Getting it Built Right

Toward Practices that Responsibly Facilitate California's Energy Transition

November 3, 2023
San Jose, CA

CALIFORNIA
COMMUNITY POWER

Agenda

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Time	Session Title	Objective
9 – 9:15am	Welcome and Opening	
9:15 – 10am	Session 1: Setting the Stage	• Explain CCAs and baselines on project development approach • Explain CCP • Scale new resource procurement needs and electric system transformation
10 – 11am	Session 2: Challenges with clean energy project development	• Categorize and assess challenge areas for project development • Identify stakeholder groups involved in project success
11:00 – 11:20am	Networking Break	
11:20 – 12:20pm	Session 3: Strategies for Getting Things Built Right, Part 1	• Assess environmental, land-use, equity, and local community perspectives and goals in clean energy project development
12:20 – 1:20pm	Networking Lunch	
1:20 – 2:20pm	Session 4: Strategies for Getting Things Built Right, Part 2	• Explore Workforce, Community Benefits, and local economic goals in project development
2:20 – 2:45pm	Closing Session	

WELCOME AND OPENING

9 – 9:15am

- Alex Morris, GM, CC Power

- CC Power Vice-Chair and San Jose host: Lori Mitchell, CEO, San Jose Clean Energy

- CC Power Officer and event moderator: Geof Syphers, CEO, Sonoma Clean Power

Welcome to California Community Power

CC Power allows its member CCAs to combine their buying power to procure new, cost-effective clean energy and reliability resources to continue advancing local and state climate goals. CC Power members represent over 3 million customers across more than 145 municipalities spanning from Humboldt County to Santa Barbara County.

Members
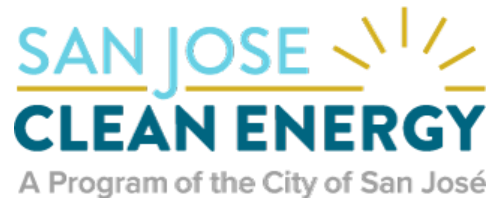
Introduction

WELCOME!

- Meet a few people and share:
  - Name
  - Why you care about clean energy
  - Roles you have or organizations with which you work.
  - A favorite thing about Fall

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Session 1: Setting the Stage

9:15 – 10am

- Beth Vaughan, CEO, California Community Choice Association (Cal-CCA)

- Geof Syphers, CEO, Sonoma Clean Power

Today

SHARED GOAL

We're all here because we agree California's transition to clean electricity must occur at the pace set by state policy.

GROUND RULES

- CCAs are here to listen, ask questions, challenge.
- No negotiations. No decisions.
- Keep it practical. Real world examples. Share data.

Today

INPUT

- Meeting Notes:
    - Notetaking during event will capture comments and input.
    - Notes will be posted to: https://cacommunitypower.org/events/

- Written comments can be submitted at comments@cacommunitypower.org.
    - Comments preferred by Nov 24th to enable possible discussion at Dec CC Power Board Mtg.

PROCESS

CC Power Board to form *ad hoc* committee to review input from today and recommend next steps.

CC Power

Agency for joint action across several community-owned electricity providers. 9 current members.

Actions taken:

- Purchased 138 MW of new geothermal
- Purchased 952 MWh of new long-duration storage
- Issued RFI for offshore wind power

California's New Challenge

Senate Bill 100 established a requirement that 100% of electricity sales are sourced by renewable or carbon-free sources by 2045.

But planned retirement of "once-through cooling" power plants in disadvantaged communities are getting delayed.

We are *all* are learning:

- Procurement is the easy part
- Transmission is the bottleneck

California's New Challenge

Scale is staggering:

- 7,000 MW new renewables and storage per year for next 20 years
- We have nearly run out of spare transmission
- Will likely require "all-of-the-above" strategy – in-state, imports, customer-owned

Happening at same time as distribution challenge:

- PG&E is falling behind on connecting new homes, EV charging, businesses

Community Choice Evolution

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Energy crisis prompted demand for more stability through public management of energy

SB 790 (Leno) established a CCA 'bill of rights' and allowed CCAs to administer efficiency programs

California Community Power Authority

2002

2016

2021

2000

2011

AB 117 (Migden) allowed energy choice and changed default retail provider to local government entities

California Community Choice Association

California Community Choice Financing Authority
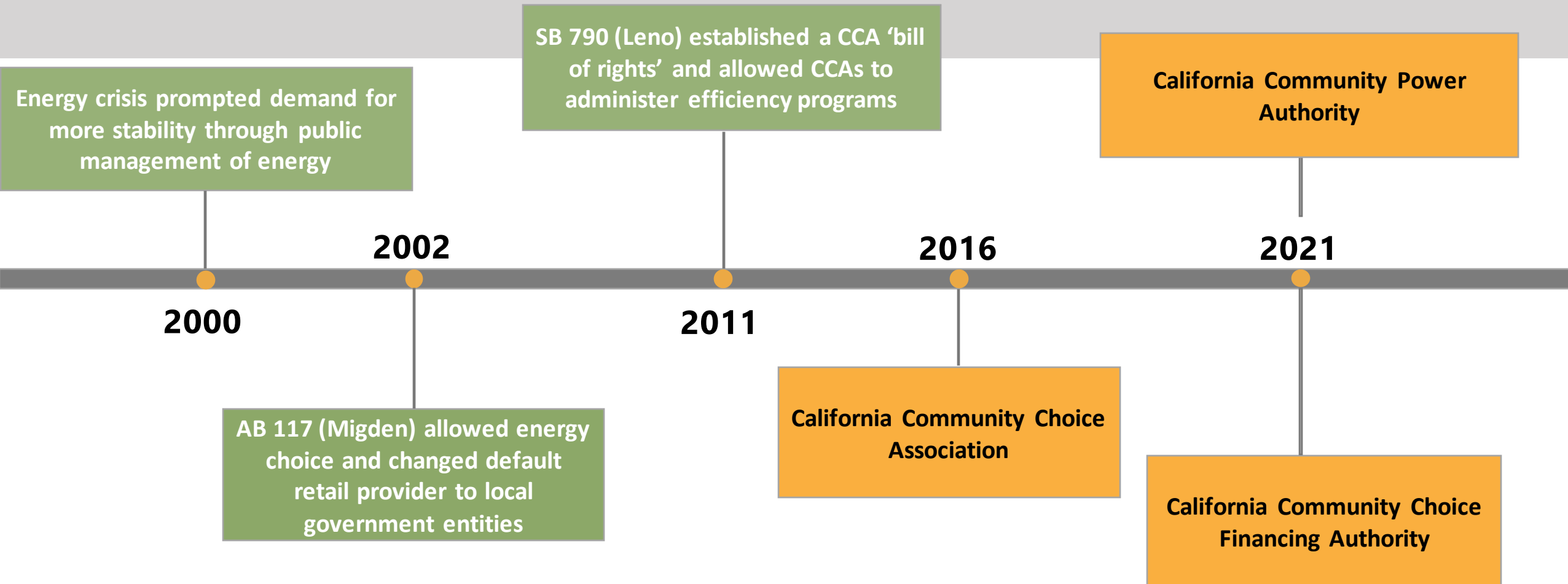
CCA Anticipated Departing Load by Investor-Owned Utility 2022-2024

