



Clean Energy Procurement & Integrated Resource Plan

Monica Padilla, Director of Power Resources
March 11, 2020

Goals

1. Clean Energy Procurement Status
2. Integrated Resource Planning ("IRP") Overview

Share initial high-level results

Preview next steps

Clean Energy Procurement Update

- 2017 RFP – 20% PCC1 RPS
 - Completed
- 2019 RFP – 20% PCC1 RPS
 - In process
 - 6 contracts shortlisted
 - 1 approved
 - 2nd agendized for later in this meeting
 - 4 coming up

What is IRP: The Planning Perspective

Out of all available resource types and quantities, what is the optimal mix of resources for achieving our institutional goals?

SVCE's Preferred Portfolio Plan vs California Mandate

Key Planning Objective - Metrics

1. Decarbonization

- a. Annual Accounting of Emissions
- b. Clean Net Short - *possible future requirement*

2. Reliability

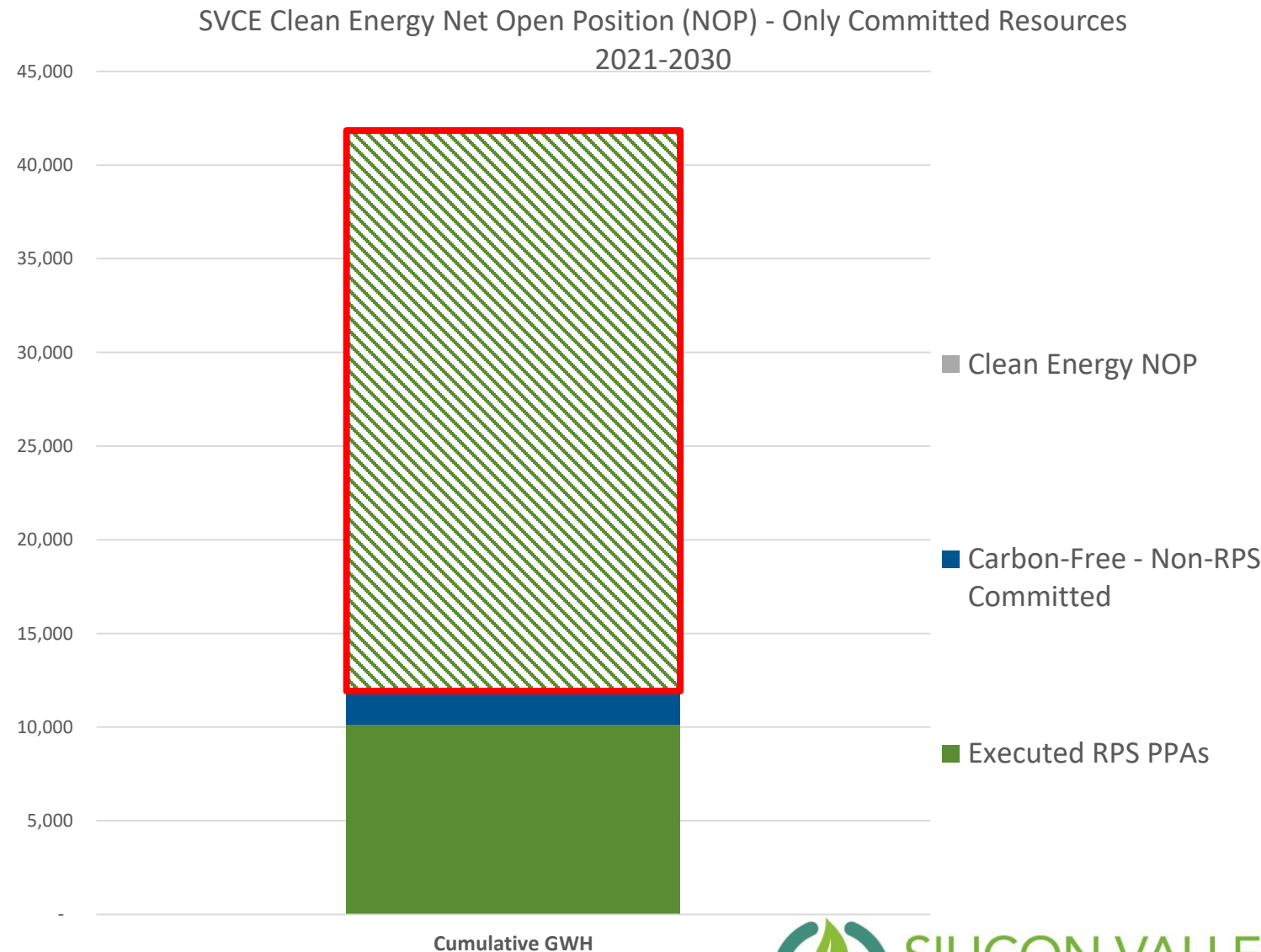
- a. Annual Resource Adequacy— *current requirement*
- b. Availability of Resource During 4 pm to 9 pm - *most likely future requirement*

