REGULAR MEETING of the
Energy Planning & Resources Committee of the
Clean Power Alliance of Southern California

Wednesday, July 25, 2018
12:00 p.m.

555 W. 5th Street, 35th Floor
Los Angeles, CA 90013

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
Jacquelyn Betha, at least two (2) working days before the meeting at
jbetha@cleanpoweralliance.org or (213) 269-5870, ext.1001. 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.

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

Arcadia Public Works Service Center
11800 Goldring Road
Arcadia, CA 91066

Carson City Hall
Executive Conference Room, 2nd Floor
701 E. Carson Street
Carson, CA 90745

Malibu City Hall
Council Office
23825 Stuart Ranch Road
Malibu, CA 90265
I. WELCOME & ROLL CALL

II. PUBLIC COMMENT

This 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 agenda shall be heard at the time the matter is called.

As with all public comment, members of the public who wish to address the Committee are requested to complete a speaker’s slip and provide it to Clean Power Alliance staff. If you have anything that you wish to be distributed to the Committee and included in the official record, please hand it to a member of the staff who will distribute the information to the Committee members and staff. Speakers are customarily limited to two minutes, but an extension can be provided at the discretion of the Committee Chair.

III. REGULAR AGENDA

1. Approve Minutes from June 27, 2018 Energy Planning & Resources Committee Meeting

2. Approve the 2018 Integrated Resource Plan
3. Update on Long-Term RFO Process

IV. COMMITTEE MEMBER COMMENTS

V. ADJOURN

Public records that relate to any item on the open session agenda for a regular 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 members, or a majority of, the members of the Board. The Board has designated Clean Power Alliance, 555 W. 5th Street, 35th Floor, Los Angeles, CA 90013, for making those public records available for inspection. The documents are also available on our internet website at www.cleanpoweralliance.org.
REGULAR MEETING of the
Energy Planning & Resources Committee of the
Clean Power Alliance of Southern California
Wednesday, June 27, 2018, 12:00 p.m.

555 West 5th Street, 35th Floor
Los Angeles, CA 90013

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11800 Goldring Road, Arcadia, CA 91066

Carson City Hall - Executive Conference Room
701 E. Carson Street, Carson, CA 90745

Malibu City Hall
23825 Stuart Ranch Road, Malibu, CA 90265

Santa Monica City Hall - Room 209
1685 Main Street, Santa Monica, CA 90401

555 W. 5th Street, Suite 3310
Los Angeles, CA 90013

Thousand Oaks City Hall - Public Works Conference Room
2100 Thousand Oaks Blvd., Thousand Oaks, CA 91362

Minutes

I. WELCOME AND ROLL CALL

Acting Committee Chair Kevin McKeown called the meeting to order. CPA staff conducted roll call.

<table>
<thead>
<tr>
<th>Roll Call</th>
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<tbody>
<tr>
<td><strong>1</strong></td>
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<tr>
<td><strong>2</strong></td>
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<td><strong>3</strong></td>
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<td><strong>4</strong></td>
</tr>
<tr>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>
II. PUBLIC COMMENT

Ravi Sankaran, Principal for Grande Vista Energy, introduced himself as a member of the public, attending to listen and learn more about Clean Power Alliance.

III. REGULAR AGENDA

1. Approved Minutes from May 23, 2018 Energy Planning & Resources Committee Meeting

Motion: Arcadia, Committee Member Tom Tait. Second: Santa Monica, Committee Member Kevin McKeown. Vote: Item 1 was approved by a unanimous roll call vote.

2. Discussed Energy Risk Management Policy

Natasha Keefer, CPA Director of Power Planning & Procurement, provided an update on the development of an Energy Risk Management Policy, which is a document that provides a framework by which the Board, staff, and consultants will conduct power procurement and related business activities.

3. Received Update on 2018 Integrated Resource Plan

Natasha Keefer, CPA Director of Power Planning & Procurement, provided a presentation on the development of the 2018 Integrated
Resource Plan (IRP), which is a document required to be submitted to the California Public Utilities Commission to show how CPA will meet its statutory requirements for greenhouse gas emissions reductions, renewables portfolio standard, and other mandates.

IV. COMMITTEE MEMBER COMMENTS

There were no comments from Committee Members.

V. ADJOURN

Acting Committee Chair Kevin McKeown adjourned the meeting.
Staff Report – Agenda Item 2

To: Clean Power Alliance (CPA) Energy Planning & Resources Committee

From: Natasha Keefer, Director of Power Planning & Procurement

Approved By: Ted Bardacke, Executive Director

Subject: Approval of the 2018 Integrated Resource Plan for Submission to the CPUC

Date: July 25, 2018

RECOMMENDATIONS


BACKGROUND

The 2018 Integrated Resource Plan (IRP) is a required compliance filing for all California Load Serving Entities (LSEs) including CPA. CPUC D.18-02-018 adopts a two-year planning cycle for the CPUC to conduct modeling and analysis, set greenhouse gas (GHG) emissions targets, and consider IRP filings from all LSEs. 2018 is the first year for CPUC-required IRP submissions under this Decision. CPA is required to submit a Conforming Portfolio utilizing assumptions consistent with the CPUC-adopted Reference System Portfolio. LSEs were also allowed to submit alternative portfolios, however given the time constraints in this first highly compressed IRP process, analyzing more than one portfolio was not possible for CPA or other CCAs.

1 CPUC guidelines for IRP submission continued to change through July 2018.
While statewide planning efforts are important, the CPUC IRP process does not commit CPA to any procurement activities. Unlike the investor-owned utilities, the CPUC does not have jurisdiction over approving CCA procurement. CPA procurement is governed by CPA’s Board of Directors.

**IRP OVERVIEW**

CPA developed its IRP Conforming Portfolio using assumptions that are consistent with CPUC system modeling. CPA worked with its consultant, Energy & Environmental Economics (E3), to develop an IRP model that provides low-cost resource procurement trajectories to ensure that CPA meets its regulatory requirements and renewables and emissions goals at reasonable and fair costs to ratepayers. The resulting portfolio demonstrates that CPA is below the emissions benchmark set by the CPUC. The IRP submission follows the format and content required by the CPUC.

The Conforming Portfolio is largely driven by assumptions provided by the CPUC and may not reflect CPA’s internal forecasts or CPA-specific energy procurement goals, nor do they constitute a commitment to purchase any particular resource at any specific price.

**DELEGATION OF APPROVAL AUTHORITY**

The IRP submission requires approval from a CCA’s “Governing Body”, in this case CPA’s Board of Directors (Board). Given the compressed timeline of the filing, on June 7, 2018, the Board delegated the responsibility for final approval of the IRP to the Energy Planning & Resources Committee.

