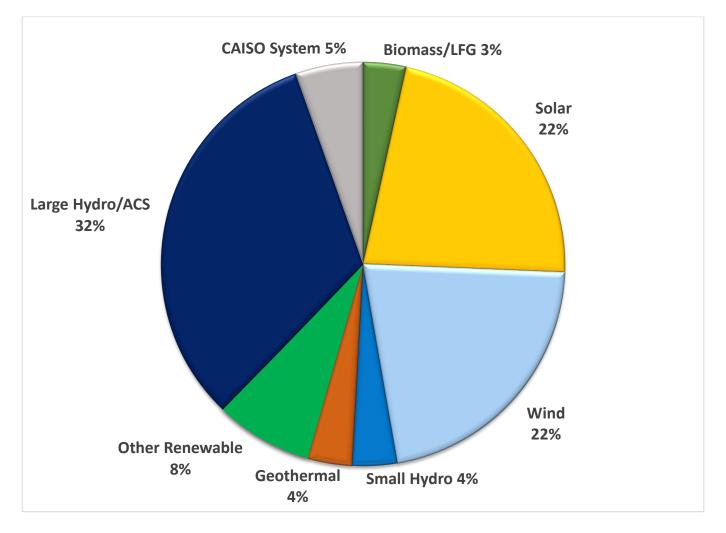


Figure 7: MCE 2020 Estimated Resource Mix¹⁵

Resource Needs

Beyond its current contractual commitments, MCE will procure additional energy products, as necessary, to ensure that the future energy needs of its customers are met in a clean, reliable, and cost-effective manner. This section sets forth MCE's planned resource volumes and quantifies the net resource need or "open position" that remains after accounting for production from MCE's existing resource portfolio. As explained above, MCE has established procurement targets for renewable energy, large hydroelectric and ACS, and MCE has also established targets for planning reserves. To the extent that MCE's energy needs are not fulfilled through the use of renewable, large hydroelectric and ACS, it should be assumed that such supply will be sourced from CAISO system power, which represents energy purchases from the wholesale market that are not directly associated with specific generators.

¹⁵ Figure 7 includes all supply to serve retail sales for the Light Green, Deep Green and Local Sol product offerings.

Renewable Resources

MCE plans to continue providing Light Green customers with energy that is at least 60% renewable. Importantly, MCE plans to change the underlying composition of this 60% by steadily ramping down its use of PCC 2 renewables and steadily ramping up its use of PCC 1 renewables, with all 60% being supplied by PCC 1 renewables in 2022 and beyond. MCE will also procure PCC 1 renewable energy for its Deep Green customers, and MCE is projecting that the number of such Deep Green customers will grow significantly over the planning horizon. In summary, MCE is planning to procure significant quantities of PCC 1 renewable energy, as Figure 8 below illustrates.

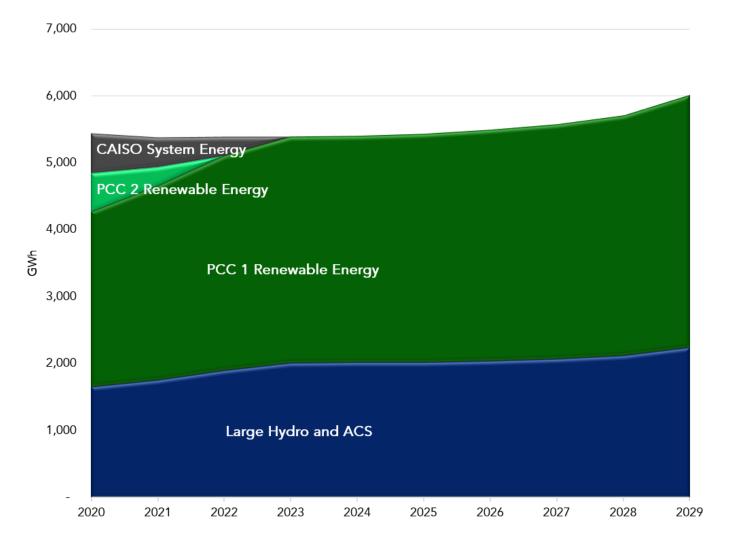


Figure 8: MCE Procurement Targets (GWhs), 2020-2029¹⁶

RPS Open Positions

MCE's renewable power content exceeds the state's minimum RPS requirements and will continue to do so throughout the Planning Period. MCE has executed a number of long-term power purchase agreements ("PPAs") with new, California-based generating facilities that will produce PCC 1-eligible

¹⁶ Figure 8 displays the types of resources required to meet MCE's loss-adjusted load (i.e., load including the power lost to the distribution system).

renewable energy.¹⁷ To supplement its core procurement of PCC 1 resources under long-term contracts, MCE engages in short-term contracts for PCC 1 and PCC 2 renewable energy supplies to balance and optimize its portfolio. As shown in Table 8 below, MCE has secured contracts for renewable energy volumes well in excess of applicable RPS procurement requirements.

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Retail Sales (GWh)	5,127	5,066	5,079	5,081	5,094	5,123	5,173	5,253	5,382	5,666
State RPS %	33%	36%	39%	41%	44%	47%	49%	52%	55%	57%
RPS Energy Required (GWh)	1,692	1,814	1,955	2,098	2,241	2,392	2,550	2,732	2,944	3,246
RPS Energy Contracted (GWh)	2,256	2,198	2,191	2,184	2,153	2,121	2,069	1,974	1,968	1,960
RPS Net Short/(Long)	(565)	(384)	(236)	(86)	89	271	481	757	976	1,287
RPS Category 1 Required (GWh)	1,269	1,360	1,467	1,574	1,681	1,794	1,913	2,049	2,208	2,435
RPS Category 1 Contracted (GWh)	2,256	2,198	2,191	2,184	2,153	2,121	2,069	1,974	1,968	1,960

Table 8: MCE RPS Compliance Energy Balance, 2020-2029

Voluntary Renewable Open Positions

RPS Category 1 Net Short/(Long)

Voluntary renewable energy volumes reflect purchases that exceed applicable RPS mandates. With respect to MCE, these voluntary purchases are necessary to meet the targeted 60% renewable energy supply for Light Green customers and the 100% renewable energy supply for Deep Green customers. As shown in Table 9 below, MCE needs additional renewable energy volumes to meet its targets for Light Green and Deep Green customers.

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Light Green Renewable Energy										
Target (%)	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Light Green Renewable Energy										
Target (GWh)	2,919	2,850	2,854	3,022	3,027	3,041	3,068	3,115	3,192	3,368
Deep Green Incremental										
Renewable Energy Target (GWh)	278	335	342	348	355	363	370	377	385	392
Contracted Renewable Energy										
(GWh)	2,256	2,198	2,191	2,184	2,153	2,121	2,069	1,974	1,968	1,960
Renewable Net Short/(Long)	940	987	1,005	1,186	1,229	1,282	1,369	1,518	1,609	1,800

Table 9: MCE Renewable Energy Balance, 2020-2029

Large Hydroelectric and ACS

For its Light Green customers, MCE has outlined a 2020 portfolio, 94% of which will be sourced from renewables, large hydroelectric and ACS. By 2022, MCE is planning to increase that figure to 100%. MCE is planning to ramp up the large hydroelectric and ACS power in the Light Green portfolio from 34% in 2020 to 40% in 2022 and beyond, as illustrated in Table 10 below. MCE procures large hydroelectric from resources across the western interconnection, but with a focus on California and the Pacific Northwest. ACS power is sourced from all three of the existing ACS suppliers: Bonneville Power Administration, Powerex and Tacoma Power.

¹⁷ Historically, MCE has contracted with PCC 1 resources located within California; however, some resources located outside of California are eligible for PCC 1, typically through direct interconnection or firm transmission rights to the CAISO. Whereas MCE has an established preference for in-state resources, it may consider contracting with out-of-state, PCC 1-qualified resources – to the extent that they offer increased value or other desirable portfolio attributes – during the Planning Period.

Table 10: MCE Large Hydroelectric/ACS Balance, 2020-2029 (GWh)

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Light Green Retail Sales (GWh)	4,865	4,750	4,757	4,752	4,759	4,781	4,824	4,897	5,019	5,295
Renewables + Large Hydro/ACS Target (%)	94%	97%	100%	100%	100%	100%	100%	100%	100%	100%
Large Hydro/ACS Target (%)	34%	37%	40%	40%	40%	40%	40%	40%	40%	40%
Large Hydro/ACS Target (GWh)	1,654	1,758	1,903	1,901	1,903	1,912	1,929	1,959	2,007	2,118
Incremental Large Hydro/ACS Required to										
Cover Distribution Losses (GWh)	0	0	0	114	114	115	116	118	120	127
Large Hydro/ACS Under Contract (GWh)	1,184	625	625	225	225	-	-	-	-	-
Large Hydro/ACS Open Position	470	1,133	1,278	1,790	1,793	2,027	2,045	2,076	2,128	2,245

Fixed Price Forward Contracts

MCE uses fixed price forward contracts (i.e., "fixed for floating" contracts) to hedge CAISO day-ahead market price exposure associated with its portfolio. More specifically, for the volumes and hours where MCE does not have supply contracts that yield CAISO day-ahead revenue, MCE uses fixed price forward contracts where MCE pays a fixed price per MWh in order to receive a floating price that clears for each hour. This helps hedge MCE's CAISO day-ahead market price exposure because the floating price (NP15) is correlated with MCE's CAISO load price (PG&E's default load aggregation point). These contracts are an important complement to MCE's portfolio, which includes contracts where MCE is not entitled to the CAISO revenue. As MCE procures increasing portions of fixed price renewables with storage and/or fixed price large hydroelectric/ACS, MCE will ramp down on its use of fixed for floating contracts.

Resource Adequacy

MCE meets California's Resource Adequacy (RA) program requirements by procuring qualifying RA through Power Purchase Agreements (PPAs) and RA-only contracts. As explained in Chapter 3 above, MCE must secure three types of RA: (1) System RA; (2) Local RA; (3) Flexible RA. Importantly, MCE's Local RA supply counts towards MCE's System RA requirement, and MCE's Flexible RA requirement is fulfilled with Local or System resources. In other words, MCE's total System RA requirement represents the total capacity that MCE must buy under the RA program, as shown in Tables 11 and 12 below.

Table 11: MCE System and Local Net RA Requirements, 2020-2029

Average Net Requirement Across All Months	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Non-Local RA Requirement (MW)	452	424	404	394	385	378	375	377	386	434
Local RA Requirement (MW)	471	442	421	410	400	392	389	391	400	450
Total System RA Requirement (MW)	923	866	825	804	785	770	764	768	786	884

Table 12: MCE Flexible RA Requirements, 2020

Average Requirement Across All Months	Jan	Feb	Mar	Арг	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Flexible RA Requirement (MW)	466	470	402	330	354	330	251	297	309	338	431	401

Energy Storage

MCE intends to explore additional opportunities to own and contract for energy storage projects. These may include projects located in MCE's service area or those strategically located elsewhere in California and projects that are co-located with renewable energy generation or those that are developed independently.

