



Peninsula Clean Energy Board of Directors Meeting

March 24, 2022

Agenda

- Call to Order / Roll Call
- Public Comment (for items not on the Agenda)
- Action to set the Agenda and Approve Consent Items 1-4
 - Consent - Public Comment
- Regular Agenda
- Adjournment

Chair Report (Discussion)

CEO Report (Discussion)

Staffing Updates

- COO decision soon
- CFO position posted
 - Please send candidates our way!



Updates and “Meet and Greets”

- Letters of support for the CalCCA bill, AB 1814 re transportation electrification
- March 11 – CPUC Commissioner Darcie Houck
 - Thank you to Rick DeGolia (Atherton) and Rod Daus-Magbual (Daly City) for attending
- March 18 – CEC Commissioner McAllister
 - Focus on building electrification, reach codes, community solar
- March 21 – CEC Commissioner Monahan
- March 24 – CPUC Commission President Alice Reynolds
 - Thank you to Marty Medina (San Bruno) for attending

March 17 – all-staff, in-person, after 2 years apart!





Chelsea, Rafael, David, Matthew, Leslie
Peninsula Clean Energy

Hint: SOLAR







Carlos, Peter A, Vanessa, Kirsten, Michael

Hint: WATT





Nelly, Siobhan, Mehdi, Jeremy, Alejandra

Upcoming Meetings

- Executive Committee:
 - April 11 at 10:00 a.m. (Zoom)
- Citizens Advisory Committee:
 - April 14 at 6:30 p.m. (Zoom)
- Board of Directors:
 - April 28 at 6:30 p.m. (Zoom)



CAC Report (Discussion)

Appointments to the Executive Committee and Audit & Finance Committee (Action)

Authorize Agreement with Second Imperial Geothermal (Heber 2)

Siobhan Doherty, Director of Power Resources

March 24, 2022

Recommendation

Approve Resolution Delegating Authority to Chief Executive Officer to Execute Power Purchase and Sale Agreement for Renewable Supply with Second Imperial Geothermal Company, and any Necessary Ancillary Documents with a Power Delivery Term of 15 Years Starting at the Commercial Operation Date on or about January 1, 2023, in an Amount Not to Exceed \$275 Million (Action)

Mid-Term Reliability Decision (2023 – 2026)

- D.21-06-035 adopted by CPUC on June 24, 2021, to address mid-term reliability needs
- LSEs required to collectively procure 11,500 MW of new resources
- Allocated to LSEs by load share
- Resources must be zero-emission or RPS eligible (no fossil resources)
- 4,500 MW of obligation subject to specific category requirements (next slide)

Peninsula Clean Energy Allocation

Procurement Obligation in NQC¹ MW for Peninsula Clean Energy by Category and Year

Procurement Category	2023	2024	2025	2026	Total
Zero-emissions generation, generation paired with storage, or demand response resources ²	-	-	47	-	47
Firm zero-emitting resources ³	-	-	-	19	19
Long-duration storage resources ^{3, 4}	-	-	-	19	19
Remaining New Capacity Required	-	-	-	-	132
<i>Total Annual Net Qualifying Capacity (NQC) Requirements</i>	38	113	28	38	217

1. *Obligation is in NQC MW (not nameplate) and subject to ELCC factor*
2. *Zero-emissions resources required to replace Diablo Canyon must be procured by 2025 but may occur in any of the years 2023-2025; therefore, the columns do not add to the total.*
3. *LSEs may request an extension by February 1, 2023, up to 2028 for the LLT resources.*
4. *4. Minimum 8-hour discharge*

Background

- In July 2021, Ormat launched a request for bids for the Heber 2 project.
- Peninsula Clean Energy provided a bid in August and was shortlisted in September
- Since then, we have been working with Ormat to negotiate the terms of the agreement
- This project will replace and increase the capacity of an existing facility
- The incremental capacity will count towards our MTR requirements

