

1. Introduction and Background

Clean Power Alliance of Southern California, CleanPowerSF, East Bay Community Energy, Marin Clean Energy, Monterey Bay Community Power, Peninsula Clean Energy, Pioneer Community Energy, Redwood Coast Energy Authority, San Jose Clean Energy, Silicon Valley Clean Energy, Sonoma Clean Power, Valley Clean Energy and Western Community Energy (the "Joint CCAs," collectively) seek qualified energy suppliers and developers ("Respondents") to participate in this 2020 Request for Information on Long-Duration Storage (the "RFI"). Thank you very much in advance for participating and taking the time. The response deadline for submissions is 5:00 P.M. Pacific Prevailing Time on July 1, 2020.

The goals of this RFI are as follows:

1. To collect information that may inform a subsequent long-duration storage request for offers, which may be issued as soon as this summer by each of the CCAs individually, or some combination of the Joint CCAs (as described in Section 3.e., below)
2. To collect information that will help the Joint CCAs in their long-term resource planning, including identifying candidate resources for the long-duration storage need identified in the 2019-2020 Reference System Plan

As detailed in Section 3 below, the Joint CCAs are requesting information on feasible long-duration storage projects across the following six categories:

- A. Contact Information
- B. Technology/Project
- C. Location
- D. Project Financing and Development
- E. Contract Terms/Structure
- F. Project Economics

2. Eligibility and Preferences

The purpose of this RFI is to gain a broad understanding of the universe of potential resource types and projects which may fill future long-duration storage needs, and the Joint CCAs are open to a wide variety of proposals. However, with the intent of streamlining the RFI process for potential respondents, the Joint CCAs offer the following eligibility criteria and preferences.

Eligibility:

This RFI is open to all technologies with the potential to provide long-duration energy storage; specifically, eligible resources must meet the following requirements:

- (1) Resources must have the capability to discharge at full capacity for a minimum of 8 hours
- (2) Resources must interconnect directly to the transmission or distribution system (i.e. "in front of the meter") and be able to participate directly in California Independent System Operator (CAISO) electricity markets
- (3) Resources must meet minimum California Public Utilities Commission and CAISO requirements for participation in the Resource Adequacy program

Subject to the foregoing requirements, eligible technologies may include, but are not limited to, battery storage (e.g. flow, lithium-ion), mechanical storage (e.g. pumped hydroelectric, stacked blocks, compressed air), thermal storage (e.g. cryogenic / liquid air, molten salt), and chemical storage (e.g. hydrogen, power-to-gas).

Preferences:

The Joint CCAs have the following preferences:

- (1) Resources that can be directly interconnected to the CAISO system
- (2) Resources that can achieve commercial operation by January 1, 2026
- (3) Technologies that have been successfully demonstrated at a commercial scale and have existing supply chains
- (4) Projects that minimize and/or mitigate non-energy environmental impacts

3. Requested Information

A. Contact Information

- Respondent/Company Name
- Authorized Contact (Name, Position, Phone, E-Mail)
- Project Name

B. Technology/Project

- Describe the energy storage technology/project and its attributes/technical parameters.
 - i. Describe the technology, and please include the following dimensions:
 1. Energy (Charging / Discharging)
 2. Capacity (Charging / Discharging)
 3. Round-trip efficiency
 4. Cycling limitations
 5. Expected degradation over the life of the project (if any)
 - ii. Please describe the source of the charging energy and the possibility for charging with renewable and/or GHG-free energy
 - iii. Please describe environmental considerations regarding the manufacture, installation, operation, maintenance, expected useful life, and decommissioning of the proposed technology.
- Please describe the commercial availability status of the proposed technology
 - i. Has this technology been deployed at a commercial scale? If so, please indicate current technology deployment and associated warranty information (if available)
 - ii. Has this technology been deployed at a non-commercial scale (e.g. pilot project)? If so, please provide examples.
- To the extent appropriate, please feel free to include ideas, information, and recommendations that could result in a clarification of the requirements, cost-saving opportunities, and the identification of potential problem areas with long-duration storage resources.

C. Location

- Please describe the locational constraints of the proposed project / technology.
- Have you identified specific sites that are suitable and feasible? If so, please share the locations / characteristics of the specific sites and describe the rationale for their selection.
- Please describe land use / permitting / environmental considerations regarding the proposed locations.

D. Project Financing and Development

- Financing:
 - i. Please describe financing needs for project development, construction, operation, and decommissioning.
 - ii. Describe your access to and experience with project financing, as well as the finance community's experience and comfort with the proposed technology.
 - iii. Describe other sources of funding / revenue, such as grants, tax credits, preferential loans, or other revenue sources.
- Development:
 - i. Please describe development risks associated with the project, including:

1. Site control
 2. Permitting requirements
 3. Construction requirements
 4. Transmission / interconnection requirements
 5. Environmental impacts
 6. CAISO Full Deliverability Assessment
- ii. Describe your past success and experience with project development, including identifying and securing rights to appropriate sites, receiving necessary permits, and completing interconnection. Please be specific to the proposed technology where possible. Be certain to list all projects interconnected with CAISO.
 - iii. If you are able to achieve commercial operation date for a proposed project prior to January 1, 2026, please provide a high-level schedule of activities to achieve such a COD.

