



State-led Knowledge Exchange

“Regional Challenges to Renewable Energy Deployment”

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Description:

Go-Biz survey and toolkit & incentive program

CPUC high DER

LCI Judicial streamlining

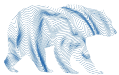


GO-BIZ Energy Project Permitting Guidebook & Toolkit

REACH - Inland Empire
12.05.2024

GO-Biz Energy Unit

- Created in 2021
- Accelerate the planning, financing, and execution of critical energy infrastructure projects
- Work with energy project developers and load-serving entities to identify barriers to construction and development of critical energy infrastructure projects
- Make recommendations to relevant state agencies on how to overcome those barriers



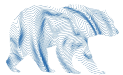
Tracking Energy Project Development

- **Executive Order** in 2021 directed energy agencies to coordinate on deployment of clean energy projects to reach reliability and climate goals.
- **TED Task Force** | Joint interagency effort to provide project development support for new energy projects expected to come online in the near-term

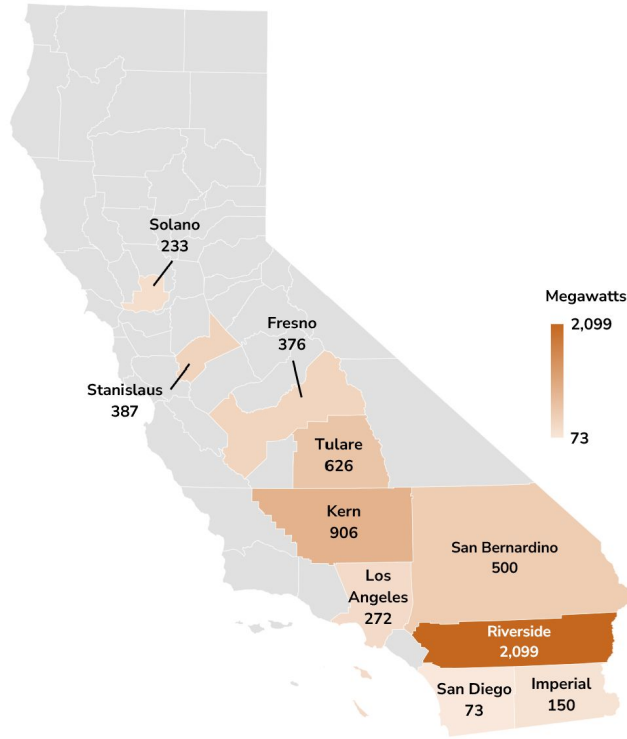


Challenges to Renewable Energy Project Deployment

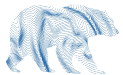
- Permitting
 - Supply Chain
 - Interconnection/Transmission



2024 | MWs Installed



	Total MWs	Total Projects
2024 Total	6,865	108
Jan - Oct Online	5,588	91



Expected New Energy Resources

New MWs Expected - Nameplate By Year and Resource Type, including imports

Data includes projects expected/under contract as of October 2024

Resource Type	Q4 2024	2025	2026	2027	2028	Total
Solar	465	631	835	320	0	2,251
Battery Storage	1,580	3,528	2,346	3,883	290	11,627
Paired/Hybrid	88	1,004	709	1,089	70	2,960
Wind	0	71	1,583	250	0	1,904
Geothermal	0	15	179	30	284	508
Biomass/Biogas	5	11	0	0	0	16
Totals	2,138	5,260	5,652	5,572	644	19,266

Source: CA Public Utilities Commission

- Over 19,000 MW nameplate of future contracts are executed to meet CPUC's procurement order obligations.
- Majority of new resource MWs are expected to be battery storage and hybrid solar+storage.
- Other types of resources are eligible to meet orders and may be contracted in the future.



