

**DOCKETED**

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<b>Document Title:</b>	SB 100 Joint-Agency Report Overview
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<b>Filer:</b>	Harrison Reynolds
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<b>Docketed Date:</b>	10/7/2019



# SB 100 Joint-Agency Report Overview

Terra Weeks  
IEPR Commissioner Workshop on Offshore Wind  
October 3, 2019

# California's Climate Policies

## Greenhouse Gas Emission Reductions

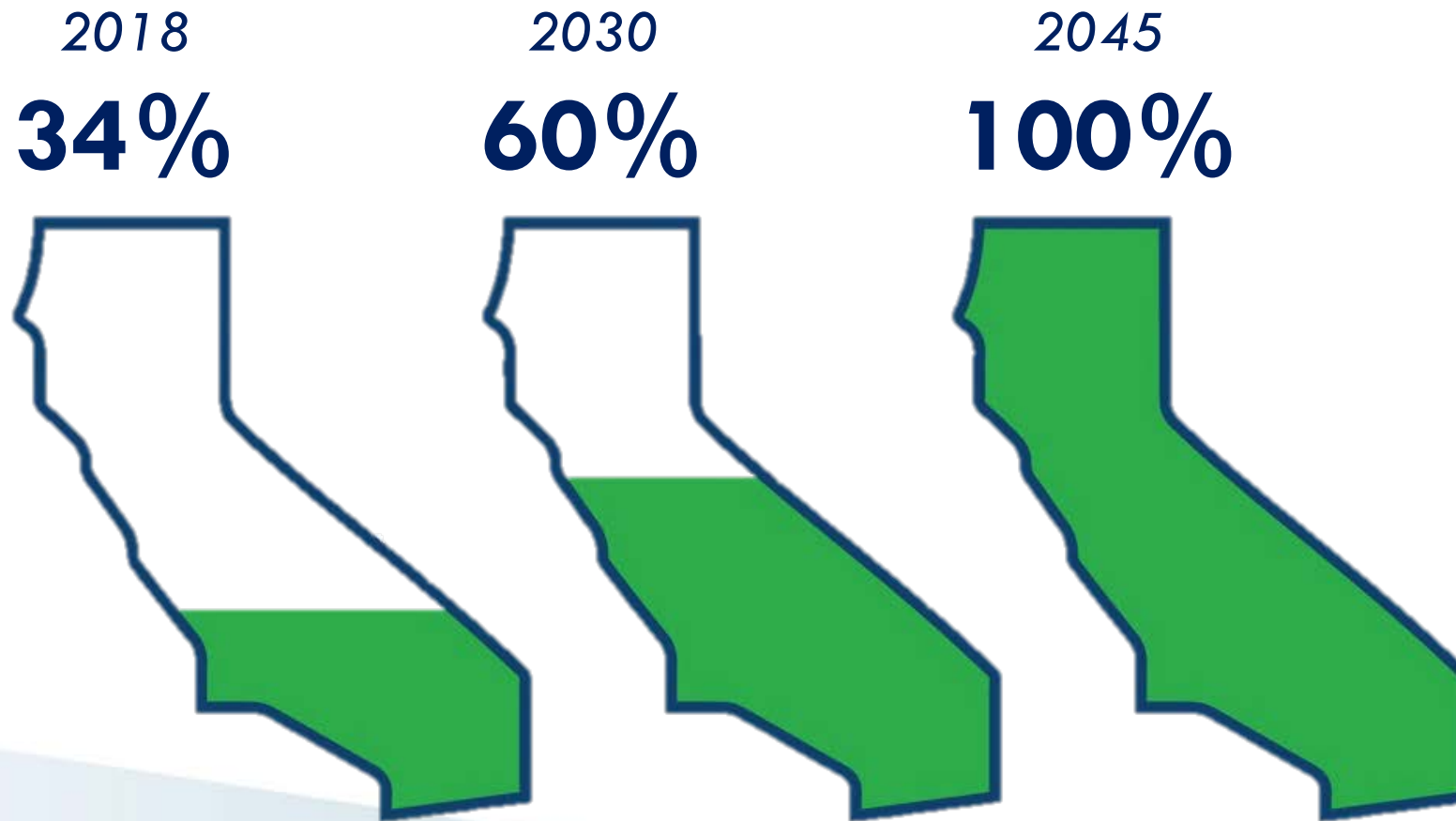
- 1990 levels by 2020
- 40% below 1990 levels by 2030
- 80% below 1990 levels by 2050
- Carbon Neutral by 2045 (Executive Order)



