

INTEGRATED RESOURCE PLAN (IRP)

Date: 6/30/2023

IRPs shall consider all reasonable opportunities to meet future energy resource requirements using Demand Side Management techniques, new renewable resources and other programs that will provide retail consumers with electricity at the lowest possible costs, and minimize, to the extent practicable, adverse environmental effects.

To meet your Integrated Resource Planning reporting requirement, complete the following. Unaddressed items will be deemed incomplete and not eligible for approval. Western reserves the right to require customers to provide any supporting back-up data used to support and develop this report.

Customer Contact Information:

(Provide contact information for your organization. Contact person should be able to answer questions concerning the plan)

Customer Name:	Marin Clean Energy
Address:	1125 Tamalpais Avenue, San Rafael, CA 94901
Contact Person:	Johnstone Kipyator
Title:	Power Procurement Manager
Phone Number:	415-464-6044
E-Mail Address:	jkipyator@mcecleanenergy.org
Website:	https://www.mcecleanenergy.org/

Type of Customer:

(Check one as applicable)

<input type="checkbox"/>	Municipal
<input type="checkbox"/>	State
<input type="checkbox"/>	Federal
<input type="checkbox"/>	Irrigation District
<input type="checkbox"/>	Water District
<input type="checkbox"/>	Other (Specify) Joint Powers Authority

Identification of Resource Options (considerations that may be used to develop potential options include cost, market potential, consumer preferences, environmental impacts, demand or energy impacts, implementation issues, revenue impacts, and commercial availability):

Supply-side options:

(Including, but not limited to: purchase power contracts and conventional and renewable generation)

List existing supply-side options:	List future supply-side resource options considered and evaluated:
Solar	Battery Storage
Hydro (Large and renewable)	Wind
Wind	Geothermal
Geothermal	Hybrid resources
Biomass and Biowaste	
Nuclear	

Demand-side options:

List existing demand-side options:	List future demand-side resource options considered and evaluated:
Demand response resources	Demand response resources
Energy Efficiency	Energy efficiency
Peak flex Market programs	Virtual power plant

Resource options chosen:

(Provide a narrative statement that describes the option chosen and clearly demonstrates that decisions were based on a reasonable analysis of the options)

MCE has selected its resource options because it appropriately balances Board directives, MCE’s program goals, cost constraints, reliability, environmental security, compliance and regulatory requirements and customer rate impacts. Specifically, it adheres to MCE Board Policy to achieve an 85% renewable energy content by 2029 on its base product (Light Green), and minimize GHG emissions through use of a combination of renewable energy and other low carbon energy sources.

In developing its resource options, MCE used modeling tools that quantify portfolio targets for renewable energy content, capacity, and portfolio GHG emissions, as well as physical and financial positions to ensure adherence to MCE’s risk management policies and business practices. MCE uses proprietary models to assess annual, monthly, and hourly open positions considering forecasted hourly electric loads and expected deliveries from MCE’s resource portfolio. MCE also projects power supply costs and incorporates existing and planned procurement into an overall financial assessment of revenues, costs, and cash flows to determine future options.

Action Plan:**Specific Action Items to be Implemented Over the Next 5 Years:**

(Lists are not meant to be inclusive, complete and provide other action items as applicable)

Energy Consumption Improvements:

Proposed Items	Begin Date	End Date	Est. kW capacity savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments*
Boiler, Furnace, air conditioning retrofits	2023	2027	5	18,176	
Weatherization, insulation					
storm windows/doors	2023	2027	0	28,602	
Insulation of air ducts, boilers, pipes, etc.	2023	2027	72	82,158	
Clock thermostats and equipment system timers					
Heat pumps	2023	2027	0	467,968	
Energy audits					
Public education programs					
Loan arrangements or rebate program for energy efficient equipment					
Use of infrared heat detection equipment					
Energy efficient lighting	2023	2027	0	1,479,517	
Equipment inspection programs					
Electric motor replacements	2023	2027	105	594,676	
Upgrading of distribution lines/substation equipment					
Power factor improvement					
Other: Population-Level NMEC and SEM Programs	2023	2027	2,879	19,690,753	

*The Annual Energy Efficiency Savings report by MCE will serve as a tool to evaluate the progress made in achieving these savings goals.

Renewable Energy Activities:

Proposed Items	Begin Date	End Date	Est. kW savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments
Solar thermal/photovoltaic projects					
Day lighting technologies					
Active solar installations					
Active solar installations					
Biomass/refuse-derived fuels					
Geothermal projects					
Small-scale hydro projects					
Other:					

Load Management Techniques:

Proposed Items	Begin Date	End Date	Est. kW savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments*
Load management devices/systems	2023	2027	189	945,052	
Demand control techniques and equipment	2023	2027	33	121,323	
Smart meters or automated equipment					
Time-of-use meters					
Other:					

*The Annual Energy Efficiency Savings report by MCE will serve as a tool to evaluate the progress made in achieving these savings goals.