GO-Biz Energy Project Permitting Guidebook & Toolkit



- Funding in 2022-23 Budget Act
- Establish best practices and produce documentation to increase transparency and alignment of local jurisdiction permitting processes to significantly reduce barriers for deployment of energy projects



Approach to Developing Guidebook & Toolkit

- Assess local jurisdictions permitting processes for large-scale renewable projects
- Report on findings
- Develop toolkit that will include
 - ✓ smart practices
 - ✓ approaches for process improvements
 - ✓ strategies that enhances connectivity b/w responsible entities

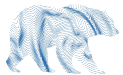


Stakeholder Input

Survey QR Code



Survey Link: <https://tinyurl.com/go-biz>



Connecting and Maximizing Value of Local Energy Resources



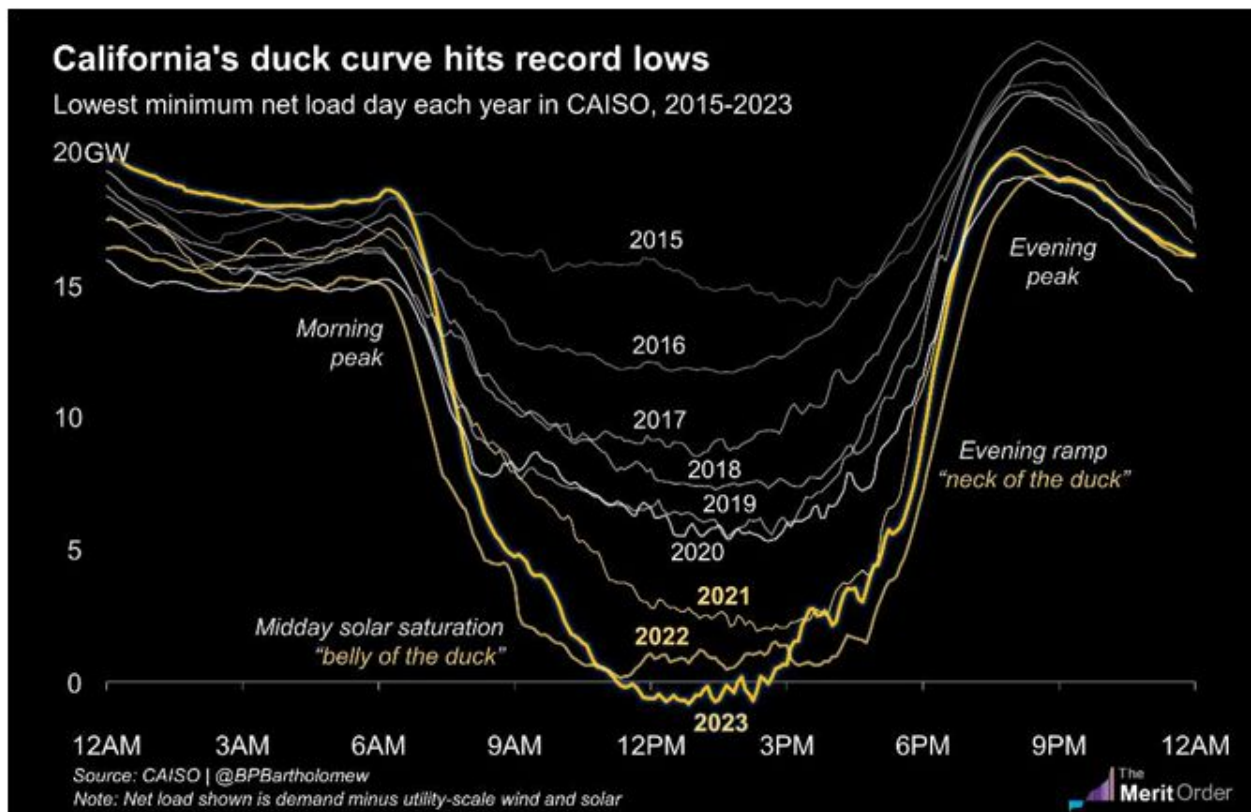
California Public
Utilities Commission

CPUC External Affairs Division

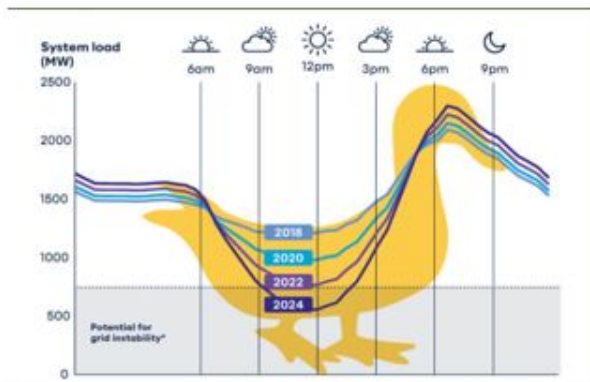
Overview

- Helping the Duck (Curve)
- Where the System is Currently Missing Data and Value from DERs
- Limited Generation Profiles
- The Data Working Group
- Energization and Distribution Planning

The Infamous Duck



What is Demand Response/Flexibility?



Demand Response/Flexibility is a change in customer demand in response to **market prices**, **emergency grid conditions** or **dynamic rates**.

This change could be a **Reduction**, **Shift** or **Increase** in demand.

Why is Demand Flexibility Important?

Because our duck needs help!