On June 27, preliminary modeling results were presented to the Energy Planning & Resources Committee and on July 12, updated preliminary modeling results were presented to the Board. On July 16, a near final-draft was circulated to the Executive Committee for review and feedback. While the Executive Committee provided some clarifying questions, staff received no feedback that required changes to the IRP. The final modeling results are incorporated into this final version of the IRP attached for the Energy Planning & Resources Committee’s consideration.
FUTURE RESOURCE PLANNING
Beyond this compliance filing, CPA will be launching an internal procurement planning process to be driven by CPA Board-established policies and in conjunction with CPA's Community Advisory Committee and other community stakeholders. CPA intends to incorporate these planning efforts into its portfolio submissions in future CPUC IRP proceedings. CPA will also be engaging the CPUC early in the next IRP planning process to ensure submissions better consider local decision-making structures and policies.

Attachments: CPA 2018 Integrated Resource Plan
Integrated Resource Plan Cover Letter
2018 INTEGRATED RESOURCE PLAN

EXHIBIT A

APPROVED BY CLEAN POWER ALLIANCE ON JULY 25, 2018

SUBMITTED TO THE CPUC ON [JULY 27, 2018]
1. Executive Summary

Clean Power Alliance of Southern California (CPA) is a Load Serving Entity (LSE) and administrator of a Community Choice Aggregation (CCA) program. Formed as a Joint Powers Authority (JPA), CPA’s 31 member jurisdictions include the unincorporated areas of Los Angeles and Ventura Counties, as well as the cities of Agoura Hills, Arcadia, Alhambra, Beverly Hills, Calabasas, Camarillo, Carson, Claremont, Culver City, Downey, Hawaiian Gardens, Hawthorne, Malibu, Manhattan Beach, Moorpark, Ojai, Oxnard, Paramount, Redondo Beach, Rolling Hills Estates, Santa Monica, Sierra Madre, Simi Valley, South Pasadena, Temple City, Thousand Oaks, Ventura, West Hollywood, and Whittier. CPA is governed by a board of directors comprised of elected officials of its member cities and counties, which span a broad territory that is diverse in its geography, climate, and customer demographics.

CPA began offering service to municipal customers of unincorporated Los Angeles County on February 1, 2018 and initiated the second phase of its roll-out to non-residential customers of unincorporated Los Angeles County, Rolling Hills Estates, and South Pasadena beginning June 25, 2018. It is anticipated that CPA will enroll all residential customers of its 31 member jurisdictions in February 2019, and complete enrollment of the remainder of its non-residential customers in May 2019. At full launch, CPA will serve over one million customer accounts, putting it on track to become the largest CCA in the state.

As set out in the recitals of its Joint Powers Agreement, CPA intends to develop an electric supply portfolio with overall lower greenhouse gas (GHG) emissions than that of the local Investor Owned Utility (IOU), which for CPA’s current service territory is Southern California Edison (SCE), that encourages the use and development of cost-effective renewable and distributed energy resources, and that discourages the use of unbundled renewable energy credits (RECs). CPA also intends to provide and manage its energy portfolio and products in a manner that provides cost savings to customers, promotes public health in areas impacted by energy production, achieves regional economic benefits and workforce development, and offers customers a choice of differentiated renewable product tiers.

Due to a compressed launch schedule, CPA’s procurement for its first phase was achieved by contracting with a single energy supplier to meet the energy needs for Los Angeles County municipal customers and develop an optimal portfolio to offer a 65% renewable product. In its second phase, CPA has been relying on short term procurement to meet the needs of its current customers and offer three renewable product tiers while remaining price competitive and satisfying regulatory requirements. Going forward, CPA will procure electricity for its customers from a variety of sources guided by policies adopted by the CPA Board of Directors (Board) and ensuring compliance with all regulatory requirements.

Consistent with CPA’s governance practices and Public Utilities Code 454.52, this Integrated Resource Plan (IRP) was approved on July 25, 2018, by the CPA Energy Planning & Resources Committee, the standing committee to which the Board delegated authority for approval of the IRP through formal action on June 7, 2018, as described in the attached cover letter. CPA is committed to providing safe, reliable, affordable, and clean energy to its customers and seeks to collaborate with statewide energy stakeholders to ensure California’s energy goals are met.
CPA developed its IRP Conforming Portfolio using assumptions that are consistent with the California Public Utilities Commission’s (CPUC) system modeling. Given the highly compressed timeframe of the 2018 IRP filing and CPA’s status as a newly-formed CCA, CPA is submitting its Conforming Portfolio as its Preferred Portfolio and is not submitting alternative scenarios.\(^1\)

CPA worked with its consultant, Energy & Environmental Economics (E3), to develop an IRP model that provides low-cost resource procurement trajectories to ensure that CPA meets its regulatory requirements and renewables and emissions goals at reasonable and fair costs to ratepayers. In calculating its emissions, CPA used the CPUC’s Clean Net Short (CNS) calculator and ensured that CPA’s portfolio emissions were below the CPUC benchmark for CPA.

The Conforming Portfolio modeling results show several clean energy procurement trends. In the near-term, the portfolio consists of long-term wind and solar resources, with some of the solar being paired with storage to ensure fulfillment of storage mandate obligations. In the longer-term, procurement also includes geothermal resources as the system gets saturated with solar, and wind potential is exhausted. In addition to in-state carbon-free resources, CPA will also seek opportunities to sign contracts with out-of-state hydro resources to ensure that CPA’s portfolio consists predominantly of zero- and low-carbon assets. CPA’s portfolio results are broadly consistent with the trends seen in the CPUC’s Reference System Plan, with near-term procurement being dominated by solar and longer-term incorporation of geothermal to diversify the portfolio.

The Conforming Portfolio is largely driven by assumptions provided by the CPUC and may not reflect CPA’s internal forecasts, CPA-specific energy procurement goals, nor constitute a commitment to purchase any particular resource at any specific price. Over the next year, CPA is launching an internal procurement planning process to be driven by CPA Board-established policies and in conjunction with CPA’s Community Advisory Committee and other community stakeholders. CPA intends to incorporate these planning efforts into its portfolio submissions for future CPUC IRP proceedings.

