

CESA Monthly --- Policy Update Call

January 13, 2023



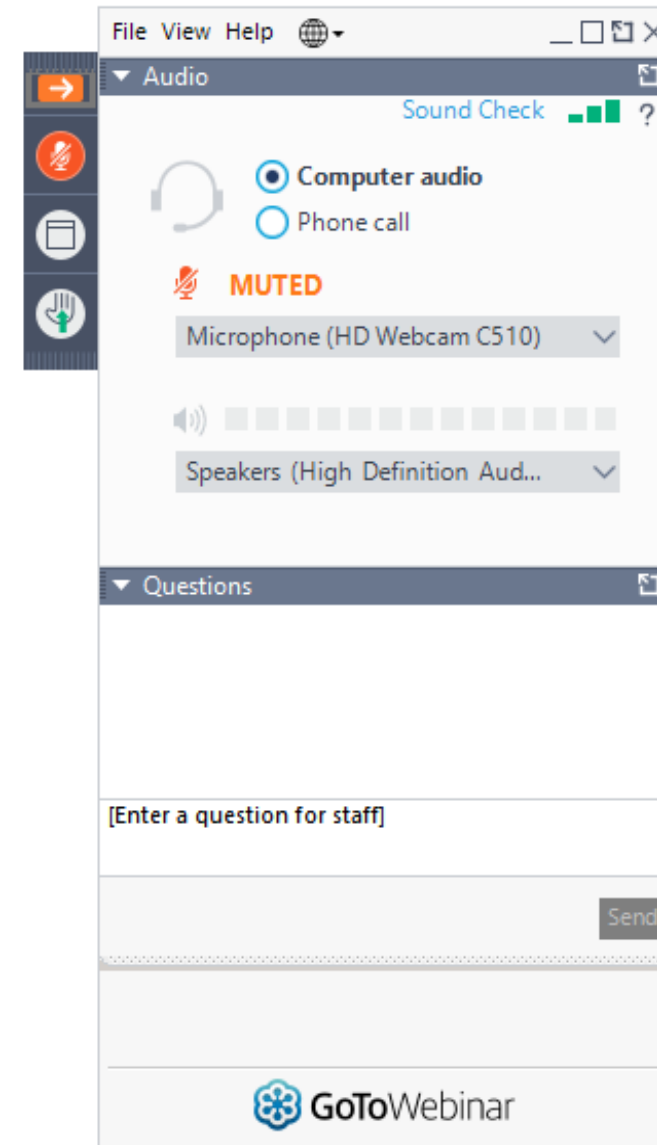
Agenda

- Key Organizational Updates
- Business Development Opportunities
- California Policy Updates
- Member Q&A



Housekeeping

- All participants are in listen-only mode
- Webinar is being recorded and notes circulated after call
- Use the “Raise Hand” feature to be queued up to speak
- Q&A conducted through “Questions” panel in menu
- Pause for Q&A



Mission

The mission of CESA is to make energy storage a mainstream resource to advance a more affordable, efficient, reliable, safe, and sustainable electric power system for all Californians.

Our CESA Board Members



AREVON



Our CESA Members



Antora Energy



aypa



Better Energies



CONVERGENT



endurant



esVOLTA



FRANKLINWH



GRIESTOR

Gridwiz



HONDA The Power of Dreams

INNERGEX



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MALTA

nexamp



PEAK POWER



POLY JOULE



Q CELLS



REIMAGINE POWER



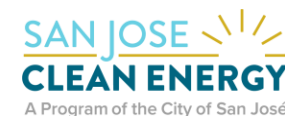
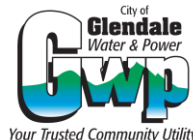
SAMSUNG C&T



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sunnova



Interim Executive Director Update

- **Another big year ahead in 2023 for energy storage**
- **Major investments passed in 2022 will start to take effect in 2023**
- **Actions to plan for Summer 2023 well underway**
- **Governor Newsom has released 2023-2024 January Budget; cuts have been proposed due to forecasted shortfalls**
 - Energy-related items have been reduced modestly
 - SGIP funding reduced from \$900M to \$630M
 - Long-duration storage funding reduced from \$240M to \$190M

- **SHAPE THE ENERGY STORAGE MARKET**
- **DEMONSTRATE LEADERSHIP**
- **ACCESS EXPERTS**
- **NETWORK WITH MARKET MAKERS**
- **SAVE MONEY**



**CALIFORNIA
ENERGY
STORAGE
ALLIANCE**

**RENEW
MEMBERSHIP
BEFORE 1/15**



**Fill out the short Renewal Form to
retain benefits**

Contact Shannon (smcguire@storagealliance.org) with questions

Renew your Membership today to access our 2023 Policy Priority Survey

At the end of each year, CESA surveys its membership to identify key focus areas for the upcoming year. This year's survey will help direct CESA policy focus areas for 2023!