	2022	2023	2024
PG&E	CCA 46% / Non-CCA 53%	CCA 47% / Non-CCA 52%	CCA 48% / Non-CCA 51%
SCE	CCA 20% / Non-CCA 80%	CCA 23% / Non-CCA 77%	CCA 23% / Non-CCA 77%
SDG&E	CCA 33% / Non-CCA 67%	CCA 49% / Non-CCA 51%	CCA 54% / Non-CCA 46%
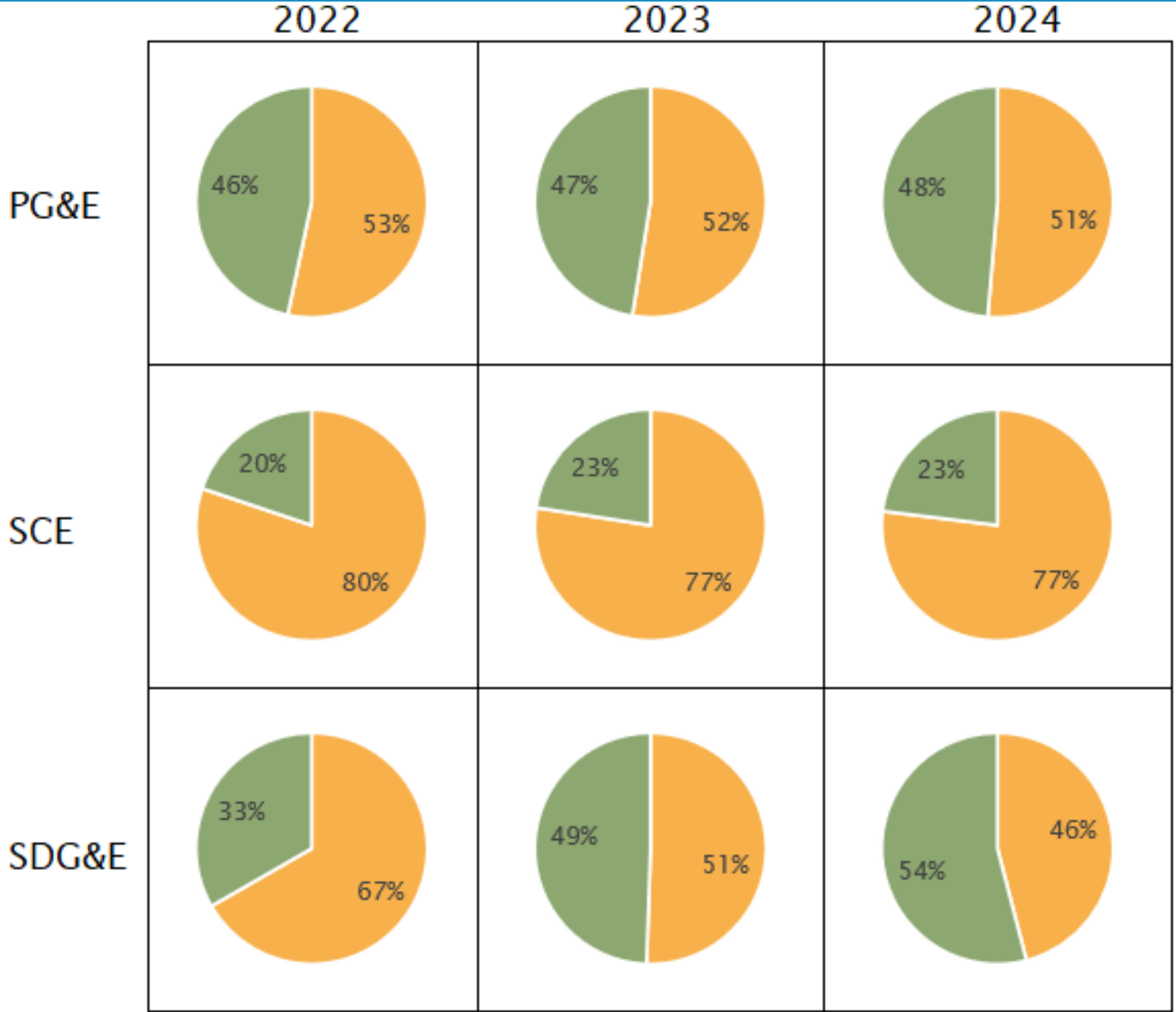
CCA load
Non-CCA load (IOU/ESP)

CCA POWER SOURCES

- None of the CCAs energy contracts are with specified natural gas or coal resources
- CCA reliance on unspecified resources is similar to IOUs
- CCA's GHG emissions intensity is well below the state average (265 lbs CO_2e/MWh compared to 423 lbs CO_2e/MWh)
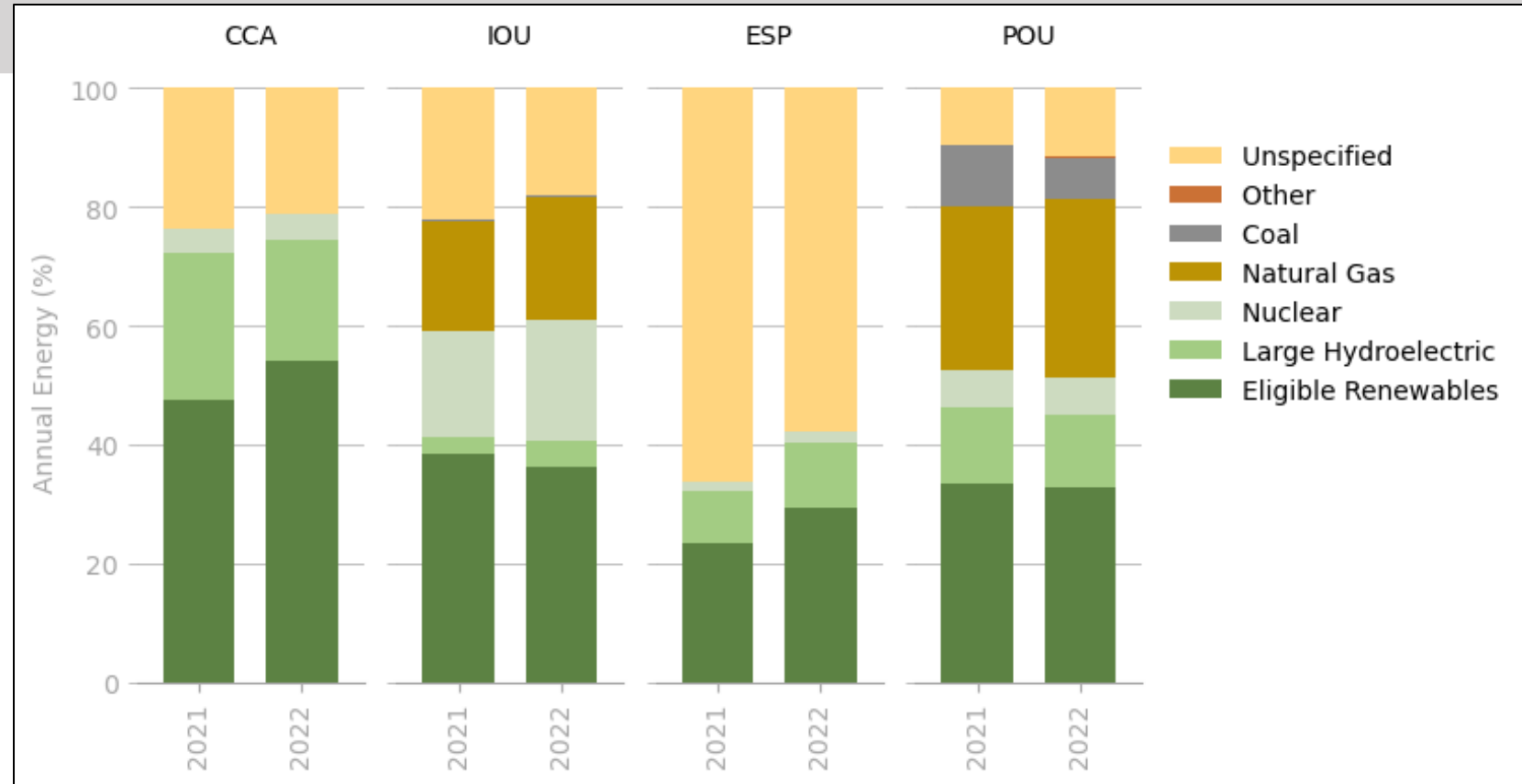
Data Sources: 2021 and 2022 CEC Power Source Disclosure Program Filings

CALCCA
ADVANCING LOCAL ENERGY CHOICE

NEW BUILD RESOURCES

CCA Cumulative New Build Resources
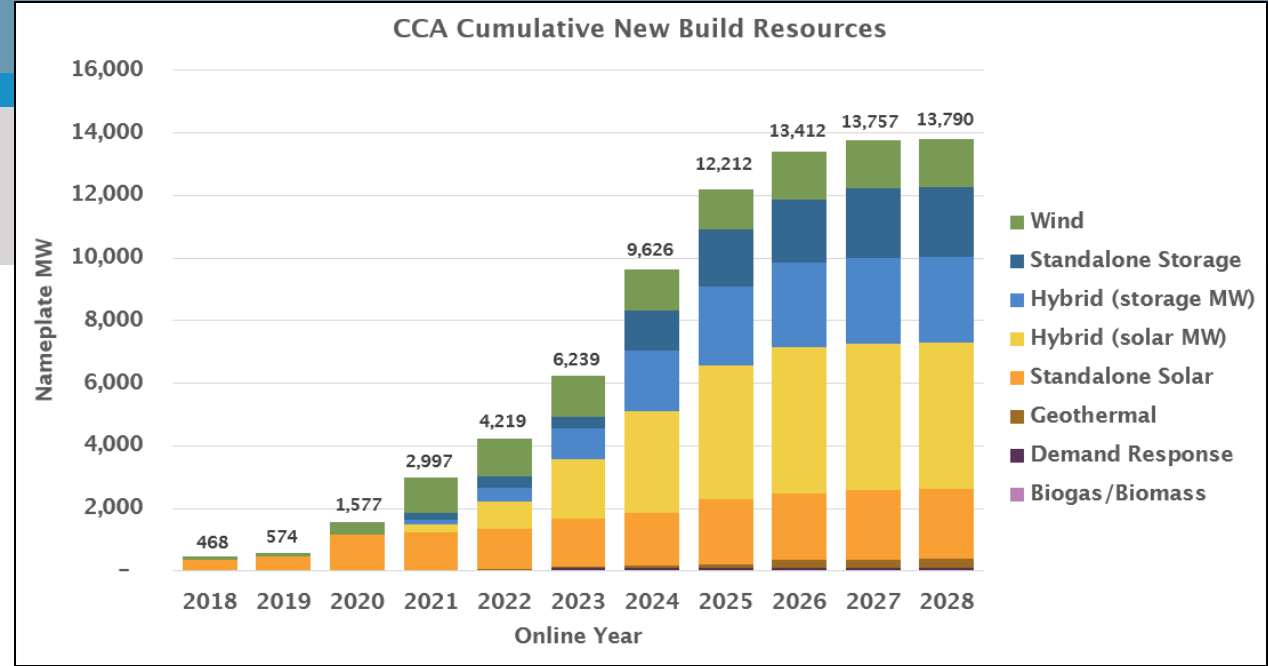
CCA PPA TRANSPARENCY

