Energy Planning & Resources Committee
of the Clean Power Alliance of Southern California
Regular Meeting
Wednesday, August 23, 2023
12:15 p.m.

Visit CPA’s YouTube Channel to watch a Live Stream of the Meeting
*There may be a streaming delay of up to 90 seconds. This is a view-only live stream.

CPA Office
801 S. Grand Ave., Suite 400
Los Angeles, CA 90017

Members of the public may also participate in this meeting remotely at the following locations:

<table>
<thead>
<tr>
<th>Manhattan Beach City Hall</th>
<th>Alhambra City Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Manager Conference Room</td>
<td>Conference Room A</td>
</tr>
<tr>
<td>1400 Highland Avenue</td>
<td>111 S. First St.</td>
</tr>
<tr>
<td>Manhattan Beach, CA 90266</td>
<td>Alhambra, CA 91801</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carson City Hall</th>
<th>Sierra Madre City Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Conference Room</td>
<td>Council Chambers</td>
</tr>
<tr>
<td>701 East Carson Street</td>
<td>232 W. Sierra Madre Blvd.</td>
</tr>
<tr>
<td>Carson, CA 90745</td>
<td>Sierra Madre, CA 91024</td>
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<table>
<thead>
<tr>
<th>West Hollywood City Hall</th>
<th>City of Oxnard Service Center 1</th>
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</thead>
<tbody>
<tr>
<td>3rd Floor Conference Room</td>
<td>East Conference Room</td>
</tr>
<tr>
<td>8300 Santa Monica Blvd.</td>
<td>214 South C Street</td>
</tr>
<tr>
<td>West Hollywood, CA 90069</td>
<td>Oxnard, CA 93030</td>
</tr>
</tbody>
</table>

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**: The General Public Comment item is reserved for persons wishing to address the Committee 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 Committee at CPA’s Office are requested to complete a comment card and provide it to staff. If you are attending from a remote location, please identify yourself to a CPA representative when your 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.

NAVIGATING OUR AGENDA PACKETS: The meeting agenda packets are bookmarked PDFs, which display a list of agenda items to the left of the page and allow you to click to view specific items within the packet. If viewing in your browser, click the "document outline" button in the upper left corner of the screen. If the PDF is downloaded, the bookmark panel (ribbon icon) appears on the left side of the screen.

ACCESSIBILITY: 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 (213) 713-5995. Notification in advance of the meeting, while not required, will enable us to make reasonable arrangements to ensure accessibility to this meeting and the materials related to it.

CALL TO ORDER & ROLL CALL

GENERAL PUBLIC COMMENT

CONSENT AGENDA

1. Approve Minutes from July 26, 2023, Energy Committee Meeting
2. Receive and File July 2023 Risk Management Team Report

REGULAR AGENDA

3. 2023 Clean Energy and Reliability RFO Longlist Overview
4. Power Ready Request for Offers (RFO) Update

COMMITTEE MEMBER COMMENTS

ADJOURN – NEXT MEETING SEPTEMBER 27, 2023

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. Public records are available for inspection at CPA’s Office at 801 S. Grand Ave., Suite 400, Los Angeles, CA 90017, or online at www.cleanpoweralliance.org/agendas.
Staff Report – Agenda Item 1

To: Energy Planning & Resources Committee

Subject: Approve Minutes from July 26, 2023 Energy Committee Meeting

Date: August 23, 2023

RECOMMENDATION

Approve.

ATTACHMENT

1. Minutes
MINUTES
Energy Planning & Resources Committee
of the Clean Power Alliance of Southern California
Regular Meeting
Wednesday, July 26, 2023, 12:15 p.m.

Meeting videos are available on CPA's YouTube Channel,
http://www.youtube.com/@CPApublicmeetings

Committee Members participated in this meeting from the following locations:

<table>
<thead>
<tr>
<th>Location</th>
<th>Address Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manhattan Beach City Hall</td>
<td>1400 Highland Avenue, Manhattan Beach, CA 90266</td>
</tr>
<tr>
<td>CPA Office</td>
<td>801 S. Grand Ave., Suite 400, Los Angeles, CA 90017</td>
</tr>
<tr>
<td>Alhambra City Hall</td>
<td>111 S. First Street, Alhambra, CA 91802</td>
</tr>
<tr>
<td>Carson City Hall</td>
<td>701 East Carson Street, Carson, CA 90745</td>
</tr>
<tr>
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</tr>
<tr>
<td>City of Oxnard Service Center 1</td>
<td>214 South C Street, Oxnard, CA 93030</td>
</tr>
</tbody>
</table>

CALL TO ORDER & ROLL CALL
Chair Parkhurst called the meeting to order at 12:15 p.m. and Gabriela Monzon, Board Clerk, conducted roll call.