¹⁸ For example, MCE uses "index plus" contracts where the supplier schedules power into the CAISO (which contractually constitutes a bundled power delivery to MCE), but the supplier keeps the CAISO revenue, and MCE pays the supplier for the power content attribute.

V. Procurement

MCE will fill its future open positions via a combination of contracted energy resources and demand-side programs. This section describes the types of resources MCE may procure and discusses various considerations that may influence MCE's procurement efforts.

MCE has successfully administered a transition away from its initial full requirements supply contract, under which all conventional energy products, reserve capacity, and renewable energy were provided through a single agreement with a single counterparty. Such a structure was instrumental in minimizing administrative and operational complexities at the time of MCE's launch in May 2010. Since that time, MCE has gained experience in the areas of resource planning and procurement, adding staff to support these critical functions. MCE has also developed robust procurement processes to address the majority of its energy, capacity, and renewable energy requirements through relationships with numerous suppliers.

MCE Generation Development

MCE is targeting new renewable resources within its service area. Toward this goal, MCE may consider direct project investment or ownership of generation assets but has historically utilized long-term PPAs to secure renewable energy supplies at stable costs for its customers. MCE considers asset ownership to offer similar benefits to contracting via long-term PPAs and, therefore, does not have an explicit bias toward either PPAs or asset ownership. MCE examines opportunities for asset ownership – as it does for its contracted resources – on a case-by-case basis, considering such factors as risk allocation, asset location, technology, and, most critically, impact on MCE's customers' rates.

Current federal tax policy generally favors private sector ownership of renewable assets due to the tax credits that are uniquely available to for profit entities. For this reason, MCE's experience has been that PPAs with privately owned renewable generation facilities are typically more cost-effective than development or ownership of resources by MCE. MCE has secured optional buyout provisions in some of its renewable PPAs, which provide a potential path to MCE asset ownership after the tax benefits have been exhausted by the private developer.

Assessing a generation project's operational risk becomes more important for assets owned by MCE because MCE could be at risk for production shortfalls and for cost overruns, which are risks typically absorbed by the developer under a PPA structure. Direct generation investment may become an increasingly viable option during the Planning Period as MCE expects to gain additional operational experience and more robust access to credit markets. As part of this approach, MCE may also consider joint ventures and turnkey development approaches to ensure appropriate allocation of project risks.

Renewable Energy Purchases

MCE uses a portfolio risk management approach in its power purchasing program, seeking low cost supply as well as diversity among technologies, production profiles, project sizes and locations, counterparties, length of contract, and timing of market purchases. All these factors are taken into consideration when MCE engages the market.

MCE continually manages its forward load obligations and supply commitments with the objective of balancing cost stability and cost minimization, while leaving some flexibility to take advantage of market opportunities or technological improvements that may arise. MCE closely monitors to open positions for PCC 1 and PCC 2 renewable energy, both of which are based on calendar year targets. MCE maintains

portfolio coverage targets of up to 100% in the near-term (0 to 5 years) and leaves a greater portion open in the medium to long term, consistent with generally accepted industry practice.

MCE has no explicit preference for specific renewable energy technologies. MCE's supply preference is for a mix of renewable energy technologies that will deliver energy in a profile that is generally consistent with its load shape. In regard to generation project location, MCE places the greatest value on locally sited renewable energy projects, particularly those located within its service area or within approximately 100 miles. Of next highest preference are projects sited in the North Path 15 region (generally, Northern California), followed by projects elsewhere in California, and then, finally, out-of-state resources. The projected resource mix during the Planning Period is illustrated below in Figure 9.

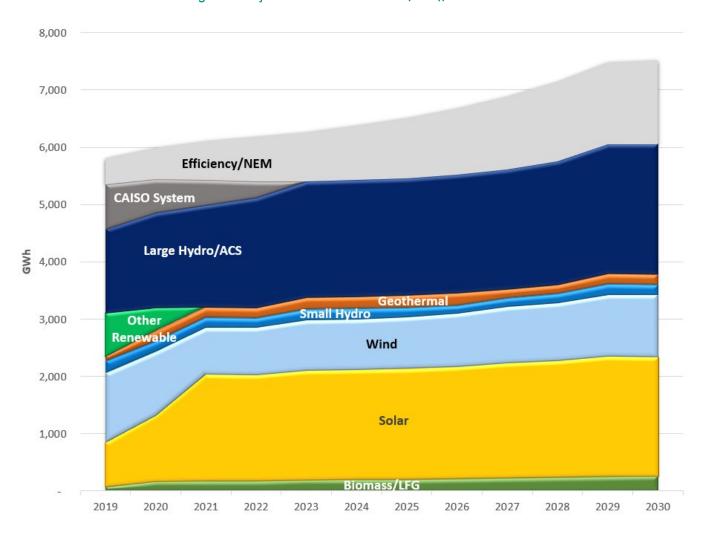


Figure 9: Projected MCE Resource Mix (GWh), 2020-2029¹⁹

Feed-In Tariff (FIT)

MCE's FIT offers a total program capacity of 45 MW on a first-come, first-served basis to renewable resources located in MCE's service area. The FIT offering allows private developers to finance local renewable energy projects, while catalyzing local job creation associated with the construction, operation, and maintenance of these local projects. By providing attractive, above-market rates, this program incentivizes renewable development in MCE communities where it otherwise would not be built.

¹⁹ Figure 9 above displays the projected resource mix needed to meet MCE's projected loss-adjusted load. Projected energy efficiency and distributed generation (i.e., NEM) are added back to the loss-adjusted load for reference only. Actual resource utilization to meet loss-adjusted load will depend upon market conditions and resource availability.

MCE's initial FIT program, which offered 15 MW of capacity to projects sized up to 1 MW, is fully subscribed as shown in Table 13 below. Starting in 2018, MCE began the second phase of its FIT program, adding an additional 10 MW of capacity and an updated Tariff for projects in MCE's service area up to 1 MW. Another 20 MW of capacity is available for new FIT Plus projects sized above 1 MW to up to 5 MW, with a new applicable Tariff. All FIT related documents are available on MCE's FIT website.²⁰

Table 13: MCE Feed-In Tariff Projects Associated with Initial 15 MW Program

Project Name	Capacity (MW)	Annual Output (MWh)	Commercial Operation Date
San Rafael Airport	0.972	1,440	Oct-12
Cost Plus Plaza Larkspur	0.261	520	Sep-16
Freethy Industrial Park Unit #1	0.998	1,800	Oct-16
Freethy Industrial Park Unit #2	0.998	1,800	Oct-16
Cooley Quarry 1	0.990	2,900	Jul-17
Oakley RV & Boat Storage	0.990	1,750	Jul-18
EO Products	0.056	112	Dec-18
CMSA	0.750	1,314	Apr-19
DRES Quarry 2.4	0.100	285	May-19
American Canyon A	0.999	2,759	Aug-19
American Canyon B	0.999	2,759	Aug-19
American Canyon C	0.999	2,759	Aug-19
Soscol Ferry Solar C (FIT)	0.990	2,600	TBD
Soscol Ferry Solar D (FIT)	0.990	2,600	TBD
Silveira Ranch A	0.999	2,563	TBD
Silveira Ranch B	0.999	2,563	TBD
Silveira Ranch C	0.999	2,563	TBD
San Rafael Airport 2	0.972	2,005	TBD
TOTAL	15.061	35,092	

Large Hydroelectric and ACS

MCE anticipates that its large hydroelectricity and ACS supplies will be met primarily through short-term and medium-term purchases of California and Pacific Northwest hydroelectricity and ACS, but MCE is also exploring longer-term opportunities. MCE is currently working to become more flexible in its hydroelectricity transactions and will begin taking delivery of hydroelectricity outside the CAISO in 2020, meaning that MCE will begin taking responsibility for importing into California and CAISO intertie scheduling.

System Power and Fixed Price Forward Contracts

Through 2022, MCE plans to rely on CAISO system power for a small portion of its Light Green portfolio and/or associated distribution losses. In 2023 and beyond, MCE does not plan to specifically procure

²⁰ https://www.mcecleanenergy.org/feed-in-tariff/.

CAISO system power or natural gas-fueled generation, but could have a need to do so if market or regulatory conditions change significantly.

Separately, MCE does have plans to continue engaging in fixed price forward contracts, and MCE's counterparties may schedule physical power into the CAISO to hedge their own risk associated with these contracts. Such physical power, if scheduled, is not for MCE's portfolio.

Total Load Obligations

With respect to MCE's total load obligations, MCE manages exposure to market price risk by executing forward electric supply commitments for its projected energy sales obligations. MCE considers a variety of factors including cost control and competitiveness. Entering into fixed price forward contracts enables MCE to meet budget and rate-setting objectives by increasing cost certainty. However, it is appropriate to maintain modest flexibility for incorporation of new supply- or demand-side resources and limited exposure to CAISO market prices to ensure optimal resource portfolio diversification. In light of these considerations, the following contracting guidelines for fixed-price energy contracts will be used during the Planning Period.

Time Horizon Fixed-Price Energy Contracting Guidelines

Current Year 70% to 100%

Year 2 60% to 95%

Up to 70%

Table 14: MCE Fixed Price Energy Contracting Guidelines

The contracting guidelines above serve to inform MCE's hedging targets used to mitigate price and supply risk. Execution of master power purchase and sale agreements with multiple, credit-worthy counterparties has enabled and will continue to enable energy purchases through transaction-specific confirmations whenever appropriate, consistent with the policies set forth in this plan.

Resource Adequacy Transactions

Year 3 and Beyond

MCE may engage in purchases or sales of RA capacity from generation resources that qualify to meet RA requirements in accordance with CPUC and CAISO regulations. Terms may range from one month to ten years or more. RA is also often bundled with energy and renewable attributes under MCE's renewable energy PPAs.

VI. Procurement Methods and Authorities

In order to effectively plan and manage its portfolio, MCE differentiates contracts by their term length as follows:

- Short-term: up to twelve months;
- Medium-term: longer than twelve months, up to five years;
- Intermediate-term: longer than five years, up to ten years;
- Long-term: longer than ten years.

Based upon the expected contract tenor, MCE may use a variety of methods – including competitive solicitations, standard contract offerings, and bilaterally negotiated agreements – throughout the Planning Period.

Procurement Methods

For long-, intermediate-, and medium-term purchase commitments, MCE typically uses competitive solicitations, such as its Open Season solicitation, or standard offer contracts, like its FIT. Through a competitive solicitation, MCE issues a request for offers and concurrently evaluates multiple proposals in the context of market conditions before entering negotiations with those respondents that provide the most compelling offers. Occasionally, MCE will issue ad hoc competitive solicitations or engage in independent bilateral negotiations to meet specific resource needs for which inclusion in an annual solicitation is not appropriate.