CCA Long-Term Clean Energy Power Purchase Agreements

CALCCA — ADVANCING LOCAL ENERGY CHOICE

#	CCA	Project Name	Technology	Nameplate Capacity (MW)	Nameplate Storage (MW)	Storage Capacity (MWh)	County (or state if outside CA)	Online Year	PPA Term (Years)
1	Apple Valley Choice Energy	Duran Mesa Wind	Wind	2.0			New Mexico	2021	15
2	Apple Valley Choice Energy	Tecolote	Wind	13.5			New Mexico	2021	15
3	Apple Valley Choice Energy	Voyager Wind IV Expansion	Wind	4.6			Kern	2021	12
4	Apple Valley Choice Energy	Santa Paula Energy Storage	Standalone Storage		2.0	8.0	Ventura	2024	10
5	Apple Valley Choice Energy	Black Walnut	Standalone Storage		3.0	12.0	Ventura	2025	10
6	Apple Valley Choice Energy	Cape Station	Geothermal	1.7			Utah	2026	15
7	Central Coast Community Energy	Cal Flats BESS (RA only)	Standalone Storage		60.0		Monterey	2021	10
8	Central Coast Community Energy	Casa Diablo IV	Geothermal	7.0			Mono	2022	10
9	Central Coast Community Energy	Rabbitbrush	Solar + Storage	60.0	12.0	30.0	Kern	2022	15
10	Central Coast Community Energy	RE Slate 1	Solar + Storage	67.5	33.8	135.0	Kings	2022	17
11	Central Coast Community Energy	Angiola	Solar + Storage	20.0	20.0	80.0	Tulare	2023	15
12	Central Coast Community Energy	Victory Pass	Solar + Storage	100.0	50.0	200.0	Riverside	2023	15
13	Central Coast Community Energy	Yellow Pine	Solar + Storage	75.0	39.0	156.0	Nevada	2023	20
14	Central Coast Community Energy	Atlas	Standalone Solar	150.0			Arizona	2023	10
15	Central Coast Community Energy	Mountain View	Wind	33.3			Riverside	2023	20
16	Central Coast Community Energy	Fish Lake	Geothermal	2.4			Nevada	2024	20
17	Central Coast Community Energy	Ormat	Geothermal	22.4			California & Nevada	2024	20
18	Central Coast Community Energy	Aratina	Solar + Storage	120.0	30.0	90.0	Kern	2024	20
19	Central Coast Community Energy	Jasmine	Solar + Storage	70.0	17.5	70.0	Kern	2024	12
20	Central Coast Community Energy	San Luis West	Solar + Storage	62.5	15.6	62.0	Fresno	2024	15
21	Central Coast Community Energy	RCPA Storage	Standalone Storage		10.0	40.0	Santa Barbara	2024	20
22	Central Coast Community Energy	Bodega	Standalone Storage		10.0	80.0	Monterey	2026	20
23	Central Coast Community Energy	Green Valley	Standalone Storage		16.0	128.0	Monterey	2026	20
24	Central Coast Community Energy	Rava Mesa	Standalone Storage		6.0	48.0	Monterey	2026	20
25	Clean Energy Alliance	Tecolote	Wind	30.0			New Mexico	2021	15
26	Clean Energy Alliance	TBD	Geothermal	20.0			Utah	2026	15
27	Clean Power Alliance	Voyager Wind II Phase 4	Wind	21.6			Kern	2019	15
28	Clean Power Alliance	Mohave County Wind Farm	Wind	300.0			Arizona	2020	15
29	Clean Power Alliance	High Desert	Solar + Storage	100.0	50.0	200.0	San Bernardino	2021	15
30	Clean Power Alliance	Golden Fields	Standalone Solar	40.0			Kern	2021	15
31	Clean Power Alliance	Edwards Sanborn	Standalone Storage		100.0	400.0	Kern	2021	15
32	Clean Power Alliance	Arlington	Solar + Storage	233.0	132.0	528.0	Riverside	2022	16
33	Clean Power Alliance	Luna	Standalone Storage		100.0	400.0	Los Angeles	2022	15
34	Clean Power Alliance	Daggett 2	Solar + Storage	65.0	52.0	208.0	San Bernardino	2023	15
35	Clean Power Alliance	Daggett 3	Solar + Storage	123.0	61.5	246.0	San Bernardino	2023	15
36	Clean Power Alliance	Estrella	Solar + Storage	56.0	28.0	112.0	Los Angeles	2023	16
37	Clean Power Alliance	Resurgence	Solar + Storage	48.0	40.0	160.0	San Bernardino	2023	20
38	Clean Power Alliance	Prologis - Dominguez	Standalone Solar	1.0			Los Angeles	2023	15
39	Clean Power Alliance	Prologis - El Segundo	Standalone Solar	0.6			Los Angeles	2023	15
40	Clean Power Alliance	Prologis - Wilmington 1	Standalone Solar	1.8			Los Angeles	2023	15
41	Clean Power Alliance	Prologis - Wilmington 2	Standalone Solar	0.6			Los Angeles	2023	15
42	Clean Power Alliance	Prologis - Workman	Standalone Solar	1.9			Los Angeles	2023	15
43	Clean Power Alliance	Arica	Solar + Storage	93.5	71.0	284.0	Riverside	2024	15

Long-term contracts totaling close to 14 GW signed with

New-Build Clean Energy Projects as of Nov. 2023

CCAs: MAPPING OUT A CLEAN ENERGY FUTURE

Community Choice Aggregators (CCAs) have signed long-term power purchase agreements for close to 14,000 Megawatts (MW) with new-build clean energy resources, fueling renewable energy development, green jobs, and economic growth throughout California.

POWER

Humboldt County
- 2 MW Solar
- 5.3 MW Solar +
- 3.5 MW/13.8 MWh Storage
- 17.3 MW/69 MWh Standalone Storage

Napa County
- 5.7 MW Solar

Sutter County
- 2.5 MW/10 MWh Standalone Storage

Yuba County
- 1.6 MW Biogas

Placer County
- 4.8 MW Biogas

Utah
- 48 MW Geothermal

Lake County
- 25 MW Geothermal

28 MW

Sierra County
- 2.5 MW/10 MWh Standalone Storage

Nevada
- 285 MW Solar +
- 185 MW/740 MWh Storage
- 140 MW/560 MWh Standalone Storage

Yolo County
- 16 MW Solar +
- 16 MW/77 MWh Storage

204 MW Geothermal   814 MW

Mendocino County
- 6 MW Solar
- 4 MW Solar +
- 4 MW/16 MWh Storage

14 MW

2.5 MW   1.6 MW

Solano County
- 5 MW Solar
- 84.5 MW/ 338 MWh Standalone Storage

1.6 MW Biogas

Alameda County
- 103.5 MW Wind
- 150 MW Solar +
- 75 MW/300 MWh Storage
- 125.5 MW/502 MWh Standalone Storage

25 MW   2.5 MW   4.8 MW

Mono County
- 14 MW Geothermal

Merced County
- 205 MW Solar

Sonoma County
- 5 MW Solar
- 7 MW Geothermal

32 MW

12 MW   5.7 MW

Contra Costa County
- 20.4 MW Solar
- 2 MW Solar+
- 0.8 MW/3.2 MWh Storage

14 MW

Fresno County
- 464.6 MW Solar
- 325 MW Solar +
- 71.2 MW/284.5 MWh Storage
- 415 MW/1660 MWh Standalone Storage

Marin County
- 8.5 MW Solar

4.9 MW Biogas

13.4 MW   91.1 MW

23.2 MW

454 MW   137 MW

Stanislaus County
- 90 MW Solar +
- 47 MW/188 MWh Storage

205 MW

Tulare County
- 55.8 MW Solar
- 320 MW Solar +
- 250 MW/1,000 MWh Storage
- 10 MW/60 MWh Standalone Storage

1,275.9 MW

Kings County
- 273 MW Solar
- 218.5 MW Solar + 98.3 MW/393 MWh Storage
- 117 MW/468 MWh Standalone Storage

92 MW

647.8 MW

12 MW Biomass

706.8 MW

Monterey County
- 92 MW/496 MWh Standalone Storage

San Bernardino County
- 3 MW Solar
- 594 MW Solar + 357 MW/1,452MWh Storage
- 132.5MW/530MWh Standalone Storage