<table>
<thead>
<tr>
<th>Location</th>
<th>Member Name</th>
<th>Role</th>
<th>Presence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alhambra</td>
<td>Jeff 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>Manhattan Beach</td>
<td>David Lesser</td>
<td>Committee Member</td>
<td>Remote</td>
</tr>
<tr>
<td>Oxnard</td>
<td>Kathleen Mallory</td>
<td>Committee Member</td>
<td>Remote</td>
</tr>
<tr>
<td>Sierra Madre</td>
<td>Robert Parkhurst</td>
<td>Committee Chair</td>
<td>Remote</td>
</tr>
<tr>
<td>South Pasadena</td>
<td>Diana Mahmud</td>
<td>Committee Member</td>
<td>Remote</td>
</tr>
<tr>
<td>Thousand Oaks</td>
<td>Helen Cox</td>
<td>Committee Member</td>
<td>Absent</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 June 28, 2023, Energy Committee Meeting
2. Receive and File June 2023 Risk Management Team Report

Motion: Committee Member Lesser, Manhattan Beach
Second: Committee Member Byers, West Hollywood
Vote: The consent agenda was approved by a roll call vote.

REGULAR AGENDA
3. Oral Update from Vice President, Power Supply
Lindsay Saxby, Vice President, Power Supply, stated that CPA successfully fulfilled its Resource Adequacy (RA) requirements for September and is increasingly focused on meeting the 2024 year-ahead RA requirements due at the end of October in the face of continued challenging market conditions. CPA received a robust response for each of its product categories in the Clean Energy and Reliability Request for Offers (RFO). Due to recent heat events, the California Independent System Operator (CAISO) has been exporting energy to support western states. Staff is monitoring CAISO emergency protocol executions, but Flex Alerts have not been issued in July.

In response to Committee Member Mahmud’s question concerning Power Response notices, Matt Langer, Chief Operating Officer, explained that notices are deployed via a third party when market energy price thresholds are reached. Committee Member Mahmud expressed concern about repeating notices causing participant fatigue and recommended adjusting criteria for notices and/or increasing program compensation. Responding to Chair Parkhurst’s inquiry about grid forecasts, staff indicated that the energy load appears manageable due to the significant number of new resources on-line and favorable weather. Committee Member Lesser asked about the state’s energy capacity, and Mr. Langer noted that energy loads are below 45,000 MW but recent challenges with thermal plant outages make it difficult to predict load capacity. Responding to Chair Parkhurst’s questions about RFOs, Ms. Saxby reviewed the timeline for review teams, shortlisting, and approvals.

4. A) Approve the DAC-GT shortlist as recommended by the 2022 Power Share RFO Review Team; B) Approve the CS-GT shortlist as recommended by the 2022 Power Share RFO Review Team
Alexandra Caryotakis, Contract Manager, provided a presentation on the 2022 Power Share RFO shortlist. CPA’s Power Share Program includes both the Disadvantaged Community Green Tariff (DAC-GT) and Community Solar Green Tariff (CSGT) programs, providing approximately 7,600 income-qualified customers in disadvantaged communities with 100% renewable energy. The California Public Utilities Commission (CPUC) is currently evaluating potential modifications, terminations, or expansions of the DAC-GT and CSGT programs in its Green Access Program (GAP) proceeding. Staff recommends
filling the entire program allocation now, as the GAP review might result in the discontinuation of both programs for future solicitations. Ms. Caryotakis reviewed the DAC-GT and CSGT program descriptions, offer results summaries, and shortlist recommendations from the RFO Review Team.

Committee Member Mahmud asked several questions about Developer B. Ms. Caryotakis indicated that CPA currently has contracts with Developer B for other DAC-GT projects; all projects are in good standing; PPA requirements include a security deposit. Staff added that the DAC-GT projects are facing Wholesale Distribution Access Tariff (WDAT) interconnection delays, but Developer B is compliant with allowable extensions of the PPA-specified milestones. Staff is monitoring the delays and providing quarterly updates to the CPUC detailing the project timelines and delays. In response to Committee Member Kulcsar’s question about progress reports submitted to the CPUC, staff noted they contain confidential information from the developers. Chair Parkhurst asked several questions about the scope of Power Share programs offered, program performance results, and additional load acquired. Mr. Langer clarified that CCAs and IOUs have Power Share programs if they serve disadvantaged communities, but those with programs have not fully allocated the DAC-GT and CSGT programs. CPA has one of the most successful programs and the highest number of signed contracts. Regarding the additional load, staff clarified that CPA acquired some small community solar allocations from other CCAs. CPA was the first CCA to implement the Power Share program, reach full program subscription, and with the proposed shortlist will fulfill the full megawatt allocation. Chair Parkhurst asked about the cost implications of having executed the shortlist contracts if the CPUC decides not to cover the above-market costs in the future. Staff indicated it would be highly unlikely for the CPUC to approve 20-year contracts with a cost recovery and then change course. Additionally, if CPA were unable to downsize two of the proposed shortlisted projects, the yearly cost not reimbursed by the CPUC would be in the manageable tens of thousands of dollars range. Committee Member Mahmud commented that the CPUC has always provided 100% recovery of the above-market contracts entered into by IOUs.

Motion: Committee Member Mahmud, South Pasadena
Second: Committee Member Lesser, Manhattan Beach
Vote: Item 4a was approved by a roll call vote.

Motion: Committee Member Mahmud, South Pasadena
Second: Committee Member Lesser, Manhattan Beach
Vote: Item 4b was approved by a roll call vote with a recusal from Committee Member Kulcsar as the City of Carson is a Community Sponsor for the CSGT projects.

