



Senate Bill 100: Toward Zero-Carbon Electricity

Siva Gunda, Deputy Director, Energy Assessments Division
Fall 2019 Joint CREPC-WIRAB Meeting
October 8, 2019

California's Climate Policies

Greenhouse Gas Emission Reductions

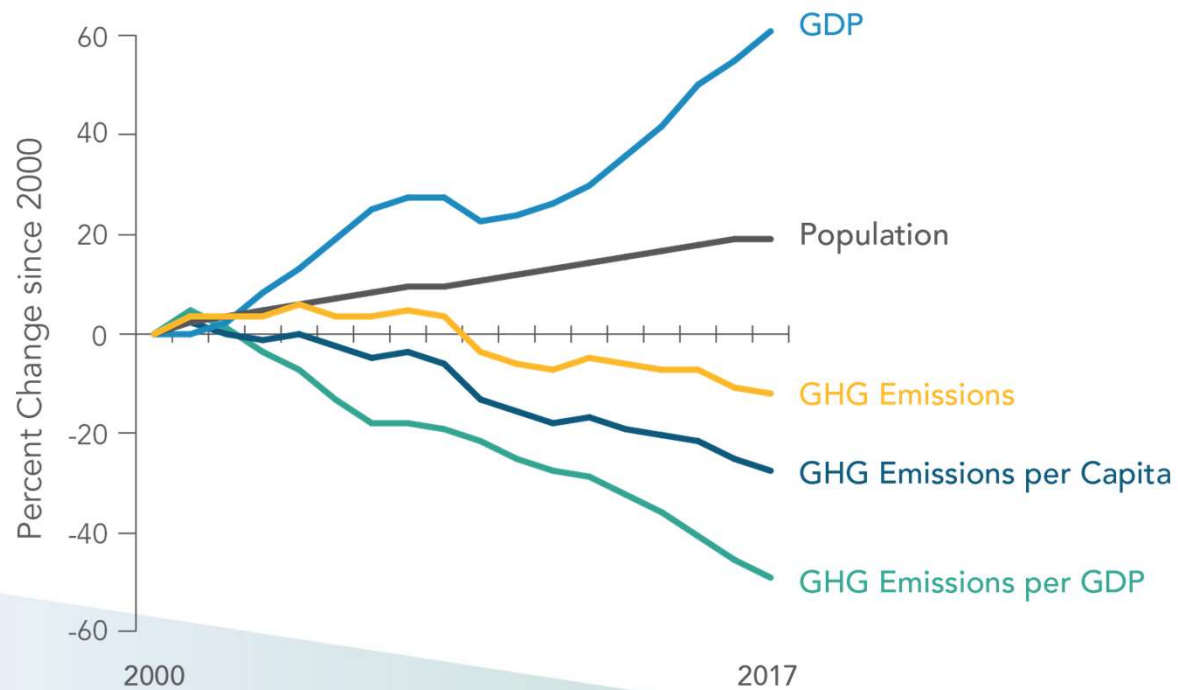
- 1990 levels by 2020
- 40% below 1990 levels by 2030
- 80% below 1990 levels by 2050
- Carbon Neutral by 2045 (Executive Order)



Renewable Energy

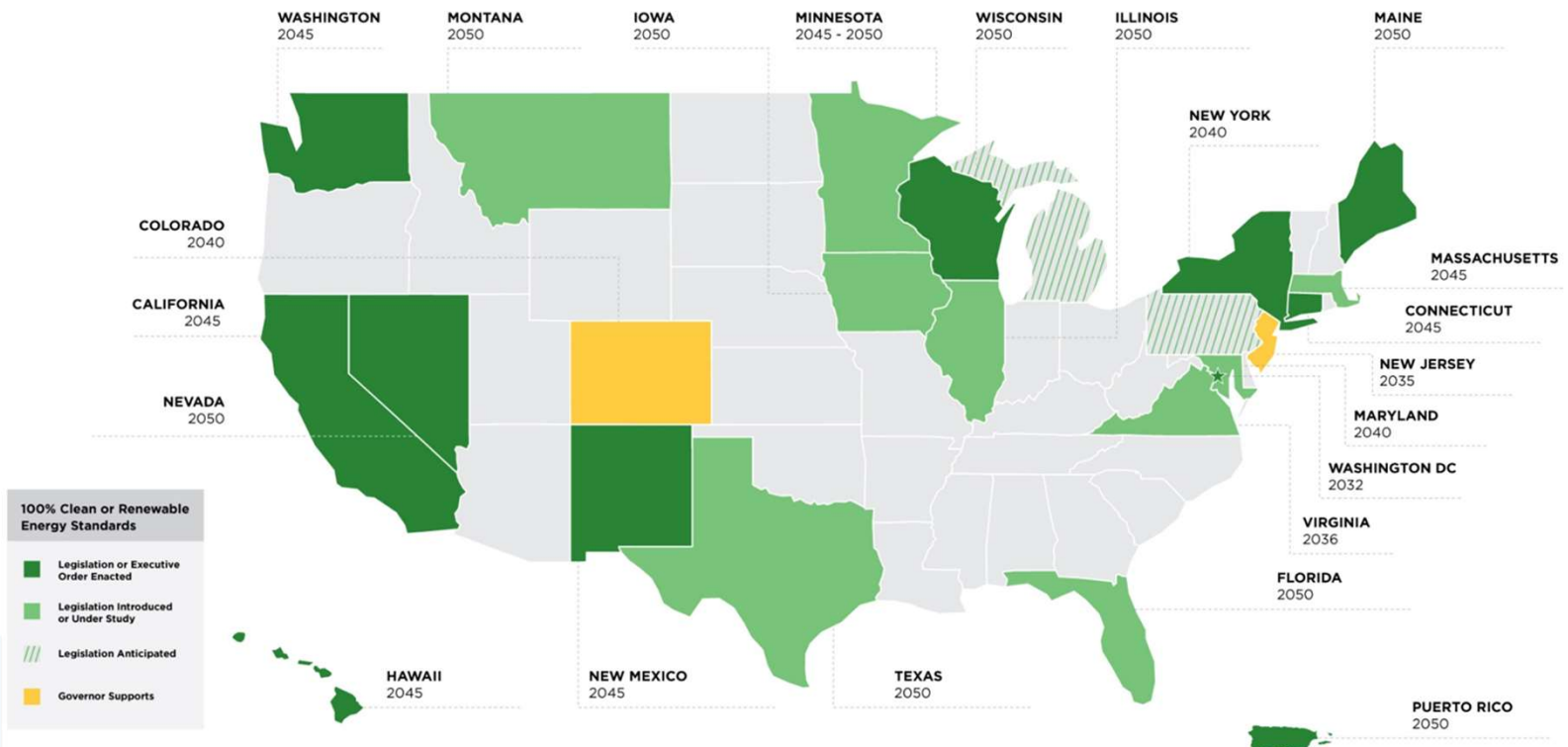
- 20% by 2017
- 33% by 2020
- 50% by 2026
- 60% by 2030
- 100% Clean Retail Sales by 2045