2. Study Design

To develop its Preferred Portfolio, CPA used:

- Inputs that were consistent with the CPUC Reference System Plan
- An IRP model developed by E3 to determine least-cost resource procurement options to meet CPA’s emissions goals and regulatory requirements
- The CNS methodology to calculate its emissions and ensure compliance with the emissions benchmark assigned to CPA

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\(^1\) Throughout the document, the terms Conforming Portfolio and Preferred Portfolio will be used interchangeably.
Load Assignments for Each LSE

CPA developed its load forecasts in a manner consistent with the 2017 CEC IEPR projections. The expected load forecasts projected by CPA for 2030 were approved in an Administrative Law Judge (ALJ) ruling on June 18, 2018.2

Required and Optional Portfolios

CPA produced its Conforming Portfolio by maintaining consistency in its inputs and methodology with the CPUC’s assumptions and guidelines as described below:

- CPA used the 2030 GHG Emissions Benchmark of 1.992 MMT assigned to it in the June 18, 2018 ALJ ruling.
- CPA ensured development of inputs in a way consistent with the Reference System Portfolio assumptions, where applicable. Specifically,
  - CPA’s forecast was approved by an ALJ ruling to arrive at 2030 net loads.
  - CPA’s load modifier assumptions were consistent with the 2017 IEPR demand forecast projections of both PV and non-PV self-generation, and load-modifying demand response included in the “mid Baseline mid AAEE mid AAPV” case.

CPA’s Preferred Portfolio is the same as its Conforming Portfolio.

GHG Planning Price and GHG Emissions Benchmark

CPA did not use the GHG planning price when developing its portfolio. Instead, CPA ensured that its portfolio emissions were less than the GHG emissions benchmark assigned to it under the CNS methodology. The total emissions attributable to CPA’s Conforming Portfolio were calculated to be less than the assigned GHG emissions benchmark.

GHG Accounting in IRP Planning

CPA used the CNS methodology and CNS Calculator Tool v1.4.5 for GHG accounting and determining the emissions associated with CPA’s Preferred Portfolio.

2.1. Objectives

CPA is committed to comply with the CPUC’s IRP process to ensure it meets its obligation of serving customers affordable and reliable electricity, and meeting and exceeding California’s emissions reductions goals. CPA intends to comply with all regulatory goals and requirements (SB 350 RPS, Resource Adequacy, AB 2514 Energy Storage, GHG Requirements).

2 Available at: http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M216/K500/216500593.PDF
CPA’s approach was intended to adhere to the CPUC’s Conforming Portfolio, consistent with CPUC assumptions. This IRP does not supersede CPA’s internal procurement planning process, which is done in collaboration with CPA stakeholders and with the oversight and approval of the Board.

2.2. Methodology

2.2.1. Modeling Tool(s)

For modeling its Conforming Portfolio, CPA used an excel-based IRP model developed by E3. The model simulates CPA load, and generation procured to serve load, on a month-hour basis. Each resource is associated with a generation profile and an assumed cost ($ per MWh). The profiles and costs are consistent with CPUC IRP RESOLVE model assumptions. The capacity contribution (ELCC) of each renewable resource is determined from D. 18-02-018. Incremental capacity required to serve peak load plus a 15% reserve margin on a monthly basis is costed per projected prices of system and local/flexible Resource Adequacy (RA). When calculating incremental RA requirements, CPA’s share of RA under the capacity allocation mechanism (CAM) was accounted for. Prices utilized in the IRP model are consistent with the CPUC IRP RESOLVE model, where applicable. For inputs that are not used in the CPUC IRP model, such as capacity price and Renewable Energy Credit (REC) price projections, CPA used forecasts developed by E3 for the analysis, as described further in this Section 2.2.

2.2.2. Modeling Approach

To determine the selection of CPA’s least-cost portfolio of Power Purchase Agreements (PPAs), the IRP model first calculates a baseline portfolio (Base Case) consisting of a portfolio achieving State and CPA policy goals through market purchases only (i.e. market purchases for energy, RA, as well as PCC1 RECs\(^3\) for compliance with RPS and emissions goals). To evaluate each individual PPA (Single PPA) candidate for CPA’s portfolio, an equal quantity of PCC1 RECs from the Base Case portfolio is replaced with the PPA energy, and this entire portfolio is evaluated. Then each portfolio of individual PPAs is ranked based on its net present value (NPV). Figure 1 below summarizes the approach used by CPA in developing its portfolio.

\(^3\) Note, PCC2 RECs do not provide emissions reduction benefits after 2020 based on the CPUC’s CNS methodology and are therefore not included in the long-term analysis for CPA’s portfolio as viable market purchase options.
The equation below describes the evaluation of each Single PPA. In the numerator, the 2018-2036 present value of a PPA in $/MWh is calculated as the present value 2018-2036 Base Case portfolio cost net of the present value 2018-2036 Single PPA portfolio cost. The denominator MWh is the Single PPA energy delivered net of curtailment from the PPA. Present value results assume a real discount rate of 5% (nominal discount rate of 7%), consistent with CPUC IRP RESOLVE modeling. A positive value of PPA indicates that the cost of serving CPA loads with the single PPA is lower than the Base Case.

\[
\text{Value of PPA} \left( \frac{\text{\$}}{\text{MWh}} \right) = \frac{\text{Base Case Portfolio} - \text{Single PPA Portfolio}}{\text{Single PPA Delivered MWh}}
\]

The final resource portfolio comprises the least-cost portfolio of PPAs and PCC1 RECs achieving State and CPA policy objectives. For example, a storage paired with solar PV product may be more expensive than a solar PV only product, however storage must be procured to achieve State policy objectives per AB 2514. Within the PPAs evaluated, out-of-state Northwest Hydro (NW Hydro) resource PPAs in high-load hour (HLH) and low-load hour (LLH) blocks are also considered as a part of the least-cost strategy to meet emissions reductions objectives. Any residual demand not met by single PPAs is assumed to be met from generic market purchases. Similarly, if a portfolio results in excess procurement in any year, such excess is assumed to be sold in the market and generic revenue value for this energy is credited to the portfolio.
2.2.3. Assumptions

CPA aligned all the inputs with the CPUC IRP planning process, except for forecasts for RA and REC prices, which are not provided by the CPUC. The detailed assumptions for each broad category are described in the following sections.

2.2.3.1. Loads

CPA aligned its load forecasts with 2017 IEPR as shown in Figure 2 below. In order to align CPA’s 2030 net loads with IEPR forecasts, E3 IRP model assumes more energy efficiency than IEPR forecasts.