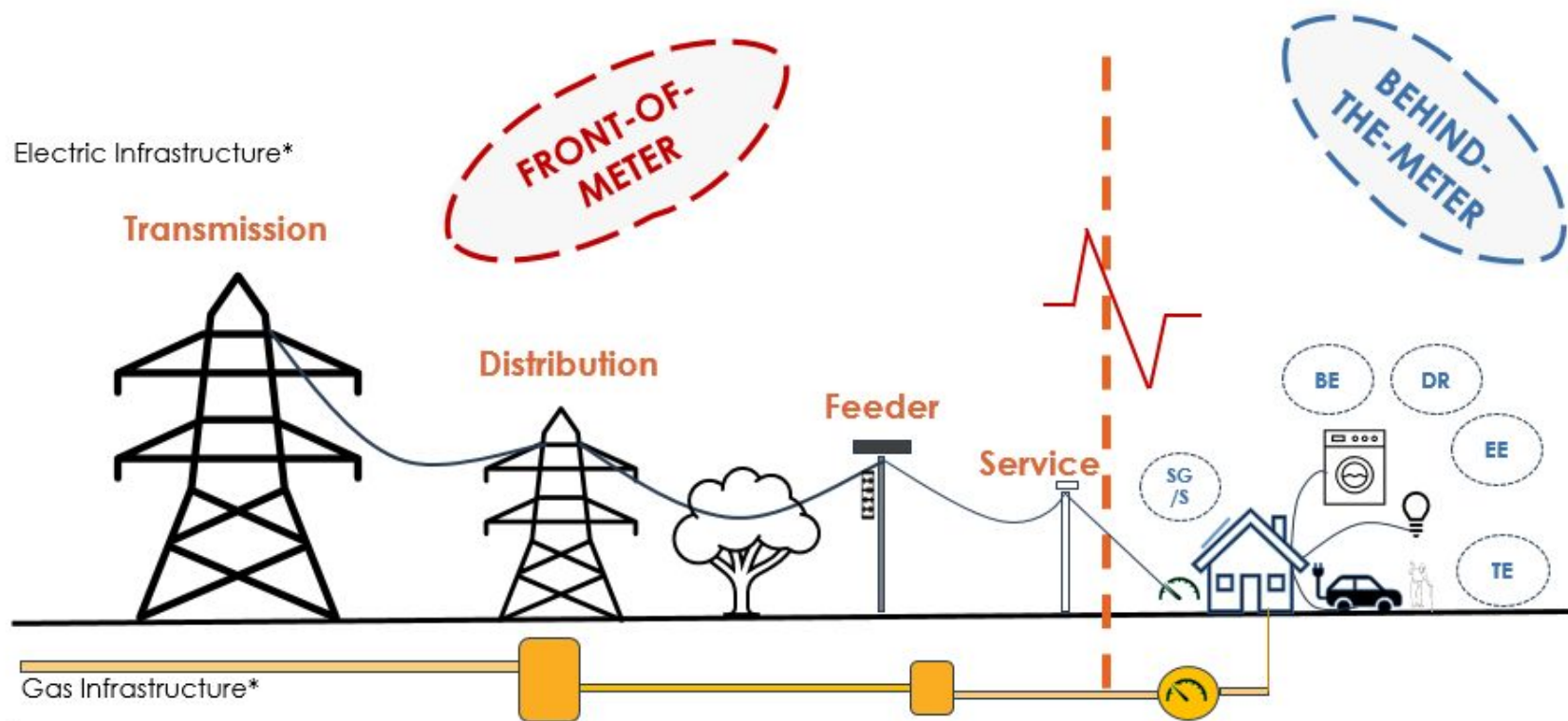


Examples from Aggregators in Wholesale Market

- Incentives for installation of EV chargers, smart thermostats, and water heaters and automated load shifting.
- Residential solar plus storage systems. Batteries are dispatchable and are a resource during peak evening hours.
- Demand response program which provides commercial customers with incentives for shifting load away from peak hours.