Rate Design Improvements:

Proposed Items	Begin Date	End Date	Est. kW savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments
Cost-of-service pricing	n/a	n/a	n/a	n/a	MCE sets a revenue requirement, and allocates costs to classes in accordance with PG&E's own cost-of-service allocations
Elimination of declining block rates	n/a	n/a	n/a	n/a	Eliminated, except for demand charges which are RA-based and appropriate
Time-of-day rates	3/1/10	n/a	n/a	n/a	MCE has always had time-of-use rates
Seasonal rates	3/1/10	n/a	n/a	n/a	MCE has always had seasonal rates

Interruptible rates	n/a	n/a	n/a	n/a	These programs offer delivery-side discounts and are not generation-based. Therefore, MCE does not offer interruptible rates, but customers remain eligible for these programs through PG&E.
Other: Day-Ahead Hourly Pricing	1/1/24	n/a	TBA	TBA	[REDACTED]

Agricultural Improvements:

Proposed Items	Begin Date	End Date	Est. kW savings per year	Est. kWh savings per year	Milestones to evaluate accomplishments
Irrigation pump utilization/scheduling					
Irrigation pump testing or efficiency improvements					
Electric motor replacement					
Photovoltaic pumping systems					
Ditch lining or piping					
Laser land leveling					
Pumpback systems					
Water conservation programs					
Other:					

Environmental Effects:

(Provide a narrative statement that sets forth the efforts taken to minimize adverse environmental effects of new resource acquisitions)

MCE minimizes localized air pollutants and other GHG emissions with early priority on disadvantaged communities (“DACs”) by relying primarily on renewable generation and would have low GHG and localized air pollution emissions. This minimizes MCE’s reliance on unspecified system power, instead opting for renewable generation, hydro generation, local energy storage, and local demand side reduction programs. MCE’s CPUC IRP attached with this document goes into details on the programs and policies MCE has instituted in its efforts to mitigate environmental effects.

Public Participation:

(Customers must provide ample opportunity for full public participation in preparing and developing an IRP. Provide a brief description of public involvement activities, including how information was gathered from the public, how public concerns were identified, how information was shared with the public, and how it responded to the public comments)

MCE publishes an Operational Integrated Resource Plan (Its format may change moving forward) each year and a CPUC IRP every 2 years. These documents are taken to MCE’s Technical Committee of the Board and MCE’s governing Board respectively for public comments, where all raised concerns are addressed prior to approval. In addition, MCE staff hold regular engagements with the public on various programs and issues identified by the public or member jurisdictions. Feedback from these engagements helps inform the decisions and strategies applied in MCE’s planning processes.

Future Energy Service Projections:

(Provide a load forecast to show expected growth or expansion; or a narrative statement concerning expected future growth)

Calendar Year	Peak Demand (kW)	Total Energy (kWh)
2024	██████████	██████████
2025	██████████	██████████
2026	██████████	██████████
2027	██████████	██████████
2028	██████████	██████████

or Narrative Statement:

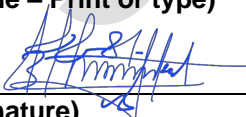
Measurement Strategies:

(Provide a brief description of measurement strategies for options identified in the IRP to determine whether the IRP's objectives are being met. These validation methods must include identification of the baseline from which a customer will measure the benefits of its IRP implementation)

MCE's annual progress report documents the measured results for Energy efficiency goals, while the CEC power source disclosure reports show the implemented results of the resource options earlier planned by MCE.

IRP Approval:

(Indicate that all of the IRP requirements have been met by having the responsible official sign below; or provide documentation that the IRP has been approved by the appropriate governing body)

<p>Johnstone Kipyator _____ (Name – Print or type)</p> <p> _____ (Signature)</p>	<p>Power Procurement Manager _____ (Title)</p> <p>6/30/2023 _____ (Date)</p>
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Other Information:

(Provide/attach additional information if necessary)

MCE CPUC IRP: https://www.mcecleanenergy.org/wp-content/uploads/2022/11/MCE-2022-Integrated-Resource-Plan_11012022.pdf

MCE IRP: https://www.mcecleanenergy.org/wp-content/uploads/2022/11/MCE-Operational-Integrated-Resource-Plan_2023.pdf

5-Year Plan