## Renewable Energy

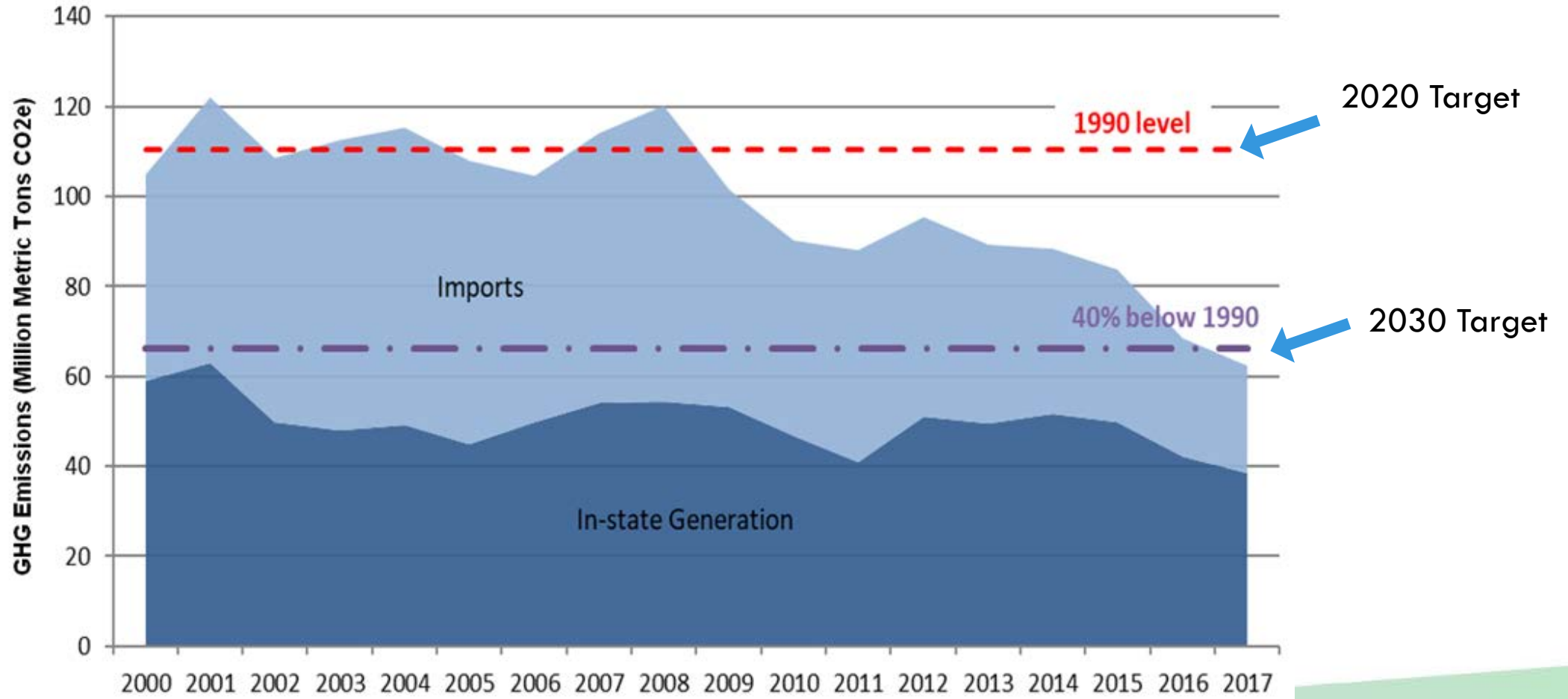
- 20% by 2017
- 33% by 2020
- 50% by 2026
- 60% by 2030
- 100% Clean by 2045