Kern County
- 225.9 MW Wind
- 530.4 Solar
- 878.9 MW Solar +
- 487.4 MW/1,957.6 MWh Storage
- 611 MW/3,544 MWh Standalone Storage

2,733.6 MW

1,086.5 MW

Arizona + New Mexico
- 1,059.7 MW Wind
- 350 MW Solar

103.4 MW   30 MW   586.6 MW

20 MW   2,477.9 MW

Santa Barbara County
- 93.4 MW Wind
- 10 MW/40 MWh Standalone Storage

263 MW

531.5 MW

Ventura County
- 30 MW/120 MWh Standalone Storage

CALCCA
ADVANCING LOCAL ENERGY CHOICE cal-cca.org

- Solar*
- Wind
- Biomass/Biogas
- Geothermal
- Wind and Solar*
- Standalone Storage

*May also include energy storage

Los Angeles County
- 217.6 MW Solar
- 56 MW Solar + 28 MW/112 MWh Storage
- 285 MW/1,140 MWh Standalone Storage

Orange County
- 10 MW Solar +
- 10 MW/50 MWh Storage

Imperial County
- 132 MW Solar +
- 105 MW/420 MWh Storage

Riverside County
- 43.9 MW Wind
- 275 MW Solar
- 1,304 MW Solar +
- 705 MW/2,820 MWh Storage
- 150 MW/1,000 MWh Standalone Storage

San Diego County
- 186 MW Solar +
- 195.5 MW/782 MWh Storage
- 150 MW/800 MWh Standalone Storage

26 MW Geothermal

CCA PPA STATS

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CCA PPAs equate to:

- Almost 14 GW of renewables + energy storage
- More than 5,300 MW operational
- More than $25 billion committed by CCAs to build/operate
- Support for 29,000 construction jobs

GREEN ENERGY, GREEN JOBS

Unions/Trades that are building CCA-contracted projects include:

Carpenters (Local 102)	IBEW (Local 440)
Carpenters (Local 152)	IBEW (Local 447)
Carpenters (Local 713)	IBEW (Local 477)
Carpenters (Local 909)	IBEW (Local 551)
Carpenters (Local 951)	IBEW (Local 569)
Cement Masons (Local 600)	IBEW (Local 595)
IBEW (Local 11)	IBEW (Local 684)
IBEW (Local 47)	IBEW (Local 1245)
IBEW (Local 100)	Insulators (Local 5)
IBEW (Local 125)	Ironworkers (Local 155)
IBEW (Local 184)	Ironworkers (Local 229)
IBEW (Local 302)	Ironworkers (Local 378)
IBEW (Local 428)	

GREEN ENERGY, GREEN JOBS (CONT.)

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Unions/Trades that are building CCA-contracted projects include:

Ironworkers (Local 416)
Ironworkers (Local 433)
Laborers (Local 29)
Laborers (Local 89)
Laborers (Local 152)
Laborers (Local 220)
Laborers (Local 294)
Laborers (Local 300)
Laborers (Local 304)
Laborers (Local 324)
Laborers (Local 743)
Laborers (Local 783)
Laborers (Local 1130)

Laborers (Local 1184)
Millwrights (Local 102)
Operating Engineers (Local 3)
Operating Engineers (Local 12)
Pile Drivers (Local 34)
Plumbers and Pipefitters (Local 228)
Plumbers and Pipefitters (Local 460)
RichmondBuild
Steamfitters (Local 342)
Teamsters
Teamsters (Local 315)

CCA IRP Procurement on Track but Faces Challenges

CCAs collectively are on track in response to CPUC procurement orders, though 2024 will be challenging

D19, MTR, and Supplemental MTR Procurement Orders: Cumulative CCA Progress

Data updated August 2023

Note: Combined D19 and MTR progress is only an estimate. Final compliance depends on whether and how approximately 180 MW of excess D19 procurement is allocated to MTR.

CCA projects are facing delays for reasons common to all LSEs
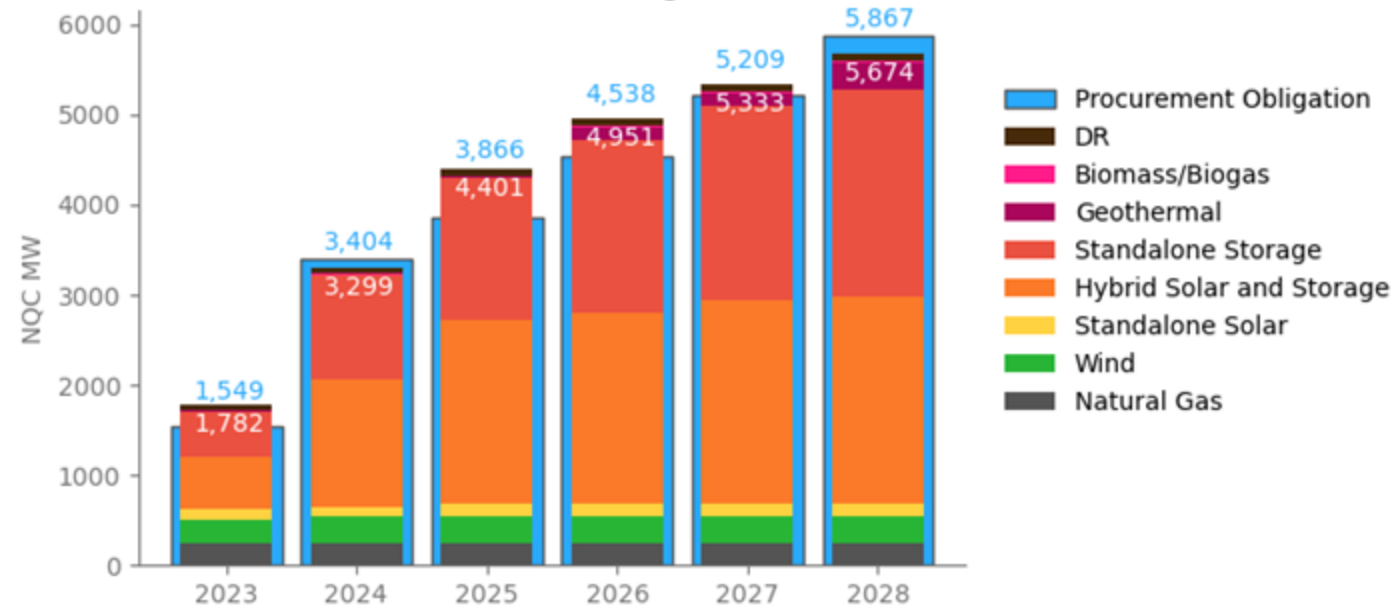
	Number of Delayed Projects	Delayed Capacity (NQC MW)
Total	51	1,763
Supply Chain	30	1,344
Interconnection	25	717
Permitting	14	356
Other	16	334

Note: CCA projects can be delayed for multiple reasons. The total delays are not the sum of the individual delay reasons.

Data updated May 2023

MEETING SB 100 GOALS

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*Rate of Generation Development Needed to
Meet SB100 Goals is Unprecedented*

- **Historical Annual Net Build Rate (2001–2021): 1,308 MW***

- **Future Annual Net Build Rate Required to Meet SB100 2045 Goal = 7,292 MW****

- **Annual Growth Rate Must Increase 557% to Meet 2045 Goals**

Data Source: https://www.energy.ca.gov/data-reports
/energy-almanac/california-electricity-data/electric-
* generation-capacity-and-energy

Data Source: *SB 100 Joint Agency Report*
** https://efiling.energy.ca.gov/EFiling
/GetFile.aspx?tn=237167&DocumentContentId=70349
Assumes straight line growth between years identified
in the report