Contact: Shannon McGuire (smcguire@storagealliance.org)

Annual Member Priority Survey

Renewed Members: **Complete survey by 1/27!**

- 1 response per Member company
- CESA Member Main Point of Contact: check your inbox for survey
- Email Shannon McGuire (smcguire@storagealliance.org) with any questions



WESTERN ENERGY STORAGE TASKFORCE (WEST)

Shaping and Scaling Western Storage Markets

2023 Cost: \$12,500

What is WEST?

- Monthly working group meetings from January - December
- Covers and tracks emerging developments in Arizona, Colorado, New Mexico, Oregon, Utah and Washington
- Results-driven, action-oriented advocacy aligned with member input

Next meeting
1/20!

Contact us to join WEST: info@storagealliance.org



2023 At-Large Board Member Nominations are Open!

[Submit your nominations](https://forms.office.com/r/Lb7AD4WGsg) by 2/10 here:
<https://forms.office.com/r/Lb7AD4WGsg>

The At-Large Board Member provides functions critical to the healthy governance and transparency principles of CESA.

CESA Members can find this form in the Member Portal!

Purpose of the At-Large Board Member:

- Represent the interests of the overall CESA membership on the CESA Board
- Act as a channel for feedback from the membership to the CESA Board of Directors
- Includes 1 voting seat on the CESA Board of Directors



**2022 At-Large Board
Member
Michael Carpol, Wärtsilä**

CESA Information Sharing Tools

California Storage Market Snapshot



Energy storage capacity procured by LSE (MW)	
LSE	MW
Southern California Edison	4,684.73
Pacific Gas & Electric	3,271.70
Clean Power Alliance	1,120.50
San Diego Gas & Electric	945.66
Los Angeles Department of Water & Power	431.01
East Bay Community Energy	296.25
Marin Clean Energy	320.00
Central Coast Community Energy	429.13
San Diego Community Power	220.00
Clean Power SF	140.00
Valley Clean Energy Alliance & Redwood Coast Energy Authority	125.50
California Community Power	119.00
Silicon Valley Clean Energy & Monterey Bay Community Power	105.00
Silicon Valley Clean Energy	96.63
Sonoma Clean Power	80.00
Imperial Irrigation District	60.00
Desert Community Energy	50.00
Redwood Coast Energy Authority	45.00
California Choice Energy Authority	15.00
San Jose Clean Energy	10.00
Riverside Public Utilities	7.85
Sacramento Municipal Utilities District	4.87
Redding Electric Utility	3.60
Glendale Water & Power	3.50
City of Santa Clara Utilities	3.25
City of Anaheim Public Utilities	3.15
Pasadena Water & Power	0.74
Moreno Valley Utilities	0.08
Lancaster Choice Energy	0.03
Colton Public Utilities	0.02
Alameda Municipal Power	0.01
Burbank Water & Power	-

As of January 12, 2023, there are **12,846 MW** of active energy storage procurements since 2010

SGIP has enabled the installation of an additional **565 MW** of customer-sited electrochemical storage

Chart 1. Energy storage procurement since 2010 by status (MW)