With regard to short-term power purchases, MCE may negotiate bilateral agreements directly, especially for unique or time-sensitive transactions that do not lend themselves to inclusion in a competitive solicitation. Alternatively, particularly in markets with sufficient transparency to ensure competitive outcomes, MCE may negotiate short-term transactions via its scheduling coordinator or independent energy brokers or marketers.

MCE procures energy and Resource Adequacy consistent with its Board approved Energy Risk Management Policy.

Procurement Authorities

MCE's energy procurement throughout the Planning Period will be consistent with the delegation of authorities of the Board, including Resolution 2018-03, and/or any other delegation of authorities or relevant Resolution of the Board.

Appendix A: Load and Resource Table

	IVICE	Resource	Balance							
		August 20	019							
	2020	2021	2022	2023	2024	2025	2026	2027	2028	202
I. Energy Requirements (GWh)										
Baseline Retail Load	5,587	5,650	5,678	5,707	5,735	5,764	5,793	5,821	5,851	5,880
Energy Efficiency	(16)	(22)	(29)	(36)	(42)	(48)	(55)	(61)	(62)	(6
Distributed Generation	(529)	(656)	(747)	(822)	(904)	(994)	(1,094)	(1,203)	(1,323)	(1,36
Electric Vehicle Load	95	147	192	252	329	431	563	737	963	1,26
Retail Load (Net of EE/DG/EV)	5,137	5,119	5,095	5,100	5,118	5,152	5,208	5,294	5,429	5,71
Distribution Line Losses and Unaccounted For Energy	308	307	306	306	307	309	312	318	326	34
Total Energy Requirements	5,445	5,426	5,400	5,406	5,426	5,462	5,520	5,612	5,755	6,05
II. Volume Targets										
Light Green Renewable Energy Volume Targets (GWh)										
Portfolio Content Category 1	2,340	2,594	2,863	3,035	3,042	3,059	3,090	3,141	3,222	3,399
Portfolio Content Category 2	585	288	-	-	-	-	-	-	-	_
Portfolio Content Category 3 (REC Only)	-	-	-	-	-	-	-	-	-	-
Subtotal, Light Green Renewable Energy Volume Targets	2,925	2,882	2,863	3,035	3,042	3,059	3,090	3,141	3,222	3,39
Deep Green Incremental Renewable Energy Volume Targets (GWh)										
Portfolio Content Category 1	278	335	342	348	355	363	370	377	385	392
Large Hydro/ACS Energy Volume Targets (GWh)	1,657	1,777	1,909	2,023	2,028	2,040	2,060	2,094	2,148	2,266
III. Contracted Resources										
Renewable Resources Under Contract (GWh)										
Portfolio Content Category 1	2,256	2,198	2,191	2,184	2,153	2,121	2,069	1,974	1,968	1,96
Portfolio Content Category 2	-	-	-	-	-	-	-	-	-	-
Portfolio Content Category 3 (REC Only)	-	-	-	-	-	-	-	-	-	-
Subtotal, Renewable Resources Under Contract	2,256	2,198	2,191	2,184	2,153	2,121	2,069	1,974	1,968	1,96
Large Hydro/ACS Resources Under Contract (GWh)	1,184	625	625	225	225	-	-	-	-	-
Fixed Price Forward Contracts (GWh)	2,708	1,532	1,068	-	-	-	-	-	-	-
Total Contracted Energy (GWh)	6,148	4,355	3,884	2,409	2,378	2,121	2,069	1,974	1,968	1,96
Less Variable Price Contracted Energy (GWh)	1,527	670	670	270	270	46	-		-	-,50
Fotal Fixed Price Contracted Energy (GWh)	4,621	3,685	3,214	2,139	2,108	2,075	2,069	1,974	1,968	1,96
IV. Open Positions										
Renewables Open Position (GWh)	2020	2021	2022	2023	2024	2025	2026	2027	2028	202
Portfolio Content Category 1	361	731	1,014	1,199	1,245	1,301	1,391	1,544	1,639	1,83
Portfolio Content Category 2	585	288	-	-	-	-	-	-	-	-,55
Portfolio Content Category 3	-	-	_	_	_	_	_	_	_	
Total Renewables Open Position (GWh)	946	1,019	1,014	1,199	1,245	1,301	1,391	1,544	1,639	1,83
Large Hydro/ACS Open Position (GWh)	474	1,152	1,284	1,798	1,803	2,040	2,060	2,094	2,148	2,260
Total Hedging Needs - Open Position (GWh)	824	1,741	2,186	3,267	3,318	3,386	3,451	3,637	3,787	4,09



October 3, 2019

TO: MCE Technical Committee

FROM: Michelle Nochisaki, Customer Programs Manager

RE: Proposed First Agreement with Bidgely, Inc. (Agenda Item #07)

ATTACHMENT: Proposed First Agreement with Bidgely, Inc.

Dear Technical Committee Members:

SUMMARY:

The proposed First Agreement with Bidgely is a contract for energy efficiency services, focused on the implementation of a residential single family energy efficiency (EE) program. MCE conducted a competitive solicitation for a residential program implementer and Bidgely was selected out of six qualified proposals. The duration of the proposed First Agreement is from contract execution through December 31st, 2023.

The CPUC's approval of MCE's Energy Efficiency Business Plan and MCE's 2019 energy efficiency budget authorized MCE to expand its single family energy efficiency offerings. Under the proposed First Agreement, Bidgely will deliver a proven Home Energy Report (HER) solution to generate behavioral energy savings, and develop an online marketplace that will streamline procurement of energy efficient household appliances and equipment. The energy efficiency savings of both the HERs and the online marketplace will be measured using meter data, and in accordance with the latest guidance from the California Public Utilities Commission.

The proposed First Agreement utilizes a Pay for Performance (P4P) model, which encourages implementers to identify the most cost effective savings opportunities, enabling far greater savings impacts. The P4P program is expected to meet targets for cost effectiveness and savings.

MCE has contracted with a data analytics contractor, Recurve Analytics Inc., to assist with customer targeting and to validate the savings for which Bidgely would be compensated. Bidgely would be compensated on a pay-for-performance (rate/unit measured savings) basis throughout the four-year contract period. The proposed payment schedule is rooted in the savings goals and annual budgets shown in the table below. The not-to-exceed contract value is \$2,174,600.

Program Goals							
2020 Prog	rogram Year 2021 Program Year* 2022 Program Year*			2023 Program Year*			
net kWh	net therms	net kWh	net therms	net kWh	Net therms	net kWh	net therms
3,992,470	34,766	7,585,693	82,568	10,809,613	125,503	10,269,132	131,151
* Goals for the 2021-2023 Programs years will be finalized through the Annual Budget Advice Letter							

Fiscal Impacts: Expenditures related to the proposed First Agreement with Bidgely would be funded from energy efficiency program funds allocated by the CPUC.

Recommendation: Approve the proposed First Agreement with Bidgely, Inc.

MARIN CLEAN ENERGY ENERGY EFFICIENCY PROGRAMS STANDARD SHORT FORM CONTRACT

FIRST AGREEMENT BY AND BETWEEN MARIN CLEAN ENERGY AND BIDGELY, INC.

THIS FIRST AGREEMENT ("Agreement") is made and entered into this day **October 3, 2019** by and between MARIN CLEAN ENERGY, hereinafter referred to as "MCE" and BIDGELY, INC., hereinafter referred to as "Implementer."

RECITALS:

WHEREAS, MCE desires to retain a person or firm to provide the services described in Exhibit A;

WHEREAS, Implementer is a third-party program implementer that will implement the contracted-for energy efficiency program ("Program");

WHEREAS, Implementer warrants that it is qualified and competent to render the aforesaid Services;

NOW, **THEREFORE**, for and in consideration of the agreement made, and the payments to be made by MCE, the parties agree to the following:

1. SCOPE OF SERVICES:

Implementer agrees to provide all of the services described in **Exhibit A** attached hereto and by this reference made a part hereof. "Services" shall mean all of the services described in **Exhibit A**, and any other work performed by Implementer pursuant to the Agreement and any related purchase orders.

2. FURNISHED SERVICES:

MCE agrees to make available all pertinent data and records for review, subject to MCE Policy 001 - Confidentiality.

3. FEES AND PAYMENT SCHEDULE; INVOICING:

The fees and payment schedule for furnishing services under this Agreement shall be based on the rate schedule which is attached hereto as **Exhibit B** and by this reference incorporated herein. Said fees shall remain in effect for the entire term of the Agreement.

Implementer shall provide MCE with his/her/its Federal Tax I.D. number prior to submitting the first invoice. Implementer is responsible for billing MCE in a timely and accurate manner. Implementer shall email invoices to MCE on a monthly basis for any services rendered or expenses incurred hereunder. Fees and expenses invoiced beyond 90 days will not be reimbursable. The final invoice must be submitted within 30 days of completion of the stated scope of services or termination of this Agreement. MCE will process payment for undisputed invoiced amounts within 30 days.

4. MAXIMUM COST TO MCE:

In no event will the cost to MCE for the services to be provided herein exceed the maximum sum of \$2,174,600.

5. TERM OF AGREEMENT:

This Agreement shall commence on **September 23, 2019**, and shall continue, unless terminated earlier in accordance with the terms of this Agreement, until **December 31, 2023** Certificate(s) of Insurance must be current on the day the Agreement commences and if scheduled to lapse prior to termination date, must be automatically updated before final payment may be made to Implementer.

6. INSURANCE AND SAFETY:

All required insurance coverages shall be substantiated with a certificate of insurance and must be signed by the insurer or its representative evidencing such insurance to MCE. The general liability policy shall be endorsed naming Marin Clean Energy and its employees, officers and agents as additional insureds. The certificate(s) of insurance and required endorsement shall be furnished to MCE prior to commencement of work. Each certificate shall provide for thirty (30) days advance written notice to MCE of any cancellation or reduction in coverage. Said policies shall remain in force through the life of this Agreement and shall be payable on a per occurrence basis only, except those required by paragraph 6.4 which may be provided on a claims-made basis consistent with the criteria noted therein.

Nothing herein shall be construed as a limitation on Implementer's obligations under paragraph 17 of this Agreement to indemnify, defend and hold MCE harmless from any and all liabilities arising from the Implementer's negligence,

recklessness or willful misconduct in the performance of this Agreement. MCE agrees to timely notify the Implementer of any negligence claim.

Failure to provide and maintain the insurance required by this Agreement will constitute a material breach of the agreement. In addition to any other available remedies, MCE may suspend payment to the Implementer for any services provided during any time that insurance was not in effect and until such time as the Implementer provides adequate evidence that Implementer has obtained the required coverage.