3. Affordability

- a. 10 Year Levelized Net Cost
- b. Supply Cost Variability

Next 10 Years: How will we Meet Clean Energy Needs (2021-2030)

Need to Meet California's RPS mandates and SVCE's Clean Energy Goals (100% Carbon-free)



Board Direction on Integrated Resource Plan (IRP)

Item 3
PRESENTATION

10 Year IRP (2020 IRP) – 2021 to 2030

- RPS, GHG and Reliability to be balanced with Affordability

Board direction on IRP modeling in October 2019

- Exceed RPS mandate ~50% through 2026 and 60% by 2030
- Consider PG&E Allocations
- Shopping Cart of Resources – Portfolios 
- Consider Geothermal & BioX Resources with a strategy to neutralize GHG

Plan for how to close Clean Energy Net Open Position!

Alternative Portfolios to Meet Clean Energy Goals

1

- 1. Solar PV
- 2. Solar + Storage
- 3. Wind
- 4. Large Hydro



2

- 1. Solar PV
- 2. Solar + Storage
- 3. Wind
- 4. Large Hydro
- 5. Geothermal
- 6. Distributed Energy Resources

3

- 1. Solar PV
- 2. Solar + Storage
- 3. Wind
- 4. Large Hydro
- 5. Geothermal
- 6. Distributed Energy Resources
- 7. BioX

A

PG&E Allocations
None



B

RPS
Large Hydro
RA



C

RPS
Large Hydro
RA
Nuclear



2020 IRP & Clean Energy Procurement Upcoming Board Action

Item 3
PRESENTATION

Mar
2020

- 1. Approve Second Geothermal Project PPA**
2. IRP Model Results (informational)

Apr
2020

- 3. Direction on PG&E Carbon-Free & RPS Allocation**
- 4. Approve 1 New Solar plus Storage PPA**
5. Draft 2020 IRP (tentative)

May
2020

- 6. Approve 2020 IRP for CPUC Submittal**
- 7. Approve 2 New Solar plus Storage PPAs**

June
2020

- 8. Approve 1 New Solar plus Storage PPA**
- 9. Approve Western Area Power Administration Large Hydro Contract**



**Renewable Power Standard Procurement Update:
Approval of Resolution Authorizing Execution of
Coso Geothermal Power Holdings, Renewable Power
Purchase Agreement for Geothermal Electricity**

**Monica Padilla, Director of Power
Resources**

March 11, 2020

Request

Adopt Resolution authorizing the CEO to execute in substantial form the Power Purchase Agreement (PPA) with **Coso Geothermal Power Holdings LLC., (“Coso”)** and any necessary ancillary documents.

Power delivery term: January 1, 2022 to December 31, 2036 (15 years)

Amount not to exceed: \$330,754,000.

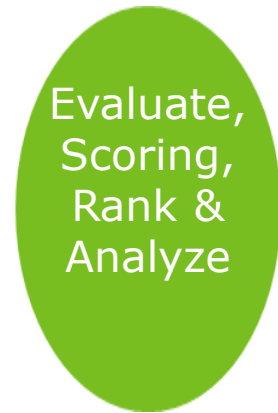
Spring 2019 Request for Proposals

- Goals & Requirements
 - RPS Eligible Resources
 - Meet long-term RPS procurement mandate for CP #4 26%
 - Diversify technology, location and suppliers
 - Contract start date no later than January 1, 2023