COMMITTEE MEMBER COMMENTS
Committee Members Mahmud and Lesser thanked staff for their excellent work to increase reliability and benefit CPA’s low-income customers.

ADJOURN
Chair Parkhurst adjourned the meeting at 1:15 p.m.
July 2023 RMT REPORT

Key Actions

- Reviewed current counterparty credit exposure
- Reviewed June 2023 market performance
- Reviewed June 2023 generation and storage performance
- Reviewed energy positions and approved 2023-2027 hedges
- Reviewed April 2023 day-ahead load forecast performance
- Reviewed positions for RPS and carbon free products
- Reviewed Resource Adequacy (RA) positions, including CPA’s 2023 and 2024 Month-Ahead and 2024-2027 Year-Ahead open positions and procurement strategy
- Reviewed Energy Risk Management Policy (ERMP) compliance
- Reviewed July 2023 CRR Allocations and Auction and 2023 YTD performance

Policy Compliance

<table>
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<tr>
<th>Policy Deviation</th>
<th>Required Action</th>
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<tbody>
<tr>
<td>None.</td>
<td>None.</td>
</tr>
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</table>

ATTACHMENT

None.
Staff Report – Agenda Item 3

To: Energy Planning & Resources Committee
From: Lindsay Saxby, Vice President, Power Supply
Approved By: Ted Bardacke, Chief Executive Officer
Subject: 2023 Clean Energy and Reliability RFO Longlist Overview
Date: August 23, 2023

RECOMMENDATION
Staff will provide a presentation on the item.

ATTACHMENT
1. 2023 Clean Energy and Reliability RFO Longlist Presentation
Executive Summary

- CPA launched the 2023 Clean Energy and Reliability RFO in June to fill a larger portion of its portfolio needs with long-term contracts, reducing the need to procure products such as Resource Adequacy (RA) and Renewable Energy Credits (RECs) in short-term markets.

- In addition to renewable and storage offers, for the first time, CPA solicited offers for RA-only and natural gas tolling agreements (tolls) as part of the RFO. Staff received and incorporated feedback from the Energy Committee on how these tolls should be evaluated.

- Bids were received on July 19, 2023.

- CPA received a robust response, with more bids submitted than any of CPA’s past long-term RFOs.

- The majority of offers received were for standalone storage, however each product category received a robust response, although no baseload renewable (geothermal or biomass) offers were received. CPA received 21 offers from 16 local projects.

- Once valuation results are complete, the RFO Review Team will meet mid-September and the Energy Committee will consider a recommended shortlist on September 27, 2023.
Background
Mid-Term Reliability Compliance

On June 24, 2021, the CPUC issued its Decision Requiring Procurement to Address Mid-Term Reliability (MTR) (2023-2026), which ordered CPA to procure a total of 679 MW of new compliant capacity between 2023-2026.

On February 28, 2023, the CPUC issued Decision 23-02-040 which added new procurement requirements while delaying others and providing additional compliance flexibility.

With that decision plus recent procurement activity, CPA has procured the vast majority of its MTR requirements, with a small short in generic capacity in 2027 and a miniscule short in baseload renewables in 2028.

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<tr>
<th>Category</th>
<th>Description</th>
<th>8/1/2023</th>
<th>6/1/2024</th>
<th>6/1/2025</th>
<th>6/1/2026</th>
<th>6/1/2027</th>
<th>6/1/2028</th>
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<td>1</td>
<td>Cumulative CPA Procurement Need - Generic Capacity (MW)</td>
<td>118</td>
<td>354</td>
<td>156.7</td>
<td>117</td>
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<tr>
<td></td>
<td>CPA's Executed Contracts (MW)</td>
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<td>354</td>
<td>156.7</td>
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<td>115</td>
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<td></td>
<td>Compliance Long / (Short) (MW)</td>
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<td>0</td>
<td>156.7</td>
<td>117</td>
<td>105</td>
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<td>2</td>
<td>CPA Procurement Need – Baseload Renewables (MW)</td>
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<td>59</td>
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<td>CPA’s Executed Contracts (MW)</td>
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<td>Compliance Long / (Short) (MW)</td>
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<td>(.1)</td>
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<td>3</td>
<td>CPA Procurement Need – Long-Duration Storage (MW)</td>
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<td>CPA’s Executed Contracts (MW)</td>
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<td>63</td>
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<tr>
<td></td>
<td>Compliance Long / (Short) (MW)</td>
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2023 RFO Overview and Goals

- The purpose of the 2023 Clean Energy and Reliability RFO is to solicit competitive proposals to allow CPA to meet its various energy portfolio needs, while also complying with CPUC Procurement Orders and RA requirements.

- This solicitation was expanded to include RA-only and existing thermal energy resources with preferences for those that are transitioning to cleaner operations, along with typical renewable energy and storage resources.