6.1 GENERAL LIABILITY

The Implementer shall maintain a commercial general liability insurance policy in an amount of no less than one million dollars (\$1,000,000) with a two million dollar (\$2,000,000) aggregate limit. MCE shall be named as an additional insured on the commercial general liability policy and the Certificate of Insurance shall include an additional endorsement page. (see sample form: ISO - CG 20 10 11 85).

6.2 AUTO LIABILITY

Where the services to be provided under this Agreement involve or require the use of any type of vehicle by Implementer in order to perform said services, Implementer shall also provide comprehensive business or commercial automobile liability coverage including non-owned and hired automobile liability in the amount of one million dollars combined single limit (\$1,000,000.00).

6.3 WORKERS' COMPENSATION

The Implementer acknowledges the State of California requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Labor Code. If Implementer has employees, a copy of the certificate evidencing such insurance or a copy of the Certificate of Consent to Self-Insure shall be provided to MCE prior to commencement of work.

6.4 PROFESSIONAL LIABILITY INSURANCE (REQUIRED IF CHECKED □)

Coverages required by this paragraph may be provided on a claims-made basis with a "Retroactive Date" either prior to the date of the Agreement or the beginning of the contract work. If the policy is on a claims-made basis, coverage must extend to a minimum of twelve (12) months beyond completion of contract work. If coverage is cancelled or non-renewed, and not replaced with another claims made policy form with a "retroactive date" prior to the Agreement effective date, the Implementer must purchase "extended reporting" coverage for a minimum of twelve (12) months after completion of contract work. Implementer shall maintain a policy limit of not less than \$1,000,000 per incident. If the deductible or self-insured retention amount exceeds \$100,000, MCE may ask for evidence that Implementer has segregated amounts in a special insurance reserve fund or Implementer's general insurance reserves are adequate to provide the necessary coverage and MCE may conclusively rely thereon.

6.5 PRIVACY AND CYBERSECURITY LIABILITY. Privacy and cybersecurity liability (including costs arising from data destruction, hacking or intentional breaches, crisis management activity related to data breaches, and legal claims for security breach, privacy violations, and notification costs) of at least \$1,000,000 US per occurrence.

Implementer shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Agreement. Implementer shall monitor the safety of the job site(s) during the project to comply with all applicable federal, state, and local laws, and to follow safe work practices.

7. NONDISCRIMINATORY EMPLOYMENT:

Implementer and/or any permitted subcontractor, shall not unlawfully discriminate against any individual based on race, color, religion, nationality, sex, sexual orientation, age or condition of disability. Implementer and/or any permitted subcontractor understands and agrees that Implementer and/or any permitted subcontractor is bound by and will comply with the nondiscrimination mandates of all federal, state and local statutes, regulations and ordinances.

8. SUBCONTRACTING:

The Implementer shall not subcontract nor assign any portion of the work required by this Agreement without prior written approval of MCE except for any subcontract work identified herein. If Implementer hires a subcontractor under this Agreement, Implementer shall require subcontractor to provide and maintain insurance coverage(s) identical to what is required of Implementer under this Agreement and shall require subcontractor to name Implementer as additional insured under this Agreement. It shall be Implementer's responsibility to collect and maintain current evidence of insurance provided by its subcontractors and shall forward to MCE evidence of same. Nothing contained in this Agreement or otherwise stated between the parties shall create any legal or contractual relationship between MCE and any subcontractor, and no subcontract shall relieve Implementer of any of its duties or obligations under this Agreement. Implementer shall be solely responsible for ensuring its subcontractors' compliance with the terms and conditions of this Agreement. Implementer's obligation to pay its subcontractors is an independent obligation from MCE's obligation to make payments to Implementer. As a result, MCE shall have no obligation to pay or to enforce the payment of any moneys to any subcontractor.

ASSIGNMENT:

The rights, responsibilities and duties under this Agreement are personal to the Implementer and may not be transferred or assigned without the express prior written consent of MCE.

10. RETENTION OF RECORDS AND AUDIT PROVISION:

Implementer and any subcontractors authorized by the terms of this Agreement shall keep and maintain on a current basis full and complete documentation and accounting records, employees' time sheets, and correspondence pertaining to this Agreement. Such records shall include, but not be limited to, documents supporting all income and all expenditures. MCE shall have the right, during regular business hours, to review and audit all records relating to this Agreement during the Contract period and for at least five (5) years from the date of the completion or termination of this Agreement. Any review or audit may be conducted on Implementer's premises or, at MCE's option, Implementer shall provide all records within a maximum of fifteen (15) days upon receipt of written notice from MCE. Implementer shall refund any monies erroneously charged. Implementer shall have an opportunity to review and respond to or refute any report or summary of audit findings, and shall promptly refund any overpayments made by MCE based on undisputed audit findings.

11. WORK PRODUCT:

Subscriber acknowledges that, in the course of performing the Services, Implementer may use software and related processes, instructions, methods, and techniques that have been previously developed by Implementer (collectively, the "Implementer Materials," which shall include the Service and all components, modifications, enhancements, revisions, and new versions thereof, but excludes MCE Confidential Information and MCE Data as defined herein). The Implementer Materials, and all intellectual property rights therein and thereto shall remain the sole and exclusive property of Implementer. Except for the limited right to access and use on a hosted basis as expressly granted herein or in other agreements providing for such rights and access, Subscriber shall have no rights to Services. Any Intellectual Property developed by Implementer, including in connection with performing Professional Services, remains exclusively the property of Implementer.

Except as expressly set forth herein, no license is granted by either party to the other with respect to the Confidential Information or Implementer Materials. Nothing in this Agreement shall be deemed or interpreted to grant to either party any ownership or other interest, in the Confidential Information or Implementer Materials, whether by implication, estoppel or otherwise.

Notwithstanding anything to the contrary provided herein, Subscriber understands and agrees that the value of the Service to improve the insight into End Users access and use of Subscribers' services is derived in part from the aggregate analysis of data across Implementer's customers, Subscriber hereby expressly authorizes Implementer to store, use, and process any and all data provided by or on behalf of Subscriber (including by End Users) in connection with use of the Service as provided herein ("Usage Data") for the limited purpose of providing the Services. Implementer may use such data on an aggregated basis solely in connection with the development, support, enhancement, and improvement of Implementer's products and services (including associated algorithm, models, machine learning, and associated technologies), provided that the foregoing is not a license from Subscriber to disclose any Usage Data on a raw or disaggregated basis, or to identify Subscriber (or Subscriber's End Users) as the source of any such data. Implementer will be solely responsible for the use of and hereby represents and warrants that it will comply with all applicable laws, with respect to its collection and use of such anonymized and aggregated data. All enhancements to Implementer's products, services and technology, including arising out of the use of Usage Data, belong solely to Implementer to the extent permitted by applicable law.

12. TERMINATION:

- A. If Implementer fails to provide in any manner the services required under this Agreement or otherwise fails to comply with the terms of this Agreement, upon receiving written notice from MCE, Implementer shall have a grace period of thirty (30) calendar days to cure such services or compliance with the terms of this Agreement. If Implementer fails to cure after the close of the grace period or violates any ordinance, regulation or other law which applies to its performance herein, MCE may terminate this Agreement by giving five (5) business days' written notice to the party involved.
- B. Implementer shall be excused for failure to perform services herein if such services are prevented by acts of God, strikes, labor disputes or other forces over which Implementer has no control.
- C. Either party hereto may terminate this Agreement for any reason by giving ninety (90) calendar days' written notice to the other party. Notice of termination shall be by written notice to the other parties and be sent by registered mail or by email to the email address listed in Section 20 Invoices; Notices.
- D. In the event of termination not the fault of Implementer, Implementer shall be paid for services performed to the date of termination in accordance with the terms of this Agreement so long as proof of required insurance is provided for the periods covered in the Agreement or Amendment(s). Notwithstanding anything contained in this Section 12, in no event shall MCE be liable for lost or anticipated profits or overhead on uncompleted portions of the Services. Implementer shall not enter into any agreement, commitments or subcontracts that would incur significant cancelation or termination costs without prior written approval of MCE, and such written approval shall be a condition precedent to the payment of any cancellation or termination charges by MCE under this Section 12. Also, as a condition precedent to the payment of any cancellation or termination charges by MCE under this Section 12, Implementer shall have delivered to MCE any and all reports, drawings, documents and deliverables prepared for MCE before the effective date of such cancellation or termination.

- E. This Agreement shall be subject to changes, modifications, or termination by order or directive of the California Public Utilities Commission ("CPUC"). The CPUC may from time to time issue an order or directive relating to or affecting any aspect of this Agreement, in which case MCE shall have the right to change, modify or terminate this Agreement in any manner to be consistent with such CPUC order or directive. MCE may also terminate this Agreement if funding for this Agreement is reduced or eliminated by a third-party funding source.
- F. Upon MCE's termination of this Agreement for any reason, Implementer shall, and shall cause each Implementer Party to, bring the Services to an orderly conclusion as directed by MCE. Implementer and each Implementer Party shall vacate the worksite but shall not remove any material, plant or equipment thereon without the approval of MCE. MCE, at its option, may take possession of any portion of the Services paid for by MCE.

13. AMENDMENT:

This Agreement may be amended or modified only by written agreement of all parties.

14. ASSIGNMENT OF PERSONNEL:

The Implementer shall not substitute any personnel for those specifically named in its proposal unless personnel with substantially equal or better qualifications and experience are provided, acceptable to MCE, as is evidenced in writing.

15. GOVERNING LAW AND VENUE:

This Agreement shall be governed by the internal laws of the State of California, with reference to its conflict of laws principles. In the event of any litigation to enforce or interpret any terms of this Agreement, such action shall be brought in a Superior Court of the State of California located in Marin County (or if the federal courts have exclusive jurisdiction over the subject matter of the dispute, in the U.S. District Court for the Northern District of California), and the parties hereby submit to the exclusive jurisdiction of such courts.

16. DISPUTES:

Either Party may give the other Party written notice of any dispute which has not been resolved at a working level. Any dispute that cannot be resolved between Implementer's contract representative and MCE's contract representative by good faith negotiation efforts shall be referred to Legal Counsel of MCE and an officer of Implementer for resolution. Within 20 calendar days after delivery of such notice, such persons shall meet at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary to exchange information and to attempt to resolve the dispute. If MCE and Implementer cannot reach an agreement within a reasonable period of time (but in no event more than 30 calendar days), MCE and Implementer shall have the right to pursue all rights and remedies that may be available at law or in equity. In particular, Implementer shall have right to request arbitration or mediation to resolve the dispute and MCE shall be required to participate in arbitration or mediation in good faith. All negotiations and any mediation agreed to by the Parties are confidential and shall be treated as compromise and settlement negotiations, to which Section 1119 of the California Evidence Code shall apply, and Section 1119 is incorporated herein by reference.