Installed Capacity (MW)
Historical (2001 - 2021)* v. SB100 (2022 - 2045)**
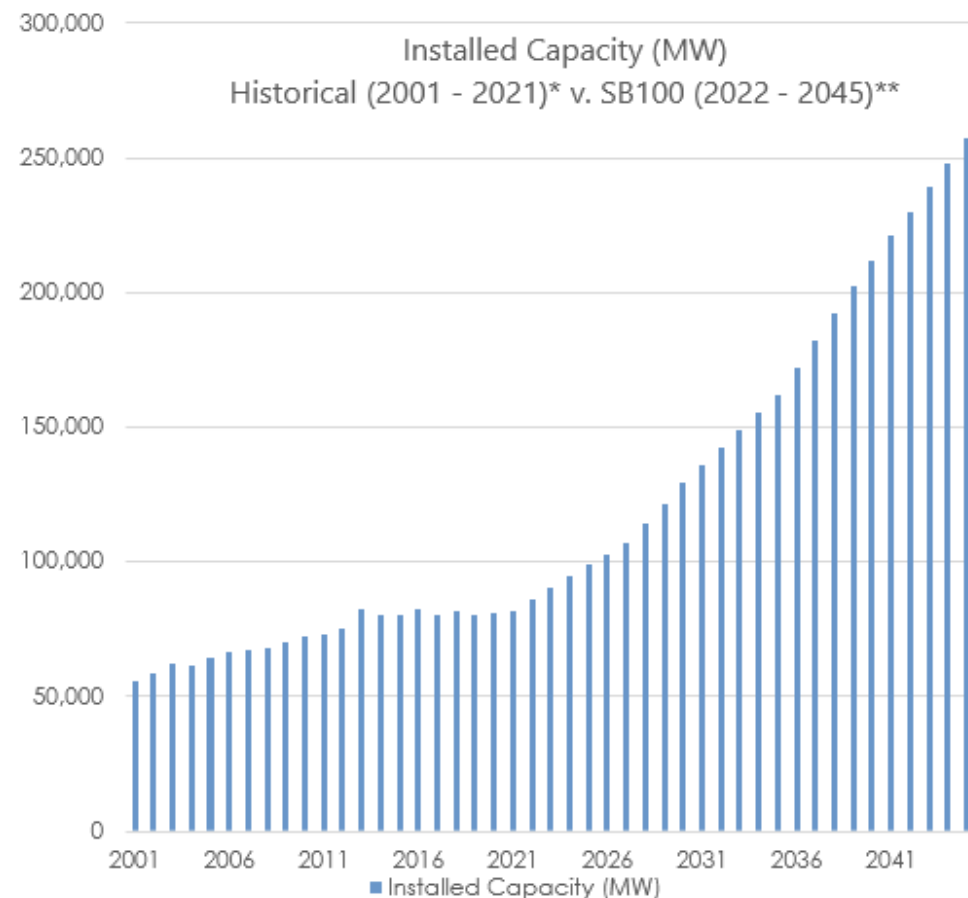
Tight RA Market = High RA Prices

A 6 GW drop in net RA supply over 2019-21 accompanied by doubling of the average RA price

White Paper: California's Constrained RA Market: Ratepayers Left Standing in a Game of Musical Chairs
https://cal-cca.org/resource-adequacy

California RA Market Dynamics: September

Data Sources: CalCCA RA Stack, CPUC Resource Adequacy Reports, FERC EQRs
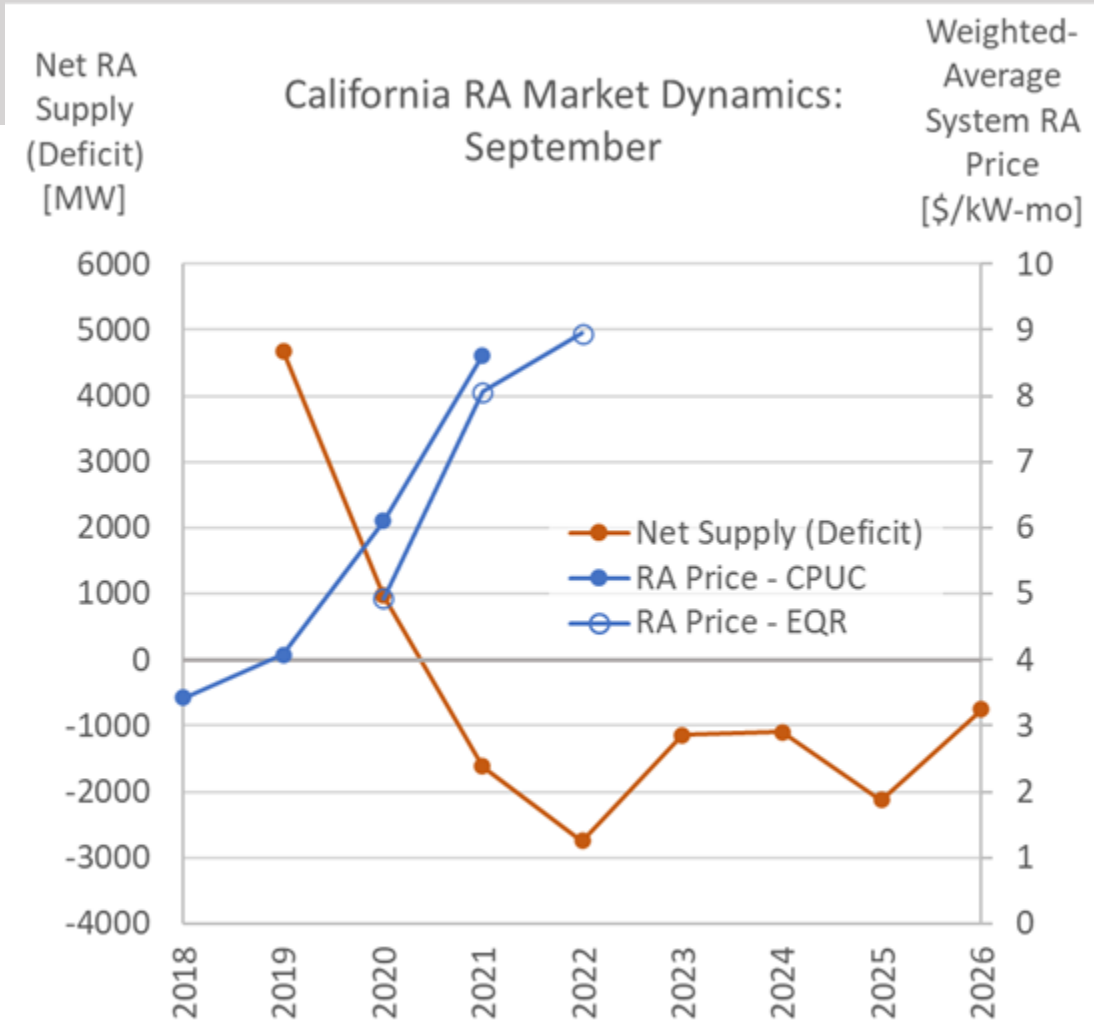
CCA Program Highlights

cal-cca.org/programhighlights

Redwood Coast Airport Microgrid

Redwood Coast Energy Authority launched California's first 100% renewable energy, front-of-the-meter, multi-customer microgrid is now fully operational. Located in Humboldt County, California, the microgrid provides energy resilience for the regional airport and US Coast Guard Air Station.

Transformative Home Electrification

East Bay Community Energy has partnered with BlocPower to electrify 60 additional homes throughout EBCE's service territory. EBCE is providing $1M in project financing and $400,000 in incentives to fund this first-of-its-kind project for low- to moderate-income (LMI) single-family households.

Community Outreach Grants

Peninsula Clean Energy's Community Outreach Grants support organizations offering details to income-qualified and other customers on bill savings and other clean energy program benefits

EV Rebate Program

Offering rebates of up to $6,000, Peninsula Clean Energy makes it easier for residents in its member communities to purchase a used electric vehicle (EV). Used EV owners already save money on fueling and maintenance costs—now they can also enjoy immediate savings at time of purchase.

Microgrid Maintenance Fellowship Program

CPA partnered with LACI's Green Jobs Fellowship to launch the solar-plus-storage maintenance training program to prepare program participants with the necessary skills to operate, deploy and maintain microgrid components and software.

Affordable Charging Access

Silicon Valley Clean Energy's pilot with Ecology Action demonstrated a low-power charging technology and business model designed specifically for affordable housing communities.

EV Ride-Hailing Program

Peninsula Clean Energy is joining with Lyft and its rental car partner Flexdrive to expand electric vehicle (EV) use in ride-hailing in San Mateo County and beyond. As part of the Ride-Hail Electrification Pilot Program, Peninsula Clean Energy will provide $500,000 for a rental incentive to ride-hailing drivers to make the cost of renting an EV comparable to a gas-powered vehicle.

Comprehensive 24/7 Carbon-Free Energy

Silicon Valley Clean Energy (SVCE) and Google have harnessed the value of their shared clean energy goals to create a fundamentally new 24/7 renewable energy service that features hourly renewable energy matching, integrated demand management, and a commitment to ongoing community investments in local building and transportation electrification.

Backup Power for Critical Medical Facilities

MCE's Energy Storage Program equipped the West Marin Medical Center (WMMC) in Point Reyes with a 10 kW (40 kWh) battery. The storage system is paired with the medical center's rooftop solar to provide emergency backup power and daily load shifting to reduce energy costs.

Home Upgrade Program

This Peninsula Clean Energy program provides income-qualified homeowners with home repairs and energy efficiency upgrades at no cost. This will improve a home, making it more comfortable, healthier, and even saving money on a utility bill.

Smart EV Charging

MCE has partnered with EV charging software firm ev.energy to release the MCE Sync app for iOS and Android, providing a hassle-free way for EV drivers to charge off-peak and save money without any special hardware.

Mobile Solar and Battery Trailer

RCEA facilitated a one-year assignment of a mobile solar and battery trailer for the Southern Humboldt Fire Chiefs Association. The trailer will be utilized by 17 fire agencies.

Save the Date!