Figure 2. Comparison of CPA load assumptions to 2017 IEPR forecasts

<table>
<thead>
<tr>
<th>Load Modifiers as % of CAISO Net Load</th>
<th>Load Modifiers as % of CPA Net Load</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2017 IEPR “Mid”</strong></td>
<td><strong>E3 IRP Model</strong></td>
</tr>
<tr>
<td><strong>2019</strong></td>
<td><strong>2030</strong></td>
</tr>
<tr>
<td>BTM Solar*</td>
<td>-16%</td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td>-2%</td>
</tr>
<tr>
<td>Electric Vehicles</td>
<td>+1%</td>
</tr>
<tr>
<td>Building Electrification</td>
<td>0%</td>
</tr>
<tr>
<td>DR</td>
<td>-</td>
</tr>
<tr>
<td>CPA Load (TWh)</td>
<td>10.1</td>
</tr>
</tbody>
</table>

2.2.3.2. Low-Carbon Resource Options and Costs

Resources considered for CPA’s portfolio include RPS-eligible resources included in the CPUC’s Reference System plan modeling (NP solar, NP wind, SP solar, SP wind), as well as PCC1 and PCC2 RECs (for 2019 and 2020 modeling years only), and zero-emission hydro PPAs that are assumed to be procured in HLH/LLH blocks. Resource cost assumptions for solar, wind and storage resources were consistent with the CPUC IRP RESOLVE model. CPA also considered contracts with NW Hydro resources as a part of its portfolio evaluation, which were not included in the CPUC IRP modeling process. NW Hydro costs relative to other resource costs are shown in the Figure 3 below. NW Hydro PPA forecasts
are developed by E3 using internal forecasts using opportunity costs for NW Hydro asset owners of selling into other markets.

**Figure 3. Comparison of NW Hydro PPA price forecasts to other CPUC IRP resource cost assumptions**

Because they were not provided by the CPUC, forecasts for PCC1 REC prices were imputed by E3 using CPUC IRP RESOLVE model resource cost assumptions and the energy prices resulting from the CPUC Reference System Plan. The REC prices were assumed to be the difference between the resource cost and the market revenues (energy and capacity) through 2026. After 2026, PCC1 prices were escalated at 2%. The equation shown below details the methodology used for estimating PCC1 REC prices:

\[
\text{PCC1 REC Price (}$/\text{MWh}$\right) = \text{In state solar resource cost} - \text{Energy value} - \text{Capacity value}
\]

where in-state solar resource costs are consistent with CPUC Reference System Plan assumptions, energy value is calculated using the Reference System Plan month-hour energy price outputs and resource shapes, and capacity value is calculated using the CPUC-published marginal ELCC value for solar and E3’s capacity price forecast, which is described in section 2.2.3.3 in more detail.

For forecasting PCC2 REC prices, E3’s internal forecasts were used to inform the expected differentials between PCC1 and PCC2 REC prices. E3’s forecasts assume that the marginal resource for a PCC2 REC is an out-of-state wind resource that:

- Costs less than an in-state solar resource
- Has a higher energy + capacity value relative to an in-state solar resource due to solar saturation on the system.

This results in PCC2 RECs being lower cost than PCC1 RECs. E3’s PCC2 forecasts therefore assume that PCC2 RECs can be procured for 1/3rd of the prices forecasted for PCC1 RECs, which benchmarks to current market trends. When using the CPUC’s CNS methodology, CPA does not assume incremental emissions reductions credit from PCC2 resources after 2020; therefore, they are not included in the portfolio starting in 2021 to meet any emissions reductions targets. Figure 4 summarizes the REC and clean attribute price forecasts developed using the aforementioned methodology.

**Figure 4. REC and clean attribute price forecasts**

![REC price chart]

**2.2.3.3. Capacity**

CPA assumed ELCC contributions of its portfolio renewables to be consistent with D. 18-02-018, as described in Table 1 below. CPA ensures RA purchase volumes meet 115% of its monthly maximum load. 34% of CPA’s RA procurement is assumed to be local/flexible (5% Big Creek/Ventura, 16% Los Angeles Basin, 13% Flexible), whereas the remaining 66% is system RA. The net procurement needs for system, local and flexible RA are calculated after taking into account CPA’s share of SCE RA resources under the capacity allocation mechanism (CAM).
Table 1. ELCC assumptions for wind and solar resources evaluated as a part of CPA’s portfolio analysis.

<table>
<thead>
<tr>
<th>Resource</th>
<th>2018</th>
<th>2022</th>
<th>2026</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar PV</td>
<td>13%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Wind</td>
<td>29%</td>
<td>31%</td>
<td>30%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Any residual RA needs that are not met with the portfolio are assumed to be purchased and contracted for from the market at prices developed by E3. The price forecasts for RA are developed using a combination of the 2016 CPUC RA report in the near-term, and the FERC Electronic Quarterly Reports (EQR) database after 2022. The forecasts are shown in Figure 5 below.

Figure 5. Market RA price forecasts for system and local RA.

3. Study Results

This section summarizes the results from the analytical work described in Section 2.

3.1. Portfolio Results

CPA’s Conforming Portfolio is also its Preferred Portfolio.

The new resources CPA plans on investing in are shown below in Table 2. Figure 6 provides a visual representation of CPA’s Conforming Portfolio.
Table 2. CPA’s proposed PPAs for the Conforming Portfolio

<table>
<thead>
<tr>
<th>Resource</th>
<th>Years</th>
<th>Capacity (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP Wind</td>
<td>2019-2028</td>
<td>120</td>
</tr>
<tr>
<td>NW Hydro (Peak)</td>
<td>2019-2028</td>
<td>70</td>
</tr>
<tr>
<td>NW Hydro (Off Peak)</td>
<td>2019-2028</td>
<td>70</td>
</tr>
<tr>
<td>SP Solar</td>
<td>2019-2028</td>
<td>2,150</td>
</tr>
<tr>
<td>SP (Solar PV + Storage)</td>
<td>2019-2028</td>
<td>180</td>
</tr>
<tr>
<td>SP Wind</td>
<td>2029-2036</td>
<td>120</td>
</tr>
<tr>
<td>NW Hydro (Peak)</td>
<td>2029-2036</td>
<td>70</td>
</tr>
<tr>
<td>NW Hydro (Off Peak)</td>
<td>2029-2036</td>
<td>70</td>
</tr>
<tr>
<td>SP Solar</td>
<td>2029-2036</td>
<td>2,150</td>
</tr>
<tr>
<td>SP (Solar PV + Storage)</td>
<td>2029-2036</td>
<td>180</td>
</tr>
<tr>
<td>NP Geothermal</td>
<td>2029-2036</td>
<td>200</td>
</tr>
<tr>
<td>SP Geothermal</td>
<td>2029-2036</td>
<td>47</td>
</tr>
</tbody>
</table>

Figure 6. CPA’s proposed PPAs for the Conforming Portfolio

CPA’s existing contracts are summarized in Table 3 below.
Table 3. CPA contracts with existing resources (2018-2020)

