

# RIVERSIDE PUBLIC UTILITIES

## Board Memorandum

**BOARD OF PUBLIC UTILITIES**

**DATE:** NOVEMBER 9, 2020

**ITEM NO:** 9

**SUBJECT:** POWER SALES AGREEMENT WITH SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY FOR THE COSO GEOTHERMAL ENERGY PROJECT FOR A TERM OF TWENTY YEARS FOR AN ESTIMATED AVERAGE ANNUAL COST OF \$6,000,000 FOR CONTRACT YEARS ONE THROUGH FIVE AND \$18,000,000 FOR CONTRACT YEARS SIX THROUGH TWENTY

**ISSUE:**

Approve the Power Sales Agreement with Southern California Public Power Authority for the Coso Geothermal Energy Project for a term of twenty years for an estimated average annual cost of \$6,000,000 for contract years one through five and \$18,000,000 for contract years six through twenty.

**RECOMMENDATIONS:**

That the Board of Public Utilities recommend that on December 14, 2020, the Land Use, Sustainability, and Resilience Committee will hear this item for consideration and be asked to recommend that the City Council:

1. Approve the Power Sales Agreement with Southern California Public Power Authority for the Coso Geothermal Energy Project for a term of twenty years for an estimated average annual cost of \$6,000,000 for contract years one through five and \$18,000,000 for contract years six through twenty; and
2. Authorize the City Manager, or designee, to execute the Power Sales Agreement and all documents necessary to administer the Agreement including the ability to make non substantive changes, as well as to execute future amendments to the Power Sales Agreement under terms and conditions substantially similar or superior to the Power Sales Agreement or, if needed, to terminate the Power Sales Agreement in accordance with Agreement terms and conditions.

**LEGISLATIVE HISTORY:**

In 2011, the California Renewable Energy Resources Act, Senate Bill (SB) X 1-2, was signed into law by the Governor, which mandated that all electric utilities, including Riverside Public Utilities (RPU), procure increasing amounts of renewable energy primarily from in-state resources to serve its retail needs during specific compliance periods. SB X 1-2, which officially created the first set

of tiered Renewable Portfolio Standard (RPS) targets, requires RPU to supply 20%, 25% and 33% of retail energy needs using renewable resources by 2010, 2015 and 2020, respectively.

In 2015, the Governor signed into law, the Clean Energy and Pollution Reduction Act, SB 350, which further increased the RPS goal to 50% by 2030. This was followed in 2016 with the Governor's approval of SB 32, which required the state board to ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030.

The Governor signed SB 100 into law in 2018, maintaining the target of 33% RPS by 2020, but increasing the 2030 compliance target to 60% and establishing interim compliance targets of 44% by 2024 and 52% by 2027. SB 100 is also known as "The 100 Percent Clean Energy Act of 2018" because it created the policy of meeting all of the State's retail electricity supply with a mix of RPS-eligible and zero-carbon resources by December 31, 2045.

## **BACKGROUND:**

The City of Riverside has been very supportive of the existing renewable targets set by the State and is committed to serving its retail energy requirement using increasing amounts of renewable energy. In order to satisfy the current RPS targets, while anticipating more stringent RPS requirements in the future, RPU continues to explore additional cost-effective, renewable energy procurement opportunities.

Version: October 2020

2019 POWER CONTENT LABEL			
City of Riverside, Riverside Public Utilities			
http://riversidepublicutilities.com/about-rpu/rpu-power-resources.asp			
ENERGY RESOURCES	RPU General Power Mix	RPU 100% Renewable Energy Mix	2019 CA Power Mix
Eligible Renewable <sup>1</sup>	37.6%	100.0%	31.7%
Biomass & Biowaste	0.1%	0.0%	2.4%
Geothermal	22.5%	50.7%	4.8%
Eligible Hydroelectric	0.0%	0.0%	2.0%
Solar	11.8%	29.3%	12.3%
Wind	3.2%	20.0%	10.2%
Coal	29.2%	0.0%	3.0%
Large Hydroelectric	1.3%	0.0%	14.6%
Natural Gas	4.1%	0.0%	34.2%
Nuclear	4.9%	0.0%	9.0%
Other	0.0%	0.0%	0.2%
Unspecified sources of power <sup>2</sup>	22.9%	0.0%	7.3%
TOTAL	100%	100%	100%
Percentage of Retail Sales Covered by Retired Unbundled RECs <sup>3</sup>	0.0%		

<sup>1</sup>The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.

<sup>2</sup>Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.