Business Development Opportunities



Procurement Obligations in September NQC MW						
LSE	2023	2024	2025	2026 (LLT)	2025 (Zero-Emission)	Total
PG&E Bundled	400	1,201	300	400	500	2,302
PG&E Direct Access (Aggregated)	77	230	58	77	96	441
Clean Power SF	31	93	23	31	39	179
East Bay Community Energy	73	218	55	73	91	418
King City Community Power	0.3	1.0	0.3	0.3	0.4	1.9
Marin Clean Energy	58	173	43	58	72	332
Monterey Bay Community Power	51	152	38	51	63	291
Peninsula Clean Energy	38	113	28	38	47	217
Pioneer Community Energy	12	37	9	12	15	70
Redwood Coast Energy Authority	7	20	5	7	8	38
San Jose Clean Energy	43	129	32	43	54	248
Silicon Valley Clean Energy	41	124	31	41	52	237
Sonoma Clean Power	25	74	18	25	31	141
Valley Clean Energy Alliance	8	23	6	8	10	44
SCE Bundled	687	2,060	515	687	858	3,948
SCE Direct Access (Aggregated)	90	271	68	90	113	520
Apple Valley Choice Energy	3	8	2	3	3	16
Baldwin Park	3	8	2	3	3	15
Pomona	5	14	3	5	6	26
Clean Power Alliance	118	354	89	118	148	679
Desert Community Energy	6	18	4	6	7	34
Lancaster Clean Energy	6	19	5	6	8	37
Pico Rivera Innovative Municipal	2	7	2	2	3	14
Rancho Mirage Energy Authority	3	9	2	3	4	18
San Jacinto Power	2	5	1	2	2	10
Santa Barbara Clean Energy	2	7	2	2	3	13
Western Community Energy	15	46	12	15	19	89
SDG&E Bundled	63	188	47	63	78	361
SDG&E Direct Access	26	79	20	26	33	152
Clean Energy Alliance	7	20	5	7	8	38
San Diego Community Power	99	297	75	99	124	570

Active/ongoing:

- **PCE 2023 Renewable Energy + Storage RFO:** Offers due 1/30
- **PG&E issues 2022 Mesa Substation RFO:** Offers due 2/10
- **DOE OCED LDES Demo Project (10-24+ hours) FOA:** Applications due 3/23
- **SCE Catalina Island Clean Energy All-Source RFP:** Proposals due 5/1

Policy, Market, and Regulatory Updates

Recurring Working Group Calendar

Working Group	Schedule	Key Issue Areas
California Independent System Operator (CAISO)	Biweekly (Monday, 11am-12pm PST)	<ul style="list-style-type: none"> Energy storage enhancements Price formation and modifications
Distributed Resource Planning (DRP)	Monthly (Monday, 1-2pm PST)	<ul style="list-style-type: none"> Microgrid policy/tariffs, value of resiliency Distribution deferral and interconnection
Distributed Energy Resources (DER)	Monthly (Wednesday, 9:30-10:30am PST)	<ul style="list-style-type: none"> Updates on SGIP, DR, NEM permitting guidebook Multiple-use applications, high DER future
Electric Vehicles (EV)	Bimonthly (Tuesday of odd months, 9-10am PST)	<ul style="list-style-type: none"> Transportation electrification, including smart rates, vehicle-grid integration & interconnection
Emerging Technology and Long Duration	Monthly (Tuesday, 9-10am PST)	<ul style="list-style-type: none"> Solutions to barriers impeding new technologies EPIC and other grant opportunities Long-duration energy storage issues
Integrated Resource Planning (IRP)	Monthly (Thursday, 1-2pm PST)	<ul style="list-style-type: none"> IRP modeling and scenarios (including SB 100) Emerging/long-duration storage procurement
Resource Adequacy (RA)	Biweekly (Thursday, 1-2pm PST)	<ul style="list-style-type: none"> Central Buyer (CB) implementation Energy & hourly capacity related reforms
Safety	Bimonthly (Tuesday of odd months, 9-10am PST)	<ul style="list-style-type: none"> Progress update on CESA safety initiatives Safety codes & standards

Policy Update Agenda

- Distributed Energy Resources (DER)
- California Independent System Operator (CAISO)
- Integrated Resources Plan (IRP)
- Emerging Technology and Long Duration Storage
- Resource Adequacy (RA)
- Distribution Resources Plan (DRP)
- Electric Vehicles (EVs)



Distributed Energy Resources (DER) Updates

- Self-Generation Incentive Program (SGIP)
- Demand response (DR)
- Rule 21 interconnection
- Net Energy Metering (NEM)
- Energy storage permitting
- TOU, real-time pricing, and load management standards
- Building decarbonization
- Clean energy financing options

Self-Generation Incentive Program

Background:

- D.17-10-004 set aside 25% of Steps 3-5 funds in Equity Budget and D.19-09-027 set higher Equity incentive rates and other reforms
- D.19-08-001 established GHG requirements, including 5-minute GHG compliance signal
- D.19-09-027 established new Equity Resiliency Budget (ERB) category
- D.20-01-021 implemented SB 700, putting over \$600M into ERB and making other modifications to better support resiliency

Key Updates:

- Governor Newsom's January 2023-24 budget has cut proposed SGIP funding:
 - Maintaining \$630M for low-income residential solar + storage
 - Removing \$270M for general residential storage
- CPUC received 14 proposals for the distribution of SGIP funding and low-income access to funding

Net Energy Metering (NEM)

R.20-08-020 will develop a NEM Successor Tariff (“NEM 3.0”):

- Program elements or specific features
- Methods for development of tariff
- Other issues related to the current NEM tariff and subtariffs, including NEM-A, VNEM, RES-BCT, and NEM-FC

CESA focuses on enabling storage in the program and enhancements related to virtual pairing, oversizing, and VPP enablement.