Session 1 Discussion

- Beth Vaughan, CEO, Cal-CCA
- Geof Syphers, CEO, SCP

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Session 2: Challenges with Clean Energy Development

10 – 11am

- Danielle Mills, Director of Market Policy Development, CAISO

- Cody Hill, Sr. Vice President, Battery Systems, REV Renewables
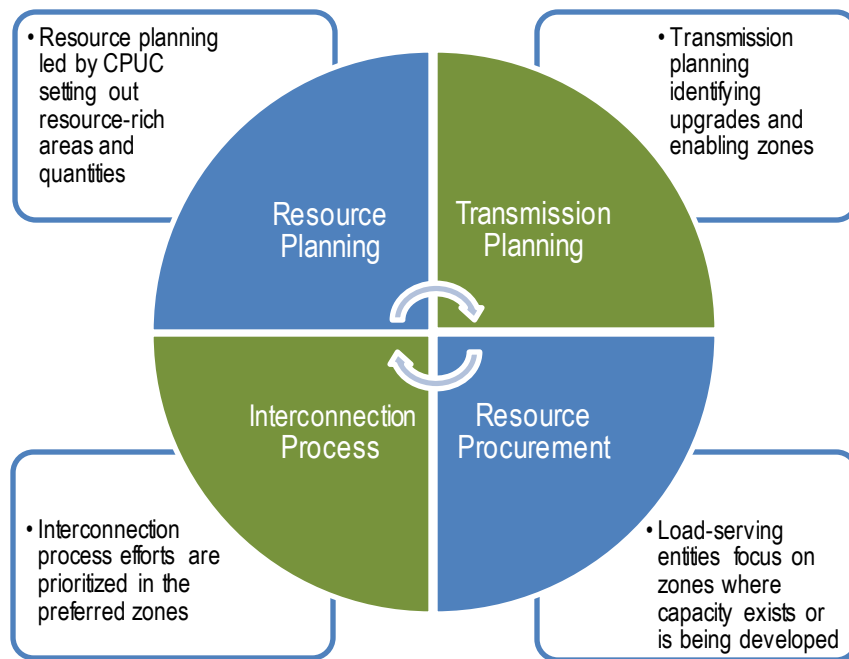
- Moderator: Geof Syphers, CEO, SCP

Getting it Built Right: Transmission and Interconnection

Danielle Osborn Mills
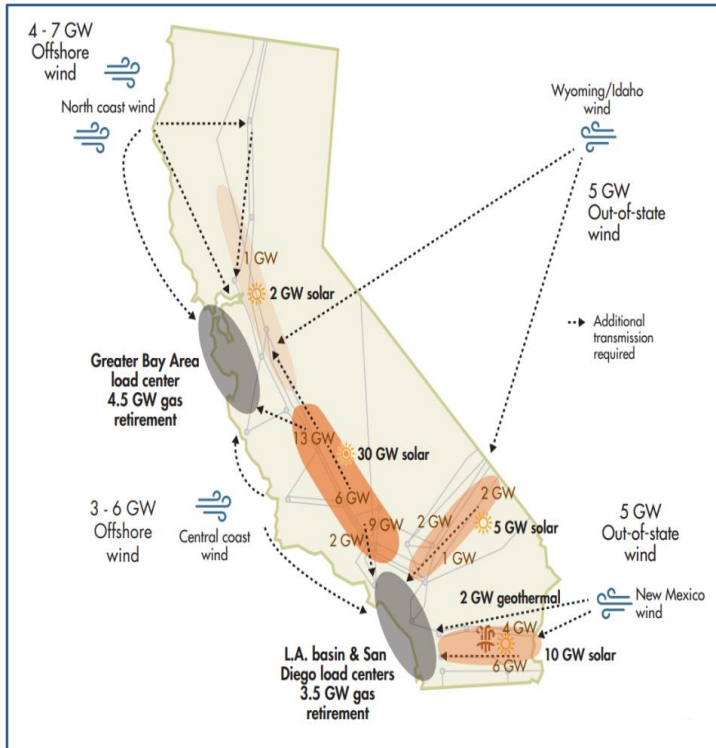
California Community Power

November 3, 2023

A 2022 MOU between the ISO and state energy agencies reflects a broad, coordinated strategy to tighten linkages between planning, procurement, and interconnection.

- Resource planning led by CPUC setting out resource-rich areas and quantities

- Transmission planning identifying upgrades and enabling zones

Resource Planning | **Transmission Planning**

Interconnection Process | **Resource Procurement**

- Interconnection process efforts are prioritized in the preferred zones

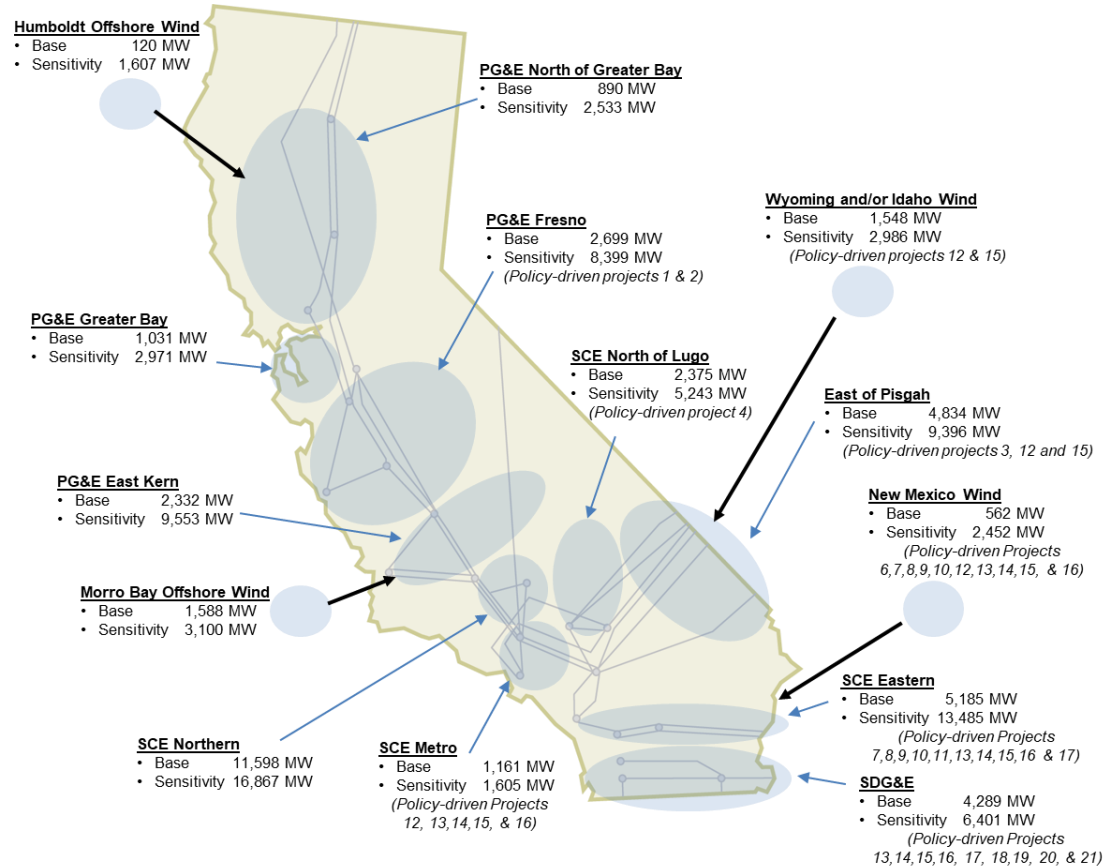- Load-serving entities focus on zones where capacity exists or is being developed

Expectations:

- The CPUC will provide direction to its jurisdictional load serving entities (LSEs) to pursue resources in the key zones.

- Procurement will focus on the expected quantities enabled by the planned transmission development, as set forth in the ISO's transmission planning process (TPP);

- State agencies, local regulatory authorities (LRAs), and LSEs will continue to significantly inform the ISO's TPP.