<sup>3</sup>Renewable energy credits (RECs) are tracking instruments issued for renewable generation. Unbundled renewable energy credits (RECs) represent renewable generation that was not delivered to serve retail sales. Unbundled RECs are not reflected in the power mix or GHG emissions intensities above.

For specific information about this electricity product, contact:	City of Riverside, Riverside Public Utilities 951-826-8545
For general information about the Power Content Label, please visit:	<a href="http://www.energy.ca.gov/pcl/">http://www.energy.ca.gov/pcl/</a>
For additional questions, please contact the California Energy Commission at:	Toll-free in California: 844-454-2906 Outside California: 916-653-0237

Figure 1: Riverside Public Utilities Power Content Label

Source: [http://riversidepublicutilities.com/about-rpu/Riverside\\_CY%202019%20Power%20Content%20Label\\_10-06-2020.jpg](http://riversidepublicutilities.com/about-rpu/Riverside_CY%202019%20Power%20Content%20Label_10-06-2020.jpg)

Since 2012, the Board of Public Utilities (Board) and City Council have approved over 270 megawatts (MW) of renewable resource contracts/extensions. The City is currently contracted for 86 MW of clean geothermal energy, 46 MW of wind, and over 140 MW of solar. The City served 37.6% of its power mix with renewable resources in 2019 (see Figure 1) and is on schedule to reach a 44% RPS by 2020.

As the cost of solar photovoltaic (PV) declines, the amount of intermittent solar generation on the grid continues to increase. Because solar PV only generates electricity during the middle of the day, other generation resources must be available to run at other hours of the day. As a result, the system net load (total load minus solar PV generation) in the middle of the day has reduced significantly. As solar PV generation rapidly declines in the evening as the sun sets, other generation resources, typically natural gas generation, must turn on and quickly generate electricity to meet demand. This rapid increase in demand on other generation in the evening is called ramping. The system-wide ramping requirement in the evening has increased considerably in order to meet the net-peak demand.

The California Independent System Operator (CAISO) illustrates the impact of the solar penetration on the grid in the diagram below, which is known as the “Duck Curve”. The Duck Curve highlights the potential of over-generation during the day, which contributes to negative energy prices in the CAISO market and undesirable generation curtailments.

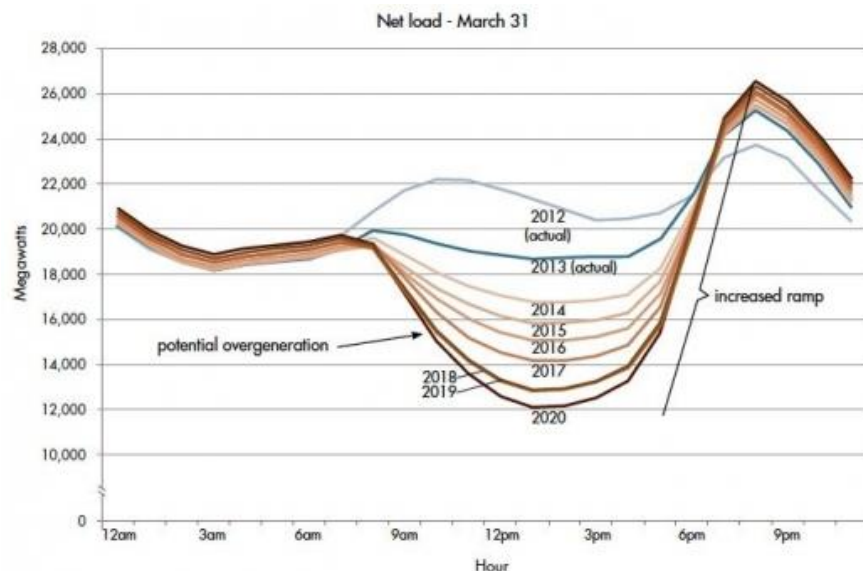


Figure 2: CAISO “Duck Curve”

Source: [https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables\\_FastFacts.pdf](https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf)

Further, Riverside’s largest baseload resource, the Intermountain Power Project (“IPP”), will be expiring in 2027. In an effort to meet our future RPS requirements using firm baseload energy, consistent with the strategy adopted in the 2018 Integrated Resource Plan, staff decided to pursue a geothermal project.