<table>
<thead>
<tr>
<th>Resource</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCC 1 RECs (MWh)</td>
<td>41,826</td>
<td>51,797</td>
<td>51,970</td>
</tr>
<tr>
<td>PCC 2 RECs (MWh)</td>
<td>71,739</td>
<td>77,695</td>
<td>77,954</td>
</tr>
<tr>
<td>Carbon Free attributes (MWh)</td>
<td>314,819</td>
<td>353,955</td>
<td>254,135</td>
</tr>
<tr>
<td>Off-peak Energy (MWh)</td>
<td>421,800</td>
<td>865,800</td>
<td>867,600</td>
</tr>
<tr>
<td>Peak Energy (MWh)</td>
<td>597,600</td>
<td>1,105,200</td>
<td>1,108,800</td>
</tr>
<tr>
<td>Flex and Local Capacity (MW)</td>
<td>314</td>
<td>901</td>
<td>2,965</td>
</tr>
<tr>
<td>System Capacity (MW)</td>
<td>677</td>
<td>3,643</td>
<td>3,943</td>
</tr>
</tbody>
</table>

The Conforming Portfolio’s 2030 emissions, calculated using the CNS methodology from the CPUC’s GHG Calculator, is below the emissions benchmark set by the CPUC. This is illustrated in Table 4.

Table 4. CPA’s 2030 Portfolio Emissions

<table>
<thead>
<tr>
<th>CPUC Benchmark Emissions for CPA</th>
<th>CPA’s Portfolio Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.992 MMT</td>
<td>1.909 MMT</td>
</tr>
<tr>
<td></td>
<td>(4% lower than benchmark)</td>
</tr>
</tbody>
</table>

3.2. Preferred and Conforming Portfolios

CPA evaluated several Conforming Portfolios and selected the portfolio that balances procurement flexibility in the near-term and a resource mix that minimizes costs to ratepayers on an NPV basis, while meeting regulatory requirements and emissions goals.

As a California LSE, CPA is required to comply with certain regulatory requirements. These include California’s SB 350, AB 2514, AB 1110, as well as RA requirements. A brief description of these regulatory requirements, as applicable to CPA, and how the Preferred Portfolio complies with these requirements is provided below.

A. SB 350 (Clean Energy and Pollution Reduction Act of 2015)

Renewable Portfolio Standard (RPS)

On October 7, 2015, Governor Brown signed SB 350 (De Leon and Leno), the Clean Energy and Pollution Reduction Act of 2015, which amongst other clean-energy initiatives, increased California’s RPS procurement target from 33% by 2020 to 50% by 2030, with interim targets of 40% by the end of 2024 and 45% by the end of 2027. CPA has assumed straight-line annual increases between years, with a target to meet or exceed SCE’s RPS deliveries. CPA offers customers several rate options based on renewable content, all of which exceed the requirements of SB 350, including a 100% renewable option.
The RPS deliveries achieved in every year will be a function of CPA customers’ actual RPS content rate selection.

CPA’s Conforming Portfolio is compliant with State RPS policy goals and exceeds the State RPS goals in every year. This is shown on a year-on-year basis in Figure 7. The 2019 RPS is significantly higher relative to the following years because:

- CPA loads ramp up to full enrollment by mid-2019, however, for modeling purposes E3 assumed that CPA’s enrollment of all customers was complete at the beginning of 2019.
- The E3 IRP model ensures that 2019 procurement is sufficient to meet RPS needs over the next 10 years.

Due to this modeling artifact, CPA RPS for 2019 might be overstated, and in reality, CPA is expected to adopt a more staggered approach in its procurement of renewables for its new load.

**Figure 7. CPA Conforming Portfolio RPS relative to CA RPS policy goals**

Vehicle Electrification

SB 350 states that a principal goal of electric utilities’ resource planning and investment is to improve the environment and encourage the diversity of energy sources through, among other means, widespread transportation electrification. Increased access to transportation electrification for disadvantaged communities, low- and moderate-income communities, and increased use of vehicles in
those communities is desired to reduce GHG emissions, enhance air quality, and promote benefits to those communities as well as to other consumers.

CPA derived its vehicle electrification forecasts by applying the same percentage reflected in the 2017 CEC IEPR forecasts.

**Integrated Resource Planning**

CPA’s IRP planning process ensures that both State and local emissions reductions goals are met at just and reasonable rates, while ensuring resource adequacy.

**Procurement**

SB 350 requires that retail sellers procure a minimum of 65% of their RPS compliance requirement under contracts with terms of 10 years or longer beginning in 2021. CPA’s Conforming Portfolio uses long-term contracts starting in 2019 to serve its loads while meeting policy and regulatory needs.

**AB 2514 (Storage Mandate)**

AB 2514 was signed into law in 2010 and D. 13-10-040 mandated storage procurement targets for all LSEs in California. By 2020, each LSE is required to contract for storage capacity equal to 1% of its forecasted 2020 peak load. Storage resources must be operational by no later than the end of 2024.

CPA’s portfolio analysis ensures that 1% of annual peak load is met through solar + storage resources in the portfolio in order to fulfill the storage mandate.

<table>
<thead>
<tr>
<th></th>
<th>2022</th>
<th>2026</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPA Peak Load (MW)</td>
<td>2,683</td>
<td>2,598</td>
<td>2,557</td>
</tr>
<tr>
<td>Installed Storage (MW)</td>
<td>27⁴</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Storage (% of Peak Load)</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

**AB 1110 (Power Source Disclosure)**

AB 1110 was signed into law in 2016. One of the goals of this bill was to increase transparency of the Power Content Label, which requires LSEs to disclose information about the energy resources used to generate the electricity they sell. This bill requires regulators to adopt a methodology for calculating GHG emission intensities for electricity sources. The methodology will take effect in June 2020.

The CPUC is currently analyzing potential changes to the calculation methodologies. One of the methodologies in active consideration is the CNS method. This method assigns an emissions intensity factor for every hour of the year. The LSE’s net load that is not served by renewable resources is

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⁴ Storage capacity is assumed to be 15% of solar nameplate capacity in solar + storage projects. Here, all 27 MW of storage comes from 180 MW of a SP solar + storage resource.
multiplied by these hourly emissions factors to yield its annual carbon emissions. The key attributes of this proposed methodology are:

- Carbon-free generation that is supplied during periods of curtailment cannot be counted as reducing emissions.
- PCC2 RECs will not provide carbon reductions.
- The CPUC will develop projections of average (versus marginal) hourly emissions that every LSE will use in its estimates. These emissions will be related to dispatchable thermal and unspecified imports sources on the CAISO system.

The current version of the CNS tool has been utilized in CPA’s IRP model to calculate emissions associated with its portfolio and ensure compliance with the assigned 2030 GHG emissions benchmark. Use of this methodology does not imply an endorsement of it by CPA.