- CPA implemented changes to its RFO eligibility requirements, including:
  - **Flexible Contract Duration:** Counterparties bid terms anywhere from 10 to 20 years in most product categories
  - **Bundled Deals:** CPA allowed for bundled offers so bidders may bid a portfolio of resources at a lower price relative to individual offers for each resource
  - **Fast Track Offers:** CPA may enter negotiations prior to notifying Proposers of their shortlist status. Such fast-track exceptions are limited to Proposers with exigent circumstances, including earlier CODs or other time-sensitive milestones and take place on a contingent basis until shortlisting
Offer Overview
## RFO Offer Overview

### Summary Stats

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<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Number of offers submitted</td>
<td>137</td>
</tr>
<tr>
<td>Number of compliant offers</td>
<td>128</td>
</tr>
<tr>
<td>Number of sellers submitting offers</td>
<td>55</td>
</tr>
<tr>
<td>Counties spanned by submissions</td>
<td>29</td>
</tr>
<tr>
<td>States represented by offers</td>
<td>AZ, CA, ID, NM, NV, WY</td>
</tr>
<tr>
<td>Number of new offers</td>
<td>113</td>
</tr>
<tr>
<td>Number of existing offers</td>
<td>15</td>
</tr>
<tr>
<td>Local Offers</td>
<td>21</td>
</tr>
<tr>
<td>Local Projects</td>
<td>16</td>
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<tr>
<td>Bundled Offers</td>
<td>3 bundles of 2 projects each</td>
</tr>
<tr>
<td>Fast Track Requests</td>
<td>16</td>
</tr>
<tr>
<td>Earliest online date</td>
<td>8/1/2023</td>
</tr>
<tr>
<td>Latest online date</td>
<td>6/1/2028</td>
</tr>
</tbody>
</table>

### Local Projects by Product Type

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standalone Storage</td>
<td>8</td>
</tr>
<tr>
<td>RA-only</td>
<td>4</td>
</tr>
<tr>
<td>RPS + Storage</td>
<td>2</td>
</tr>
<tr>
<td>RPS only</td>
<td>1</td>
</tr>
<tr>
<td>Tolls (Dispatchable Gas)</td>
<td>1</td>
</tr>
</tbody>
</table>
Offers by Product and Technology Type
(Compliant Offers Only)

Percentage of Offers by Product Type
- Thermal Only: 24%
- Thermal w/ Blended Fuels: 11%
- Thermal w/ Storage: 18%
- Renewable Generation Only: 6%
- Renewable Generation + Storage: 1%
- RA-Only: 1%
- Standalone Storage: 38%

Percentage of Offers by Generation Type
- Solar PV: 69.2%
- Wind - Onshore: 15.4%
- Thermal w/ Blended Fuels: 5.8%
- Thermal Only: 7.7%
- Thermal w/ Storage: 1.9%

Count of Offers by Storage Type
- Lithium ion batteries: 102
- Compressed air energy storage: 11
- NAS Battery (Sodium Sulfur): 1
- Zinc Bromide: 1

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Offer Location

Offers by County
Offers by Commercial Online Date

- 2025 Q1: 6
- 2025 Q2: 3
- 2025 Q3: 2
- 2025 Q4: 2
- 2026 Q1: 8
- 2026 Q2: 31
- 2026 Q3: 1
- 2026 Q4: 7
- 2027 Q1: 11
- 2027 Q2: 18
- 2027 Q3: 2
- 2027 Q4: 4
- 2028 Q1: 11
- 2028 Q2: 22
The RFO limited all product categories, except for thermals, to 5-500 MW in size. Thermal projects were required to be at least 10 MW with no maximum size.
Solar and Storage Pricing Trends

[Graph showing trends in solar and storage project pricing with data points for Solar Price ($/MWh) and Storage Price ($/kW/m).]

- Storage Only Projects
- Solar + Storage Projects

- Data categories:
  - 2023 RFO
  - 2022 MTR RFO
  - 2021 MTR RFO
Toll Offer Overview

- CPA received bids from four Sellers for 12 total thermal toll offers

<table>
<thead>
<tr>
<th>Gas Toll Product Type</th>
<th>Count</th>
</tr>
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<tbody>
<tr>
<td>Existing dispatchable gas with storage</td>
<td>8</td>
</tr>
<tr>
<td>Existing dispatchable gas with blended fuels (i.e. some hydrogen capacity)</td>
<td>3</td>
</tr>
<tr>
<td>Existing dispatchable gas only</td>
<td>1</td>
</tr>
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- Projects are located in San Diego, San Bernardino, Riverside, Fresno, Solano, and Los Angeles counties
- Most projects were not located in DACs, but some projects are in DACs
- No bidders indicated accelerated decommissioning in their bids
Tolling Offers with Storage
CPA received eight offers for existing dispatchable thermal resources with energy storage added.

Adding storage to existing thermal resources can reduce the amount that the thermal resources are dispatched, leading to lower GHG and emissions that impact local air quality.

- Thermal "peaker" plants are typically used infrequently (< 3% of hours in a year) in stressed system times, and often are needed for less than 1 hour at a time.

- A one-hour battery can run instead of the peaker during the shortest dispatches, providing the same reliability benefit with fewer emissions.