## **DISCUSSION:**

The Coso Geothermal Energy Project (Project) was selected from the 48 developer responses received in response to Southern California Public Power Authority’s (SCPPA) annual Request for Proposals for Renewable Energy Resources and Energy Storage Solutions competitive solicitation issued for 2019. The Project was selected by Riverside in a joint effort with the City of Banning and the City of Pasadena, as a viable geothermal power project to advance the City’s

renewable energy goals. On September 17, 2020, the SCPPA Board of Directors approved the Coso Geothermal Energy Project.

This Power Sales Agreement for the Coso Geothermal Energy Project has the following desirable characteristics and favorable terms:

***Economy of Scale of Joint SCPPA Project:*** The Coso Geothermal Energy Project has an expected capacity of 130 MW of which SCPPA has contracted for 14% of the capacity in Contract Years 1 through 5, 40% of the capacity in Contract Years 6-15, and 50% of the capacity in Contract Years 16-20. This capacity will be shared among the participant Cities of Riverside, Banning, and Pasadena.

	SCPPA Capacity	City of Riverside	City of Banning	City of Pasadena
Contract Years 1-5 (2022 through 2026)	18 MW	10 MW	8 MW	0 MW
Contract Years 6-15 (2027 through 2036)	48 MW	30 MW	8 MW	10 MW
Contract Years 16-20 (2037 through 2041)	58 MW	30 MW	8 MW	20 MW

***Project Site:*** The Coso Geothermal Energy Project is an existing resource located in Inyo County, California and is owned and operated by Middle River Power. The Project is comprised of three facilities, Coso Finance Partners (“Navy 1”), Coso Power Developers (“Navy 2”), and Coso Energy Developers (“BLM”) all directly or indirectly owned and controlled by Coso Geothermal Power Holdings, LLC. Each facility contains three steam turbine generators and is metered independently.

***Term of the Power Sales Agreement:*** Twenty-year Power Sales Agreement beginning on the Commencement Date, anticipated January 1, 2022.

***Commencement Date Guarantee:*** The Coso Geothermal Energy Project has been operating since 1987, however, failure to begin deliveries on the Commencement Date will result in a penalty of \$5,000 per day.

***Capacity:*** Riverside’s share of SCPPA’s contract capacity will be approximately 10 MW for Contract Years 1 through 5, and 30 MW for Contract Years 6-20, not accounting for plant degradation. The capacity increase is timed with the expiration of the IPP units in 2027.

***Price:*** The all-in price for the energy, capacity, Resource Adequacy and environmental attributes from the Coso Geothermal Energy Project is \$69.00 per megawatt/hour (MWh), fixed over the term of the contract. This represents the lowest price in Riverside’s portfolio for a firm, baseload renewable generation asset.

***Performance Guarantees:*** The Power Sales Agreement includes enforceable guarantees for the delivery of energy, capacity and environmental attributes, with penalties that result in financial payments, or in more severe cases, the unilateral right to terminate.

***Resource Adequacy Guarantees:*** The Coso Geothermal Energy Project has the

obligation to provide Resource Adequacy from the project or provide an adequate replacement.

**Congestion Risk Mitigation:** Unlike other renewable resources the City contracted in the past, the Coso Geothermal Energy Project is taking on most of the congestion risk by agreeing to a Point of Delivery close to the City.

**Performance Security:** Upon the Commencement Date, the Coso Geothermal Energy Project will provide a Performance Security letter of credit in the amount of \$4.1 million in Contract Years 1-5. The Performance Security will increase in Contract Years 6-15 to \$11.1 million and increase again in Contract Years 16-20 to \$12.4 million.

**Automatic Price Reduction:** If at any time during the term of the agreement, the Coso Geothermal Energy Project offers to sell Energy, Capacity, and Renewable Energy Credits (“REC”) to a third party for a term of 10 or more years for a price less than the current Contract Price, then the Contract Price will automatically be reduced to match the lower price in the new offer.

**RPS Provisions:** The Agreement offers strict RPS provisions which include a \$15 REC withholding until the RECs are received and requiring the facility to maintain CEC Compliance Standards with a spending cap of \$2.5M as well as a unilateral termination right for continued non-compliance.

**RPS Impacts:** The Coso Geothermal Energy Project will increase Riverside’s RPS level by about 4% in years 2022-2026 and 10-11% in years 2027-2041. Figure 3 shows how this renewable energy will help Riverside make further progress towards the states 60% RPS by 2030 mandate.