California ISO

The 2022-2023 Transmission Plan uses a zonal approach which enables direction and prioritization.
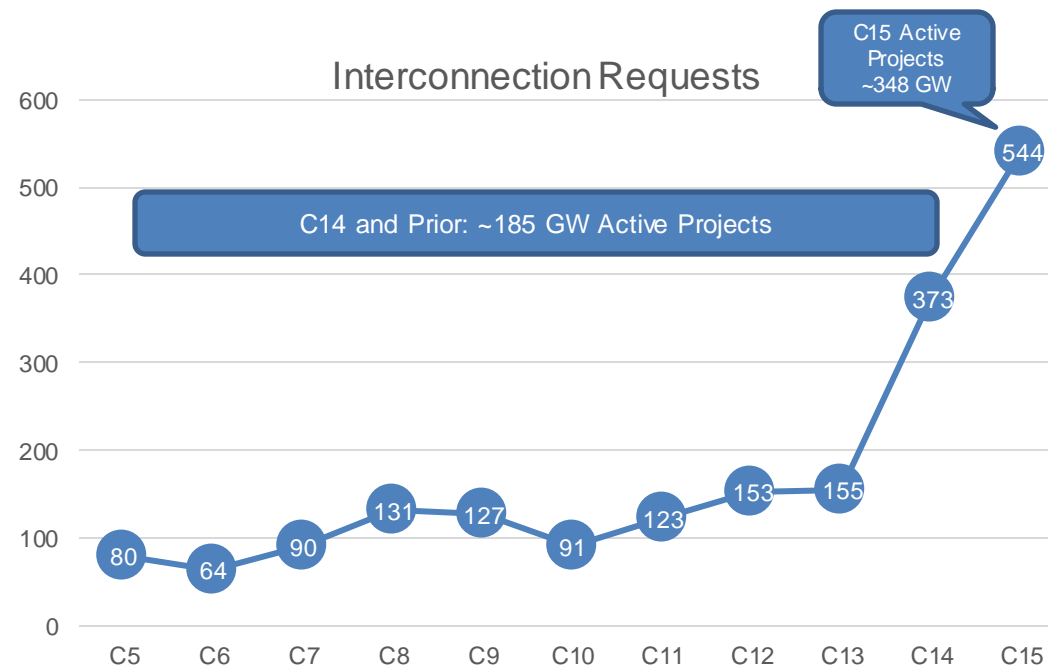

CAISO 20-year Transmission Outlook - 2022

Humboldt Offshore Wind
- Base   120 MW
- Sensitivity   1,607 MW

PG&E North of Greater Bay
- Base   890 MW
- Sensitivity   2,533 MW

Wyoming and/or Idaho Wind
- Base   1,548 MW
- Sensitivity   2,986 MW
  (Policy-driven projects 12 & 15)

PG&E Fresno
- Base   2,699 MW
- Sensitivity   8,399 MW
(Policy-driven projects 1 & 2)

PG&E Greater Bay
- Base   1,031 MW
- Sensitivity   2,971 MW

SCE North of Lugo
- Base   2,375 MW
- Sensitivity   5,243 MW
(Policy-driven project 4)

East of Pisgah
- Base   4,834 MW
- Sensitivity   9,396 MW
  (Policy-driven projects 3, 12 and 15)

New Mexico Wind
- Base   562 MW
- Sensitivity   2,452 MW
  *(Policy-driven Projects
  6,7,8,9,10,12,13,14,15, & 16)*

PG&E East Kern
- Base   2,332 MW
- Sensitivity   9,553 MW

Morro Bay Offshore Wind
- Base   1,588 MW
- Sensitivity   3,100 MW

SCE Eastern
- Base   5,185 MW
- Sensitivity   13,485 MW
  *(Policy-driven Projects
  7,8,9,10,11,13,14,15,16 & 17)*

SCE Northern
- Base   11,598 MW
- Sensitivity   16,867 MW

SCE Metro
- Base   1,161 MW
- Sensitivity   1,605 MW
*(Policy-driven Projects
12, 13,14,15, & 16)*

SDG&E
- Base   4,289 MW
- Sensitivity   6,401 MW
  *(Policy-driven Projects
  13,14,15,16, 17, 18,19, 20, & 21)*

CAISO 2022-2023 draft Transmission Plan

Current circumstances have reinforced the need for transformative changes.

- CPUC resource portfolios call for over 7,000 MW per year for the CAISO's 2023-2024 planning cycle

- Interconnection requests continue to skyrocket
  - Many in areas not part of state resource plans, and in high volumes even in those areas
  - Cluster 15 in April 2023 vastly exceeded last year's informal survey results of about 300 expected requests.
  - The queue now has roughly double the capacity of that which will be needed to achieve California's 2045 requirements.

Interconnection Requests

C15 Active Projects ~348 GW

C14 and Prior: ~185 GW Active Projects

Cluster	Value
C5	80
C6	64
C7	90
C8	131
C9	127
C10	91
C11	123
C12	153
C13	155
C14	373
C15	544

California ISO

The ISO is considering major reform in the Interconnection Process Enhancements initiative.

- Track 2 focuses on the changes to the GIDAP cluster study process needed to achieve the MOU goals.

  - To be completed prior to resuming the Cluster 15 interconnection request validation and study processes.

  - The ISO plans to bring Track 2 to the ISO Board of Governors early in 2024.

- Track 1 focused on immediate adjustments to the Cluster 15 schedule.

  - Allows for completion of Cluster 14 phase II studies and for Track 2 changes to be put in place.

  - Adopted by the ISO Board of Governors in May 2023.

  - Approved by FERC in August 2023.

The ISO is working with stakeholders to find solutions.

- The ISO and stakeholders are engaged in an intensive working group process, which began in May of 2023.
- Stakeholder proposals and working group feedback informed key elements of the Straw Proposal, and are a continued topic of discussion and refinement.
- The ISO will continue to hold stakeholder working group meetings prior to posting the next paper.

PROPOSAL DEVELOPMENT

Issue paper and working groups

→ Straw proposal

Draft final proposal

Draft business requirement specification

Draft tariff and business practice manual revisions

Final proposal

DECISION

ISO Board

EIM Governing Body

Tariff filing

FERC

IMPLEMENTATION

Business practice manual

Training

Market simulation

Go Live

Stakeholder input

We are here

This represents the typical process, and often stages of the process run in parallel.

FERC Order No. 2023 raises the bar, but deeper reforms are necessary through the ISO policy initiative.

Issued July 28, 2023

- The ISO currently complies with many requirements (e.g. cluster study in lieu of a serial study)
- The ISO intends to comply with as much of FERC Order No. 2023 as possible as quickly as possible, and is moving forward with IPE simultaneously.
- The compliance filing is due April 3, 2024.

FERC Order No. 2023 raises the bar, but deeper reforms are necessary through the ISO policy initiative.

The following elements are new FERC requirements, now considered out-of-scope for the IPE initiative:

- Updated interconnection request requirements
  - Site control requirements
- Interconnection information availability and heat map
- Updated entry fees and deposits for queue entry
- Single-phase study process and schedule
- Updated financial posting requirements and withdrawal penalties
- Affected system processes
- Consideration of grid-enhancing technologies
- Consideration of planned storage operation

Key concepts in the initiative reimagine interconnection request intake, validation, and study.

- Zonal approach to planning, procurement, and interconnection studies, with accessible data.
- Scoring criteria to prioritize most "ready" projects for study process
- Auction as a backstop mechanism to right-size the number of projects and capacity in the study process
- Reform the merchant-financing "Option B" process
- Address disjointed transmission construction schedules through changes to the Transmission Plan Deliverability (TPD) Allocation process.

California ISO

Key concepts in the initiative create clearer rules and decision points for projects currently in the interconnection queue.

- Provide a one-time opportunity to withdraw from the queue and receive any unused portion of financial postings.

- Impose a time-in-queue requirement and milestones for all new projects in the queue, encouraging projects to either perform or withdraw.

- Tighten a broad range of requirements for projects moving through the queue processes.

California ISO

The IPE 2023 timeline is aggressive so that we can continue to make forward progress and bring new resources online.

- To implement process changes ahead of Cluster 15 phase I studies, the ISO seeks to present Track 2 to the Board of Governors early in 2024.

- Visit the initiative webpage for more information: https://stakeholdercenter.caiso.com/StakeholderInitiatives/Interconnection-process-enhancements-2023

California ISO

REV Renewables: Getting It Built Right

Cody Hill
Nov 3, 2023

REV RENEWABLES

REV Renewables: Company Overview

California Energy Storage Market Leaders

615 MW — Battery storage currently operating in California, 125 MW more under construction for 2024

>$1B — Capital deployed

Many 1sts
- 1st merchant battery in CAISO market
- Gateway largest project in world when built
- 1st/Largest storage portfolio project financing
- 1st to market energy hedge contracts backed by batteries to LSEs
- 1st contract for 8 hour duration storage in CA
- 1st ever successful battery expansion/augmentation

Largest Deregulated Storage Portfolio in the U.S.[1]

Battery Storage Portfolio

- Diablo 200 MW
- Vista 40 MW
- Gateway 250 MW
- LeConte 125 MW
- CA

Pumped Storage Hydro (PSH)

- Seneca 508 MW
- Bath 714 MW
- Yards Creek 420 MW
- PA
- WV
- VA

~2.8 GW Currently Operating
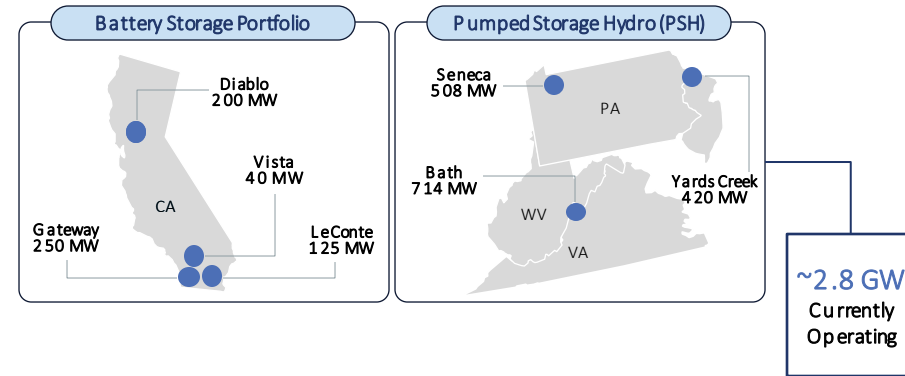
Operating Renewables Portfolio