Key updates:

- NEM 3 Final Decision adopted on 12/15:
 - Non-residential export compensation lock-in extended to 9 years
 - VNEM and NEMA to remain as is (NEM 2) for now
- The proceeding will remain open to discuss:
 - Consumer protection measures
 - VNEM and NEMA
 - NEM Fuel Cell

Demand Response & Flexibility

2023-2027 IOU DR Applications are currently open, addressing:

- Potential extension of DR Auction Mechanism (DRAM)
- Extension of ELRP through 2027 and other existing programs (BIP, CBP, ADR)
- New pilots, including for VPPs, VGI, etc.

New OIR to Advance Demand Flexibility Through Electric Rates released

- Phase 1: Rate design and guiding principles
- Phase 2: Rate reform and establishing policies and programs to advance demand flexibility

Key updates:

- DRAM PD authorizes a DRAM auction in 2023 for 2024 deliveries
 - Budget will be \$6 million for PG&E and SCE, \$2 million for SDG&E
- Advanced Demand Flexibility working groups beginning on:
 - Demand flexibility guidance
 - Pricing data access and portals
- Legal briefs on the scope of residential fixed charges will be submitted on 1/16

California Independent System Operator (CAISO) Updates

- Energy Storage Enhancements (ESE)
- Price Formation Enhancements (PFE)
- Interconnection Process Enhancements (IPE)
- Transmission Planning Process (TPP)

Energy Storage Enhancements (ESE)

Within ESE, the CAISO seeks to establish new market rules and enhance existing energy storage optimization

The ESE Final Proposal included the following elements:

- Two proposals to minimize the likelihood of storage being unable to meet AS awards
- A new type of exceptional dispatch, state-of-charge exceptional dispatch (SOC ED), to cure some current concerns with the minimum state-of-charge (MSOC) requirement
- The implementation of a new electable co-located model to ease compliance with the federal Investment Tax Credit (ITC) and minimize grid-charging

Key updates:

- The ESE Final Proposal (FP) was discussed at the 12/14 Board of Governors meeting
 - CESA expressed reservations regarding the bidding requirement proposal and requested the CAISO to commit to revising the requirement's percentage on an ongoing basis, at least every year
 - CAISO agreed
 - During the Board of Governors meeting, CAISO staff noted that all elements of the FP will be addressed and evaluated individually by FERC
- The FP was approved unanimously by the Board of Governors, with the unanimous support of the WEIM's Governing Body

Day-Ahead Market Enhancements

Day-Ahead Market Enhancements (DAME) Initiative aims to reduce the burden on the real-time market to resolve imbalance and net load forecast uncertainty:

- Imbalance reserve (IR)
- Integration of IFM/RUC processes

Key updates:

- On December 21, 2022, CESA submitted comments on the Dame Draft Final Proposal (DFP):
 - CESA urges the CAISO to eliminate the local market power mitigation provisions relative to the IR and RC products
 - The eligibility criteria to provide IR introduced in the DFP are unclear and have the potential to lower the supply of IR, hindering reliability and adversely affecting ratepayers
- CAISO posted DAME Final Proposal (FP) 1/11, which will be discussed during the 2/1 Board of Governors meeting

CAISO Interconnection

CAISO approved QC14 Supercluster procedures

Interconnection Process Enhancements (IPE) Initiative is considering following issues:

- PPA Criteria for TPD Allocation Priority
- Non-LSE PPA Requirements for TPD Allocation Priority
- Data Transparency
- Higher Fees, Deposits, and Other Criteria
- Alternative Cost Allocation Treatment for NUs to Local (< 200 kV) Systems
- Affected Study Policy
- GIA Termination Period

Key updates:

- CESA submitted comments on newly-scoped deliverability reform methods
- Good possibility of QC15 supercluster in April 2023 given only incremental changes with site exclusivity changes and 270+ IAs expected