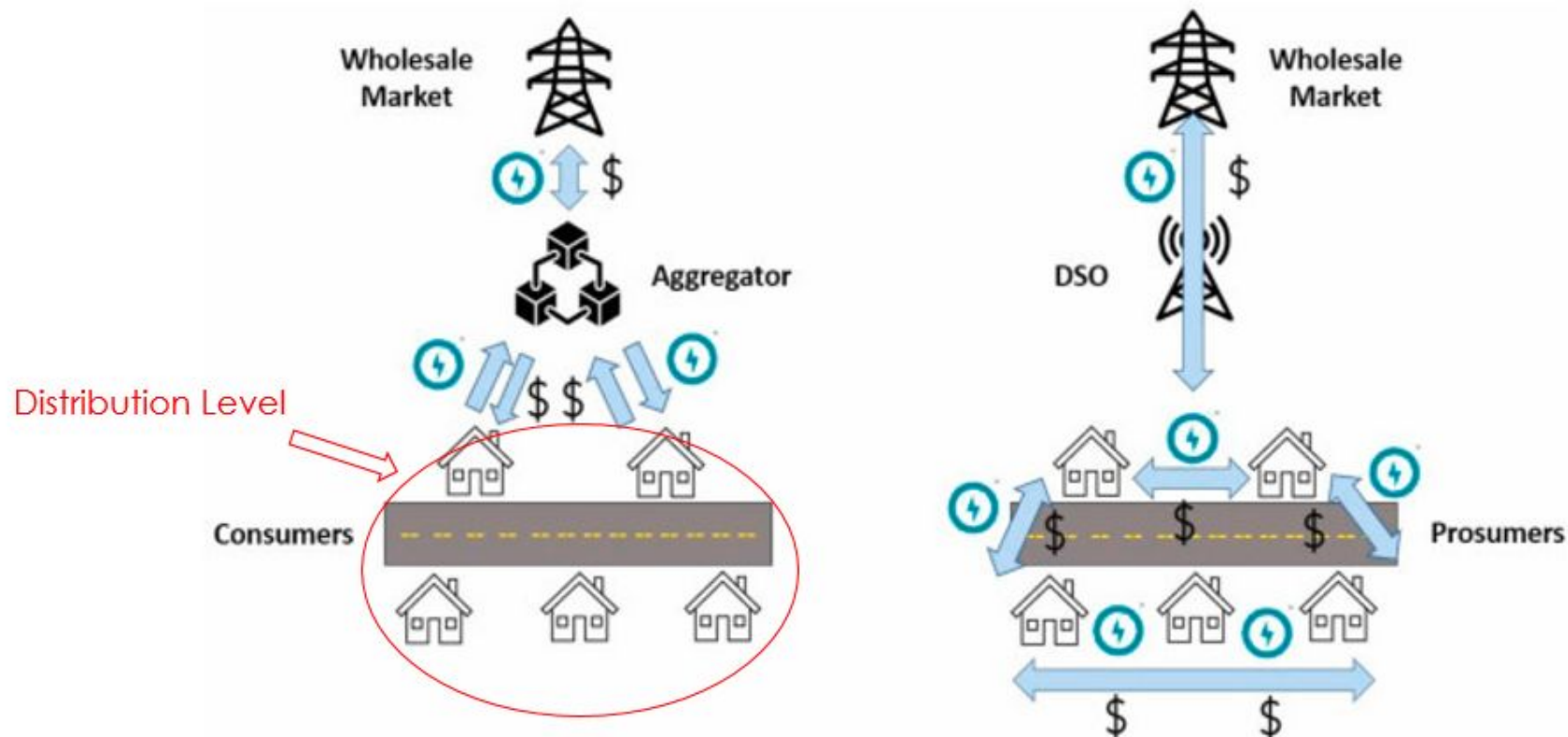


Decarbonization Data Framework



*Schematic representation only.

Benefits of Distribution Level Coordination



Source: Distributed energy resource participation in electricity markets: A review of approaches, modeling, and enabling information and communication technologies. <https://doi.org/10.1016/j.esr.2022.100940>

What Are We Missing?

Data and Value for Aggregators and Customers

- Data on "operational needs" of the grid as well as where customers are on it.
- Knowledge on the value of DERs at given time/place and corresponding compensation for aggregators and customers.

Value to the Grid and Ratepayers