17. REPRESENTATIONS; WARRANTIES; INDEMNIFICATION:

- 17.1 LICENSING. At all times during the performance of the Services, Implementer represents, warrants and covenants that it has and shall, and shall cause each Implementer Party to obtain and maintain, at its sole cost and expense, all required licenses and registrations required for the operation of its business and the performance of the Services. Implementer shall promptly provide copies of such licenses and registrations to MCE at the request of MCE.
- **17.2 PERFORMANCE ASSURANCE; BONDING.** At all times during the performance of the Services, Implementer providing any direct installation services represents, warrants and covenants that it has and shall, and shall cause each Implementer Party, obtain and maintain, at its sole cost and expense, all bonding requirements of the California State License Board, as may be applicable. Regardless of the specific Services provided, Implementer shall also maintain any payment and/or performance assurances as may be requested by MCE during the performance of the Services.
- 17.3 GOOD STANDING. Implementer represents and warrants that (a) it is a Corporation duly organized, validly existing and in good standing under the laws of the State of California and (b) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to engage in the business it presently conducts and contemplates conducting, and is and will be duly licensed or qualified to do business and in good standing under the laws of the State of California and each other jurisdiction wherein the nature of its business transacted by it makes such licensing or qualification necessary and where the failure to be licensed or qualified would have a material adverse effect on its ability to perform its obligations hereunder.
- **SAFETY.** During the term of this Agreement, Implementer continuously represents, warrants and covenants that it shall, and shall cause each Implementer Party to:

- (a) abide by all applicable federal and state Occupational Safety and Health Administration requirements and other applicable federal, state, and local rules, regulations, codes and ordinances to safeguard persons and property from injury or damage;
- (b) abide by all applicable MCE security procedures, rules and regulations and cooperate with MCE security personnel whenever on MCE's property;
- (c) abide by MCE's standard safety program contract requirements as may be provided by MCE to Implementer from time to time;
- (d) provide all necessary training to its employees, and require subcontractors to provide training to their employees, about the safety and health rules and standards required under this Agreement; and
- (e) have in place an effective Injury and Illness Prevention Program that meets the requirements all applicable laws and regulations, including but not limited to Section 6401.7 of the California Labor Code. Additional safety requirements (including MCE's standard safety program contract requirements) are set forth elsewhere in the Agreement, as applicable, and in MCE's safety handbooks as may be provided by MCE to Implementer from time to time.

17.5 BACKGROUND CHECKS.

- (a) Implementer hereby represents, warrants and certifies that any personnel of Implementer or Implementer Party having or requiring access to MCE's assets, premises, customer property ("Covered Personnel") shall have successfully passed background screening on each such individual, prior to receiving access, which screening may include, among other things to the extent applicable to the Services, a screening of the individual's educational background, employment history, valid driver's license, and court record for the seven (7) year period immediately preceding the individual's date of assignment to the project.
- (b) Notwithstanding the foregoing and to the extent permitted by applicable law, in no event shall Implementer permit any Covered Personnel to have one or more convictions during the seven (7) year period immediately preceding the individual's date of assignment to the project, or at any time after the individual's date of, assignment to the project, for any of the following ("Serious Offense"): (i) a "serious felony," similar to those defined in California Penal Code Sections 1192.7(c) and 1192.8(a), or a successor statute, or (ii) any crime involving fraud (such as, but not limited to, crimes covered by California Penal Code Sections 476, 530.5, 550, and 2945, California Corporations Code 25540), embezzlement (such as, but not limited to, crimes covered by California Penal Code Section 186 or the Racketeer Influenced and Corrupt Organizations("RICO") Statute (18 U.S.C. Sections 1961-1968)).
- (c) To the maximum extent permitted by applicable law, Implementer shall maintain documentation related to such background and drug screening for all Covered Personnel and make it available to MCE for audit if required pursuant to the audit provisions of this Agreement.
- (d) To the extent permitted by applicable law, Implementer shall notify MCE if any of its Covered Personnel is charged with or convicted of a Serious Offense during the term of this Agreement. Implementer will also immediately prevent that employee, representative, or agent from performing any Services.
- 17.6 FITNESS FOR DUTY. Implementer shall ensure that all Covered Personnel report to work fit for their job. Covered Personnel may not consume alcohol while on duty and/or be under the influence of drugs or controlled substances that impair their ability to perform their work properly and safely. Implementer shall, and shall cause its subcontractors to, have policies in place that require their employees report to work in a condition that allows them to perform the work safely. For example, employees should not be operating equipment under medication that creates drowsiness.
- **17.7 INDEMNIFICATION**. Implementer agrees to indemnify, defend, and hold MCE, its employees, officers, and agents, harmless from any and all liabilities including, but not limited to, litigation costs and attorney's fees arising from any and all claims and losses to anyone who may be injured or damaged by reason of Implementer's negligence, recklessness or willful misconduct in the performance of this Agreement.

18. NO RECOURSE AGAINST CONSTITUENT MEMBERS OF MCE:

MCE is organized as a Joint Powers Authority in accordance with the Joint Exercise of Powers Act of the State of California (Government Code Section 6500, et seq.) pursuant to the Joint Powers Agreement and is a public entity separate from its constituent members. MCE shall solely be responsible for all debts, obligations and liabilities accruing and arising out of this Agreement. Implementer shall have no rights and shall not make any claims, take any actions or assert any remedies against any of MCE's constituent members in connection with this Agreement.

19. COMPLIANCE WITH APPLICABLE LAWS:

The Implementer shall comply with any and all applicable federal, state and local laws, regulations and resolutions (including, but not limited to all CPUC policies and guidance for energy efficiency programs, the County of Marin Nuclear Free Zone, Living Wage Ordinance, and Resolution #2005-97 of the Marin County Board of Supervisors prohibiting the

off-shoring of professional services involving employee/retiree medical and financial data) affecting services covered by this Agreement.

20. INVOICES; NOTICES:

This Agreement shall be managed and administered on MCE's behalf by the Contract Manager named below. All invoices shall be submitted by email to:

Email Address:	invoices@mcecleanenergy.org
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All other notices shall be given to MCE at the following location:

Contract Manager:	Troy Nordquist
MCE Address:	1125 Tamalpais Avenue
	San Rafael, CA 94901
Email Address:	contracts@mcecleanenergy.org
Telephone No.:	(415) 464-6027

Notices shall be given to Implementer at the following address:

Implementer:	Abhay Gupta
Address:	110 Pioneer Way, Suite G
	Mountain View CA, 94041
Email Address:	abhay@bidgely.com
Telephone No.:	(408) 464-6385

21. ACKNOWLEDGEMENT OF EXHIBITS:

In the event of a conflict between the Terms of this Agreement and the terms in any of the following Exhibits, the terms in this Agreement will govern.

		Check applicable Exhibits	IMPLEMENTER'S INITIALS
EXHIBIT A.	×	Scope of Services	
EXHIBIT B.	×	Fees and Payment	
EXHIBIT C.	×	Software as a Service (SaaS) Agreement	
APPENDIX A.	×	California Public Utilities Commission Implementation Plan Template	

22. DATA COLLECTION AND OWNERSHIP REQUIREMENTS:

22.1. DEFINITION OF "MCE DATA". "MCE Data" shall mean all data or information provided by or on behalf of MCE, including but not limited to, customer Personal Information; energy usage data relating to, of, or concerning, provided by or on behalf of any customers; all data or information input, information systems and technology, software, methods, forms, manual's, and designs, transferred, uploaded, migrated, or otherwise sent by or on behalf of MCE to Implementer as MCE may approve of in advance and in writing (in each instance); account numbers, forecasts, and other similar information disclosed to or otherwise made available to Implementer. MCE Data shall also include all data and materials provided by or made available

to Implementer by MCE's licensors, including but not limited to, any and all survey responses, feedback, and reports subject to any limitations or restrictions set forth in the agreements between MCE and their licensors.

"Confidential Information" under this Agreement shall have the same meaning as defined in the Marin Clean Energy Non-Disclosure Agreement between the parties dated **September 19, 2019.**

- 22.2. DEFINITION OF "PERSONAL INFORMATION". "Personal Information" includes but is not limited to the following: personal and entity names, e-mail addresses, addresses, phone numbers, any other public or privately-issued identification numbers, IP addresses, MAC addresses, and any other digital identifiers associated with entities, geographic locations, users, persons, machines or networks. Implementer shall comply with all applicable laws, rules, and regulations related to the use, collection, storage, and transmission of Personal Information.
- 22.3. MCE DATA SECURITY MEASURES. Prior to Implementer receiving any MCE Data, Implementer shall comply, and at all times thereafter continue to comply, in compliance with MCE's Data security policies set forth in MCE Policy 009 and MCE's Advanced Metering Infrastructure (AMI) Data Security and Privacy Policy ("Security Measures") and pursuant to MCE's Confidentiality provisions in Section 5 of the Marin Clean Energy Non-Disclosure Agreement between the parties dated September 19, 2019. MCE's Security Measures and Confidentiality provisions require Implementer to adhere to reasonable administrative, technical, and physical safeguard protocols to protect the MCE's Data from unauthorized handling, access, destruction, use, modification or disclosure.
- 22.4. IMPLEMENTER DATA SECURITY MEASURES. Additionally, Implementer shall, at its own expense, adopt and continuously implement, maintain and enforce reasonable technical and organizational measures, consistent with the sensitivity of Personal Information and Confidential Information including, but not limited to, measures designed to (1) prevent unauthorized access to, and otherwise physically and electronically protect, the Personal Information and Confidential Information, and (2) protect MCE content and data against unauthorized or unlawful access, disclosure, alteration, loss, or destruction.
- 22.5. RETURN OF MCE DATA. Promptly after this Agreement or a Statement of Work terminates or expires, and for each completed Statement of Work (i) Implementer will securely destroy all MCE Data in its possession with respect to each terminated or expired Statement of Work and certify the secure destruction in writing to MCE, and (ii) each party will return (or if requested by the disclosing party, destroy) all other Confidential Information and property of the other (if any) with respect to each terminated or expired Statement of Work, provided that Implementer's attorney shall be permitted to retain a copy of such records or materials solely for legal purposes.

22.6. OWNERSHIP AND USE RIGHTS.

a) MCE Data. Unless otherwise expressly agreed to by the Parties, MCE shall retain all of its rights, title
and interest in MCE's Data.

22.7 BILLING, ENERGY USE, AND PROGRAM TRACKING DATA.

- a) Implementer shall comply with and timely cooperate with all CPUC directives, activities, and requests regarding the Program and Project evaluation, measurement, and verification ("EM&V"). For the avoidance of doubt, it is the responsibility of Implementer to be aware of all CPUC requirements applicable to the Services of this Agreement.
- b) Implementer shall make available to MCE upon demand, detailed descriptions of the program, data tracking systems, baseline conditions, and participant data, including financial assistance amounts.
- c) Implementer shall make available to MCE any revisions to Implementer's program theory and logic model ("PTLM") and results from its quality assurance procedures, and comply with all MCE EM&V requirements, including reporting of progress and evaluation metrics.