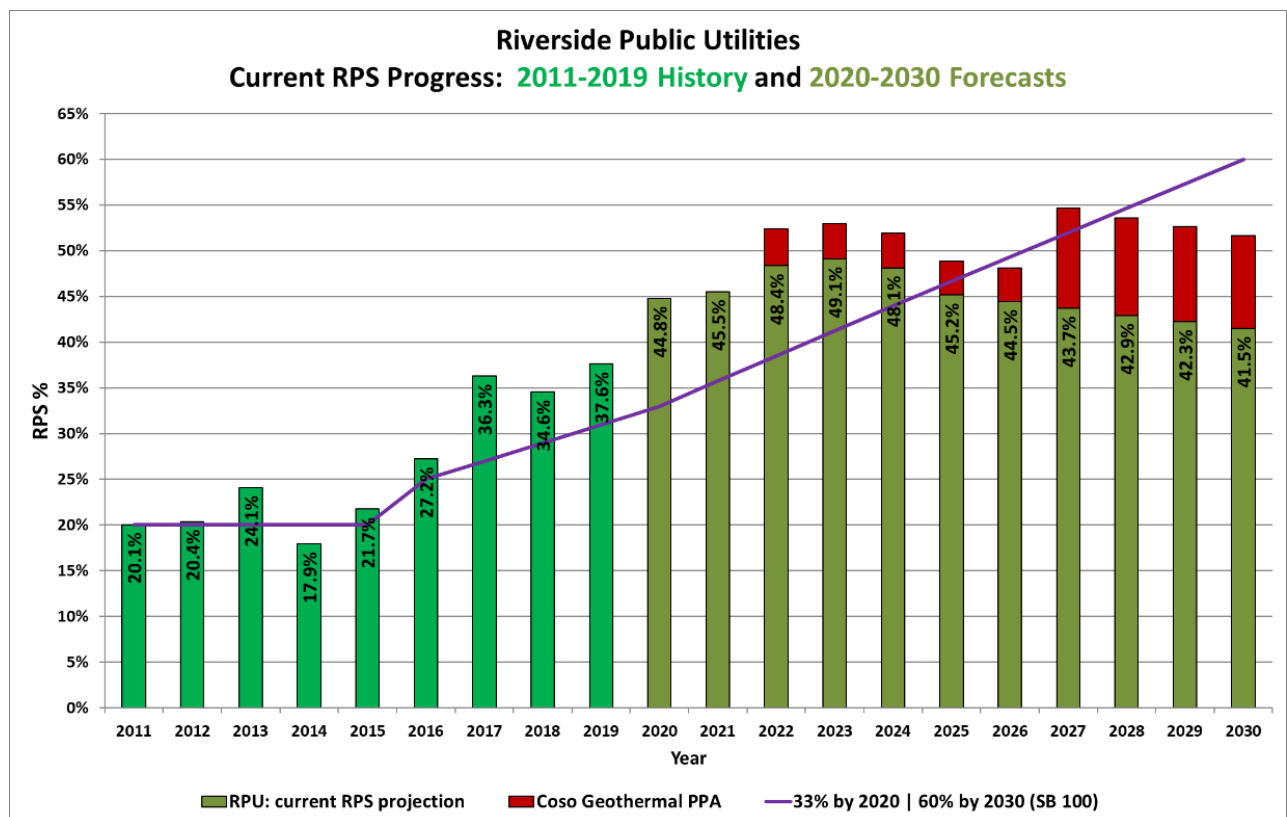


Figure 3. Impact of new Coso Geothermal Energy Project PPA on Riverside's current RPS progress.

The Purchasing Manager concurs that the recommended actions are in compliance with Purchasing Resolution No. 23256, Section 702(L) which provides that competitive procurement through the informal or formal procurement process shall not be required “When the Procurement is for wholesale energy, energy ancillary services, energy transmission, wholesale water commodity, and water transmission purchase by or on behalf of the City’s Public Utilities Department.”

**FISCAL IMPACT:**

There is no fiscal impact to the General Fund associated with this report. The annual average cost of power under the Power Sales Agreement is estimated at approximately, \$6,000,000 for contract years one through five and \$18,000,000 for contract years six through twenty. Sufficient funds are available in the Fiscal Year 2020/21 budget in the Public Utilities’ Power Resources Energy Account No. 6120100-422914. Future years’ funding will be included as part of the biennial budget process.

Prepared by:	Daniel E. Garcia, Utilities Deputy General Manager
Approved by:	Todd M. Corbin, Utilities General Manager
Approved by:	Al Zelinka, FAICP, City Manager
Approved as to form:	Gary G. Geuss, City Attorney

Certifies availability of funds:	Edward Enriquez, Chief Financial Officer/City Treasurer
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Attachments:

1. Power Sales Agreement
2. Presentation