

DOCKETED

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California's Climate and Energy Goals

Le-Quyen Nguyen
California Energy Commission
September 24, 2019





California's Climate Policies

- Greenhouse Gas Emission Reductions

- 1990 levels by 2020
- 40% below 1990 levels by 2030
- 80% below 1990 levels by 2050

- Renewable Energy

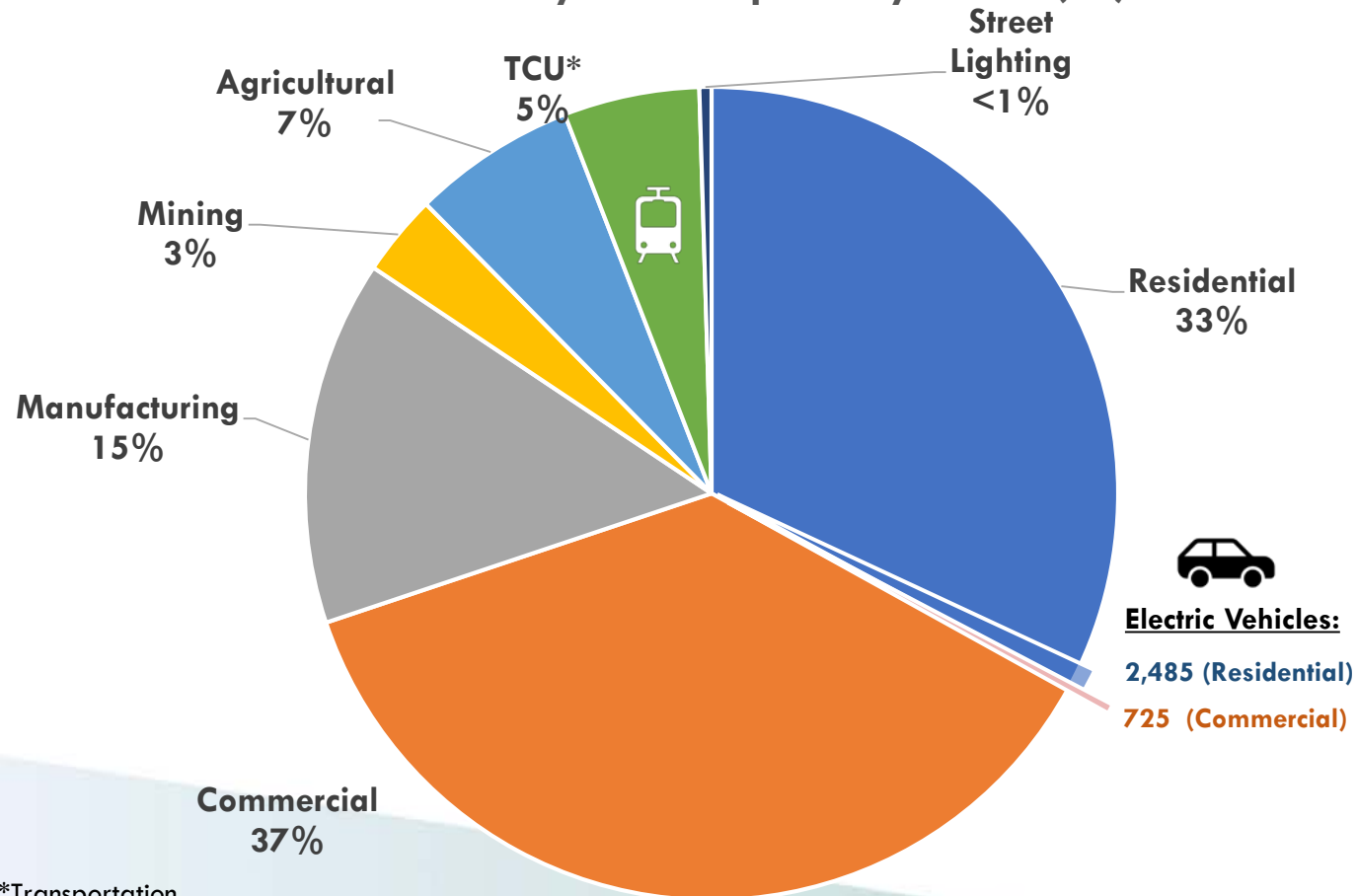
- 20% by 2017
- 33% by 2020
- 50% by 2026
- 60% by 2030
- 100% CARBON-FREE BY 2045