23. WORKFORCE STANDARDS:

At all times during the term of the Agreement, Implementer shall comply with, and shall cause all Implementer Parties to comply with, the workforce qualifications, certifications, standards and requirements set forth in this Section 23 ("Workforce Standards"). The Workforce Standards shall be included in their entirety in Implementer's Final Implementation Plan. Final Implementation Plan shall mean as it is defined in the deliverables for the Services listed in Exhibit A. Prior to commencement of any Services, once per calendar year, and at any other time as may be requested by MCE, Implementer shall provide all documentation necessary to demonstrate to MCE's reasonable satisfaction that Implementer has complied with the Workforce Standards.

- **23.1 HVAC STANDARDS**. For any non-residential project pursuant to this Agreement installing, modifying or maintaining a Heating Ventilation and Air Conditioning ("HVAC") system or component with incentives valued at \$3,000 or more, Implementer shall ensure that each worker or technician involved in the project, including all employees and agents of its subcontractors, meets at least one of the following workforce criteria:
 - a) Completed an accredited HVAC apprenticeship;

- b) Is enrolled in an accredited HVAC apprenticeship;
- c) Completed at least five years of work experience at the journey level as defined by the California Department of Industrial Relations, Title 8, Section 205, of the California Code of Regulations, passed a practical and written HVAC system installation competency test, and received credentialed training specific to the installation of the technology being installed; or
- d) Has a C-20 HVAC contractor license issued by the California Contractor's State Licensing Board.

This standard shall not apply where the incentive is paid to any manufacturer, distributor, or retailer of HVAC equipment, unless the manufacturer, distributor, or retailer installs or contracts for the installation of the equipment.

23.2 ADVANCED LIGHTING CONTROLS STANDARDS. For any non-residential project pursuant to this Agreement involving installation, modification, or maintenance of lighting controls with incentives valued at \$2,000 or more, Implementer shall ensure that all workers or technicians involved in the project, including those of its subcontractors are certified by the California Advanced Lighting Controls Training Program ("CALTP"). This requirement shall not apply where the incentive is paid to a manufacturer, distributor, or retailer of lighting controls unless the manufacturer, distributor, or retailer installs or contracts for installation of the equipment.

24. FINANCIAL STATEMENTS:

Implementer shall deliver financial statements on an annual basis or as may be reasonably requested by MCE from time to time. Such financial statements or documents shall be for the most recently available audited or reviewed period and prepared in accordance with generally-accepted accounting principles. MCE shall keep such information confidential if requested by Implementer, except as provided by law and to provision to the CPUC may be required from time to time under confidentiality procedures, where applicable.

25. QUALITY ASSURANCE PROCEDURES:

Implementer shall comply with the "Quality Assurance Procedures" identified by Implementer in the implementation plan as required in Exhibit A. Additionally, Quality Assurance Procedures must include, but are not limited to: (i) industry standard best practices; and (ii) procedures that ensure Measure functionality, customer satisfaction, and that the Minimum Qualifications are satisfied.

26. COORDINATION WITH OTHER PROGRAM ADMINISTRATORS:

Implementer shall coordinate with other Program Administrators, including investor-owned utilities and local government agencies authorized by the CPUC to implement CPUC-directed energy efficient programs, administering energy efficiency programs in the same geographic area as MCE. These other Program Administrators include: Pacific Gas and Electric Company and Bay Area Regional Energy Network. The CPUC may develop further rules related to coordination between Program Administrators in the same geographic area, and any Implementer is required to comply with such rules.

27. ACCESS TO CUSTOMER SITES:

Implementer shall be responsible for obtaining any and all access rights from customers and other third parties to the extent necessary to perform the Services. Implementer shall also procure any and all access rights from Implementer Parties, customers and other third parties in order for MCE and CPUC employees, representatives, designees and contractors to inspect the Services.

28. MEASUREMENT AND VERIFICATION REQUIREMENTS, INCLUDING GUIDELINES ABOUT NORMALIZED METERED ENERGY CONSUMPTION ("NMEC") DESIGN REQUIREMENTS:

Implementer shall:

- 1. Only enroll customers that qualify for Program services.
- 2. Comply with current policies, procedures, and other required documentation as required by MCE;
- 3. Report Customer Participation Information to MCE.
- Work with MCE's evaluation team to define Program-specific data collection and evaluability requirements, and in the case of NMEC which independent variables shall be normalized.

Throughout the Term, MCE may identify new net lifecycle energy savings estimates, net-to- gross ratios, effective useful lives, or other values that may alter Program Net Lifecycle Energy Savings, as defined in Exhibit A, if applicable. Implementer shall use modified values upon MCE's request, provided MCE modifies Implementer's Program budget and/or overall Program net lifecycle Energy Savings consistent with the requested change. MCE will determine any budget increases or decreases in its sole discretion.

For Programs claiming to-code savings: Implementer shall comply with Applicable Law and work with MCE to address elements in its Program designs and Implementation Plans, such as:

- 1. Identifying where to-code savings potential resides;
- 2. Specifying which equipment types, building types, geographic allocations, and/or customer segments promise cost-effective to-code savings;
- 3. Describing the barriers that prevent code-compliant equipment replacements;

- 4. Explaining why natural turnover is not occurring within certain markets or for certain technologies; and
- 5. Detailing the program interventions that would effectively accelerate equipment turnover.

29. SEVERABILITY:

Should any provision of this Agreement be held invalid or unenforceable by a court of competent jurisdiction, such invalidity will not invalidate the whole of this Agreement, but rather, the remainder of the Agreement which can be given effect without the invalid provision, will continue in full force and effect and will in no way be impaired or invalidated.

30. COMPLETE AGREEMENT:

This Agreement along with any attached Exhibits constitutes the entire Agreement between the parties. No modification or amendment shall be valid unless made in writing and signed by each party. Failure of either party to enforce any provision or provisions of this Agreement will not waive any enforcement of any continuing breach of the same provision or provisions or any breach of any provision or provisions of this Agreement.

31. COUNTERPARTS:

This Agreement may be executed in one or more counterparts each of which shall be deemed an original and all of which shall be deemed one and the same Agreement.

Approved by MCE Counsel:

Date:

EXHIBIT A SCOPE OF SERVICES (required)



EXHIBIT B FEES AND PAYMENT SCHEDULE

For services provided under this Agreement, MCE shall pay Implementer, in accordance with the following payment schedule:



Implementer shall bill MCE quarterly. In no event shall the total cost to MCE for the services provided herein exceed the maximum sum of **\$2,174,600** for the term of the Agreement.

EXHIBIT C
Software as a Service (SaaS) Agreement
Bidgely, Inc. – Marin Clean Energy



APPENDIX A CALIFORNIA PUBLIC UTILITIES COMMISSION IMPLEMENTATION PLAN TEMPLATE





Exhibit C

Software as a Service (SaaS) Agreement Bidgely, Inc. – Marin Clean Energy Version 1.0

Software as a Service (SaaS) Agreement Marin Clean Energy - Bidgely

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ANNEXES:

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Software as a Service (SaaS) Agreement Marin Clean Energy - Bidgely

1 The Agreement

- 1.1 This Exhibit C (hereafter "Saas Agreement") and along with the documents appended to this Saas Agreement (the "Annexes") and the First Agreement by and between MCE and Bidgely, Inc. (the "First Agreement"), contain all generally applicable agreements between the Parties relating to the Services to be delivered to Subscriber by Bidgely, as described in sequentially numbered ordering documents covered by this Saas Agreement that reflects the nature and content of the specific subscription and support services to be delivered by Bidgely to Subscriber. The term during which such Services will be provided, applicable fees, and any applicable additional commercial terms or restrictions will be set forth in a statement of work (each, a "Statement of Work (SOW)", and collectively, the "SOWs"). Bidgely and Subscriber may enter into additional SOWs through mutual written agreement.
- 1.2 The provisions and terms of this Saas Agreement are applicable to all SOWs agreed between Subscriber and Bidgely, unless the Parties agree explicitly otherwise in the SOWs.
- 1.3 The agreements that are recorded in this Saas Agreement shall replace all agreements oral and in writing made between the Parties relating to the Services agreed between the Parties.
- 1.4 In case of any direct conflict of commercial terms, the commercial terms in the SOW(s) will take precedence over the First Agreement and this Exhibit C. In the case of any direct conflict between this Exhibit C and the First Agreement, the First Agreement will take precedence.

2 The Services

- 2.1 This Agreement sets forth the terms and conditions under which Bidgely agrees to provide Subscriber with access to use certain hosted, software-as-a-service applications (the "Saas"), and to provide certain other mutually agreed services reasonably necessary for Subscriber to productive use of the Service, which may include customization/integration, user identification and password change management, data import/export, monitoring, technical support, maintenance, training, backup and recovery, and change management as further set forth in a SOW ("Support Services") at Exhibit A. The Saas, the Support Services and other services provided under this Saas Agreement will be referred to collectively as the "Services." This Saas Agreement shall remain in effect unless terminated as provided for herein. Bidgely will provide the Services in accordance with (i) the documentation, (ii) the technical, functional, operational, and security-related specifications ("Specifications"), (iii) the service levels in Annex A and (iv) the First Agreement. Bidgely will provide professional services as set forth under the First Agreement.
- 2.2 Subject to the terms and conditions of this Saas Agreement and each applicable SOW, including without limitation payment of applicable Fees, Bidgely grants Subscriber a limited, revocable, nonexclusive, nontransferable, royalty free right and license for any Subscriber authorized employee, Recurve or agent to act on its behalf (each, an "Authorized User") to access and use the Service during the applicable

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Subscription Term for its intended purpose. This right and license extends to (1) Subscriber's End Users to the limited extent necessary for Subscriber to receive the benefit of the Service, and (2) employees, contractors, consultants, and outsourced workers engaged to perform services for Subscriber related to the Service.