- Another benefit is that in peak summer demand hours, hot weather can force “de-rating” of the capacity of thermal resources, while augmenting with an on-site battery can ensure full plant capacity remains available, thus increasing RA value.
Tolling offers with blended fuels
Tolls with Blended Fuel

- In the 2023 Clean Energy and Reliability RFO, CPA solicited bids for existing dispatchable gas projects running on blended fuels, i.e. green hydrogen or renewable biogas
  - CPA received 3 bids for hydrogen blending
- Although the technology is early stage and not yet widely deployed, hydrogen can be introduced to the fuel mix of natural gas facilities, potentially showing reductions in CO2 emissions
- The extent of emissions reduction (including GHG and other emission reductions) depends on how the hydrogen is produced and the proportion of hydrogen blending with the fossil fuel
- CPA received three offers for existing dispatchable thermal resources with blended fuels beginning in 2027, all using hydrogen as the blended fuel at 30-35% mix of hydrogen to traditional methane gas
Hydrogen Overview - Production

- Hydrogen is the most abundant element on earth (the “H2” in H2O)
- Like natural gas, hydrogen gas can theoretically be used to fuel trucks, power plants, industrial manufacturing, aviation, and more
- Hydrogen is created by splitting chemical compounds that contain hydrogen; the different methods of production determine how “clean” hydrogen is

<table>
<thead>
<tr>
<th>Colors of Hydrogen</th>
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<tbody>
<tr>
<td><strong>Variable</strong></td>
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<tr>
<td>Description</td>
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<tr>
<td>GHG Emissions</td>
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</tbody>
</table>
Green Hydrogen for Electricity

- Thermal power plants using natural gas can be converted to burn hydrogen with upgrades to the engines, plant equipment, and fuel distribution systems.
- Lower hydrogen blends require fewer upgrades. To date, a 100% hydrogen mix is not considered commercially feasible, though the technology is rapidly developing.
- Using green hydrogen as a fuel source may reduce the GHG-emissions from a facility.
- The 2022 Federal Inflation Reduction Act (IRA) provides substantial incentives for green hydrogen production, with incentives ranging from $0.65/kg to $3.00/kg. Regulations governing these incentives are subject to intense debate.
Defining Green Hydrogen

- Section 45V of the Inflation Reduction Act (IRA) created a generous hydrogen Production Tax Credit (PTC). The incentive is tiered, with higher incentives going to hydrogen production with lower carbon emissions rates.

- At the highest incentive level, hydrogen production can earn up to $3/kg of H2 produced, but the electricity used in the process must come from a carbon-free source, therefore typical grid-supplied electricity would not qualify under current rules.

- The US Treasury Department is developing guidelines (due as soon as October 2023) such that businesses know what production processes will qualify as green hydrogen and be eligible for the full tax credit.
### Defining Green Hydrogen, continued

Although Green Hydrogen is defined as hydrogen generated by carbon-free energy, a debate is ongoing about how the clean energy is supplied that will partially be resolved by Treasury guidelines. California may adopt additional guidelines and standards for GHG measurement and reporting.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
<th>Least Restrictive</th>
<th>Middle Option</th>
<th>Cleanest Option</th>
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<tbody>
<tr>
<td>1. Incrementality</td>
<td>The issue of whether clean energy used to create hydrogen should be from newly built clean resources. Producing green hydrogen adds to overall demand for energy. Even if existing clean resources are sourced to produce hydrogen, the increased overall demand would likely be met by existing emitting resources unless new renewables are added to the grid.</td>
<td>No incrementality requirement</td>
<td>Require incremental supply of clean energy</td>
<td></td>
</tr>
<tr>
<td>2. Temporal matching</td>
<td>The timeframe under which clean energy is matched to supply to meet the needs of hydrogen production. For reference, the California Renewable Portfolio Standard requires annual matching of renewable production against retail demand.</td>
<td>Annual matching</td>
<td>Monthly matching</td>
<td>Hourly matching</td>
</tr>
<tr>
<td>3. Proximity of the clean energy to hydrogen production</td>
<td>The principle that the clean energy used to produce hydrogen should be connected to the hydrogen production.</td>
<td>Clean energy is delivered in the same grid (east, west, Texas)</td>
<td>Clean Energy is delivered to the same balance area (CAISO, LADWP, etc.)</td>
<td>Clean Energy project is directly connected to the H2 production or in close proximity electrically</td>
</tr>
</tbody>
</table>
Fast Track and Next Steps
Fast Track Offers

- CPA allowed sellers to request fast track consideration of their projects if the project circumstances and/or CPA’s procurement needs warrant quick action.
- CPA received 14 requests to fast track offers in all product categories, with the majority of the requests from standalone storage offers.
- CPA staff reviewed bidders’ reasoning for fast-track requests, along with assessing the projects’ preliminary qualitative and quantitative traits, and decided to fast-track two of the requested projects, one wind project and one local standalone storage project.
- Fast-tracked projects will be included for shortlist consideration at the RFO Review Team and potentially the Energy Committee.
- If approved for shortlisting by Energy Committee and negotiations are successful, fast-track PPAs could come to the Board for approval as early as October.
Takeaways

• CPA received a robust response with a variety of resource types, terms and online dates to consider.
• CPA will have an opportunity to procure a considerable amount of renewable energy and capacity under long-term contracts
• For stand-alone storage, CPA has many offers to choose from, with the technology continuing to be dominated by lithium-ion batteries
• CPA still has a small short position for its long-lead baseload resources under the MTR procurement order, however received no MTR-compliant baseload offers
• There are limited opportunities to procure wind resources, mostly out of state offers
• There are opportunities for tolls with storage and with blended fuels but for blended fuels, many key details of hydrogen fuel usage and supply need to be worked out
## RFO Schedule