# SB 100: 100% Clean Electricity by 2045



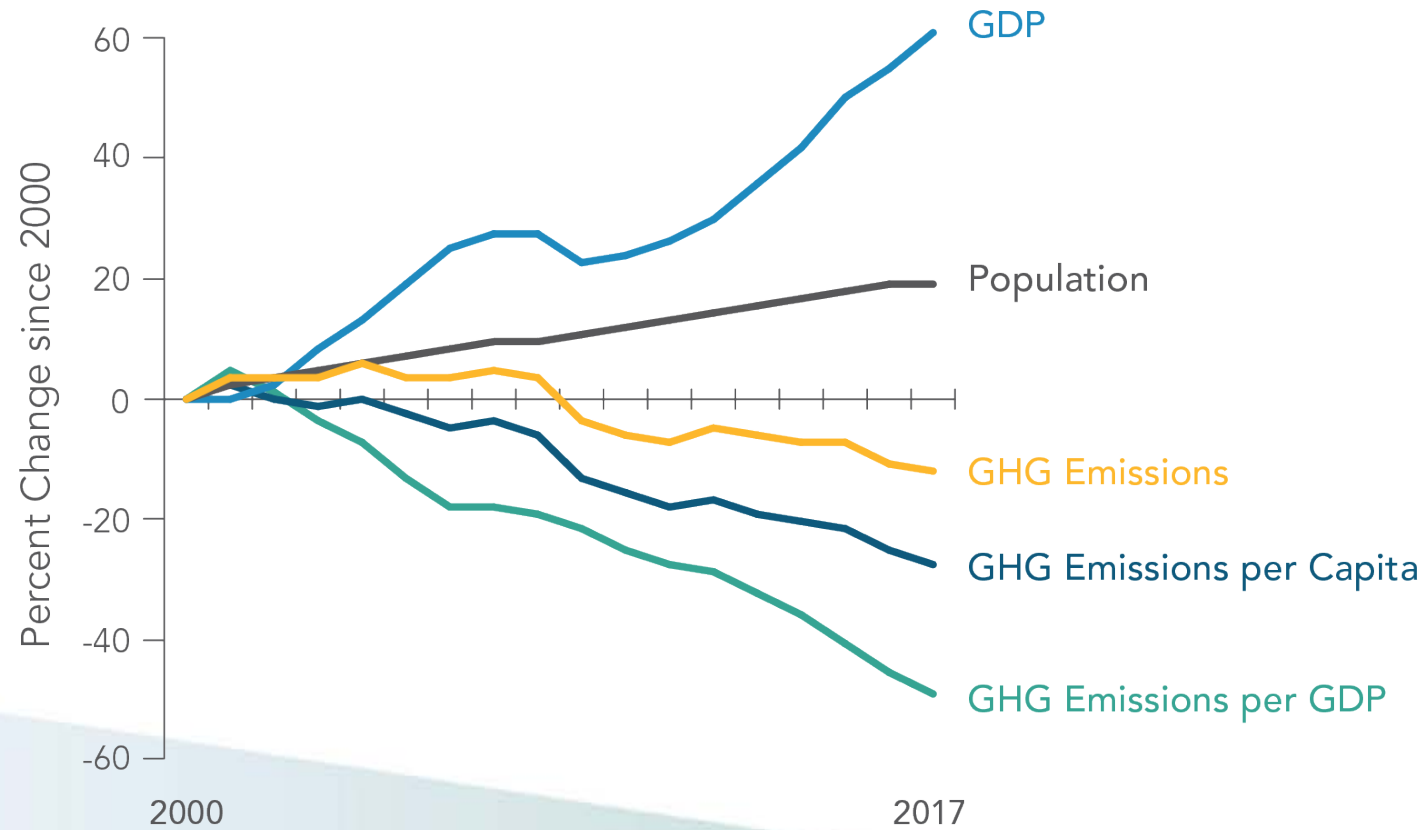
Source: California Energy Commission

# Ahead of Statewide GHG Reduction Target



Source: California Energy Commission

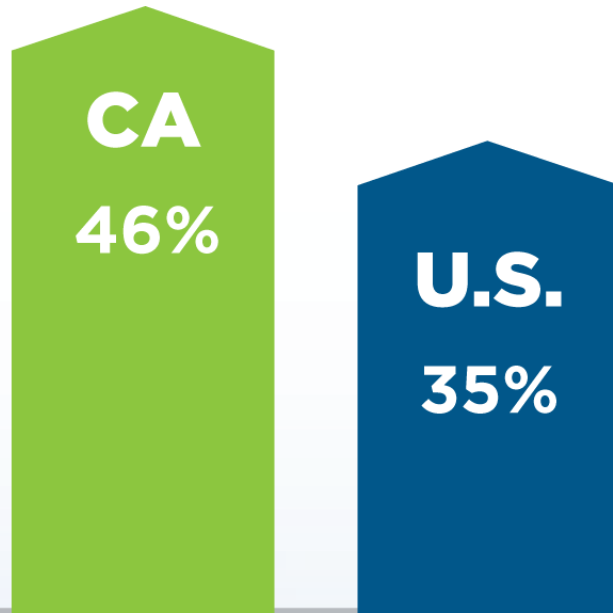
# Decoupled GHG Emissions from GDP



Source: California Air Resources Board

# World's 5<sup>th</sup> Largest Economy

## GDP GROWTH SINCE 2000



1. USA
2. China
3. Japan
4. Germany
5. **California**

Source: California Department of Finance and U.S. Bureau of Economic Analysis

# California Clean Jobs

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California has

**5x**

more clean energy jobs  
than fossil fuel jobs.

Nearly

**4 in 10**

solar jobs in America  
are in California.

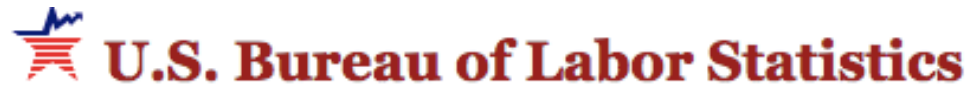
Statewide, there were

**512,934**

jobs in the clean  
energy industry in 2018.



