SPECIAL MEETING of the Energy Planning & Resources Committee
of the Clean Power Alliance of Southern California
Thursday, December 16, 2021
1:00 p.m.

SPECIAL NOTICE: Pursuant to the Proclamation of the State of Emergency by Governor Newsom on March 4, 2020, AB 361, and enacting Resolutions, and as a response to mitigating the spread of COVID19, the Energy Planning & Resources Committee will conduct this meeting remotely.

To Listen to the Meeting:
https://us06web.zoom.us/j/82008566293
or
Dial: (720) 707-2699 Meeting ID: 820 0856 6293

PUBLIC COMMENT: Members of the public may submit their comments by one of the following options:

• Email Public Comment: Members of the public are encouraged to submit written comments on any agenda item to clerk@cleanpoweralliance.org up to four hours before the meeting. Written public comments will be announced at the meeting and become part of the meeting record. Public comments received in writing will not be read aloud at the meeting.

• Provide Public Comment During the Meeting: Please notify staff via email to clerk@cleanpoweralliance.org at the beginning of the meeting but no later than immediately before the agenda item is called.
  o You will be asked for your name and phone number (or other identifying information) and agenda item similar to filling out a speaker card so that you can be called on when it is your turn to speak.
  o You will be called upon during the comment section for the agenda item on which you wish to speak on. When it is your turn to speak, a staff member will unmute your phone or computer audio.
  o You will be able to speak to the Committee for the allotted amount of time. Please be advised that all public comments must otherwise comply with our Public Comment Policy.
  o Once you have spoken, or the allotted time has run out, you will be muted during the meeting.

If preferred, you may also submit written comments during the meeting via email to: clerk@cleanpoweralliance.org. The written comments will be shared with the Board of Directors.

*While downloading the Zoom application may provide a better meeting experience, Zoom does not need to be installed on your computer to participate. After clicking the webinar link above, click “start from your browser.”
Meetings are accessible to people with disabilities. Individuals who need special assistance or a disability-related modification or accommodation to participate in this meeting, or who have a disability and wish to request an alternative format for the meeting materials, should contact the Clerk of the Board at least two (2) working days before the meeting at clerk@cleanpoweralliance.org or (323) 640-7664. Notification in advance of the meeting will enable us to make reasonable arrangements to ensure accessibility to this meeting and the materials related to it.

PUBLIC COMMENT POLICY: The General Public Comment item is reserved for persons wishing to address the Board on any Clean Power Alliance-related matters not on today’s agenda. Public comments on matters on today’s Consent Agenda and Regular Agenda shall be heard at the time the matter is called. Comments on items on the Consent Agenda are consolidated into one public comment period. Members of the public who wish to address the Board are requested to contact the Board Clerk, as specified above, at the beginning of the meeting but no later than immediately prior to the time an agenda item is called. Each speaker is limited to two (2) minutes (in whole minute increments) per agenda item with a cumulative total of five 5 minutes to be allocated between the General Public Comment, the entire Consent Agenda, or individual items in the Regular Agenda. Please refer to Policy No. 8 – Public Comment for additional information.

CALL TO ORDER & ROLL CALL

GENERAL PUBLIC COMMENT

CONSENT AGENDA

1. Approve Minutes from October 27, 2021 Energy Committee Meeting
2. Receive and File November 2021 Risk Management Team Report

REGULAR AGENDA

3. Mid-Term Reliability RFO Longlist
4. Power Share/Community Solar RFO Schedule

COMMITTEE MEMBER COMMENTS

ADJOURN – NEXT MEETING JANUARY 26, 2022

Public Records: Public records that relate to any item on the open session agenda for a Committee Meeting are available for public inspection. Those records that are distributed less than 72 hours prior to the meeting are available for public inspection at the same time they are distributed to all, or a majority of, the members of the Committee. Those documents are available for inspection online at www.cleanpoweralliance.org/agendas.
REGULAR MEETING of the Energy Planning & Resources Committee
of the Clean Power Alliance of Southern California
Wednesday, October 27, 2021, 12:15 p.m.

Pursuant to the Proclamation of the State of Emergency by Governor Newsom on March 4, 2020, AB 361, and enacting Resolutions, and as a response to mitigating the spread of COVID19, the Energy Planning & Resources Committee will conduct this meeting remotely.