- 2.3 Subscriber will use the Service substantially in accordance with all applicable documentation provided to Subscriber (including the ability to make those end-user facing features of the Service to Subscriber's end user customers ("**End Users**").
- 2.4 Restrictions and limitations on access/use of Saas. Except as otherwise expressly permitted under this Saas Agreement, Subscriber agrees that it shall not, nor shall it permit Authorized Users to knowingly: (i) use the Saas in excess of or beyond the relevant Subscription Term; (ii) make the Saas available to anyone other than Authorized Users and End Users; (iii) use the Saas to upload or transmit or store infringing, libelous, or otherwise unlawful or tortious material, or data in violation of third-party privacy or other rights; (iv) use the Saas to upload or transmit malicious code; (v) intentionally interfere with or disrupt the integrity or performance of the Saas or data contained therein; (vi) attempt to modify, create derivative works based upon, reverse engineer or decompile, decrypt, disassemble the Saas; (vii) release, publish, and/or otherwise make available to any third party (other than Authorized Users) the results of any performance or functional evaluation of the Saas (including the Premise Software) without the prior written approval of Bidgely; (viii) use the Saas(s) in violation of any relevant laws or regulations applicable to Subscriber. The foregoing restrictions with respect to the Saas apply equally to any component or portion of the Saas. Without limiting the generality of the foregoing, SOWs may include additional mutually agreed limitations applicable to Subscriber's or Authorized Users' access or use of the Saas.
- 2.5 Subscriber Responsibilities. Subscriber shall (a) be responsible for any action or inaction of Authorized Users which is in violation of this Saas Agreement, (b) be solely responsible for the accuracy, quality, integrity and legality of the means by which Subscriber (and Authorized Users) upload and transmit data to the Saas, and (c) use commercially reasonable efforts to prevent unauthorized access to or use of the Services by its employees, or agents, and notify Bidgely promptly of any such unauthorized access or use.
- 2.6 The method and means of providing the Services shall be under the exclusive control, management, and supervision of Bidgely, provided that such methods and means comply with the terms of this Saas Agreement and giving due consideration to the requests of Subscriber. Without limiting the generality of the foregoing, Bidgely will make the Services available as Ordered pursuant to the terms of the Service Level Agreement.
- 2.7 For the avoidance of doubt, the terms of this Saas Agreement supersede those of any click through agreement or other online terms and conditions accepted by Subscriber or an Authorized User.

3 Change Control Procedure

3.1 Subscriber may, upon written notice, request changes to the scope of the Service or Support Services provided under a SOW. If Subscriber requests an increase or

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decrease in the scope, Subscriber shall notify Bidgely, and Bidgely shall notify Subscriber whether or not the change is rejected, or if it were to be accepted would have an associated cost increase or degradation to the quality or reliability Service or applicable SLA. If Subscriber approves, Subscriber shall issue a change order including the applicable changes in scope, fees, SLAs or otherwise, which will (to the extent consistent with the foregoing) be executed by the Bidgely and be deemed to modify the terms of the applicable SOW. For the avoidance of doubt, Bidgely is not obligated to accept any applicable proposed change order.

4 <u>Term and Termination; Renewals</u>

- 4.1 This Agreement shall continue as set forth in the First Agreement. Each SOW shall commence on the Start Date identified in the SOW and continue until the End Date identified in the SOW. A SOW may renew for successive one (1) years or other periods set forth in the SOW upon written agreement of the Parties.
- 4.2 If either party materially breaches any of its duties or obligations hereunder and such breach is not cured, within thirty (30) calendar days after written notice of the breach (or the breaching party is not, during that time, diligently pursuing a cure to the non-breaching party's reasonable satisfaction), the non-breaching party may terminate this Saas Agreement or a SOW for cause as of a date specified in such notice.
- 4.3 The termination of this Saas Agreement and/or SOW(s) shall explicitly not release the Parties from those obligations that by their nature are intended to be maintained, including that which is specified in relation to confidentiality, the use of third parties and liability for taxes, intellectual property, liability and governing law and dispute resolution.

5 Force Majeure Event

- 5.1 An event of force majeure ("Force Majeure Event") is an event or circumstance which is beyond the reasonable control and without the fault or negligence of a Party and which by the exercise of reasonable diligence the Party was unable to prevent, including the following:
 - riot, war, invasion, act of foreign enemies, hostilities (whether war be declared or not) acts of terrorism, civil war, rebellion, revolution, insurrection of military or usurped power, requisition or compulsory acquisition by any governmental or competent authority;
 - earthquakes, flood, fire, storm, hurricane or other physical natural disaster; and
 - nationalization, government sanction, blockage, embargo, strikes at national level or industrial disputes at a national level, or strike or industrial disputes by labor not employed by Bidgely or its suppliers and which affect provision of the Services but excluding any industrial dispute which is specific to the performance of the Services or this Saas Agreement.

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Accordingly, a Party will be excused for the performance of this Saas Agreement to the extent caused by or arising out of a Force Majeure Event, provided that such Party uses all reasonable means to resume performance.

6 Fees; Billing

6.1 The Subscription Fees shall be as set forth in Exhibit B of the First Agreement.

7 Representations and Warranties

- 7.1 Each of Subscriber and Bidgely represent and warrant that:
- 7.1.1 it is a business duly incorporated and is validly existing under the laws of its state of incorporation;
- 7.1.2 it has all requisite corporate power, financial capacity, and authority to execute, deliver, and perform its obligations under this Saas Agreement;
- 7.1.3 the execution, delivery, and performance of this Saas Agreement has been duly authorized by it and this Saas Agreement constitutes the legal, valid, and binding agreement of it and is enforceable against it in accordance with its terms, except as the enforceability thereof may be limited by bankruptcy, insolvency, reorganizations, moratoriums, and similar laws affecting creditors' rights generally and by general equitable principles;
- 7.1.4 it shall comply with all applicable federal, state, local, or other laws and regulations applicable to the performance by it of its obligations under this Saas Agreement and shall obtain all applicable permits and licenses required of it in connection with its obligations under this Saas Agreement; and,
- 7.1.5 there is no outstanding litigation, arbitrated matter or other dispute to which it is a party which, if decided unfavorably to it, would reasonably be expected to have a potential or actual material adverse effect on its ability to fulfill its obligations under this Saas Agreement
- 7.2 Bidgely warrants that the Services will perform in accordance with the documentation and Specifications. Bidgely will correct such non-conforming parts of the Services at no additional charge to Subscriber. If Bidgely fails to successfully correct the non-conforming part within a reasonable period after receiving notice from Subscriber, Subscriber may terminate the provision of the applicable non-conforming Services or this Saas Agreement, and receive a refund of any prepaid, unused Fees for the non-conforming part.
- 7.3 Bidgely further represents and warrants that the Services will not:
- 7.3.1 to the best of its knowledge, infringe or violate any third party patent, copyright, trademark, trade secret, or other proprietary right, or
- 7.3.2 contain viruses or other malicious code that will degrade or infect any products, services, software, or Subscriber's network or systems.
- 7.4 DISCLAIMER. EXCEPT FOR THE FOREGOING EXPRESS WARRANTIES, NEITHER PARTY MAKE ANY WARRANTIES OR CONDITIONS, EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE SERVICES, SUBSCRIBER DATA, OR ANY OTHER MATERIALS OR ASSISTANCE PROVIDED HEREUNDER, ALL

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OF WHICH ARE PROVIDED AS-IS AND WHERE-IS, WITH ALL FAULTS. BIDGELY EXPRESSLY DISCLAIMS WARRANTIES AND CONDITIONS OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, TITLE, AND QUIET ENJOYMENT.

8 Non-Disclosure of Confidential Information, Privacy.

Intentionally omitted.

9 Proprietary Rights.

- 9.1 In addition to the terms set forth in the First Agreement, the following terms apply to all Services and professional services provided by Bidgely.
- 9.2 Subscriber's Confidential information and MCE Data (as defined in the First Agreement) and all intellectual property rights therein and thereto shall remain the sole and exclusive property of Subscriber. Except for the limited right to access and use the Subscriber Confidential information and MCE Data as expressly granted herein, Bidgely shall have no rights to the Subscriber Confidential information and MCE Data. Except with respect to Usage Data, any Intellectual Property developed from the Subscriber Confidential information and MCE Data remains exclusively the property of Subscriber. Except as expressly set forth herein, no license is granted to Bidgely to the Subscriber Confidential information and MCE Data. Nothing in this Saas Agreement shall be deemed or interpreted to grant to Bidgely any ownership or other interest, in Subscriber Confidential information and MCE Data.

10 Indemnification; Limitation of Liability; Insurance

- Bidgely agrees to hold harmless, defend and indemnify Subscriber from and against all losses incurred by Subscriber arising from any third party claim that (a) the Services infringe or violate any patent, copyright, trademark, license or other intellectual property or proprietary right of any third party; (b) Bidgely's breach of any confidentiality, privacy, or data security obligations under the First Agreement and this Saas Agreement including Section 8; (c) and Bidgely's non-compliance with applicable laws. Subscriber shall give Bidgely prompt written notice of any such claim, provided that Subscriber's failure to provide such prompt written notice does not relieve Bidgely of its indemnification obligation except to the extent Bidgely has been prejudiced or exposed to additional costs or damages; (b) permit Bidgely to control and direct the defense or settlement of any such claim; and (c) provide Bidgely all reasonable assistance in connection with the defense or settlement of any such claim, at Bidgely's sole expense. No settlement of a claim that involves a remedy other than payment of money by Bidgely shall be agreed to and entered without the consent of Subscriber, which consent shall not be unreasonably withheld. The remedies set forth in this Section 10 constitute Subscriber's exclusive remedies, and Bidgely's entire liability, with respect to the infringement, violation or misappropriation of any third party intellectual property by the Services.
- 10.2 Subscriber agrees to hold harmless, defend and indemnify Bidgely from and against all losses incurred by Bidgely arising from any third party claim that Bidgelys use of the

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MCE Data as permitted by this Agreement infringes or violates any patent, copyright, trademark, license or other intellectual property or proprietary right of any third party. Bidgely shall (a) give Subscriber prompt written notice of any such claim; (b) permit Subscriber to control and direct the defense or settlement of any such claim; and (c) provide Subscriber all reasonable assistance in connection with the defense or settlement of any such claim. No settlement of a claim that involves a remedy other than payment of money by Subscriber shall be agreed to and entered without the consent of Bidgely, which consent shall not be unreasonably withheld. The remedies set forth in this Section 10 constitute Bidgely's exclusive remedies, and Subscriber's entire liability, with respect to the infringement, violation or misappropriation of any third party intellectual property by Subscriber's use of the Services in violation of this Saas Agreement.

- 10.3 If all or any part of the Services are held to infringe, or become likely to become the subject of an infringement claim preventing further use as set forth in this Saas Agreement, then Bidgely will: (a) obtain for Subscriber the right to continue to use the Services; (b) replace or modify the Services so that they become non-infringing without material alteration; or (c) if (a) or (b) are not commercially reasonable for Bidgely to effect, then Subscriber may terminate this Saas Agreement upon written notice to Bidgely and receive a refund of any pre-paid Fees.
- 10.4 LIMITATION OF LIABILITY. IN NO EVENT WILL SUBSCRIBER OR BIDGELY OR BIDGELY'S LICENSORS BE LIABLE FOR ANY SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL, EXEMPLARY, OR PUNITIVE DAMAGES ARISING OUT OF THE USE OF OR INABILITY TO USE THE SERVICE, SUPPORT OR MAINTENANCE SERVICES OR OTHERWISE ARISING IN CONNECTION WITH THIS AGREEMENT (UNDER ANY THEORY OF LIABILITY, WHETHER IN CONTRACT TORT OR OTHERWISE), AND EVEN IF SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL THE AGGREGATE LIABILITY OF EITHER PARTY OR BIDGELY'S LICENSORS ARISING IN CONNECTION WITH THIS AGREEMENT (UNDER ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE) EXCEED FEES PAID FOR THE RELEVANT SERVICE IN THE PRECEDING TWELVE (12) MONTHS. NOTWITHSTANDING THE FORGOING, THE LIABILITY LIMITATIONS DESCRIBED HEREIN SHALL NOT APPLY TO ANY LIABILITY OR OBLIGATIONS ARISING FROM A PARTY'S BREACH OF CONFIDENTIALITY, PRIVACY OR SECURITY OBLIGATIONS, OR A PARTY'S INDEMNIFICATION OBLIGATIONS INCLUDING ANY AMOUNTS PAYABLE TO A THIRD PARTY IN CONNECTION WITH INDEMNITY OBLIGATIONS DESCRIBED HEREIN, INCLUDING BUT NOT LIMITED TO THOSE DESCRIBED IN SECTION 13.1 HEREIN.

