

**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**

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## **Riverside Public Utilities Resource Operations and Strategic Analytics**

Board of Public Utilities  
November 9, 2020



# LEGISLATIVE HISTORY

1. **SB X 1-2 “California Renewable Energy Resources Act” (2011)**
  - 33% Renewable Portfolio Standard (RPS) Target by 2020
2. **SB 350 “Clean Energy and Pollution Reduction Act” (2015)**
  - Amends RPS target to 50% by 2030
3. **SB 32 “Global Warming Solutions Act” (2016)**
  - Greenhouse gas emissions reduced to 40% below the 1990 level by 2030
4. **SB 100 “100 Percent Clean Energy Act” (2018)**
  - Amends RPS target to 60% by 2030

# RPU 2019 POWER CONTENT LABEL

| ENERGY RESOURCES  | RPU General Power Mix | RPU 100% Renewable Energy Mix | 2019 CA Power Mix |
|---|-----------------------|-------------------------------|-------------------|
| <b>Eligible Renewable<sup>1</sup></b>                                     | <b>37.6%</b>          | <b>100.0%</b>                 | <b>31.7%</b>      |
| 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%              |
| <b>TOTAL</b>  | <b>100%</b>           | <b>100%</b>                   | <b>100%</b>       |
| Percentage of Retail Sales Covered by Retired Unbundled RECs <sup>3</sup> | 0.0%                  |                               |                   |

Board and Council have approved over 270 MW of renewable contracts/extensions:

- Geothermal – 86 MW
- Wind- 46 MW
- Solar- > 140 MW

Riverside reached 37.6% renewables in 2019 and is on target to reach 44% by 2020 – far exceeding the 33% by 2020 RPS mandate.



# BACKGROUND

1. Solar penetration has greatly impacted the CAISO grid operation
2. More Baseload Renewable Resources Needed to meet RPS and maintain reliability
3. Increased capacity in 2027 to align with the expiration of other baseload resources.

# Project Location



# Coso Geothermal

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

1. 20 year term – anticipated to start January 1, 2022
2. Renewable Capacity and Price
  - a. Contract Years 1-5 10 MW at \$69.00 per MWh
  - b. Contract Years 6-20 30 MW at \$69.00 per MWh

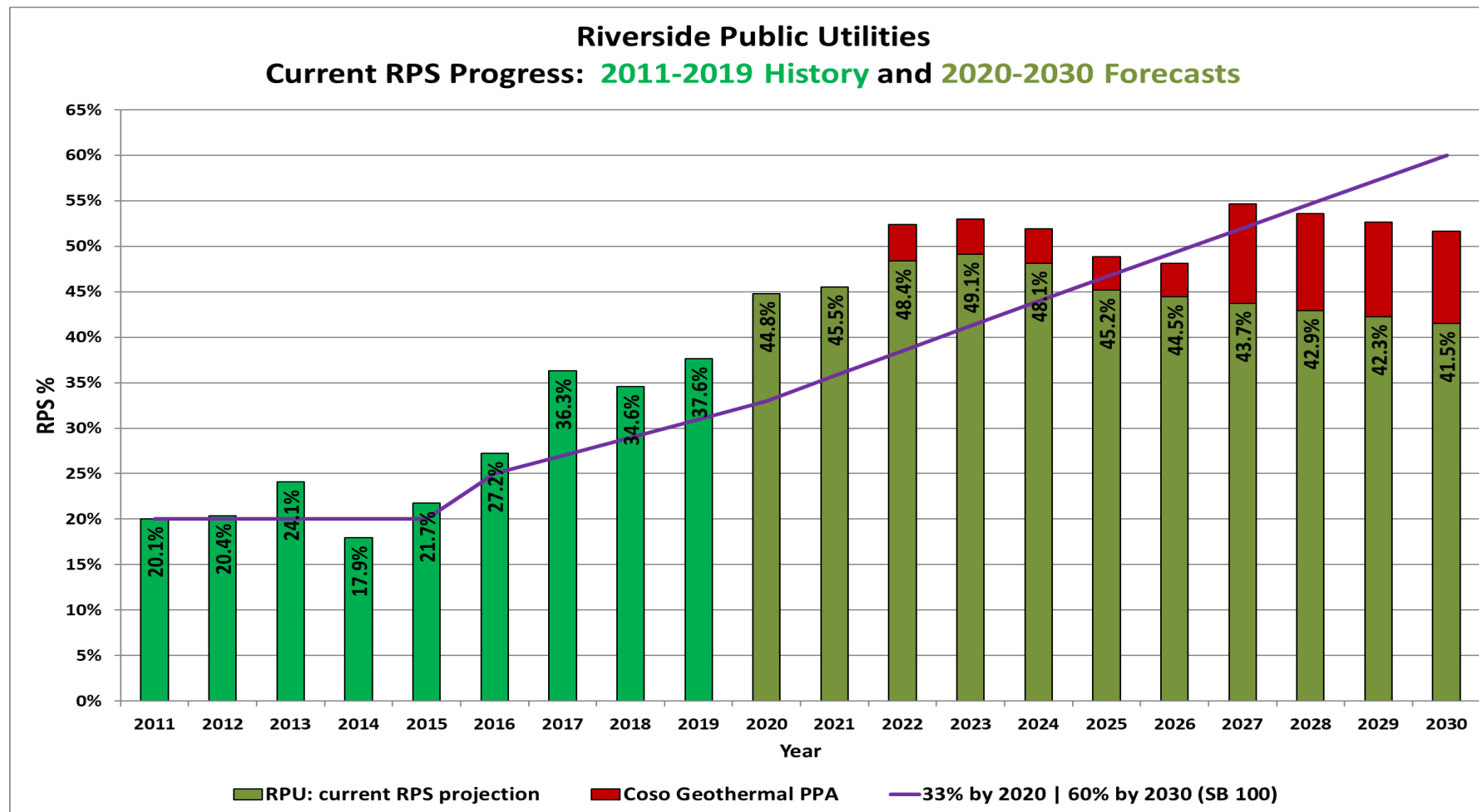


# ADDITIONAL PPA CHARACTERISTICS

1. Performance Guarantees
2. RA Guarantee
3. Congestion Risk Mitigation
4. Performance Security
5. Automatic Price Reduction
6. RPS Provisions



# RPS Impacts





# RECOMENDATIONS

That the Riverside Public Utilities Board 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.