April 2019



May - July 2019



July – August 2019



September 2019 - now



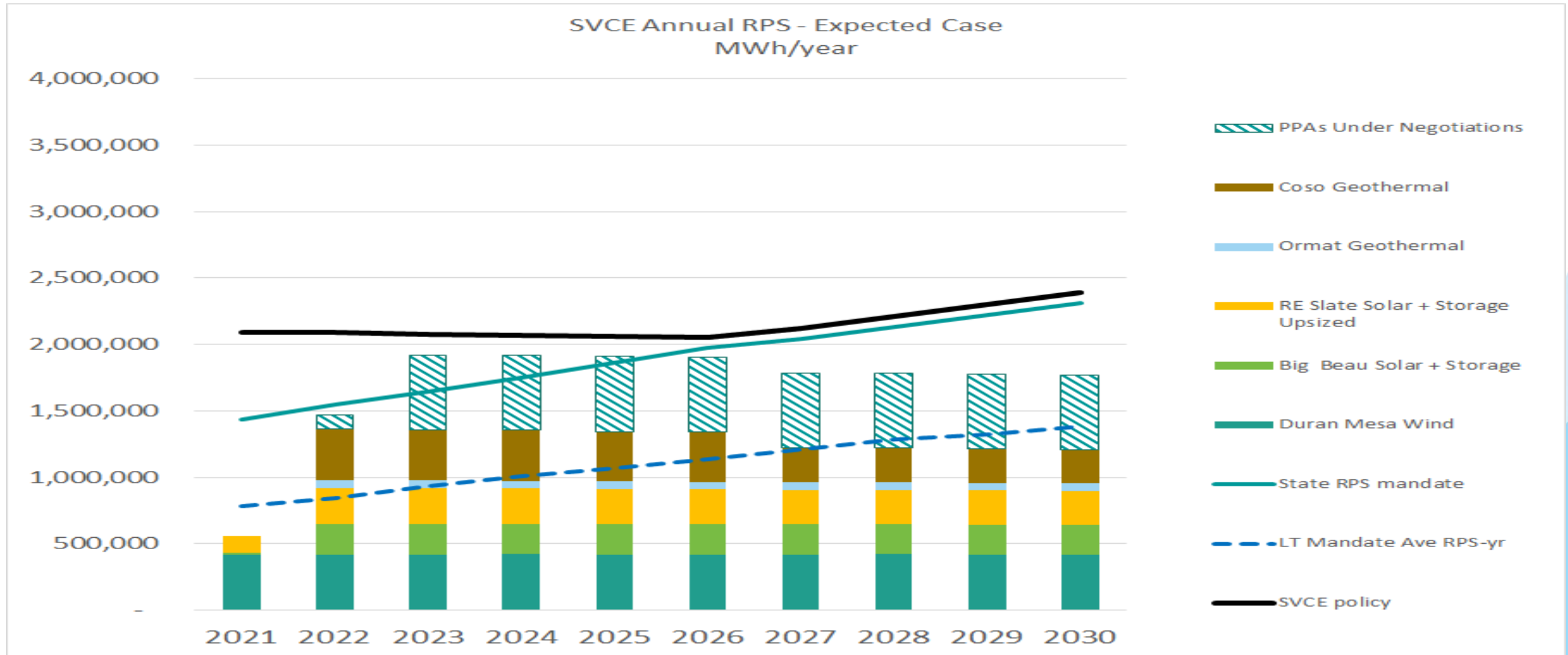
- Jan 2020: Approved Ormat Geothermal
- Mar 2020: Coso Geothermal
- Negotiating: 4 new Solar with Storage

SVCE/Coso Geothermal PPA

Item 4
PRESENTATION

Counterparty	Coso Geothermal Power Holdings, LLC (“Coso”)
Product	Bucket 1 (PCC1) Renewable Energy, existing geothermal
Delivery Term	15 years (January 1, 2022 through December 31, 2036)
Project Name	Coso Geothermal
Location	Inyo County, California
Average Annual Contract Capacity	Years 1 to 5: 43 MW Years 6 to 15: 28 MW
Percentage of Retail Load Served	Years 1 to 5: 10% Years 6 to 15: 6% Overall: 7%
Contract Price Structure	Fixed price per MWh with annual escalator

SVCE's RPS Progress



RPS Compliance with / Coso

Compliance Period	2021-2024	2025-2027	2028-2030
1. State Mandated RPS per Compliance Period - % of Retail Sales	40%	50%	57%
2. State Mandated % of Mandated RPS (Row #1) to be Contracted Under RPS Long-term Contracts	65%	65%	65%
3. State Mandated % of Retail Sales with RPS Long-term Contracts (Row 2 * Row 1)	26%	33%	37%
4. SVCE: Current Compliance with Row #3: Existing RPS Achieved with Long-term Contracts	22%	24%	25%
5. SVCE: Proposed Compliance with Row #3: RPS Achieved with Proposed Geothermal Project	29%	33%	31%

2019 PPA RFP Update

	Technology Category	Status	% of 2023 Load	Term Length (years)	Nominal Contract Cost (\$M)	Average Annual Cost (\$M)	Annual Cost as a % of Power Supply Expenses	Expected Board Date
1	Geothermal	Coso Pending	9.6%	15	\$331	\$22.1	9%	Mar-20
2	Geothermal	ORNI 50 Approved	1.4%	10	\$43	\$4.3	2%	Jan-20
3	Solar + Storage	Under Negotiation	6.3%	20	\$153	\$7.7	3%	Apr-20
4	Solar + Storage	Under Negotiation	3.8%	20	\$92	\$4.6	2%	Apr-20
5	Solar + Storage	Under Negotiation	2.6%	15	\$48	\$3.2	1%	May-20
6	Solar + Storage	Under Negotiation	1.4%	15	\$32	\$2.1	1%	May-20
			25.1%		\$698	\$44	18.3%	

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Questions?