Second Imperial Geothermal

Developer / Owner	Ormat Technologies, Inc.
Location	Imperial County
Capacity	26 MW
Capacity Factor	95%
Year 1 Expected Generation	216,000 MWh
COD	January 2023
Key Milestones	Existing LGIA 100% Site Control on land owned by Ormat Construction Start by May 2022
Labor	Committed to payment of prevailing wages
Environmental	Located adjacent to existing project
DACs	Located in DAC

Heber 2 Location



Contract Structure

- Pay for the output of the geothermal generator at a fixed-price rate per MWh with no escalation
- Contract term: 15 years
- Peninsula Clean Energy is entitled to all product attributes from the facility:
 - Energy
 - Renewable energy
 - Ancillary services
 - Resource adequacy
- The project is located in the IID balancing authority – will need to be imported to CAISO using import allocations

Labor

- Project has committed to the payment of prevailing wages for the construction of the project.

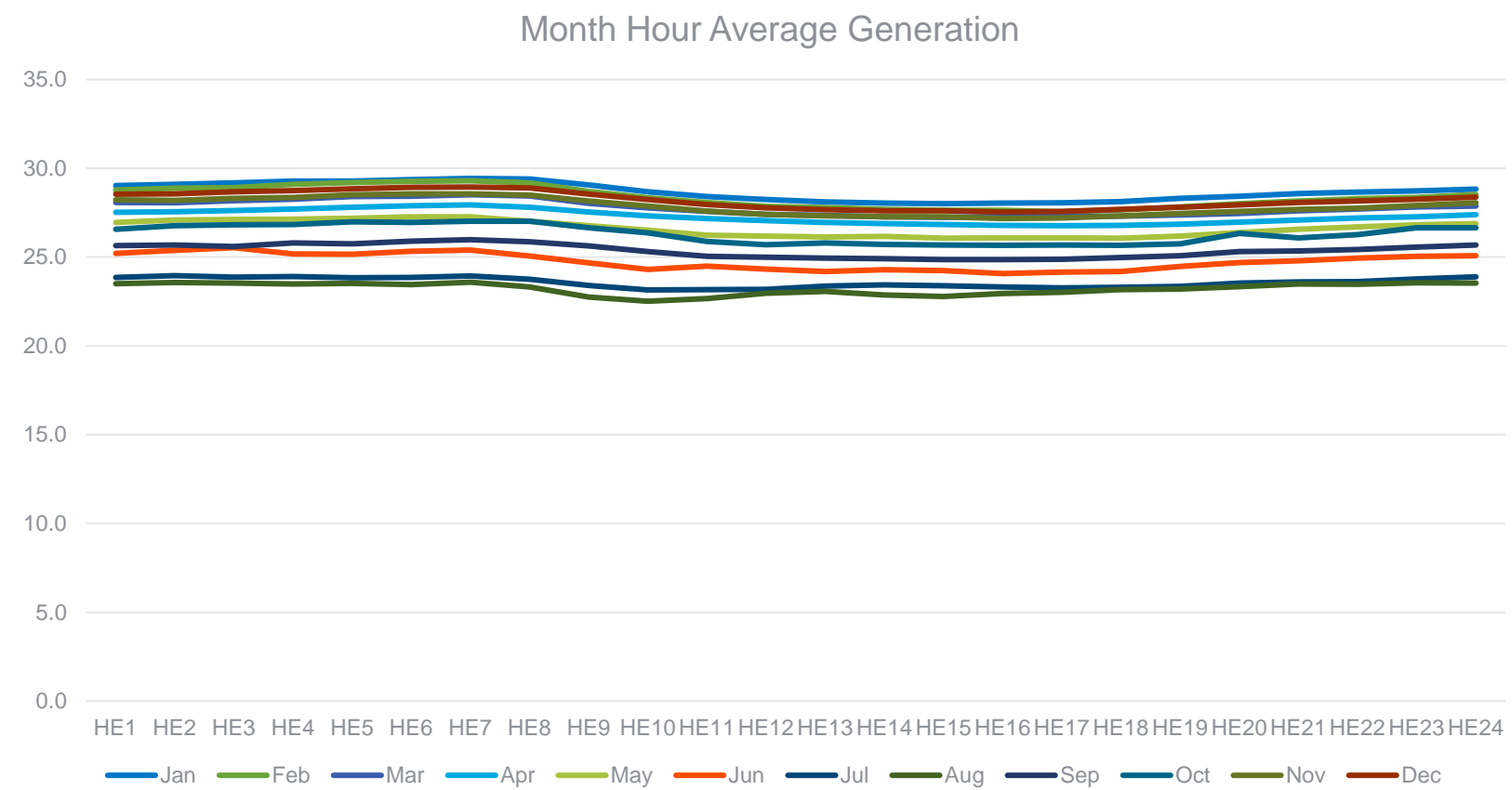
Environmental Review

- In 2020, staff worked with several environmental non-profits to develop a system for evaluating the environmental impact of projects. Staff studied the geospatial footprint of the project to evaluate whether the project is located in a restricted or high conflict area for renewable energy development:
 - Protected areas at the federal, state, regional, local level (e.g. County-designated conservation areas, BLM Areas of Critical Environmental Concern, critical habitat for listed species, national, state, county parks, etc.).
 - Identified and mapped important habitat and habitat linkages, especially for threatened and endangered species (either state or federally listed).
- For this project, the analysis showed that the project was not located in a protected area based on the USGS Protected Areas Database (PAD-US). This project is located on Salt Affected Soils of California as defined by Natural Resources Conservation Service which means the land has little agricultural value.