Decoupling GHG Emissions from GDP



Source: California Air Resources Board

Other States Also Moving Toward 100% Clean



Source: EQ Research Policy Vista™ Legislative Tracking Database as of March 15, 2019, California Energy States Alliance.

SB 100: RPS and Zero-Carbon Resources

PUC 454.53 (a)

It is the policy of the state that **eligible renewable energy resources and zero-carbon resources** supply 100 percent of all retail sales of electricity to California end-use customers by December 31, 2045.



Joint Agency Report



In consultation with CA balancing authorities, through a public process, issue a joint agency report by January 1, 2021 and at least every four years after that includes:

- **Technical review of the policy**
- **Potential benefits and impacts on system/local reliability**
- **Nature of anticipated financial cost and benefits to utilities**
- **Barriers and benefits of achieving the policy**
- **Alternative scenarios to achieve the policy**

Consistent Themes Across States



SB 100: RPS and Zero-Carbon Resources

RPS-eligible

Solar
Wind
Geothermal
Small Hydro
RPS Biomass

Zero-Carbon (Under Consideration)

Existing Contracts
-Large Hydro
-Nuclear
Others TBD

Comments to date

“Don’t be prescriptive”
“Maximize optionality”
“Be technology inclusive”

Timeline

- **Fall 2019**: Scoping Workshops
- **Spring 2020**: Finish SB 100 workshops/feedback from stakeholders
- **Summer 2020**: Draft report available for comment
- **Fall 2020**: Approval by CEC, CPUC, CARB
- **January 1, 2021**: Report due to the CA Legislature

SB 100 Workshop Topics

Fall 2019-Spring 2020

- Scenarios and Technologies for a Clean Energy Future
- Equity
- Affordability
- Reliability Needs
- Environmental Protection
- Electricity System Modeling
- Infrastructure and System Management Needs
- System Resilience

Western States Collaboration

- We can work together
 - ✓ Share best practices
 - ✓ Build strong technical alliances
 - ✓ Build synergistic relationships
- Thank you!
- Siva.Gunda@energy.ca.gov



SB 100 Website

- Events
- Related Links
- Subscribe to Listserv
- Submit comments

<https://www.energy.ca.gov/sb100>

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, 2019 | 04:00 PM - 05:30 PM
Webinar
The California Energy Commission (CEC) is adding new equipment lists for Battery and Energy Storage Systems (BESS) to its solar equipment lists.

SEP 05 Joint Agency Workshop on the Senate Bill 100 Report
September 5, 2019 | 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, 2019 | 10:00 AM - 01:00 PM
Arl Rosenfeld Hearing Room
California Energy Commission staff will conduct a workshop to solicit

SEP 11 Energy Commission Business Meeting
September 11, 2019 | 10:00 AM - 03:00 PM
Arl 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

[Terra Media](#)

RELATED LINKS

- [Senate Bill 100](#)
- [California Air Resources Board - Carbon Neutrality](#)
- [California Air Resources Board - Scoping Plan](#)
- [California Public Utilities Commission - IEP Process](#)

SUBSCRIBE

100 Clean Energy

First Name *

Last Name *

Email *

CATEGORIES

Topic
Renewables

Program
Integrated Energy Policy Report - IEP