- Ability to avoid grid stress by placing load (e.g. EV chargers) and demand response resources optimally.
- Ability to deploy more quickly and avoid costly upgrades!

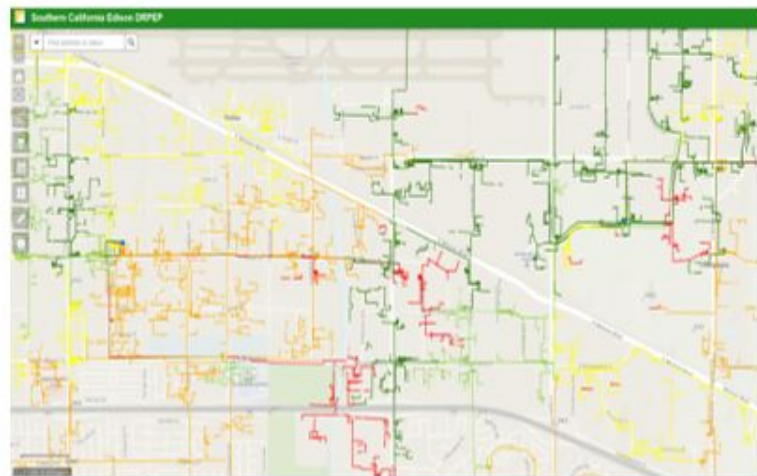
Limited Generation Profiles

- Allows interconnection of renewables while avoiding grid upgrades
- Specify max allowed export for times of the year.
- Includes protections against curtailment or required payment for grid upgrades.

Integration Capacity Analysis (ICA):

Estimates the maximum amount of power that can be injected to, or drawn from, the distribution system requiring minimal to no distribution upgrades or operational restrictions.