USGS PAD-US: <https://www.usgs.gov/core-science-systems/science-analytics-and-synthesis/gap/science/protected-areas>
Salt Affected Soils: <https://databasin.org/datasets/c788fd949abf4aed9a85e82a0112bf3f/>

Generation Profile

Geothermal has a generally flat generation profile with slightly higher output in the winter compared to the summer – This is a good complement to solar and will help to meet our time-coincident goals



Fit with Strategic Plan

- Priority 1: Design a power portfolio that is sourced by 100% carbon free energy by 2025 that aligns supply and consumer demand on a 24x7 basis
- Power Resources Goal 1: Secure sufficient, low-cost, clean sources of electricity that achieve Peninsula Clean Energy's priorities while ensuring reliability and meeting regulatory mandates
 - Objective A Low Cost and Stable Power: Develop and implement power supply strategies to procure low-cost, reliable power.
 - Objective B Clean Power: Design a diverse power portfolio that is 100% carbon-free by 2021; and is 100% carbon-free by 2025 that aligns supply and consumer demand on a 24 x 7 basis.

Recommendation

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Local Government Solar and Storage Program Approval



Local Gov. Solar Program: Request

Program: Local Government Solar and Storage

Requests

Approval of (prospective) capital for system installations and budget for next round of technical assistance

Amount

- \$600,000 for technical assistance
- \$8 million for prospective installation capital, repaid over 20 yrs

Program Overview

Summary: Accelerate local renewable energy deployment at local government facilities

Objectives

- Local solar and storage towards PCE's goal of 20 MW by 2025
- Reduce customer energy costs; insulate against rise in PG&E rates
- Help local governments achieve sustainability goals
- Develop a reproducible program and new service model