California's Electricity Consumption by Sector

2018 Statewide Electricity Consumption by Sector (%)

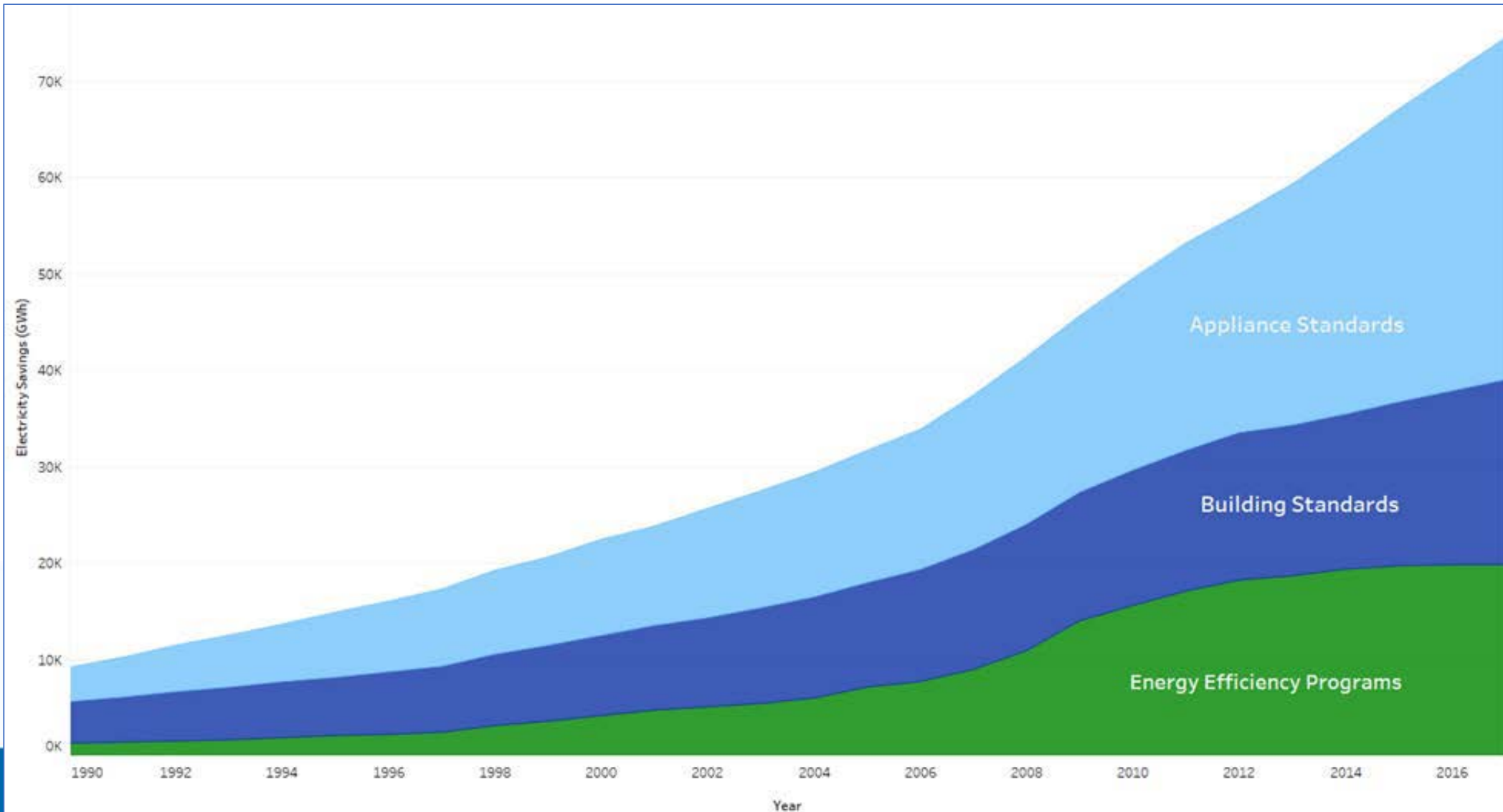


*Transportation, Communications & Utilities

Source: California Energy Commission, 2018 IEPR Update, Mid Demand Forecast



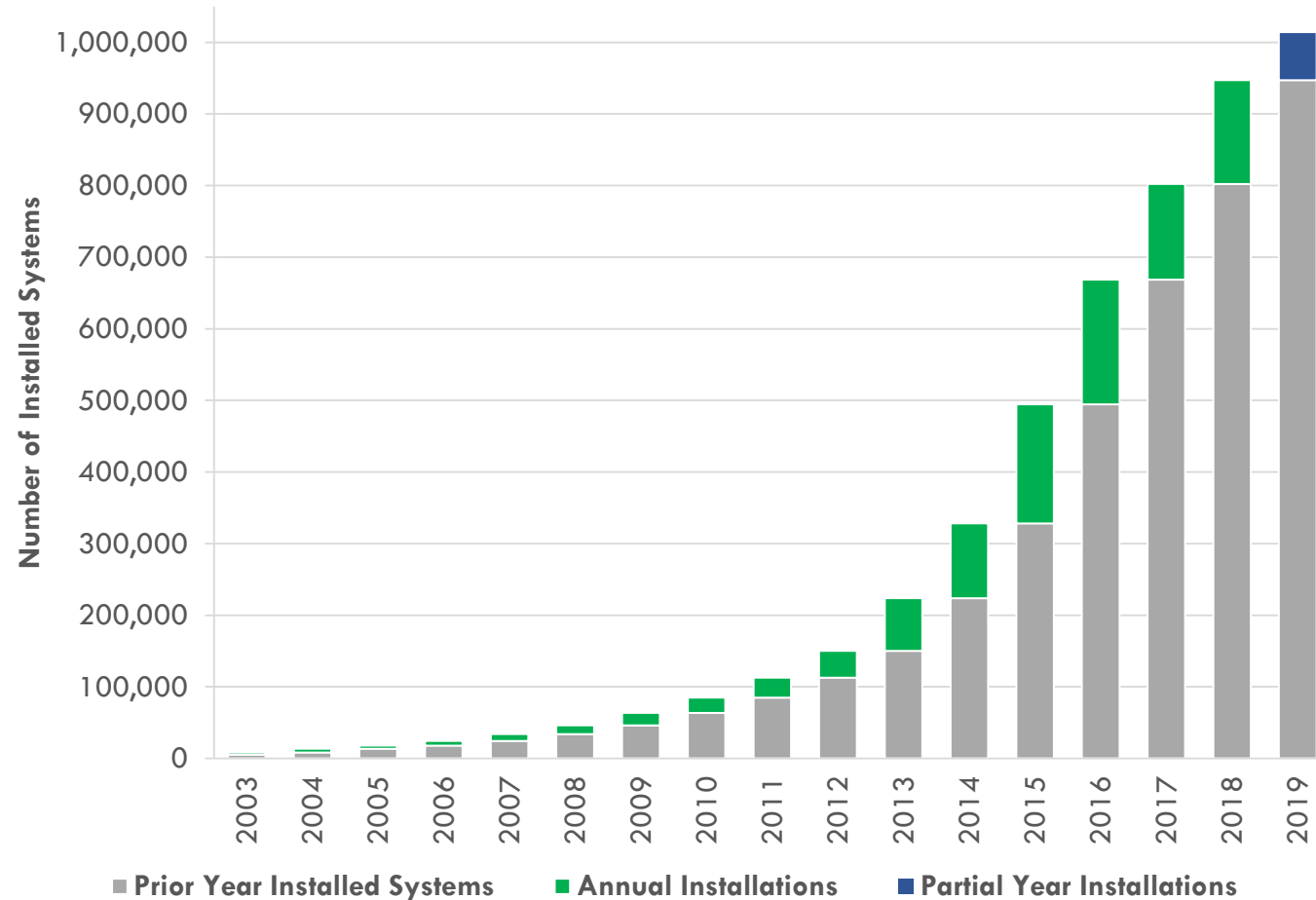
Energy Efficiency





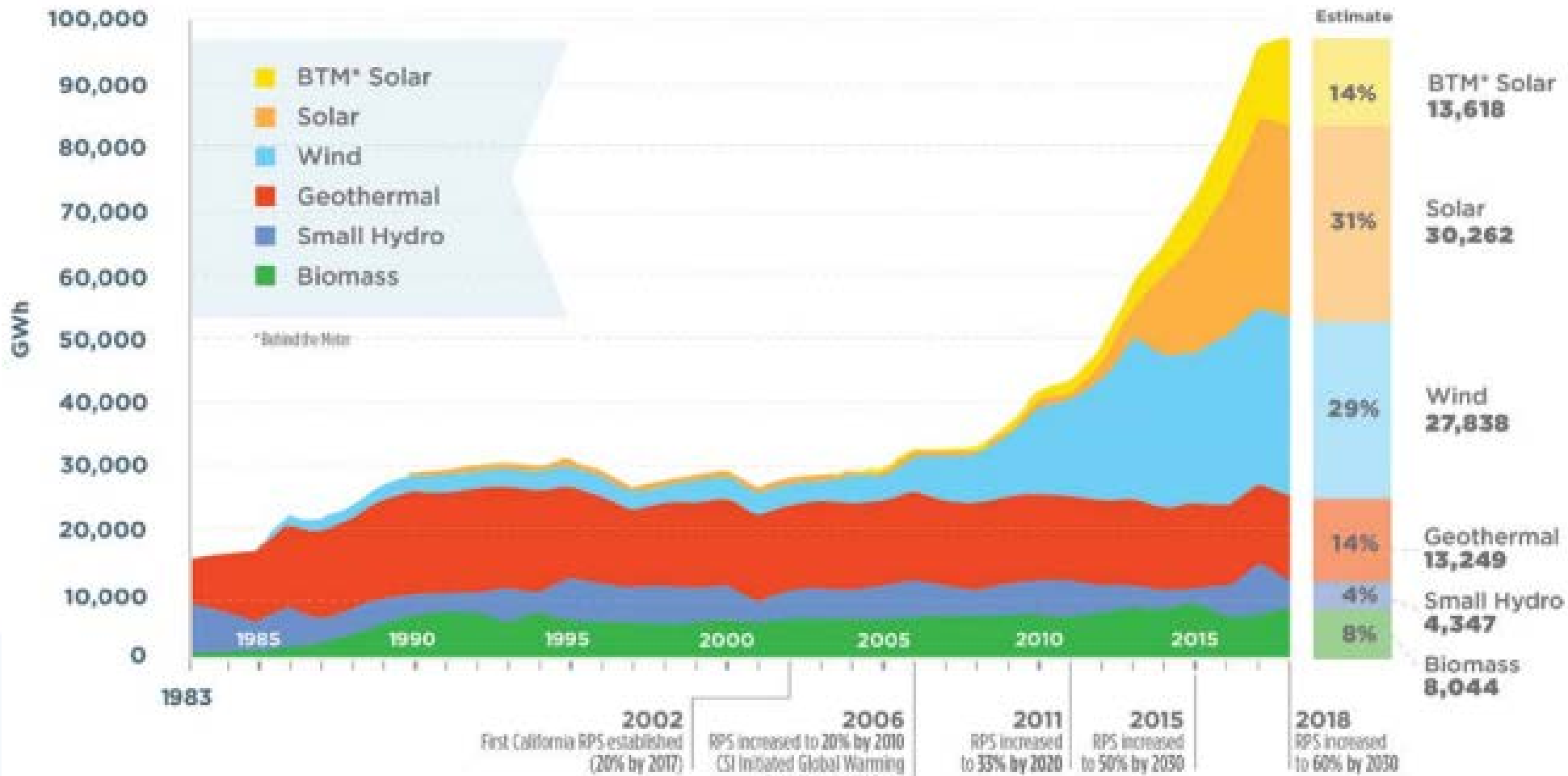
Customer-Sited Solar PV Installations in California

Number of Installed BTM PV Systems in California (Through June 2019)





California Renewable Energy Generation by Resource Type



Source: California Energy Commission, staff analysis November 2018



Transportation Electrification Investments & Programs

- Investor-owned utility ratepayer investments (CPUC)
- Clean Transportation Program (CEC)
- CCI Low Carbon Transportation Program (CARB)





Electric Program Investment Charge (EPIC) Research & Development

- Administered by the CEC, PG&E, SCE, and, SDG&E
- Program areas
 - Applied Research and Development
 - Technology Demonstration and Deployment
 - Market Facilitation
- CEC Focal Areas: renewable, efficiency, grid-scale storage, resilience & reliability, climate science & adaptation, innovation.