CALL TO ORDER & ROLL CALL
Chair Parkhurst called the meeting to order at 12:16 p.m. and Interim Clerk of the Board, Raynette Tom, conducted roll call.

ROLL CALL

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Alhambra</td>
<td>Jeffrey Maloney</td>
<td>Committee Member</td>
<td>Remote</td>
</tr>
<tr>
<td>Carson</td>
<td>Reata Kulcsar</td>
<td>Committee Member</td>
<td>Remote</td>
</tr>
<tr>
<td>Culver City</td>
<td>Daniel Lee</td>
<td>Committee Member</td>
<td>Remote</td>
</tr>
<tr>
<td>Sierra Madre</td>
<td>Robert Parkhurst</td>
<td>Chair</td>
<td>Remote</td>
</tr>
<tr>
<td>Thousand Oaks</td>
<td>Helen Cox</td>
<td>Committee Member</td>
<td>Absent</td>
</tr>
<tr>
<td>Ventura County</td>
<td>Carmen Ramirez</td>
<td>Committee Member</td>
<td>Remote</td>
</tr>
</tbody>
</table>

All votes are unanimous, unless otherwise stated.

GENERAL PUBLIC COMMENT
There was no public comment.

CONSENT AGENDA
1. Approve Minutes from August 25, 2021, Energy Committee Meeting
2. Receive and File August and September 2021 Risk Management Team Reports

Motion: Committee Member Kulcsar, Carson
Second: Committee Member Ramirez, Oxnard
Vote: The consent agenda was approved by a roll call vote.

Chair Parkhurst welcomed director Daniel Lee as the newest member of the Energy Committee.

REGULAR AGENDA
3. Power Share RFO Update

Matt Langer, Chief Operating Officer, briefly summarized the Power Share Program, which will provide eligible customers with 100% renewable energy and a 20% bill discount. Mr. Langer provided a description of the Community Solar program (CS-GT) project and customer eligibility for the program. At its August meeting, the Energy Committee supported several changes to the Community
Solar program, including: (1) geographic eligibility limited to only DACs in CPA service territory rather than within five miles of eligible CPA customers; (2) interconnection Fast Track eligibility; (3) size eligibility - minimum preferred of 500kW, single projects under 500kW allowed to bid with potentially longer contracting process depending on location and CAISO regulations; (4) RFO period open for six months instead of four. Mr. Langer reviewed the status of the 2020 Power Share RFO, noting that a DAC-GT project contract was executed in September; however, the two CS-GT projects withdrew after facing site issues and inability to adhere to the required timelines for contract execution. Staff would like to revisit geographic eligibility requirements and recommend maintaining a broad project pool given that CPA has yet to execute a CS-GT contract. Mr Langer described new condition, including CPA having received an additional allocation of .24MW of capacity from other Southern California CCAs, meaning more opportunity for more projects. In addition, SCE asked the CPUC to suspend its Community Solar program, potentially increasing the number of projects that can participate in CPA’s RFO that may no longer be able to contract with SCE. Mr. Langer noted that based on the Energy Committee’s feedback, staff will file an Advice Letter with the CPUC seeking approval of its RFO materials and will subsequently launch the Power Share RFO in December 2021.

In response to Committee Members Ramirez, Kulcsar, and Lee’s questions and comments, Mr. Langer explained that the two projects which fell through faced engineering challenges at their respective sites and were not far along in the interconnection process as needed to meet deadlines. Mr. Langer also explained that SCE, along with San Diego Gas & Electric, had not received enough bids and therefore requested to suspend the program. Mr. Langer clarified that the CPUC-imposed six-month timeline begins when a project developer is notified that they have been shortlisted, which is reasonable given that projects are small and should not require complex negotiations.