# US Clean Jobs



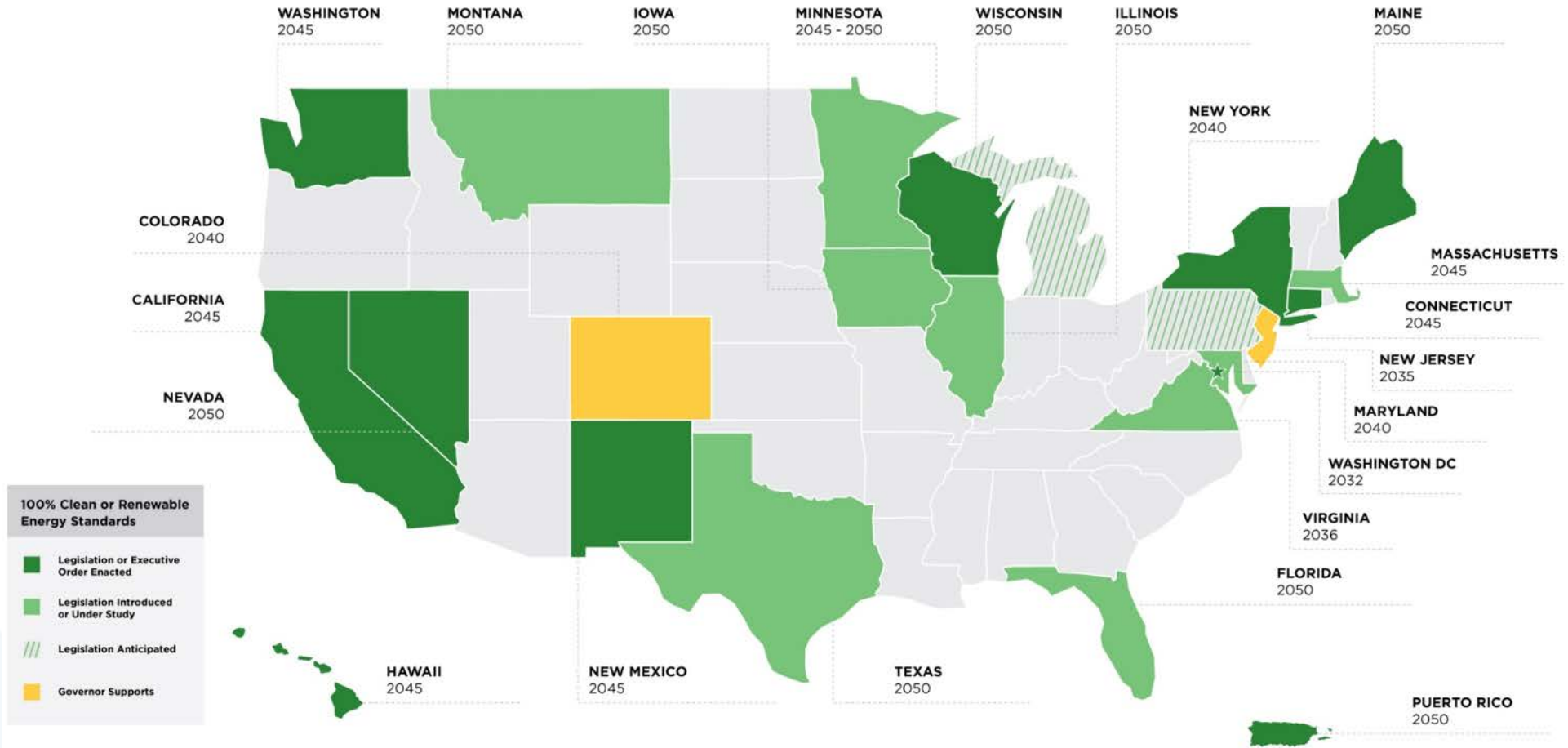
## Fastest Growing Occupations

**Fastest growing occupations:** 20 occupations with the highest percent change of employment between 2018-28.

*Click on an occupation name to see the full occupational profile.*

OCCUPATION	GROWTH RATE, 2018-28
<a href="#">Solar photovoltaic installers</a>	63%
<a href="#">Wind turbine service technicians</a>	57%
<a href="#">Home health aides</a>	37%
<a href="#">Personal care aides</a>	36%

# Other States Moving Toward 100%



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

# Nearly 30% of Americans Live in a Community Committed to 100% Clean Energy

## 91 Million People

28% of US population lives in a place committed to transitioning to 100% clean energy (over 1 in 4 people)