Precedents

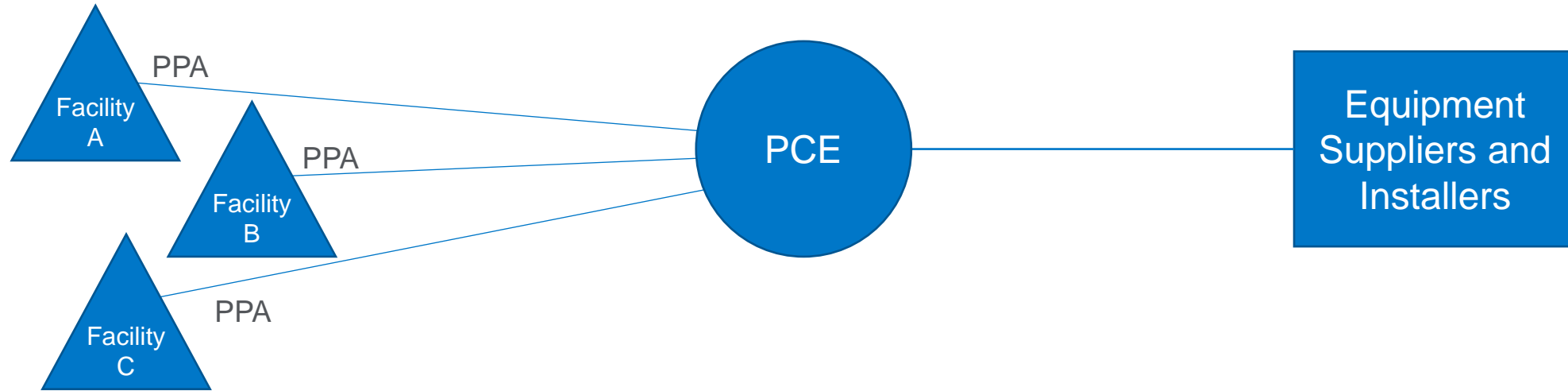
Aggregate Procurements

- Silicon Valley Renewable Energy Project (2010)
 - 43 sites, 11MW
- Alameda County Regional Renewable Energy Procurement Project (2015)
 - 186 sites, 31MW
- Group-purchasing volume discounts: 10% to 14%