Transmission Planning

Transmission Planning Process (TPP) is an annual study process for reliability, economic, and policy needs:

- Phase 1 involves proposing and adopting a Study Plan and Phase 2 involves a number of technical studies and identification of transmission projects
- Recent studies on local capacity requirement (LCR) for alternatives to gas-fired generation

Transmission Development Forum (TDF) provides quarterly status updates on transmission projects previously approved through TPP and network upgrades identified in generation interconnection process

Key updates:

- Transmission Review Process (TRP) Draft Resolution issued to add more transparency to certain transmission projects; comments due 2/13
- Awaiting Draft Final Proposal on TPP timeline, long lead-time transmission, and retention for policy-driven projects
- Stakeholder call held (11/17) to present preliminary policy-driven and economic study results

Integrated Resource Planning & Procurement (IRP) Updates

- Integrated Resource Planning (IRP)
- SB 100 Study
- LA100 Advisory Group
- Energy Storage Procurement Applications
- Renewable Portfolio Standard (RPS) Program

Integrated Resource Planning (IRP)

The IRP process optimizes for least-cost portfolio to reach goals for GHG emissions, local pollutants, DAC impacts, reliability, RPS, etc.

Each LSE files own IRP in even years while modeling is done in odd years

Scope of IRP includes:

- Planning track to assess modeling inputs, assumptions, resource valuation, and analysis of cost, GHG emissions, air pollutants, and reliability
- Procurement track to evaluate reliability issues at system level and to direct procurement as needed

Key updates:

- CESA submitted comments (12/12) and replies (1/9) on CPUC Staff Proposal on “Reliable and Clean Power Procurement Program” (RCPP)
 - The Commission should leverage the advantages of allowing for some degree of resource-specific procurement through the use of sub-categories, along with joint procurement mechanisms
 - CESA recommends the Commission staff note that a framework focused on new resources should not preclude hybridization and repowering using energy storage
 - CESA supports the use of a method based on net load allocation, which would entail the use of some form of marginal ELCC
 - The Commission should incorporate local reliability needs into the Integrated Resource Plan (“IRP”) Planning Track and the scope of the RCPP

Energy Storage Procurement

Each of the IOUs submitted their biennial 2020 Storage Applications pursuant to AB 2514 and AB 2868

Pursuant to D.21-06-035, the Mid-Term Reliability (MTR) Procurement Order, load-serving entities (LSEs) have a collective obligation for 11,500 MW of incremental capacity through 2026

IOUs must also procure 2,000-3,000 MW of incremental capacity to support Summer 2022-23 emergency reliability

Key updates:

- SCE procures 372 MW more ES and amended additional contracts
- 3CE announced major ACAES procurement
- SCE's UOS Etiwanda Project integrating in wholesale market sooner than expected
- Lumen published Draft ES Procurement Study Report (10/31) and CESA commented (12/9) on methodological improvements and clarifications regarding the conclusions of the Report

RPS & Hybrid/Co-Located Storage Policy

Renewable Portfolio Standard (RPS) rulemaking (R.18-07-003) address ongoing oversight of the RPS program:

- Revisiting and possibly revising the RPS feed-in tariffs (e.g., ReMAT, BioMAT)
- Revising and updating the least-cost, best-fit (LCBF) methodology for evaluating RPS-eligible procurement
- Developing a methodology for determining ELCC values

Key updates:

- CESA drafting up workshop report on hybrid/co-located resource station power regarding: (1) rebutting IOU policy arguments and draft physical assurance proposal for 100% onsite charging case; and (2) applying netting for mixed charging case

Emerging Technology Updates

- Electric Program Investment Charge (EPIC) Program
- EPIC Program Renewal (A.19-10-005)
- CEC Technology Roadmaps
- Storage Procurement Framework

CEC LDES Commercialization Program

Governor Newsom's proposed budget includes \$380M for a long-duration energy storage program:

- Program will be administered by CEC
- Targeting durations of 8+ hours, maybe with stretch duration (20-100 hr.) carveouts
- Tech must be on the “verge of commercialization” – Li-ion and pumped hydro excluded

Key updates:

- Governor Newsom's January 2023-24 budget includes \$190M in additional LDES funding
 - Reduces original proposal by \$50M
- CEC is also pursuing \$200M in DOE funding for the program
- \$140M has already been appropriated for this program (\$126M in grants) – one \$31M grant sole sourced
- CESA staff is having conversations with CEC to accommodate different commercialization strategies