SB 100

- 60% RPS by 2030
- 100% renewable and carbon-free energy by 2045
- Joint report by Energy Commission, California Public Utilities Commission, California Air Resources Board

<https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/joint-agency-report-sb-100>



Joint-Agency Report - SB 100

Senate Bill (SB) 100 established a landmark policy requiring renewable energy and zero-carbon resources supply 100 percent of electric retail sales to end-use customers by 2045. It requires the California Energy Commission (CEC), California Public Utilities Commission (CPUC), and California Air Resources Board (CARB) to prepare a report.

Under the policy, California's renewable energy and zero-carbon resources supply 100 percent of electric retail sales to end-use customers and 100 percent of electricity procured to serve state agencies by December 31, 2045. The policy requires the transition to a zero-carbon electric system does not cause or contribute to increases of greenhouse gas emissions elsewhere in the western electricity grid.

SB 100 requires the CEC, CPUC, and CARB to complete a joint agency report to the Legislature evaluating the 100 percent zero-carbon electricity policy, as described below. The report will be developed using a public process and qualitative and quantitative analyses to address the requirements and intent of the statute.

In consultation with all California balancing authorities and as part of a public process, the three agencies will issue a report to the Legislature by January 1, 2021, and at least every four years afterward. The joint report shall include:

1. A review of the 100 percent zero-carbon policy focused on technologies, forecasts, then-existing transmission, and the maintenance of safety, environmental and public safety protection, affordability, and system and local reliability.
2. An evaluation identifying the potential benefits and impacts on system and local reliability associated with achieving the policy.
3. An evaluation identifying the nature of any anticipated financial costs and benefits to electric, gas, and water utilities, including customer rate impacts and benefits.
4. The barriers to, and benefits of, achieving the policy.
5. Alternative scenarios in which the policy can be achieved and the estimated costs and benefits of each scenario.

EVENTS

AUG 29 Webinar: Battery and Energy Storage Systems Added to the Energy Commission's Solar Equipment Lists
August 29, 2018 | 04:00 PM - 05:30 PM
Webinar
The California Energy Commission (CEC) is adding new equipment lists for Battery and Energy Storage Systems (ESS) to its solar equipment lists.

SEP 05 Joint Agency Workshop on the Senate Bill 100 Report
September 5, 2018 | 10:00 AM - 01:00 PM
California Secretary of State Building - First Floor Auditorium
The California Energy Commission (CEC) will jointly conduct a workshop with the California Public Utilities Commission (CPUC) and the California Air Resources Board (CARB) to kick off the process for developing the joint-agency report required by Senate Bill (SB) 100, the "100 Percent Clean Energy Act of 2018" (de León, Chapter 312, Statutes of

SEP 10 Staff Pre-Rulemaking Workshop on Proposal to Amend Regulations
September 10, 2018 | 10:00 AM - 01:00 PM
Art Rosenfeld Hearing Room
California Energy Commission staff will conduct a workshop to solicit

SEP 11 Energy Commission Business Meeting
September 11, 2018 | 10:00 AM - 03:00 PM
Art Rosenfeld Hearing Room
The Energy Commission will hold its regularly scheduled business meeting. The agenda is usually available about 10 business days

RENEWABLE ENERGY
Funding Renewable Energy
Joint-Agency Report - SB 100
Offshore Renewable Energy
Renewable Energy Resources
Solar Energy
Solar Equipment Lists

CONTACT
Term Weeks

RELATED LINKS
Senate Bill 100
California Air Resources Board - Carbon Neutrality
California Air Resources Board - Booping Plan
California Public Utilities Commission - IRP Process

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100 Clean Energy

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Integrated Energy Policy Report - IEP

Thank you

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