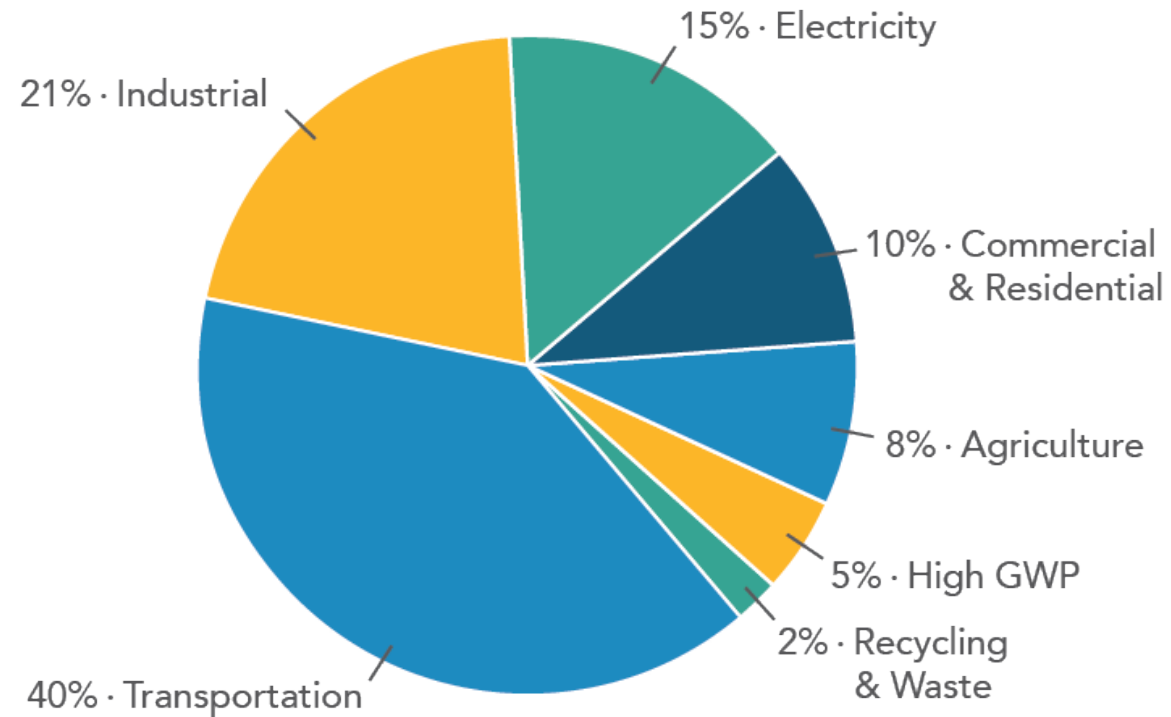


Equivalent to 260 million metric tons per year— as much as taking **55 million cars off the road**



Accounting for **20% of electricity consumption** (1 in 5 kilowatt hours)

# Clean Energy Backbone



424.1 MMTCO<sub>2</sub>e  
2017 TOTAL CA EMISSIONS

Source: California Air Resources Board

# Emerging Trends in Other Sectors

## Transportation



## Buildings



Source: City Ventures

# SB 100: RPS and Zero-Carbon Resources

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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**

# Interagency Coordination



**CPUC**

Principal: Commissioner Randolph



**CEC**

Principal: Chair Hochschild



**CARB**

Principal: Chair Nichols

Workshops and Stakeholder Input

SB 100 Report



# Joint Agency Report Goals

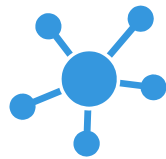
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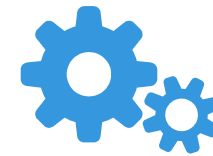
Meet report statutory requirements