E. Contract Terms/Structure

- Please describe your preferred contract terms, including:
 - i. Term length
 - ii. Pricing structure
 - iii. Products offered (for example: "Tolling + RA", "RA only", etc.)
 - iv. Project ownership
 - v. Project operations and management
 - vi. Scheduling rights
- For benchmarking purposes, please provide indicative (non-binding) pricing for a flat (no escalation), fixed-price (\$/kW-month), 15-year offer, full-toll (with full rights to RA) for up to 250MW of 8-hour storage (up to 2,000 MWh).
- The Joint CCAs are interested in exploring different financial structures, including a share of self-financing from CCAs. Please comment on your preferred financial structure, if applicable.
- The Joint CCAs expect that some projects may have minimum capacities exceeding the demand of individual CCAs. With respect to contracting with one or more of the participants to the Joint CCAs, please indicate buyer structure preference, if any, for the following:
 - i. One power purchase agreement with one CCA
 - ii. Multiple power purchase agreements with multiple CCAs
 - iii. One single entity comprised of multiple CCAs formed as single Joint Powers Authority (JPA);

F. Project Economics

- With respect to long-duration storage, the Joint CCAs have thus far identified the following potential monetary value streams:
 - i. Resource Adequacy (System, Local, and Flex RA)
 - ii. Net LMP revenues (i.e., "energy arbitrage") and hedge value against CAISO load
 - iii. Ancillary Services revenues.
- Please describe how your project provides value under these three value streams.
- Please describe any other monetary value streams that you believe your technology and/or specific location can provide and please identify which party in the transaction is most appropriate to monetize.

4. Deadline and Submission Requirements

The deadline for submissions to the RFI is 5:00 P.M. Pacific Prevailing Time July 1, 2020. Please submit a written response (a word document in PDF form) that addresses each of the questions outlined in Section 3 above. Submissions must be emailed to the following email address: procurement@mcecleanenergy.org. Your submission will then be shared by Marin Clean Energy (MCE) with each of the Joint CCA members listed in introductory paragraph, and may be used to inform public Integrated Resource Plans.

If you have any questions about this RFI, please submit them to procurement@mcecleanenergy.org by 5:00 P.M. Pacific Prevailing Time June 10, 2020. MCE will then work with the other Joint CCA members to provide answers no later than 5:00 P.M. Pacific Prevailing Time June 17, 2020. Such answers will be posted to MCE's website at the following location: <https://www.mcecleanenergy.org/energy-procurement/>

The Joint CCAs are not responsible for and shall not be bound by any representations, statements, or explanations made by any individual acting or purporting to act on the Joint CCAs' behalf, unless it is provided in writing from procurement@mcecleanenergy.org

5. General Terms and Conditions

- A. By submitting a response to this RFI, Respondent acknowledges that the Respondent has read and agrees to be bound by the terms and specifications of this RFI and any addenda subsequently issued prior to the due date for a submittal.
- B. The Joint CCAs reserve the right to cancel, modify, or amend this RFI, in whole or in part, at any time through written addenda. Any addendum shall be made available to each person or organization on MCE's website . Should such addendum require additional information not previously requested, failure to address the requirements of such addendum may result in the response being found non-responsive or not being considered, as determined in the sole discretion of the Joint CCAs.
- C. The Joint CCAs reserve the right to reject any and all submittals and to waive irregularities without explanation.
- D. The Joint CCAs reserve the right to request supplementary or follow-up questions or inquiries to request clarification of information submitted and to request additional information from any one or more of the Respondents.
- E. The Joint CCAs, either collectively or individually, shall not be liable to any Respondent or party in law or equity for any reason whatsoever for any acts or omissions arising out of or in connection with this request for submittals.
- F. The Joint CCAs, either collectively or individually, shall not be liable for any costs incurred by any Respondents in preparing any information for submission in connection with this RFI process or any and all costs resulting from responding to this RFI. Any and all such costs whatsoever shall remain the sole responsibility of the Respondent.
- G. Each individual CCA reserves the right to withdraw from this RFI, in part or in its entirety, at any time.
- H. The RFI does not constitute an offer or promise to buy or create an obligation for the Joint CCAs, either collectively or individually, to enter into or to promise to engage in any transaction, arrangement, competitive bid or solicitation, negotiation, or agreement with any Respondent.
- I. The Joint CCAs have the right to reissue the RFI at a future date.

Public Records

All documents submitted in response to this RFI will become the property of the Joint CCAs upon submittal, and will be subject to the provisions of the California Public Records Act (Government Code Section 6250 et seq.) ("CPRA"). In order to designate information as confidential, a Respondent must clearly stamp and identify the specific portion of the material designated with the word "Confidential." Respondents should not

over-designate material as confidential. Over-designation would include stamping whole agreements, entire pages or series of pages as Confidential that clearly contain information that is not confidential.

The Joint CCAs, either collectively or individually, shall not, in any way, be liable or responsible for the disclosure of any such record or any parts thereof, if disclosure is required or permitted under the CPRA or otherwise by law. In the event the Joint CCAs, either collectively or individually, receive a CPRA request for any of the aforementioned documents, information, books, records, and/or contents of a proposal marked "Confidential", "Trade Secrets", or "Proprietary", Respondent agrees to defend and indemnify the Joint CCAs from all costs and expenses, including reasonable attorneys' fees, incurred in connection with any action, proceedings, or liability arising in connection with the CPRA request.