Resource Adequacy

California’s RA program requires that each LSE procure its share of three types of capacity: (a) system RA requirement calculated based on CEC’s load forecast + 15% planning reserve margin for entire system; (b) local RA based on CAISO’s 1-in-10 load, N-1-1 power flow studies for transmission-constrained areas; and (c) flexible RA from resources that meet CAISO flexibility requirements. California’s IOUs, electricity service providers, and CCAs must all comply with these requirements. On an annual basis, 90% of system RA for the five summer months, 100% of local RA for all twelve months, and 90% of flexible RA for all twelve months must be procured. On a month-ahead basis, 100% of system and flexible RA obligation must be met.

CPA’s Conforming Portfolio accounts for and meets its system, local and flexible RA obligations.

3.2.1. Local Air Pollutant Minimization

Per its Joint Powers Agreement, CPA intends to provide and manage its energy portfolio and products in a manner that promotes public health in areas impacted by energy production, including Disadvantaged Communities. Utilizing the CalEnviroScreen 3.0 dataset, CPA has determined that 34% of the 294 zip codes that fall either entirely or partially within its service territory contain census tracts identified as Disadvantaged Communities.

Utilizing the U.S. EPA’s FLIGHT data (Facility Level Information on Greenhouse Gases Tool), CPA has identified four power plants within its territory that are classified as large emitters, two of which are located within a zip code containing Disadvantaged Communities. While one of these two plants is currently retired, with the other requesting retirement this year, they may retain deliverability. To the

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5 Emission factors are included in the CPUC 2017-18 GHG calculator which is available here: http://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/ElectPowerProcurementGeneration/irp/2018/GHG%20Calculator%20for%20IRP%20v1.3.xlsx
extent possible through its procurement activities, CPA is committed to identifying opportunities to support the replacement of retired facilities with renewable resources, to reduce the pollution burden in these communities. CPA will also incorporate impacts of new resources on Disadvantaged Communities in its selection metrics for future PPA solicitations.

Subject to a future local programs strategic planning and community outreach process and subsequent Board direction, CPA also intends to deploy air pollution mitigation programs in Disadvantaged Communities within its territory, such as building and transportation electrification programs.

CPA will also ensure that higher tiers of renewable product offerings are made available for low-income customers and all its customers. CPA estimates that it will enroll over 278,000 low-income residential customers that take service on California Alternative Rates for Energy (CARE), 30% of its estimated residential customer accounts.

### 3.2.2. Cost and Rate Analysis

CPA optimized its portfolio to ensure lowest NPV costs of procurement to ratepayers given its emissions goals. The IRP model used by CPA fills up the portfolio from least-cost to highest-cost resources while ensuring that CPA’s regulatory requirements and emissions goals are met. In addition, E3’s IRP model considers CPA’s current contracts and RA contracts allocated to CPA under the cost allocation mechanism (CAM)\(^6\) to determine the gap that needs to be filled by new resources. This ensures that CPA does not over-procure RA when developing its portfolio.

Considering the divergence in CPUC’s resource cost assumptions and actual PPA bids observed in the market, CPA expects the fixed costs associated with its resource portfolio to be lower than what has been submitted in the New Resource data template.

With this approach, CPA ensures that its regulatory and local policy goals are met while maintaining fair and reasonable rates for its ratepayers.

### 3.3. Deviations from Current Resource Plans

Not applicable – CPA does not have other currently filed or authorized resource plans.

### 3.4. Local Needs Analysis

CPA’s Conforming Portfolio accounts for its system, local and flexible RA obligations. CPA has local RA procurement requirements in two local capacity areas: LA Basin and Big Creek/Ventura. The CAISO 2017-2018 Transmission Plan LCT Report does not show a local capacity deficiency in LA Basin or Big

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\(^6\) CAM allocation methodology is consistent with the instructions provided for this Exhibit A.
Creek/Ventura in either 2018 or 2022. However, RA is an important consideration in CPA’s evaluation of new resources.

4. Action Plan

4.1. Proposed Activities

CPA’s procurement activities are structured to achieve internal energy and financial goals, as directed by its member agencies and approved by CPA’s Board, including meeting all compliance obligations to ensure a safe, affordable, reliable, and clean power supply.

As a newly-formed CCA, CPA will be launching its first solicitation for long-term renewable contracts in Fall 2018. Although individual contracts may vary from Study Results presented in Section 3, CPA will incorporate key trends from this IRP study in its forecasting and procurement processes:

- Demand trends including population of customers served, climate, energy efficiency, distributed generation, electrification of vehicles and buildings, and emerging industries impact both the volume and shaping of CPA’s resource requirement.
- A diverse resource mix is required to address impacts of curtailment, grid reliability, and resource value for customers.
- CPA will seek to contract for other carbon-free, non RPS-eligible resources (hydro) that will facilitate meeting emissions-reductions targets in a cost-effective manner.
- With respect to Disadvantaged Communities, CPA will incorporate impacts of new resources on Disadvantaged Communities in its selection metrics for future solicitations and intends to deploy air pollution reduction strategies, such as transportation and building electrification, for Disadvantaged Communities.

CPA’s long-term procurement planning processes are evolving, and CPA intends to incorporate the following analysis in the next IRP cycle:

- Load forecast incorporating CPA-specific customer programs and goals
- Resource mix that incorporates up-to-date, observed market-based resource costs assumptions
- Local resource development programs or goals developed with feedback from CPA’s community outreach efforts, including its Community Advisory Committee, and any other energy policies established by the CPA Board
- Programs addressing air pollution minimization for Disadvantaged Communities

CPA continuously monitors and updates its procurement portfolio planning based on market information and risks, legislative and policy changes, technological improvements, and customer trends. CPA evaluates its resource mix to balance cost minimization to ratepayers, compliance with regulatory requirements and emissions goals, and implementing CPA-specific energy goals.
4.2. Barrier Analysis

For procurement decisions, CPA considers risk factors, including the following:

- Market and commodity price risks (CAISO LMPs, RA prices, RPS prices, etc.)
- Variance from estimated load forecasts
- Curtailment
- Adoption of customer and community programs and emerging technologies
- CPA’s customer participation/opt-out rate
- Unplanned resource allocation costs (for example, through CAM, RMR, CPM)
- Legislative changes, including:
  - AB 813 - The introduction of a multistate regional grid would increase the number of resources eligible as PCC1, which would change the assumptions around resource mix and costs.
  - SB 100 - The introduction of a 100% RPS, depending on the rules, would significantly impact the renewable targets that CPA is seeking to achieve as part of its procurement activities.
- Regulatory changes, including:
  - Resource Adequacy - The CPUC’s RA proceeding is considering changes to the program, including a central buyer and an introduction of a multi-year RA program. Either of these changes would have implications for CPA’s RA procurement planning going forward.
  - PCIA - The Joint IOU proposal in the PCIA OIR would allocate existing renewable and large-hydro resources to CCAs, including CPA. Receiving such an allocation would significantly change CPA’s approach to procurement.