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1, 2023</td>
<td>RFO Opens</td>
</tr>
<tr>
<td>July 19, 2023</td>
<td>Deadline to submit RFO Proposals</td>
</tr>
<tr>
<td>Mid-September 2023</td>
<td>RFO Review Team reviews offers (schedule TBD)</td>
</tr>
<tr>
<td>September 27, 2023</td>
<td>Energy Committee shortlist consideration</td>
</tr>
<tr>
<td>Late September</td>
<td>Bidders notified of shortlist status</td>
</tr>
<tr>
<td>September* – January 2024</td>
<td>Power Purchase Agreement (PPA) and Energy Storage Agreement (ESA) negotiations</td>
</tr>
<tr>
<td>October 2023 – February 2024</td>
<td>Board Consideration of PPAs</td>
</tr>
</tbody>
</table>

*Fast track negotiations began in August*
Appendix
## 2023 RFO Product Types and Eligibility

<table>
<thead>
<tr>
<th>Product Types</th>
<th>Description of Eligible Resources</th>
<th>Term (Years)</th>
<th>Size</th>
<th>Max Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable Portfolio</td>
<td>Solar, wind, geothermal, biomass, small hydro</td>
<td>10 to 20</td>
<td>5 MW to 500 MW</td>
<td>June 1, 2028</td>
</tr>
<tr>
<td>Standard (RPS) Generation Only</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RPS Generation + Storage</td>
<td>RPS generation paired with storage</td>
<td>10 to 20</td>
<td>5 MW to 500 MW</td>
<td>June 1, 2028</td>
</tr>
<tr>
<td>Standalone Storage</td>
<td>Standalone storage facilities with a minimum duration of at least 4 hours, or long-duration storage of 8 hours or more</td>
<td>10 to 20</td>
<td>5 MW to 500 MW</td>
<td>June 1, 2028</td>
</tr>
<tr>
<td>Resource Adequacy (RA) - Only</td>
<td>Offers from any technology for RA capacity (no energy)</td>
<td>5 to 15</td>
<td>5 MW to 500 MW</td>
<td>June 1, 2028</td>
</tr>
<tr>
<td>Natural Gas Tolls</td>
<td>Resources that use natural gas and/or other preferable fuel sources</td>
<td>2 to 10</td>
<td>10 MW Minimum</td>
<td>January 1, 2027</td>
</tr>
</tbody>
</table>
Green Hydrogen Production and Distribution Chain

Energy from renewable resources (i.e. wind & solar) is used to power an electrolyzer, which separates water into oxygen and **hydrogen**.

Once produced, hydrogen can be stored as a gas or liquid in either man-made tanks or underground geologic features (empty salt caverns). Storage as liquid requires a gas-to-liquid conversion.

Hydrogen can be distributed via gas pipelines or by road, train, or ship. Significant upgrades are needed to utilize existing pipelines.
Evaluation Criteria

With the exception of tolls, projects will be ranked using CPA’s traditional criteria (see Appendix for detailed descriptions):

- Quantitative Evaluation (Value)
- Development Risk
- Environmental Stewardship
- Workforce Development
- Project Location
- Benefits to DACs
Update to Project Location Scoring

**HIGH**
- In Los Angeles and Ventura counties

**MEDIUM**
- Other counties within California
- Projects located within a Federally-designated energy community or on tribal lands with demonstrated community support (including outside of California)

**LOW**
- Projects outside of California not located in a Federally-designated energy community or on tribal lands without demonstrated community support
Toll Evaluation Criteria

- CPA could receive offers ranging from traditional natural gas tolling agreements to hybrid facilities that incorporate battery energy storage or a conversion to a green hydrogen fuel source.

- Offers that extend the scheduled retirement date of an existing natural gas facility without providing a transition to a cleaner alternative will be ineligible for participation in the RFO.

- CPA will use new criteria when evaluating natural gas offers:
  - Quantitative Evaluation (Value)
  - Transition to Cleaner Operations
  - GHG Emissions
  - Benefits to DACs
  - Workforce Development
Transition to Cleaner Operations

CPA will rank toll projects according to the following criteria:

- **HIGH**
  - Offers that include a plan to transition to cleaner operations and/or reduce emissions within the contract term, examples include:
    - Tolls paired with energy storage
    - Tolls that can run fully or partially on renewable fuels and/or green hydrogen
      - If this option is pursued, CPA will be requesting detailed information on fuel production and impacts on GHG emissions and local air quality

- **MEDIUM**
  - Offers that include a plan to transition cleaner operations and/or reduce emissions after the contract term, examples include:
    - Tolls that will either shutdown the facility at the end of the contract term or give CPA the right to direct the Seller to decommission the facility
    - Tolls that will convert the facility to a cleaner fuel source after the end of the contract term and will give CPA a right of first offer on the new facility

- **LOW**
  - Tolls that do not meet the above criteria
GHG Emissions

- CPA will forecast the expected generation and associated GHG emissions at a natural gas facility.
- CPA may receive offers from facilities that are very efficient and are expected to run frequently and offers from facilities that are less efficient and expected to run infrequently.
- CPA will use forecasted data to analyze a facility’s total GHG output and the facility’s efficiency and determine the effects such facility will have on CPA's Product Content Label and GHG emissions profile.
- This will be a quantitative measure, not ranked High, Medium, Low.
Disadvantaged Community Impacts

Natural Gas resources will have differing impacts on DACs than renewable resources. Impacts to DACs will be assessed in conjunction with scoring in the three qualitative evaluation criteria: 1) impacts of the agreement on a transition to cleaner operations, 2) workforce development, and 3) GHG emissions.