11 General.

11.1 Bidgely represents and warrants that it is an independent contractor with no authority to contract for Subscriber or in any way to bind or to commit Subscriber to any agreement of any kind or to assume any liabilities of any nature in the name of or on behalf of Subscriber. Under no circumstances shall Bidgely, or any of its staff, if any, hold itself out as or be considered an agent employee, joint venture, or partner of Subscriber. In recognition of Bidgely's status as an independent contractor, Subscriber shall carry no Workers' Compensation insurance or any health or accident insurance to cover Bidgely or Bidgely's agents or staff, if any. Subscriber shall not pay any contributions to Social Security, unemployment insurance, withholding taxes, any

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other applicable taxes, nor provide any other contributions or benefits, which might be expected in an employer-employee relationship. Neither Bidgely nor its staff, if any, shall be eligible for, participate in, or accrue any direct or indirect benefit under any other compensation, benefit, or pension plan of Subscriber.

- 11.2 Where agreement, approval, acceptance, consent or similar action by either party hereto is required by any provision of this Saas Agreement, such action shall not be unreasonably delayed or withheld. Each party will reasonably cooperate with the other by, among other things, making available, as reasonably requested by the other, management decisions, information, approvals, and acceptances in order that each party may properly accomplish its obligations and responsibilities hereunder.
- 11.3 The failure of either party at any time to require performance by the other party of any provision of this Saas Agreement shall in no way affect that party's right to enforce such provisions, nor shall the waiver by either party of any breach of any provision of this Saas Agreement be taken or held to be a waiver of any further breach of the same provision.
- 11.4 Any notice given pursuant to this Saas Agreement shall be in writing and shall be given by certified mail, return receipt requested, postage prepaid to the addresses appearing at the end of this Saas Agreement, or as changed through written notice to the other party. Notice given by mail shall be deemed effective on the date it is delivered to the addressee or two days from the proof of date of mailing whatever is earlier.
- 11.5 This Agreement is personal to Subscriber. Neither party may directly or indirectly assign this Saas Agreement or the rights or duties created by this Saas Agreement, without the prior written consent of the other party, except that either party may assign this Saas Agreement as a whole to a successor to all or substantially all of its assets or business related to this Saas Agreement, whether such assignment is effected in connection with a sale of such party's assets or stock or through merger, an insolvency proceeding or otherwise.
- 11.6 This Agreement and its attached exhibits and annexes constitute the entire agreement between the parties and supersede any and all previous representations, understandings, or agreements between Subscriber and Bidgely as to the subject matter hereof. This Agreement may only be amended by an instrument in writing signed by the parties. This Agreement shall be construed without regard to the party that drafted it. Any ambiguity shall not be interpreted against either party and shall, instead, be resolved in accordance with other applicable rules concerning the interpretation of contracts.
- 11.7 All rights and remedies of the parties herein shall be in addition to all other rights and remedies available at law or in equity, including, without limitation, specific performance against Bidgely for the enforcement of this Saas Agreement, and temporary and permanent injunctive relief.
- 11.8 Subscriber cannot implicitly or explicitly derive any exclusive rights from the provisions of this Saas Agreement in relation to the delivery of Services.
- 11.9 If one or more of the provisions of this Saas Agreement and/or SOW is/are deemed to be invalid, declared void and/or unenforceable by a legal ruling or by an arbitration

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ruling, such invalidity, voidness and/or unenforceability shall have no effect on the other provisions of the Agreement and/or SOW. In such a case the Parties shall enter into negotiations aimed at replacing as closely as possible the invalid, void and/or unenforceable provision with a clause that has the same intended effect as the invalid, void and/or unenforceable provision.

12.10 Bidgely further agrees to comply with the terms and conditions set forth in the First Agreement.

Software as a Service (SaaS) Agreement Marin Clean Energy - Bidgely

Annex A

See Service Level Agreements in Exhibit A of the First Agreement.

ALJ/TOD/sbf/dc3

Date of Issuance 10/28/2015

Decision 15-10-028 October 22, 2015

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)

DECISION RE ENERGY EFFICIENCY GOALS FOR 2016 AND BEYOND AND ENERGY EFFICIENCY ROLLING PORTFOLIO MECHANICS

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Appendix 4 Implementation Plan Template

ATTACHMENT: Implementation Plan Guidance

The following information will be uploaded to EEStats, to create a separate webpage for each program and sub-program through an online database platform.

Program Budget and Savings Information

EE Stats implementation plan platform will generate summary views of the following information, based on application tables that the PAs upload to EE Stats. The information will be organized at the measure and sub-program level to enable multiple cross tabulations and outputs for stakeholders review and consideration. Programs with subprograms will be displayed at subprogram level, and will roll up to a program summary page..

- 1. Program and/or Sub-Program Name
- 2. Sub-Program ID number
- 3. Sub-program Budget Table
- 4. Sub-program Gross Impacts Table
- 5. Sub-Program Cost Effectiveness (TRC)
- 6. Sub-Program Cost Effectiveness (PAC)
- 7. Type of Sub-Program Implementer (Core, third party or Partnership)
- 8. Market Sector (including multi-family, low income, etc)
- 9. Sub-program Type (Non-resource, resource acquisition, market transformation)
- 10. Intervention Strategies (Upstream, downstream, midstream, direct install, non-resource, finance, etc)

Implementation Plan Narrative

Provide the following narrative description for each program (and sub-program, if applicable):

- 1. **Program Description:** Describe the program, its rationale and objectives.
- 2. **Program Delivery and Customer Services:** Describe how the energy efficiency program will deliver savings (upstream, downstream, direct install, etc); how it will reach customers and the services that the program will provide. Describe all services and tools that are provided.
- 3. **Program Design and Best Practices:** Describe how the program meets the market barriers in the relevant market sector/end use. Describe why the program approach constitutes "best practices" or reflects "lessons learned". Provide references where available.
 - 4. **EM&V:** Describe any process evaluation or other evaluation efforts that the Program Administrator (PA) will undertake Identify the evaluation needs that the PA must build into the program. These might include:
 - a. data collection strategies embedded in the design of the program or intervention to ensure ease of reporting and near term feedback, and

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- b. internal performance analysis during deployment
- c. performance metrics
- 5. Pilots: Please describe any pilot projects that are part of this program, and explain the innovative characteristics to these pilots. The inclusion of this description should not replace the Ideation Process requirements currently agreed by Commission staff and IOUs. This process is still undergoing refinements and will be further discussed as part of Phase III of this proceeding.¹
- 6. Additional information: Include here additional information as required by Commission decision or ruling (As applicable. Indicate decision or ruling and page numbers)

Supporting Documents

Attach the following documents in Word:

- 1. Program Manuals and Program Rules (See below)
- 2. Program Logic Model: Model should visually explain underlying theory supporting the sub-program intervention approach, referring as needed to the relevant literature (e.g., past evaluations, best practices documents, journal articles, books, etc.).
- 3. Process Flow Chart: Provide a sub-program process flow chart that describes the administrative and procedural components of the sub-program. For example, the flow chart might describe a customer's submittal of an application, the screening of the application, the approval/disapproval of an application, verification of purchase or installation, the processing and payment of incentives, and any quality control activities.
- 4. Incentive Tables, Workpapers, Software Tools: (Can incentives be drawn out of the E3s?) Provide a summary table of measures and incentive levels, along with links to the associated workpapers. Templates are available at http://eestats.cpuc.ca.gov/StandardTables/GuidanceDocument.aspx.

843E2993594D/0/IdeationProjectsProcess_OUT.pdf

¹ The Ideation Process is a set of reporting requirements developed collaboratively to ensure adequate reporting and review of pilots and other similar projects. This process will be further deliberated as part of Phase III. The current set of guidelines can be found here: http://www.cpuc.ca.gov/NR/rdonlyres/2D89F0DD-619B-4FC7-BD17-

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- 5. **Quantitative Program Targets**: Provide estimated quantitative information on number of projects, companies, non-incentive customer services and/or incentives that program aims to deliver and/or complete annually. Provide references where available.
- 6. **Diagram of Program:** Please provide a one page diagram of the program including subprograms. This should visually illustrate the program/sub-program linkages to areas such as:
 - a. Statewide and individual IOU marketing and outreach
 - b. WE&T programs
 - c. Emerging Technologies and Codes and Standards
 - d. Coordinated approaches across IOUs
 - e. Integrated efforts across DSM programs

Program Manuals:

All programs must have manuals to clarify for implementers and customers the eligibility requirements and rules of the program. Note that program rules must comply with CPUC policies and rules. Table templates are available at

http://eestats.cpuc.ca.gov/StandardTables/GuidanceDocument.aspx. At minimum, manuals should include:

- 1. **Eligible Measures or measure eligibility**: Provide requirements for measure eligibility or a list of eligible measures.
- 2. **Customer Eligibility Requirements:** Provide requirements for program participation (e.g., annual energy use, peak kW demand)
- 3. **Contractor Eligibility Requirements:** List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).
- 4. **Participating Contractors, Manufacturers, Retailers, Distributers**: For upstream or midstream incentive and/or buy down programs indicate
- Additional Services: Briefly describe any additional sub-program delivery and measure installation and/or marketing & outreach, training and/or other services provided, if not yet described above
- 6. **Audits:** Indicate whether pre and post audits are required, if there is funding or incentive levels set for audits, eligibility requirements for audit incentives
- 7. **Sub-Program Quality Assurance Provisions:** Please list quality assurance, quality control, including accreditations/certification or other credentials

For Market Transformation Programs Only:

- 1. Quantitative Baseline and Market Transformation Information: Provide quantitative information describing the current energy efficiency program baseline information (and/or other relevant baseline information) for the market segment and major sub-segments as available.
- Market Transformation Strategy: A market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies A description of the proposed intervention(s) and its/their intended results, and specify which barriers the intervention is intended to address.

(End of Appendix 4)