4.3. Proposed Commission Direction

CPA seeks the following direction from the CPUC to minimize barriers identified in Section 4.2:

- Currently, SCE provides only two years of historical load data to CCAs and other data access is limited. If SCE provided greater data sharing, this would allow CPA to improve its load forecast, optimize its procurement, and better facilitate energy planning efforts statewide.
- CPA would like to see D.06-06-066 revised to include the same confidentiality treatment for CCA customers as provided for IOUs and ESPs, to ensure CCA customers are afforded the same market protections as IOU and ESP customers.

5. Data

5.1. Baseline Resource Data Template

CPA is submitting the baseline resource data template as required by the CPUC as a part of the IRP process. Note that CPA has completed the templates using the dropdown menu options where applicable. However, this may not be fully accurate in the representation of CPA’s existing contracts.
For example, the resource shape options may not fully represent the actual generation profile of CPA’s current contracts and may result in total energy value assigned to existing contracts that differs from the actual energy associated with them.

5.2. New Resource Data Template

CPA is submitting the baseline resource data template as required by the CPUC as a part of the IRP process. Similar to the Baseline Resource data template, CPA has attempted to best represent the profiles and costs of new resources it will consider in developing its procurement strategy. However, the actual generation from these resources, their emissions reductions benefits, and the fixed costs associated with them will be a function of the specific contracts CPA ends up executing.

5.3. Other Data Reporting Guidelines

CPA is also including its completed version of the CPUC GHG Calculator for the IRP, as required by the CPUC.

6. Lessons Learned

CPA’s Conforming Portfolio submission utilizes assumptions and methodology consistent with the Reference System Plan. However, some Reference System Plan assumptions, particularly resource cost projections, are unrealistic, which can lead to skewed results in the Conforming Portfolios submitted by all LSEs. More realistic resource cost assumptions could provide a more useful Conforming Portfolio.

CPA would have liked to provide Alternative Portfolios as part of its IRP submission; however, given the time constraints in the highly compressed IRP process, analyzing multiple portfolios was particularly challenging. CPA is committed to working closely with the CPUC and other stakeholders in future resource planning efforts to ensure modeling assumptions are realistic and that planning efforts result in statewide energy goals being met in a reliable, fair, and cost-effective manner for CPA’s customers.

In addition, the late and changing instructions from the CPUC made the 2018 IRP challenging, particularly given CPA’s required timeframe for Board approval of the IRP submission. However, CPA appreciates the CPUC staff efforts to clarify and revise templates and instructions to address CCAs concerns. CPA looks forward to engaging the CPUC early in the IRP planning process to ensure submission documents are relevant and applicable to CCAs and take into account local decision-making structures.
Glossary of Terms

**Alternative Portfolio** – LSEs are permitted to submit “Alternative Portfolios” developed from scenarios using different assumptions from those used in the Reference System Plan. Any deviations from the Conforming Portfolio must be explained and justified.

**Conforming Portfolio** – Each LSE must produce a “Conforming Portfolio” that is demonstrated to be consistent with the Reference System Portfolio according to the following criteria: (1) use of either the GHG Planning Prices or the LSE-Specific 2030 GHG Emissions Benchmark, (2) use of input assumptions matching those used in developing the Reference System Portfolio, and (3) consistent with the 2017 IEPR “mid Baseline mid AAEE mid AAPV” forecast, unless superseded by Administrative Law Judge ruling.

**Data Template** – Data provided by the LSE should be reported in the “Baseline Resource Data Template” and the “New Resource Data Template” provided by the Commission. “Baseline” means existing resources and costs. “Existing” includes resources on the 3/15/2018 NQC List, or projects not yet online but that have secured a contract and may therefore be identified in the Commission’s RPS Contracts Database or an Application filed at the Commission, as of January 1, 2018. “New” means any new (incremental to the baseline) resources and costs associated with a particular LSE portfolio.

**Disadvantaged Communities** – For the purposes of IRP, and consistent with the results of the California Communities Environmental Health Screening Tool Version 3 (CalEnviroScreen 3.0), “disadvantaged communities” refer to the 25% highest scoring census tracts in the state along with the 22 census tracts that score in the highest 5% of CalEnviroScreen’s pollution burden, but which do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data.

**GHG Emissions Benchmark** – Each LSE filing a Standard LSE Plan must use either the GHG Emissions Benchmark or GHG Planning Price in developing its Conforming Portfolio. The LSE-specific benchmarks have been provided in an ALJ ruling. If the total emissions attributable to the LSE’s preferred portfolio exceed its GHG Emissions Benchmark for 2030, the LSE must explain the difference and describe additional measures it would take over the following 1 - 3 years to close the gap, along with the cost of those measures.

**GHG Planning Price** – The GHG Planning Price is equivalent to the marginal cost of GHG abatement associated with the 42 MMT Scenario for the years 2018 to 2026 (i.e., a curve that slopes upward from ~$15/ton to ~$23/ton), followed by a straight-line increase from ~$23/ton in 2026 to $150/ton in 2030, as shown in Table A. Each LSE must use either the GHG Planning Price or GHG Emissions Benchmark in developing its Conforming Portfolio.

**IRP Planning Horizon** – The IRP Planning Horizon will typically cover 20 years. However, for the purposes of this IRP 2017-18 cycle, the IRP Planning Horizon will cover only up to the year 2030.

**Long-term** – 10 or more years (unless otherwise specified)
Portfolio – A portfolio is a set of supply and/or demand resources with certain attributes that together serve a particular level of load.

Preferred Portfolio – Among all the portfolios developed by the LSE, the LSE will identify one as the most suitable to its own needs, deemed its “Preferred Portfolio.” Any deviations from the Conforming Portfolio must be justified and explained.

Reference System Plan – The Reference System Plan refers to the Commission-approved integrated resource plan that includes an optimal portfolio (Reference System Portfolio) of future resources for serving load in the CAISO balancing authority area and meeting multiple state goals, including meeting GHG reduction and reliability targets at least cost.

Reference System Portfolio – The Reference System Plan refers to the Commission-approved portfolio that is responsive to statutory requirements per Pub. Util. Code 454.51; it is part of the Reference System Plan.

Scenario – A scenario is a portfolio together with a set of assumptions about future conditions.