Chair Parkhurst commented that CPA has an opportunity to demonstrate its success with the Community Solar project because of its focus on marketing and community outreach; keeping a broad geographic eligibility is a benefit to CPA. Committee Member Kulcsar asked about project location evaluation. Natasha Keefer, Vice President of Power Supply, noted that there is a project location evaluation criteria, which can make a distinction between projects in CPA service territory and outside of it and rank higher those within CPA service territory. Committee Member Lee recommended two community land trust organizations that could participate as community sponsors and suggested collaboration with Grid Alternatives as they have been a significant resource for providing green energy to low-income homes in Culver City. Customer Programs Director Jack Clark indicated that that CPA has been in contact with the organization, but they recently had to scale back operations due to funding challenges. At the request of Chair Parkhurst, Ms. Keefer provided a brief summary of outreach for the RFO, including a pairing resource developed by the Customer Programs team, and distribution of marketing materials to member agencies. Staff further clarified that the RFO will not have much impact on the Integrated Resource Plan that CPA submits to the CPUC annually.

The Energy Committee reached consensus on staff’s recommendations for the RFO.
COMMITTEE MEMBER COMMENTS
None.

ADJOURN
Chair Parkhurst adjourned the meeting at 12:58 p.m.
October 2021 RMT REPORT

Key Actions
- Discussed September 2021 market performance
- Reviewed energy positions and approved 2021-2023 hedges
- Reviewed positions for RPS, carbon free, and Resource Adequacy

Policy Compliance
No policy deviations were reported for October.

ATTACHMENT
None.
Staff Report – Agenda Item 3

To:            Energy Planning & Resources Committee
From:         Natasha Keefer, Vice President, Power Supply
Approved by:  Ted Bardacke, Executive Director
Subject:      Power Share RFO Update
Date:          December 16, 2021

Staff will provide a presentation on the item.

ATTACHMENT
  1) 2021 Midterm Reliability RFO Longlist Presentation
On June 24, 2021, the CPUC issued its Decision Requiring Procurement to Address Mid-Term Reliability (2023-2026)*, which we will refer to as “the Decision.”

The Decision ordered CPA to procure a total of 679 MW of new reliable capacity between 2023-2026, of which a portion must be “Long-Lead Time Resources.”

CPA launched its 2021 Midterm Reliability RFO on September 29 with bids due on November 10.

CPA received a robust response to the Renewable Energy plus Storage and Standalone Storage product categories and a limited response to the Baseload/Firm product category.

CPA received 14 offers from local projects, all for standalone storage.

Once valuation results are complete, the RFO Review Team will meet mid-January (schedule TBD); the Energy Committee will consider a recommended project shortlist on January 26, 2022.

* D.21-06-035 under Rulemaking 20-05-003
Agenda

- Background
- Offer Overview
- Next Steps
Background
As briefed to the Energy Committee in July, the Decision orders load serving entities, including CPA, to procure 11,500 MW of new capacity statewide to come online between 2023-2026.

The capacity is intended to replace the capacity retiring from the Diablo Canyon Power Plant as well as several once-through-cooling (OTC) thermal power plants, including two in CPA territory.

While some of CPA’s previously executed contracts for new build resources will qualify towards the mandate, CPA will still need to procure additional types of resources to fully comply, including conventional renewables and “Long-Lead Time (LLT) Resources” as defined as:

- **Long-duration storage**: able to deliver at a maximum capacity for at least eight hours from a single resource (a conventional 4-hour battery potentially could count toward compliance at a 50% proportion)

- **Firm, zero-emitting generation resources**: generation capacity that has no on-site emissions or is eligible under the requirements of the RPS program and has at least an 80% capacity factor.
Assuming conservative project failures rates and based on the CPUC’s final accounting methodology, CPA must procure additional reliable and clean capacity resources in the 2023-2025 timeframe:

<table>
<thead>
<tr>
<th>CPA Compliance Position (-Short/+Long)</th>
<th>Aug. 2023</th>
<th>June 2024</th>
<th>June 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPA Requirement (Cumulative)</td>
<td>118</td>
<td>472</td>
<td>561</td>
</tr>
<tr>
<td>Contracted RA MW (Cumulative)</td>
<td>118</td>
<td>472</td>
<td>515</td>
</tr>
</tbody>
</table>

In addition to the table above, CPA must also procure 118 MW of 2026 LLT Resources, including 59 MW of long-duration storage (8-hour battery equivalent) and 59 MW of new baseload renewables.
Availability of Baseload Resources

“Firm, zero-emitting generation resources” generally refer to biomass and geothermal resources, which are limited by technology cost and resource availability.