CCAs developing local solar PPAs

- Peninsula Clean Energy
- East Bay Community Energy
- CalChoice Energy

General Deal Structure



PCE Provides

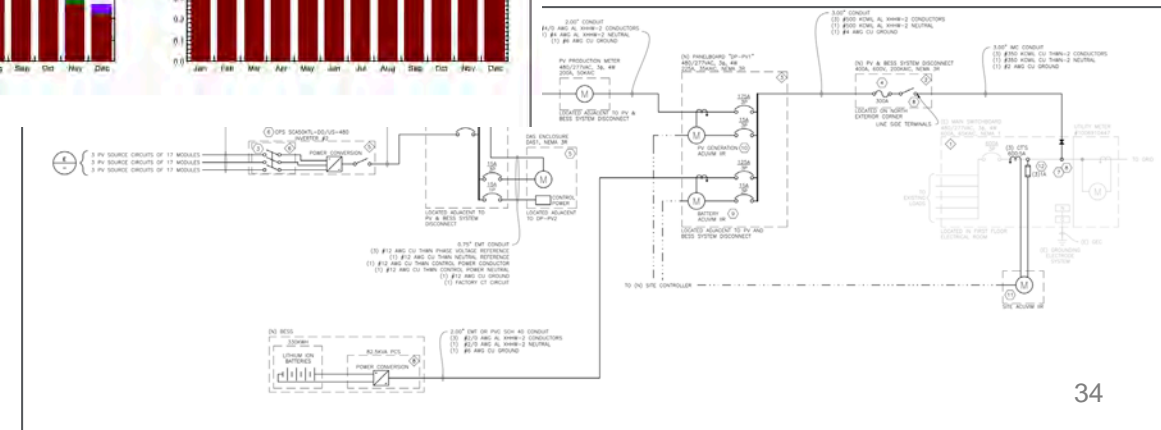
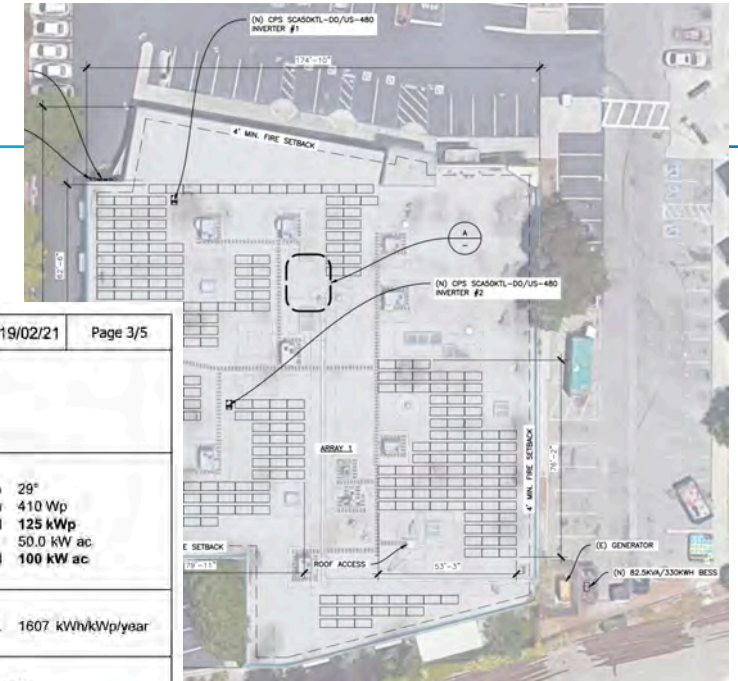
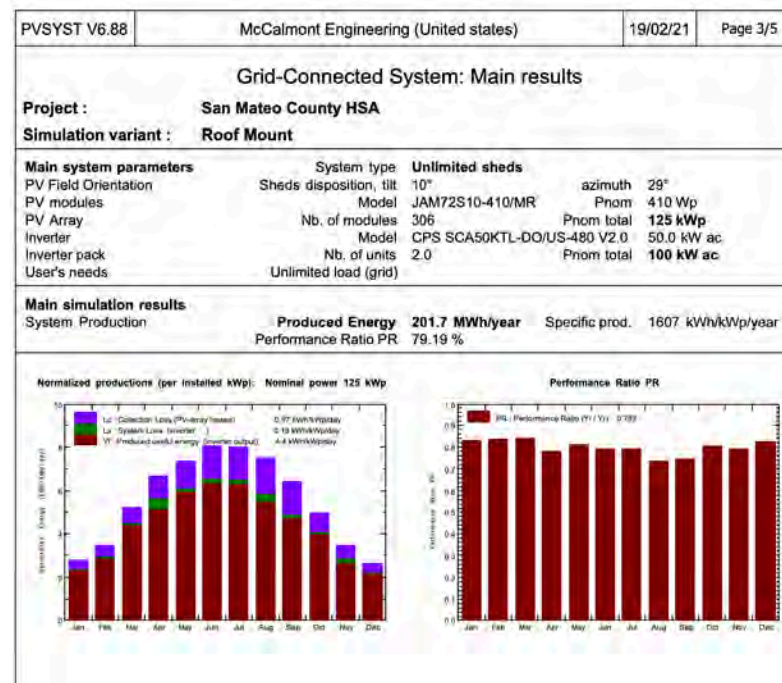
- Site evaluation, procurement and installation
- Aggregation of sites to facilitate better pricing
- Screen, select, and contract with reputable installers
- PPA to at a \$/kWh that is lower than utility rate
- Service with no added “margin” - only to cover costs

Completed Work

21 Site Assessments*

- Site plan
- Solar yield
- Single line diagrams
- Panel layout
- Preliminary financials
- Agency commitments in progress

*Completed in conjunction with McCalmont Engineering, extensive C&I and utility experience
Peninsula Clean Energy



Pilot Portfolio: 2 MW

Agency	Site(s)	Size (kW)	Design with Battery?	Status
Atherton	Town Hall	113.5	No	Approved
Belmont	Belmont City Hall	88.5	No	Approved
Brisbane	Brisbane Mission Blue Center	11	Yes	Approved
Colma	Colma Community Center	61.5	Yes	Approved
San Mateo County	HSA Building	126	No	Approved
Hillsborough	Hillsborough Public Works Yard	41.8	No	Approved
Los Banos	Community Center,	152	No	Pending
	Waste Water Treatment Plant	287	No	
Millbrae	Millbrae Rec Center	155	No	Approved
Millbrae	Millbrae Chetcuti Complex	412	No	Approved
Pacifica	Pacifica Community Center	77	Yes	Approved
Redwood City	Fair Oaks Community Center	89	Yes	Approved
San Bruno	Aquatic Center	270	No	Pending
San Carlos	San Carlos Youth Center	30	No	Approved
San Mateo	San Mateo Police Building	170	No	Approved