Resource Adequacy (RA) Updates

- Central Procurement Entity (CPE) implementation
- Energy requirements and limitations
- Local Capacity Requirements (LCR)
- Behind-the-meter (BTM) export capacity

Resource Adequacy (RA) – System

D.22-06-050 adopted SCE’s 24-hour slice framework, with modifications

Phase 3 of R.21-10-002 involves two tracks:

- **Implementation Track:** PRM/LOLE refinements; LCR/FCR needs; and other “time-sensitive” issues
- **Reform Track:** Implementation workstreams for Slice-of-Day (SOD) framework

Key updates:

- CESA submitted comments (12/1) and replies (12/12) on the Future of RA Report highlighting, among other topics:
 - For energy storage resources, the maximum power output (Pmax) of the asset should continue to be used as the single monthly qualifying capacity (QC) value
 - The Commission should confirm that paired (co-located or hybrid) renewable resources paired with a storage resource that has full deliverability status should not be required to have full deliverability status.
 - The Commission should seriously consider allowing energy-only (EO) VERs to count towards the charging sufficiency requirement for standalone storage
- A PD on this matter is expected Q1 2023

Distributed Resource Planning (DRP) Updates

- Distributed Resource Plans (DRP)
- Integrated Distributed Energy Resources (IDER)
- Microgrids
- De-Energization
- Wildfire Mitigation Plans (WMPs)

High DER & Grid Modernization

New High DER & Grid Modernization rulemaking launched as successor to the DRP proceeding

Scoping Memo (11/15) established three tracks for this proceeding:

1. Distribution Planning Process and data improvements (including DIDF)
2. Distribution System Operator (DSO) roles & responsibilities
3. Smart Inverter Operationalization (SIO) and Grid Modernization

IDER will continue focus on developing sourcing mechanisms and avoided cost calculator (ACC)

Key updates:

- Tranche 1 of new Partnership Pilot projects will begin on 1/19
 - PG&E and SCE each with 3 new projects
- Distribution Planning Community Engagement Needs Assessment Study will be conducted answering:
 - What do communities want and need with respect to electric utility distribution planning?
 - CPUC currently seeking consultants to complete the study

Microgrid Commercialization Framework

Pursuant to SB 1339, R.19-09-009 will develop microgrid framework and policies.

The proceeding includes 5 tracks:

- **Track 1:** 2020 wildfire resiliency solutions and strategies
- **Track 2:** Microgrid service standards, new rates or tariffs, other barriers and principles
- **Track 3:** IOU standby charges and Resiliency and Microgrids WG (RMWG)
- **Track 4:** Emergency Reliability (Phase 1) and Microgrid Incentive Program & Microgrid Multi-Property Tariff (Phase 2)
- **Track 5:** Value of Resiliency

Key updates:

- CPUC Resolution E-5242 approves PG&E to offer remote grids as a sole service offering in the remote grids pilot
 - PG&E Remote Grids Pilot limited to 2 MW of load
- Cal Advocates filed a motion to dismiss Sunnova CPCN – CPUC yet to rule on motion

Electric Vehicle (EV) Updates

- DRIVE OIR on EV policy and vehicle-grid integration (VGI)
- Vehicle-to-grid (V2G) interconnection
- Various EV infrastructure buildout and rate applications

Electric Vehicles

Background:

- Each of the IOUs have active pilot programs on deploying light-duty EV infrastructure and rebates, with SCE now in process of scaling their pilot program
- Each of the IOUs are implementing approved Transportation Electrification (TE) programs and pilots
- Vehicle Electrification (DRIVE) OIR to address key policy issues, including vehicle-grid integration (VGI) and EV rates, and develop TE Framework (TEF)
- V2G subgroup to consider how existing standards can be applied to mobile inverters

Key updates:

- Testimony submitted on SDG&E's Dynamic EV Charging & Export Rate, many supportive of SDG&E's approach
- SDG&E's proposal includes:
 - A tech-neutral real-time pricing pilot rate option
 - A V2G export rate for commercial EV-HP customers, similar to PG&E's V2G export rate

Ask us anything!



Next Policy Update Call

February 10, 2023



Contact Us

For membership inquiries, policy questions, and more, contact:

Shannon McGuire

smcguire@storagealliance.org

CESAA

CALIFORNIA ENERGY STORAGE ALLIANCE