HIGH

- Demonstrates DAC benefits, including transition to cleaner operations or retirement at the end of the contract term.

NEUTRAL

- Project does not demonstrate additional DAC benefits, or is not located in a DAC.

LOW

- Project is harmful or inconsistent with community priorities.
Workforce Development

- CPA will use its traditional workforce development criteria with a slight modification to address existing facilities.

- **HIGH**
  - The project is a union site or will use targeted-hire, union labor, or multi-trade project labor agreements (including requirements for state-apprenticeship graduates).

- **MEDIUM**
  - The project is not a union site or does not have a labor agreement, but can demonstrate prevailing wage, union labor, and targeted hire commitments.

- **LOW**
  - The project does not demonstrate prevailing wage, union labor, and targeted hire commitments.
Staff Report – Agenda Item 4

To: Energy Planning & Resources Committee
From: Lindsay Saxby, Vice President, Power Supply
Approved By: Ted Bardacke, Chief Executive Officer
Subject: Power Ready Request for Offers (RFO) Update
Date: August 23, 2023

RECOMMENDATION
Staff will provide a presentation on this item.

ATTACHMENT
1. Power Ready RFO Presentation
Power Ready Request for Offers (RFO)

August 23, 2023
Power Ready Overview

What is Power Ready?

Power Ready is a resiliency program where CPA member agencies have the opportunity to host a no-cost behind-the-meter battery energy storage system (BESS) and solar photovoltaic system (PV).

How Does it Work?

During outages, such as Public Safety Power Shutoffs (PSPS), natural disasters, local infrastructure failure, or grid disturbances, the member agency will get the benefit of islanded backup power to meet critical loads for at least 4 hours.

A portion of the batteries will be discharged at peak times and systems will provide demand response to CPA, reducing costs by shifting member agency’s load from high time-of-use periods.

There is no costs to member agencies. After system installation electricity costs will be equal to or less than what member agencies would have paid if they were not participating in the program.

The systems will be owned by third-party developers who are responsible for all operations and maintenance.

Types of Facilities:

- Community Centers/Parks
- City Halls/Civic Centers
- Police/Fire Stations
- Public Works
- Other
How Does This Work?

- Developer constructs, owns, operates the solar and storage system for a 20-year term
- CPA is the energy off-taker through a Power Purchase Agreement (PPA)
- CPA benefits from the solar and storage system during normal operating times
- Member agency serves as the site host
- Member agency uses the system as back-up power during outages
- No cost will be passed to the member agencies

PPA: CPA pays Developer for the output of the solar + storage system under the terms of the PPA

MOU: Member agency electricity bill from CPA will be equal to or less than what they would have paid if they were not participating in the program

SITE LEASE: Member agency provides Developer access to the facility site under the site lease agreement
## Power Ready Member Agency Sites

<table>
<thead>
<tr>
<th>Member Agency</th>
<th>Address</th>
<th>Expected Project PV Size (kW)</th>
<th>PV Type</th>
<th>Expected Project BESS Size (kW)</th>
<th>Expected Project BESS Size (kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agoura Hills</td>
<td>Agoura Hills Rec Center</td>
<td>152.15</td>
<td>Rooftop</td>
<td>100 (175)*</td>
<td>400 (700)*</td>
</tr>
<tr>
<td>Beverly Hills</td>
<td>Roxbury Park Community Center</td>
<td>96.92</td>
<td>Rooftop</td>
<td>66.75</td>
<td>267</td>
</tr>
<tr>
<td>LA County - Hacienda Heights</td>
<td>Hacienda Heights Library</td>
<td>67.47</td>
<td>Rooftop</td>
<td>33.25</td>
<td>133</td>
</tr>
<tr>
<td>LA County - Claremont</td>
<td>Claremont Helen Renwick Library</td>
<td>66.93</td>
<td>Rooftop</td>
<td>66.75</td>
<td>267</td>
</tr>
<tr>
<td>LA County - Paramount</td>
<td>Paramount Library</td>
<td>61.44</td>
<td>Rooftop</td>
<td>33.25</td>
<td>133</td>
</tr>
<tr>
<td>Oxnard</td>
<td>Oxnard Service Center</td>
<td>178.48</td>
<td>Rooftop</td>
<td>100</td>
<td>400</td>
</tr>
<tr>
<td>Sierra Madre</td>
<td>Sierra Madre City Hall Complex</td>
<td>156.90</td>
<td>Rooftop</td>
<td>66.75</td>
<td>267</td>
</tr>
<tr>
<td>South Pasadena</td>
<td>South Pasadena City Hall Complex</td>
<td>211.03</td>
<td>Carport</td>
<td>166.75</td>
<td>667</td>
</tr>
<tr>
<td>Ventura County - Ojai / Oak View</td>
<td>Oak View Park &amp; Resource Center</td>
<td>29.99</td>
<td>Rooftop</td>
<td>33.25</td>
<td>133</td>
</tr>
<tr>
<td>Ventura County – Simi Valley</td>
<td>Simi Valley Fire Station #41</td>
<td>52.30</td>
<td>Rooftop</td>
<td>33.25</td>
<td>133</td>
</tr>
<tr>
<td>Westlake Village</td>
<td>Civic Center Complex</td>
<td>179.58</td>
<td>Rooftop</td>
<td>100 (250)*</td>
<td>400 (1,000)*</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>11 Sites</strong></td>
<td><strong>1.25 MW</strong></td>
<td><strong>10 Rooftop / 1 Carport</strong></td>
<td><strong>0.8 MW</strong></td>
<td><strong>3.2 MWh</strong></td>
</tr>
</tbody>
</table>