Projected Savings

- 20-year solar-only benefit for approved portfolio sites: \$4.5+M
- Savings vary significantly by site type
- Batteries remain expensive – provide resilience but at a cost
- Forthcoming rules for net energy metering (NEM 3.0) would likely affect economics significantly
 - Timing of new rules is unclear, CPUC decision was delayed
 - Submitting interconnection promptly will put projects under current rules
- Avoided PG&E rate increases may be very significant
 - Seeking +~18% starting 2023

Goal and Progression

- Major component of 20 MW by 2025
- Facilitate all public agencies
- Potentially expand sectors with proven model
- Solar, storage and possibly other clean energy

		Timeline			
	Site Types	2020	2021	2022	2023
Pilot	Cities	Launch >>	Assess	Procure & Install	Operate
Round 2	Cities, schools, districts			Assess & Procure	Install
Round 3	Public agencies & other?				Assess & Procure

Financial Structure

Capital

- Installation can be financed, but with interest
- PCE capital may reduce cost of capital

Tax Credit

- Federal Investment Tax Credit (ITC) + depreciation can reduce costs about one-third
- Requires tax liability to secure
- PCE is tax-exempt
- PCE exploring tax equity partnerships to capture share of tax benefits

Options being considered

1. Tax credit and finance secured together with a developer PPA (“all in” model)
2. PCE provides capital, secures tax credit with tax equity partner, contracts with developer solely for equipment and installation
 - PCE capital treated as balance sheet asset

Pilot Next Steps

Q1

1. Finalize site assessments
2. Complete legal review and documents

Q2/Q3

4. Execute RFP
5. Evaluate proposals
6. Brief local governments on finalist terms (last off-ramp)

Q3/Q4

6. Contract with local governments
7. Contract with developer
8. Begin installations

Round 2

- Larger aggregation: 20 to 40 sites
- Broader eligibility: all public agencies (schools, cities, special districts)
- Schedule: begin outreach on finalization of Pilot business model
- Budget: \$600,000 for technical assistance
 - Site evaluations
 - Procurement support and construction oversight
 - Project management

Local Gov. Solar Program: Request

Program: Local Government Solar and Storage

Requests

Approval of (prospective) capital for system installations and budget for next round of technical assistance

Amount

- \$600,000 for technical assistance (round 2)
- \$8 million for prospective pilot capital, repaid over 20 yrs

Update on Results of the 2021 RFO for Renewable Energy + Storage (Discussion)

Summary

Number of Participants	34
Number of Projects	70
Number of Offer Variants	106
Earliest COD	9/1/2022
Latest COD	1/1/2026
Number of Projects in California	65
Number of Projects outside California	5

Number of Participants: Number of unique counterparties/companies that participated in the RFO