Solar 365 MW$_{AC}$

Wind 132 MW

1. Based on S&P U.S. Power Plant Summary (2020).
2. Includes battery storage, solar (in DC units), and wind.
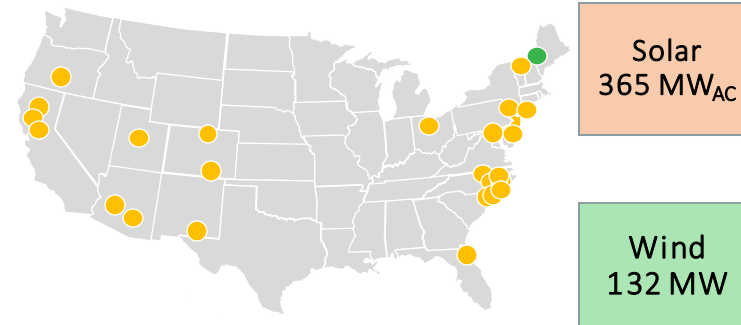
REV RENEWABLES

Gateway Energy Storage

Diablo Energy Storage
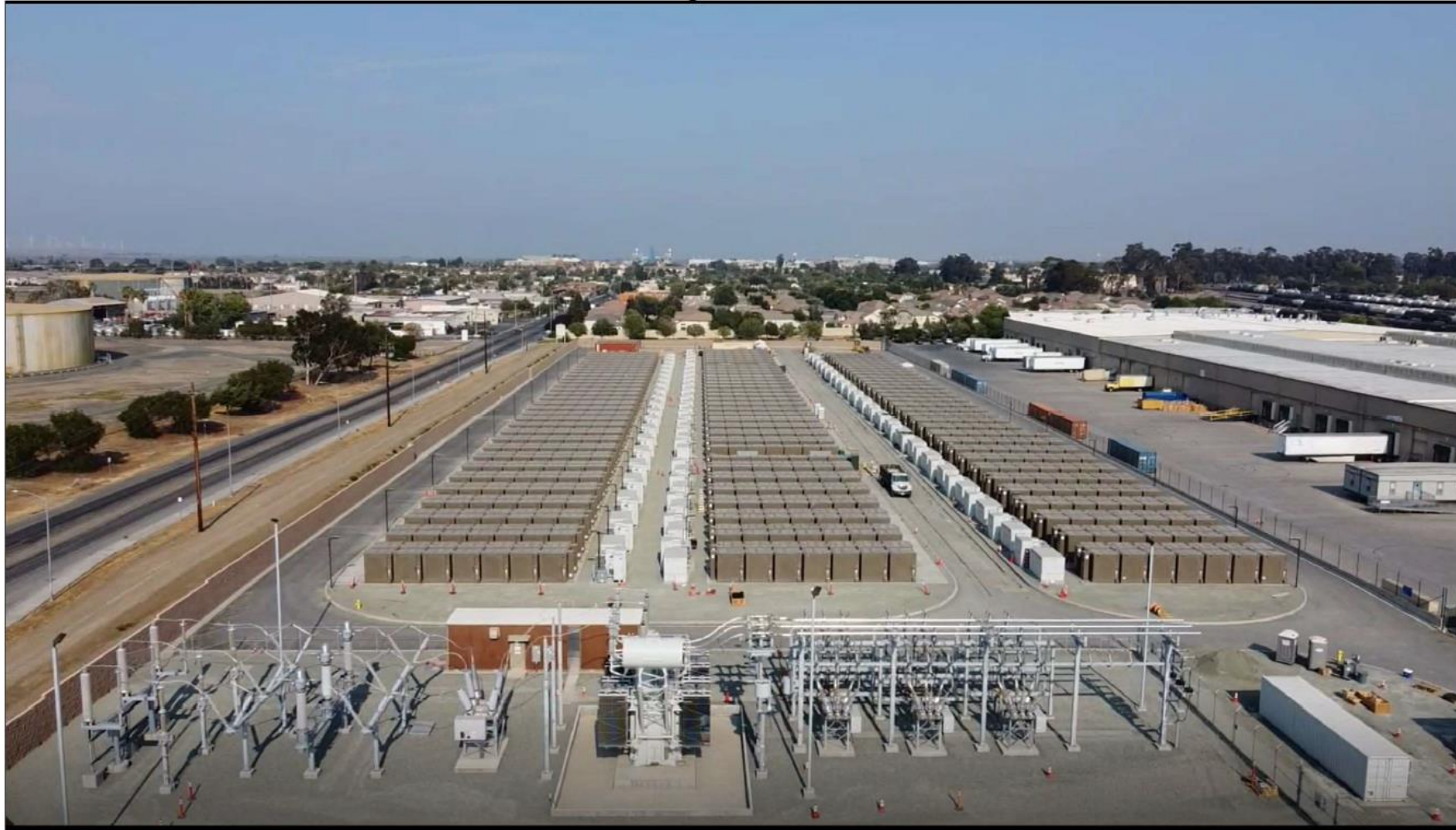
LeConte Energy Storage

Session 2 Discussion

- Danielle Mills, Director of Market Policy Development, CAISO
- Cody Hill, Sr. Vice President, Battery Systems, REV Renewables
- Moderator: Geof Syphers, CEO, SCP

Agenda

CALIFORNIA COMMUNITY POWER

Time	Session Title	Objective
9 – 9:15am	Welcome and Opening	
9:15 – 10am	Session 1: Setting the Stage	• Explain CCAs and baselines on project development approach • Explain CCP • Scale new resource procurement needs and electric system transformation
10 – 11am	Session 2: Challenges with clean energy project development	• Categorize and assess challenge areas for project development • Identify stakeholder groups involved in project success
11:00 – 11:20am	Networking Break	
11:20 – 12:20pm	Session 3: Strategies for Getting Things Built Right, Part 1	• Assess environmental, land-use, equity, and local community perspectives and goals in clean energy project development
12:20 – 1:20pm	Networking Lunch	
1:20 – 2:20pm	Session 4: Strategies for Getting Things Built Right, Part 2	• Explore Workforce, Community Benefits, and local economic goals in project development
2:20 – 2:45pm	Closing Session	

NETWORKING BREAK

11 – 11:20am

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2:20 – 2:45pm	Closing Session	

Session 3: Strategies for Getting Things Built Right – Part 1

9 – 9:15am

- Erica Brand, California Energy Commission
- Kate Kelly, Defenders of Wildlife
- Sarah Xu, Brightline Defense Project
- Moderator: Geof Syphers, CEO, Sonoma Clean Power

Session 3 Discussion

- Erica Brand, California Energy Commission
- Kate Kelly, Defenders of Wildlife
- Sarah Xu, Brightline Defense Project
- Moderator: Geof Syphers, CEO, Sonoma Clean Power

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California Community Power

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NETWORKING LUNCH

12:20 – 1:20pm

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2:20 – 2:45pm	Closing Session	

Session 4: Strategies for Getting Things Built Right – Part 3

1:20 – 2:20pm

- Rick Bonilla, Principal, Authorized Personnel and Labor
- Alex Lantsberg, Research and Advocacy Director, SF Electrical Construction Industry
- Eric Veium, Director of CC Workforce and EJ Alliance
- Moderator: Geof Syphers, CEO, Sonoma Clean Power

Session 4 Discussion

- Rick Bonilla, Principal, Authorized Personnel and Labor
- Alex Lantsberg, Research and Advocacy Director, SF Electrical Construction Industry
- Eric Veium, Director of CC Workforce and EJ Alliance
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Closing Session

2:20 − 2:45pm

- Geof Syphers, CEO, Sonoma Clean Power
- Alex Morris, GM, CC Power

Today

SHARED GOAL

We're all here because we agree California's transition to clean electricity must occur at the pace set by state policy.

GROUND RULES

- CCAs are here to listen, ask questions, challenge.
- No negotiations. No decisions.
- Keep it practical. Real world examples. Share data.

Today

INPUT

- Meeting Notes:
  - Notetaking during event will capture comments and input.
  - Notes will be posted to: https://cacommunitypower.org/events/

- Written comments can be submitted at comments@cacommunitypower.org.
  - Comments preferred by Nov 24th to enable possible discussion at Dec CC Power Board Mtg.

PROCESS

CC Power Board to form *ad hoc* committee to review input from today and recommend next steps.

Closing Comments

- Feedback welcome
- Comments to comments@cacommunitypower.org
  - Prefer to receive by 11/24

- Thank you!