*Agoura Hills and Westlake Village will be seeking pricing proposals at the BESS sizes shown in the above table as well as an alternate configuration that increases the BESS size with a cost contribution from the member agency*
Power Ready RFO Process

The RFO is a two-step process to qualify bidders:

1. On February 8, 2023, CPA launched the RFO and sought initial offers from bidders. Based on these submissions, CPA selected bidders to participate in the second-round. 4 proposers submitted bids and all 4 bidders were selected for the second round.

2. After the initial screen and execution of an NDA, CPA released confidential site information (detailed site plans, member agency billing data, etc.) to the selected bidders to present a best and final offer. Final bids are due September 1, 2023.

Following CPA’s standard RFO review process, an RFO Review Team will evaluate final submission and make a recommendation to Energy Committee for approval.
# RFO Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 1, 2023</td>
<td>Deadline to submit best and final proposals 5:00pm PST</td>
</tr>
<tr>
<td>Mid- September 2023</td>
<td>Review Team meeting to review final bids and staff recommendation for selection</td>
</tr>
<tr>
<td>September 29, 2023</td>
<td>Energy Committee meeting to approve selected developer</td>
</tr>
<tr>
<td>Q4 2023/Q1 2024</td>
<td>Power Purchase Agreement (PPA) negotiations</td>
</tr>
<tr>
<td>Q4 2023/Q1 2024</td>
<td>Board Approval of PPA and execution</td>
</tr>
<tr>
<td>~Q1/Q2 2024</td>
<td>Break Ground</td>
</tr>
</tbody>
</table>
Local governments were asked to submit their top five candidate sites. EcoMotion, CPA’s technical advisor, reviewed each site; optimal sites were selected for participating member agencies.

Member agencies executed a Memorandum of Understanding to confirm participation in the program.

CPA released a two-step Request For Offer (RFO) for prospective developers to bid on owning, constructing, operating, and maintaining systems. The RFO launched in January 2023. Final bids due September 1, 2023.

CPA intends to select one developer from the RFO for the portfolio of systems. Notification to the selected proposer will be October 1, 2023.

CPA to execute a PPA with the awarded developer. Member agencies will execute site lease agreements with the awarded developer.

Construction of systems will begin in 2024.
Evaluation Criteria

Given the unique nature of Power Ready, the selection criteria for the offers is customized to the program:

- Prevailing wage required
- Additional preferences for Project Labor Agreements (PLAs), targeted hire (i.e., local workers, Disadvantaged Workers, journeymen or wiremen from state approved apprenticeship programs etc.), and our typical workforce development criteria
Developer Responsibilities

Under the PPA, the developer must:

- Secure site control by executing a site lease with each member agency and obtain all other necessary permits. A pro forma agreement was included in RFO materials.

- Design, permit, finance, and construct solar and BESS systems to CPA’s specifications:
  - Sizing and specifications include member agency design considerations as assessed by EcoMotion during site visits.
  - Systems may include rooftop or carport solar, depending on individual site specifications.
  - Design may include repairs or replacement of roofing sections.

- The developer must operate and maintain the systems during the life of the contract, including dispatching the BESS per CPA’s instructed use cases (peak load reduction and/or demand response).

- The developer ensures the system will island during an outage event and allow the solar and BESS to meet agreed-upon member agencies critical on-site loads.

- The developer must meet performance obligations for routine and emergency operations as defined in the PPA.

- Once the term of the PPA has concluded, the developer is responsible for decommissioning the system and site restoration.
CPA Responsibilities

CPA will execute a 20-year PPA with the awarded developer and pay a fixed $/MWh rate for the output of the solar plus storage systems. In addition:

- CPA will administer the RFO to select the developer for the program.
- CPA will manage the PPA executed with developer selected.
- CPA will be a development liaison during construction of the systems.
- CPA will manage the billing for each site, ensuring the participating member agencies cost is equal or less than what they would have paid if they were not participating in the program.
Member Agencies Responsibilities

- Member Agencies will be responsible for executing a site lease with developers
- Cooperate with selected developer to secure necessary permits
- Member Agencies electricity costs will be equal to or less than the amount that would otherwise been charged to the Member Agency if the Member Agency did not participate in the Power Ready Program