Number of Projects: Number of unique projects submitted in the RFO

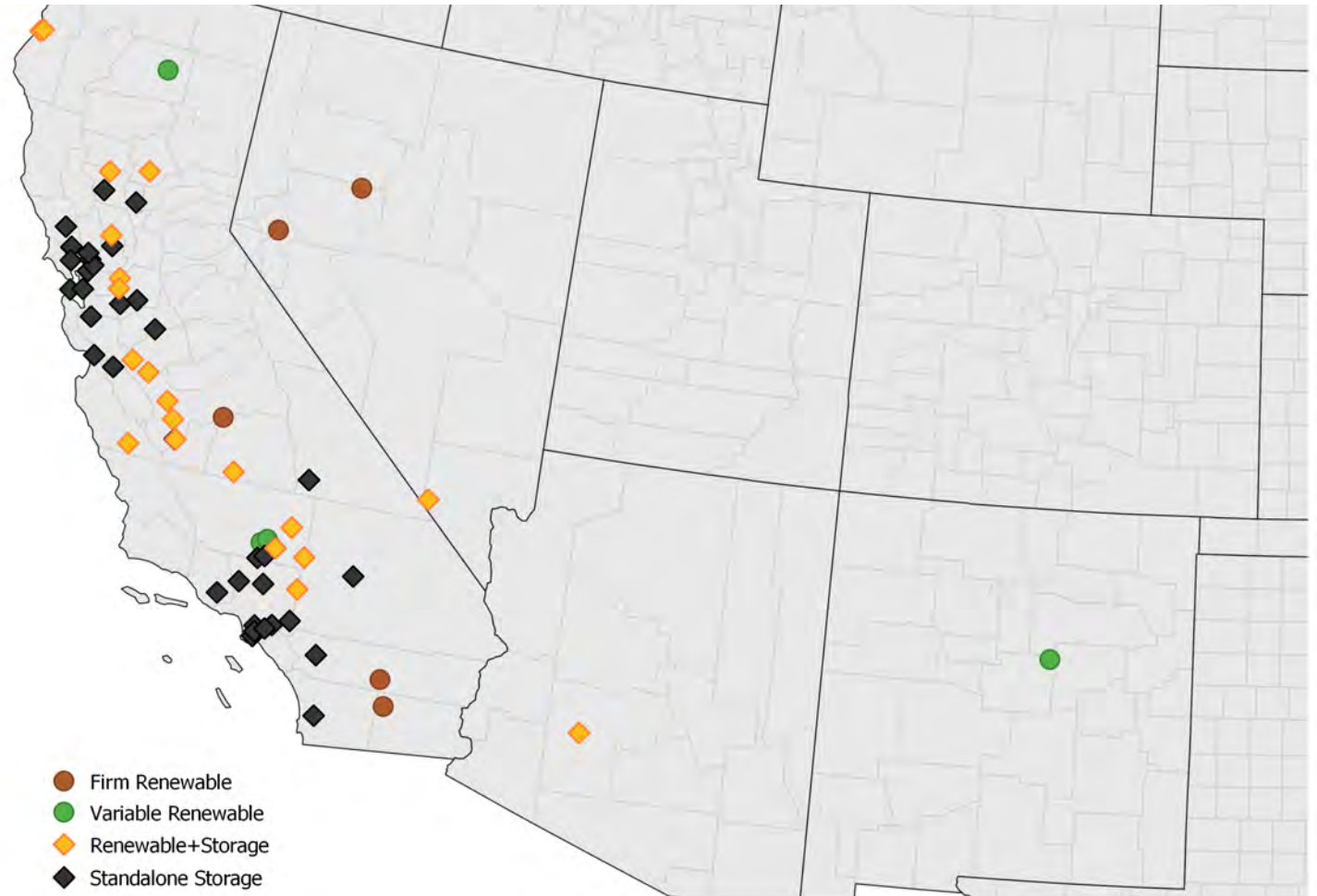
Number of Offer Variants: Number of unique offers submitted in the RFO. For example, for same project “A”, two offer variants with different contract lengths have been submitted.

Project Type Summary

Project Type	Count
Firm Renewable	5
Variable Renewable	4
Renewable + Storage	23
Standalone Storage	74

Firm Renewable: Renewable resources that their generation can be predicted accurately and doesn't depend on weather. (Geothermal and Biomass)

Variable Renewable: Renewable resources that their generation depend on weather and fluctuate hour by hour. These are considered non-dispatchable resources. (Wind and Solar)



Projects' Capacity

Type	Total Capacity
Geothermal	56 MW
Biomass	57 MW
Wind	190 MW
Small Hydro	4 MW
Solar + Storage	1,000 MW Solar, 625 MW Storage
Standalone Storage	3,800 MW (65MW 6hr, 800 MW 8hr; 825 MW non Li-Ion)

PPA Prices

- Average PPA price for wind projects has not changed significantly compared to 2020 RFO
- PPA price for geothermal projects have increased by ~20%, due to Mid-Term Reliability Requirements
- PPA price for solar+storage projects have increased by ~10% for solar energy PPA price and ~35% for storage capacity price

Board Members' Reports (Discussion)

Adjournment