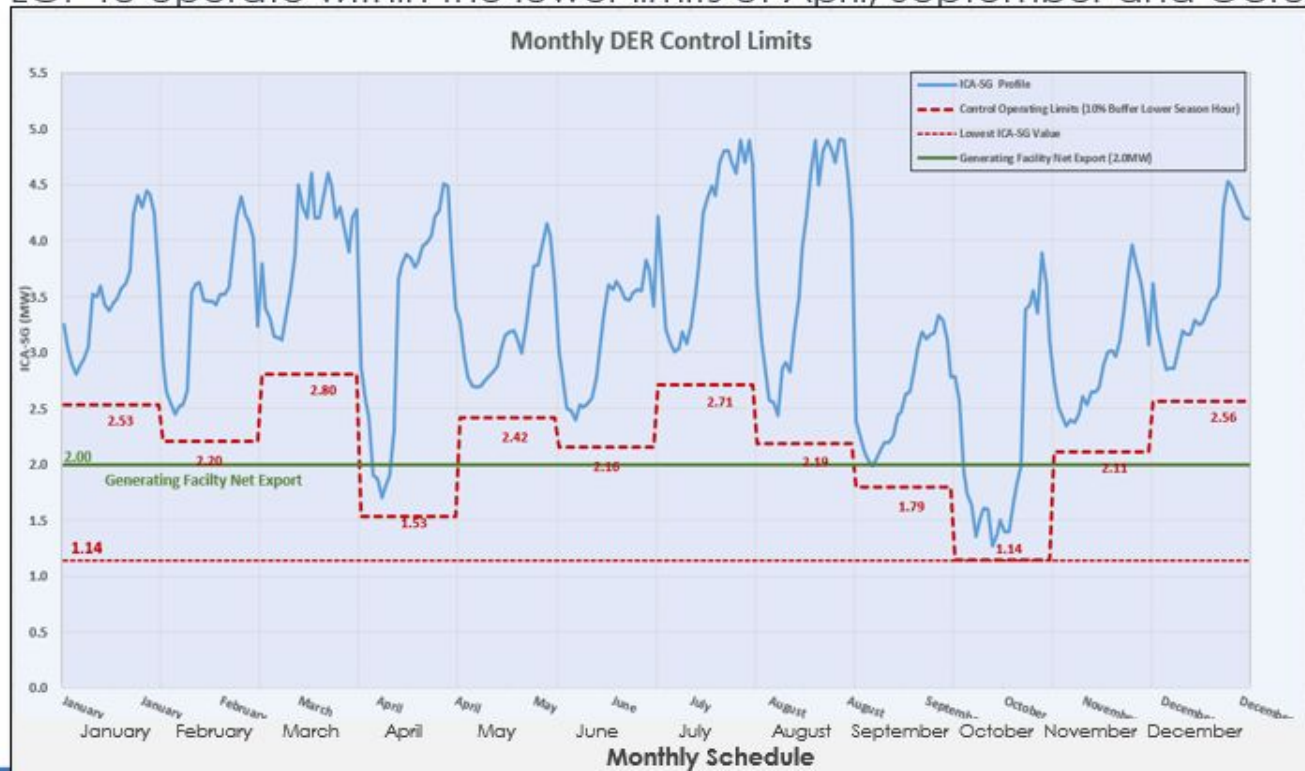
- Public and used for distribution planning, DER integration, siting DER, EVSE, and other loads
- Currently they are largely too unreliable to be actionable, built on hourly/historical data



Source: SCE DRPEP Map

Limited Generation Profile – Example from SIWG

As shown on the graph, the GF Net export is 2.0 MW which is higher than 1.14MW (lowest ICA-SG value in the ICA-SG profile). Customer can choose to request using LGP to operate within the lower limits of April, September and October.



Month	Limits
Jan	2.00
Feb	2.00
Mar	2.00
Apr	1.53
May	2.00
Jun	2.00
Jul	2.00
Aug	2.00
Sept	1.79
Oct	1.14
Nov	2.00
Dec	2.00

Overview of the Data Access & Cost Effectiveness Proceeding (R.22-11-013) – Phase 1

Two Tracks:

Track 1: Cost-effectiveness Rules

- Examines how to make cost-effectiveness assessments more accurate and consistent across DER programs. Covers updates to the Avoided Cost Calculator.



Track 2: Data Access for DERs

- Examines the rules and requirements to improve data access to facilitate adoption, evaluation, and utilization of DERs by customers and other entities and to improve DER integration with the grid.
- Implicates multiple CPUC proceedings.
- Successor to Integrated Distributed Energy Resources Proceeding (R.14-10-003).

Data Issues to Address

Standardization of Advanced Metering Infrastructure (AMI) data

- AMI data collection procedures and the resulting data are not rigorously standardized. Various types of devices, collection parameters, and data cleaning procedures are employed within and across utilities.
- Issues include invalid meter readings (timestamps, metadata), measurement anomalies, collection gaps, biased and noisy measurements, time synchronization, and meters missing data altogether.