Short-term – 1 to 3 years (unless otherwise specified)

Standard LSE Plan – A Standard LSE Plan is the type of integrated resource plan that an LSE is required to file if its assigned load forecast is ≥ 700 GWh in any of the first five years of the IRP planning horizon.

Standard LSE Plan Template – Each LSE required to file a Standard LSE Plan must use the Standard LSE Plan Template according to the instructions provided herein.

(End of Attachment A)
July 25, 2018

To the California Public Utilities Commission:

Clean Power Alliance of Southern California (CPA) is one of the state’s newest Community Choice Aggregation (CCA) programs, established as a Joint Powers Authority made up of 31 local agencies across Los Angeles and Ventura Counties. These agencies have banded together to provide cleaner electricity at competitive rates, offering a choice in electricity service providers for the first time to over 1 million customers in our region. CPA is committed to providing safe, reliable, affordable, and clean energy to its customers and seeks to collaborate with statewide energy stakeholders to ensure California’s energy goals are met through actions that reflect local priorities.

CPA is submitting its 2018 Integrated Resource Plan (IRP) for the Commission’s consideration. The IRP shows that on an overall basis CPA will meet and exceed its statutory requirements for GHG reduction, RPS and other State mandates in a cost-effective manner; however, the individual procurement decisions to meet those mandates and the setting of rates to finance that procurement remain the sole responsibility of the CPA Board of Directors and therefore may differ from the specific plan outlined in the IRP. Some of these differences will be based on extensive dialogue on procurement priorities with the communities that CPA serves, which the timeframe for submitting this IRP did not allow for.

On June 7, 2018, the CPA Board of Directors, exercising its authority to oversee and direct CPA’s planning and procurement activities, delegated the responsibility for final approval of this IRP to CPA’s Energy Planning and Resources Committee, one of four standing committees of CPA’s Board. The Energy Planning and Resources Committee approved the attached IRP on July 25, 2018.

Sincerely,

Ted Bardacke
Executive Director, Clean Power Alliance

Enclosure: Clean Power Alliance 2018 Integrated Resource Plan
2018 Long-term RFO Process
Overview

- CPA will be launching a solicitation for long-term (10 years+) clean energy contracts in September.
- CPA is currently soliciting through its qualified vendors list a consultant to support the RFO process, to support one or more of the following items:
  - RFO design and administration
  - Offer evaluations
  - Contract negotiations
- Based on other recent RFOs and market dynamics, CPA anticipates receiving over 100 bids.
- Staff expects to present to the Board proposed awards in February 2019.
- The RFO process does not require any bids to be selected. However staff anticipates bringing to the Board multiple projects.
RFO Process Steps

- Long-term contracts are typically procured through a 4 – 5 month process, which includes:
  - Issuance of RFO, open to all potential bidders
  - Webinar to instruct participants on RFO protocol and process
  - Q&A for potential bidders made public to ensure fairness and information sharing
  - Deadline to submit proposals (approx. 1 month after RFO issuance)
  - CPA will evaluate and notify bidders of an initial shortlist (approx. 1 month)
  - Power purchase agreement (PPA) negotiations with shortlisted bidders only (approx. 2 - 3 months)
- Final PPAs will be submitted to the CPA Board for approval prior to execution
RFO Mechanics

- A variety of project types and technologies are being considered, including solar, wind, biomass, hydro, geothermal, and energy storage

- Specific resource, locational and other parameters will be outlined in the RFO after Board consultation and using market intelligence from consultant

- Offers will be evaluated holistically on price, contract terms, portfolio fit, and qualitative considerations (e.g. environmental impact, workforce development benefits)
  - Bidders will be required to submit a term sheet, counterparty information, project information, and PPA mark-up

- Should a unique circumstance arise that requires an offer to be considered outside of the RFO process (e.g. time-sensitive Commercial Online Date), the offer may be negotiated bilaterally, but would still be subject to Board approval
CPA’s Key Principles of Long-Term Procurement

Key principles are consistent with the Joint Powers Agreement

● Provide cost savings to customers
● Ensure CPA’s long-term financial viability
● Ensure regulatory compliance
● Develop an electric supply portfolio with overall lower GHG emissions than SCE
● Encourage development of cost-effective renewable and distributed energy resources (DERs)
● Discourage use of unbundled renewable energy credits (RECs)
● Promote public health in areas impacted by energy production (including Disadvantaged Communities)
● Achieve regional economic benefits and workforce development
● Offers customers a choice of differentiated renewable product tiers
Balanced Offer Selection Approach

**Project selection criteria will include both quantitative and qualitative factors**

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Direct contract payment costs</td>
<td>• Portfolio resource diversity</td>
</tr>
<tr>
<td>• Energy and capacity value</td>
<td>• Curtailment and dispatchability</td>
</tr>
<tr>
<td>• Indirect costs due to resource integration and transmission access charges</td>
<td>• Location</td>
</tr>
<tr>
<td>• Portfolio resource diversity</td>
<td>• Regional economic benefit and workforce development</td>
</tr>
<tr>
<td>• Curtailment and dispatchability</td>
<td>• Environmental stewardship</td>
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<tr>
<td>• Location</td>
<td>• Benefits to Disadvantaged Communities</td>
</tr>
<tr>
<td></td>
<td>• Supplier suitability and diversity</td>
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**Staff will be seeking input from the Board and stakeholders on what criteria and weight should be associated with the various qualitative factors**
## Proposed RFO Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>July - mid August</td>
<td>Complete scope of work and bidding process for RFO Consultant</td>
</tr>
<tr>
<td>August Board Meeting</td>
<td>Finalize RFO Consultant Task Order and receive Board and public input on long-term RFO criteria</td>
</tr>
<tr>
<td>August</td>
<td>Develop solicitation design, evaluation criteria, and solicitation protocol</td>
</tr>
<tr>
<td>September Board Meeting</td>
<td>Receive additional Board and public input prior to RFO Launch</td>
</tr>
<tr>
<td>Early September</td>
<td>Finalize solicitation design based on feedback from Board</td>
</tr>
<tr>
<td>September 17</td>
<td>Launch RFO and bidder outreach</td>
</tr>
<tr>
<td>October 26</td>
<td>Close RFO</td>
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<tr>
<td>November 23</td>
<td>Complete shortlist selection</td>
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<tr>
<td>November – January</td>
<td>Conduct contract negotiations with shortlist awardees</td>
</tr>
<tr>
<td>February Board Meeting</td>
<td>CPA Board consideration of final offers and fully negotiated contracts</td>
</tr>
<tr>
<td>Mid-February</td>
<td>CPA execution of Board-approved RFO awardee contracts</td>
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