**Biomass**
- Expensive technology compared with solar + storage
- Relies on consistent sourcing of feedstock
- May have negative air quality or other pollutant impacts (including carbon)

**Geothermal**
- Expensive technology compared with solar + storage
- Can only be developed where geothermal resource is available
- Depending on technology, may not be carbon free
Availability of Baseload Resources (cont.)

- Geothermal capacity is significantly limited by geography (see map)
- Less than 200MW of in-state and less than 750 MW of out-of-state new geothermal are currently in the CAISO interconnection queue
- No new biomass resources are in the CAISO interconnection queue

Map showing the relative favorability of occurrence for geothermal resources in CA. Warmer colors equate with higher favorability. Identified geothermal systems are represented by black dots (USGS, 2008)
Availability of Long Duration Storage

- CPUC designed the procurement mandate to be resource-neutral in order to encourage the development of diverse storage technologies (e.g. pumped storage).

- Based on its RFO results, CPA will likely meet this obligation with lithium-ion batteries.
2021 Midterm Reliability RFO

Eligible Project Types

- **Renewable Generation Plus Storage Contracts**: Renewable generation paired with storage projects (40 MWh – 800 MWh in storage capacity). The storage duration must be at least 4 hours.

- **Standalone Storage Contracts**: Standalone storage projects with a storage capacity of 40 MWh – 800 MWh. The storage duration must be at least 4 hours.

- **Baseload/Firm Renewable Energy Contracts**: generation capacity that has no on-site emissions or is eligible under the requirements of the RPS program and has at least an 80% capacity factor. Projects in this category should have a generation size of 5 MW – 100MW. No storage qualifies (per CPUC requirements).

Projects must come online by June 1, 2026
Offer Overview
# Offer Overview

<table>
<thead>
<tr>
<th>Summary Stats</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Number of offers submitted</td>
<td>92</td>
</tr>
<tr>
<td>Number of conforming offers</td>
<td>88</td>
</tr>
<tr>
<td>Number of unique facilities offered</td>
<td>78</td>
</tr>
<tr>
<td>Number of sellers submitting offers</td>
<td>39</td>
</tr>
<tr>
<td>Counties spanned by submissions</td>
<td>23</td>
</tr>
<tr>
<td>States represented by offers</td>
<td>AZ, CA, ID, NM, NV, UT</td>
</tr>
<tr>
<td>Number of new build offers</td>
<td>85</td>
</tr>
<tr>
<td>Number of existing facility offers</td>
<td>7</td>
</tr>
<tr>
<td>Number of RPS baseload offers</td>
<td>7</td>
</tr>
<tr>
<td>Number of offers from local storage only projects</td>
<td>14</td>
</tr>
<tr>
<td>Number of offers from local RPS projects</td>
<td>0</td>
</tr>
<tr>
<td>Long-duration storage offers</td>
<td>9</td>
</tr>
<tr>
<td>Earliest online date</td>
<td>6/30/2022</td>
</tr>
<tr>
<td>Latest online date</td>
<td>6/1/2026</td>
</tr>
</tbody>
</table>
Offers by Product and Technology Type

(Conforming Only)

Percentage of Offers by Product Type:
- RPS Generation + Storage: 61%
- Standalone Storage: 31%
- Baseload/Firm Renewable Energy: 8%

Percentage of Offers by Storage Type:
- Lithium ion batteries: 98.8%
- Compressed air energy storage: 1.2%

Percentage of Offers by Generation Type:
- Solar Photovoltaic: 73.5%
- Wind: 20.6%
- Geothermal: 5.9%
Offers by Location and County

Number of Offers by Region

- Other: 2
- Central/North Coast: 5
- Sierra South: 5
- AZ/NV: 12
- Central Valley: 12
- Inland Empire: 15
- Transverse Range: 18
- South Coast: 19

Number of Offers per County

- Kern: 12
- Los Angeles: 12
- Riverside: 6
- San Bernardino: 6
- San Diego: 4
- Imperial: 3
- Orange: 3
- San Diego County, NV: 3
- Inyo: 2
- Maricopa, AZ: 2
- Sutter: 2
- Ventura: 2
- Beaver, UT: 1
- Churchill County, NV: 1
- Colusa: 1
- La Paz, AZ: 1
- Lincoln, NM: 1

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Offers by Commercial Online Date