Statewide DER asset and attribute database and distribution services market

- Provide a centralized and standardized DER asset registry, similar to DG Stats.
- Create a statewide market platform for grid services

Real time grid and DER operation data sharing

- IOUs have access to real time grid conditions through ADMS and DERMS platforms.
- Other parties can benefit from equal access to the comprehensive view of current grid needs and a forecast of short-term needs with a high degree of accuracy.

Participating in Data Working Group



- Meets monthly from August 2024 to April 2025.
- Facilitated by California Center for Sustainable Communities at UCLA with support from the LA Regional Collaborative and funding from CPUC.
- Next meeting December 16 on Market Integration + Load Flexibility and Rates
- <https://www.laregionalcollaborative.com/data-working-group>
- Can submit questions and use cases for consideration through website.

Other Supporting Actions

- Energization and Distribution Planning



Thank you!



California Public Utilities Commission

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Judicial Streamlining

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CA Governor's Office of
**Land Use and
Climate Innovation**



Judicial Streamlining Program Overview

The Judicial Streamlining Program accelerates judicial review for projects certified by the Governor, reducing CEQA lawsuit delays from 3-5 years to ~270 days. Certified projects may also gain better financing and federal funding opportunities.

Key Legislation:

- **SB 7 (2021)**: Streamlines projects over \$100M or those providing affordable housing.
- **SB 149 (2023)**: Expands eligibility to certain infrastructure projects.



Clean Renewable Energy Generation

Definition: Generates electricity exclusively through wind or solar (PRC 21180(b)(2)).

Fees: OPR: \$39,000, Trial Court: \$180,000, Court of Appeal: \$215,000

Environmental Leadership Development Project (SB 7) Requirements:

- Invest \geq \$100M in California (PRC 21183(a)(1))
- Create high-wage, skilled jobs (PCC 2601(d))
- Comply with waste recycling laws
- Enforceable CEQA mitigation measures
- **GHG Criteria:** No net GHG emissions, including from employee transport (21183(c)(1)).

GHG Mitigation Order:

1. Direct emission reductions from the project
2. Local emission reductions (same air district)
3. Local offsets: real, permanent, verifiable
4. Offsets with direct regional environmental benefits



Climate Innovation
Land Use and
Climate Innovation

Energy Infrastructure

Definition: Projects including renewable energy sources, energy storage systems, related components, and electric transmission from zero-carbon resources (PRC 21189.81(c)).

Fees: OPR Rulemaking coming; Trial Court: \$180,000 and Court of Appeal: \$215,000 (private applicants only)

Green Infrastructure Project (SB 149) Requirement:

- Binding agreement to mitigate environmental impacts in disadvantaged communities.

GHG Criteria:

- No net GHG emissions, including from employee transport (21189.83(a)).

GHG Mitigation Order:

1. Direct emission reductions from the project
2. Local emission reductions (same air district)
3. Local offsets: real, permanent, verifiable
4. Offsets with direct regional environmental benefits



Energy Infrastructure

Additional Requirements:

- Hydrogen and biomass projects do not qualify
- The following projects must use a skilled and trained workforce (PCC 2601(d)) and pay construction workers greater than or equal to the prevailing rate of per diem wages for their work type and geographic area 21189.81(d)(2):
 - Solar photovoltaic (PV) and terrestrial wind projects with a capacity of 20 Megawatts (MW) or more
 - Energy storage projects with a capacity of 80MW or more
 - Thermal energy powerplants with capacity of 50MW or more
 - Manufacture of renewable energy systems or components thereof via a capital investment of \$250 million or more over five years
 - Electric transmission lines connecting any of the above to an interconnected transmission system



Application Process

1. Submit your interest form
2. Gather application materials according to the guidelines and statutory requirements.
3. Submit applications to California.Jobs@opr.ca.gov and label application as “Draft” or “Final” in the subject line of the email.
4. Format all application materials according to State and federal accessibility requirements.



Thank You!

CONTACT

California.Jobs.ca.gov

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lci.ca.gov

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