Provide direction to the electricity market

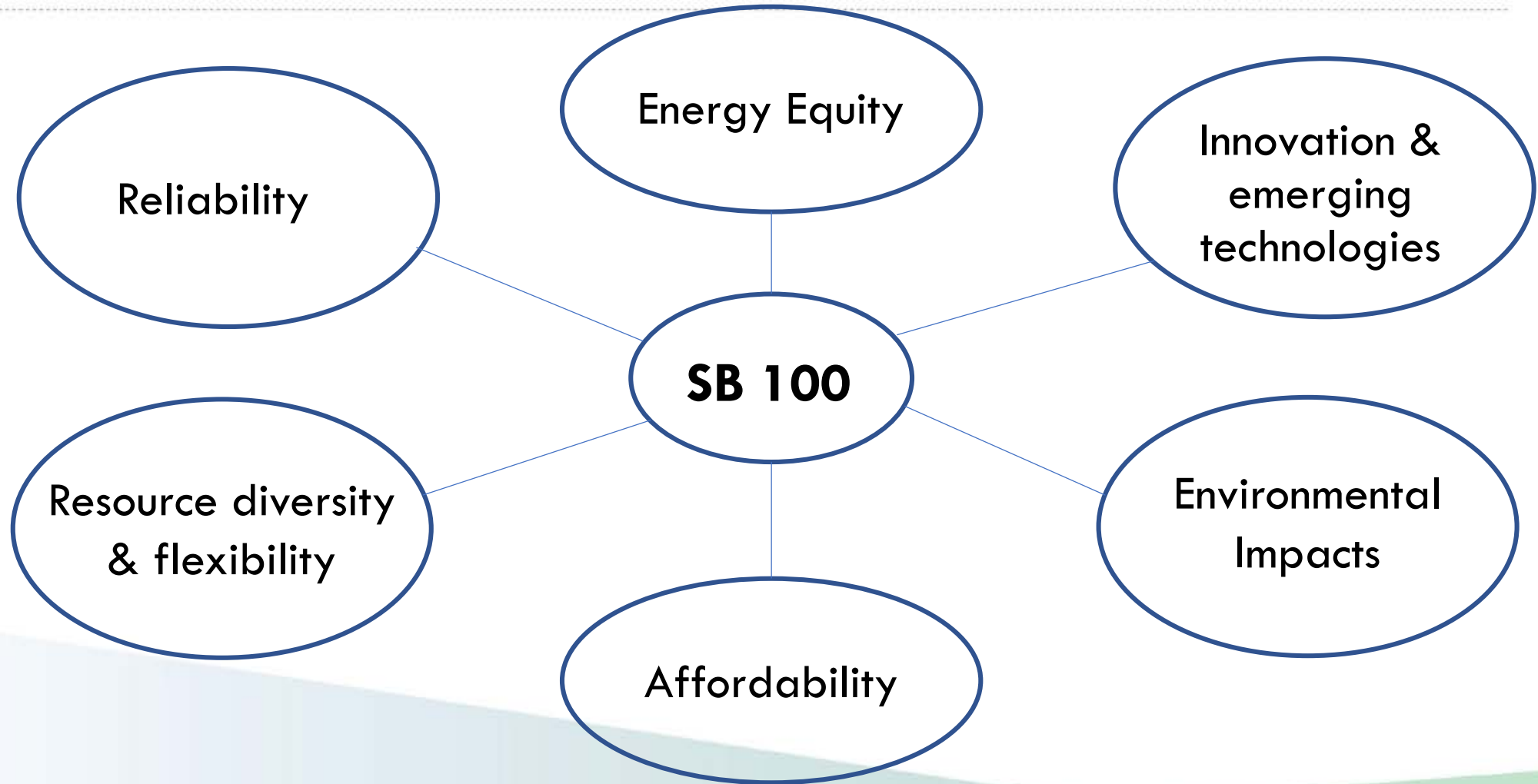


Coordinate planning processes of the State Agencies



Form consensus on interpretation of statute

# Key Considerations



# 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  
???

## Comments to date

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

# Timeline

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- **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

# Tentative SB 100 Workshop Topics

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## 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

# SB 100 Engagement

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- Submit comments to CEC Docket 19-SB-100
- Visit the SB 100 Joint Agency Report webpage:  
<https://www.energy.ca.gov/sb100>
- [Terra.weeks@energy.ca.gov](mailto:Terra.weeks@energy.ca.gov)

# Thank You



Terra Weeks  
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California Energy Commission  
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# New CEC Solicitation for Offshore Wind

**\$3M** for projects focused on:

- Remote monitoring and control systems
- Research on impacts to sensitive species and habitats

**Pre-Application Workshop:**

September 10, 2019

**Applications Due:**

December 13, 2019



September 30, 2019

## **Grant Funding Opportunity - GFO-19-302 - Advance to Next-Generation Wind Energy Technology (Next Wind)**

Date Released: September 30, 2019.

### **PURPOSE OF SOLICITATION**

Solicitation is to fund applied research and development projects that facilitate the development of next-generation wind energy technologies and result in increased competitiveness, performance, and reliability, while lowering the cost and the environmental and wildlife impacts of