Project Online Dates

2022 Q1 2022 Q2 2022 Q3 2022 Q4 2023 Q1 2023 Q2 2023 Q3 2023 Q4 2024 Q1 2024 Q2 2024 Q3 2024 Q4 2025 Q1 2025 Q2 2025 Q3 2025 Q4 2026 Q1 2026 Q2

<table>
<thead>
<tr>
<th>Year</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2023</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>2024</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>2025</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2026</td>
<td>5</td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The RFO limited energy storage capacities to between 40 – 800 MWh, or 10 – 200 MW for a four-hour battery. RPS projects paired with storage must be sized to ensure the battery can fully charge every day of the year. Baseload/Firm products must have a capacity between 5 – 100 MW.
Pricing Trends

Scatterplot of Renewable vs Storage Prices

- RPS Generation + Storage
- Standalone Storage
- Baseload/Firm Renewable Energy
- 2020 CE RFO Contracted
Key Considerations

- Opportunities to procure baseload projects (e.g. geothermal) is limited; CPA may need to run an additional RFO(s) to secure compliance
  - Baseload opportunities are largely out of state
  - Pricing for baseload projects is higher than previous RFOs

- Due to supply chain challenges and increased cost of inputs (labor, raw materials), PPA prices are higher in the 2021 RFO compared to previous years for solar, with storage prices remaining relatively the same
  - Elevated pricing may or may not persist in future years; CPA should focus on ensuring compliance while continuing its ratable procurement approach (i.e. incremental amounts per year to meet procurement target)

- Opportunities to procure early online date projects (i.e. 2023 or sooner) is very limited
Next Steps
# RFO Schedule

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 29, 2021</td>
<td>RFO Opens</td>
</tr>
<tr>
<td>November 10, 2021</td>
<td>Deadline to submit RFO Proposals at 5:00pm PT</td>
</tr>
<tr>
<td><strong>Mid-January 2022</strong></td>
<td>RFO Review Team reviews offers (schedule TBD)</td>
</tr>
<tr>
<td><strong>January 26, 2022</strong></td>
<td>Energy Committee shortlist consideration</td>
</tr>
<tr>
<td>January/February 2022</td>
<td>Bidders notified of shortlist status</td>
</tr>
<tr>
<td>January/June 2022</td>
<td>Power Purchase Agreement (PPA) and Energy Storage Agreement (ESA)</td>
</tr>
<tr>
<td></td>
<td>negotiations and awards</td>
</tr>
<tr>
<td>May-July 2022</td>
<td>Board Consideration of PPAs</td>
</tr>
</tbody>
</table>
The 2021 DAC Green Tariff and Community Solar Green Tariff Request for Offers (RFO) was launched on December 8, 2021, with bids due on June 1, 2022. The RFO schedule is listed below:

<table>
<thead>
<tr>
<th>Date</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 8, 2021</td>
<td>RFO issuance and Q&amp;A open</td>
</tr>
<tr>
<td>December 15, 2021</td>
<td>Bidder Webinar to discuss RFO process at 11:00 AM PST</td>
</tr>
<tr>
<td>December 22, 2021</td>
<td>Deadline to submit Q&amp;A questions. Submit questions to: <a href="mailto:DACProgramsRFO@cleanpoweralliance.org">DACProgramsRFO@cleanpoweralliance.org</a> by 11:59 PM PST</td>
</tr>
<tr>
<td>January 5, 2022</td>
<td>Q&amp;A responses posted to the CPA RFO website</td>
</tr>
<tr>
<td>June 1, 2022</td>
<td><strong>Deadline to submit RFO Proposals to <a href="mailto:DACProgramsRFO@cleanpoweralliance.org">DACProgramsRFO@cleanpoweralliance.org</a> by 11:59 PM PST</strong></td>
</tr>
<tr>
<td>July 1, 2022</td>
<td>Bidders notified of shortlist status</td>
</tr>
<tr>
<td>July - August 2022</td>
<td>Power Purchase Agreement (“PPA”) negotiations and awards</td>
</tr>
<tr>
<td>August - September 2022</td>
<td>Submit executed PPA(s) to CPUC for approval</td>
</tr>
</tbody>
</table>

RFO materials can be found on the CPA website at https://cleanpoweralliance.org/2021-dac-gt-and-cs-gt-power-share-request-for-offers/.

**ATTACHMENT**

None.