



# EPIC Strategic Goals Workshop

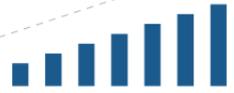
Anthony Ng, Research and Development Division

California Energy Commission

August 16, 2023



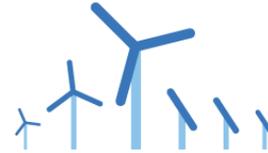
# PRIMARY FUNCTIONS OF THE CALIFORNIA ENERGY COMMISSION



**Advancing State Energy Policy**



**Investing in Energy Innovation**



**Developing Renewable Energy**



**Preparing for Energy Emergencies**



**Achieving Energy Efficiency**



**Transforming Transportation**



**Overseeing Energy Infrastructure**

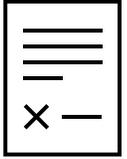


**Intergovernmental Collaboration**



# EPIC Investment Portfolio Development

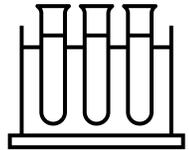
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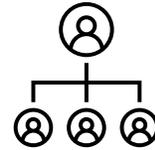
**Policy Guidance**



**Stakeholder Engagement**



**Research Literature**

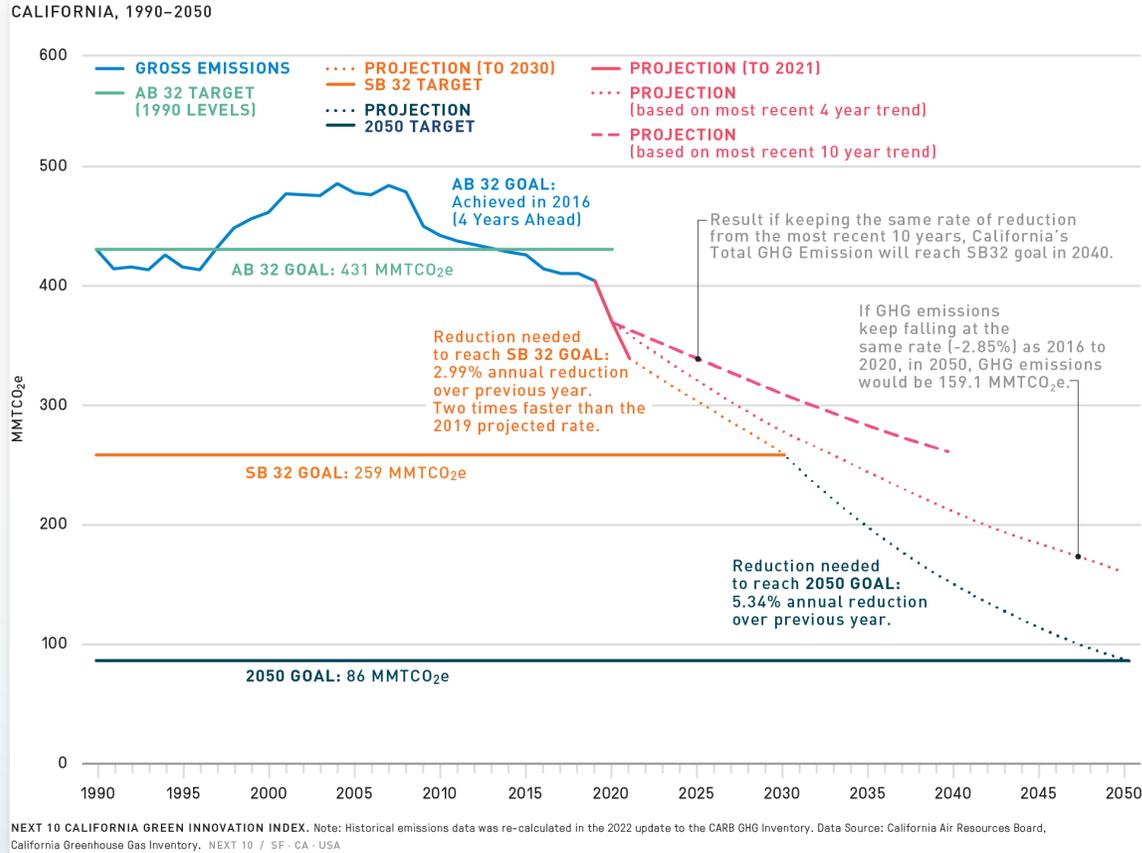


**CEC Commissioners**



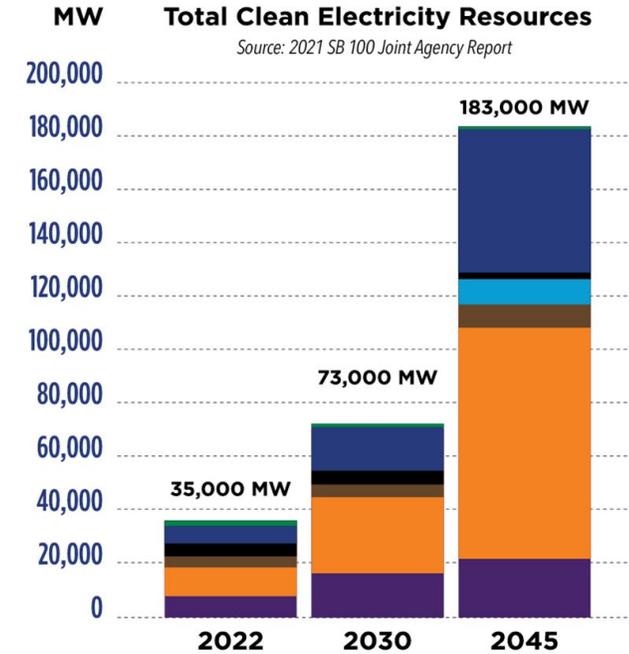
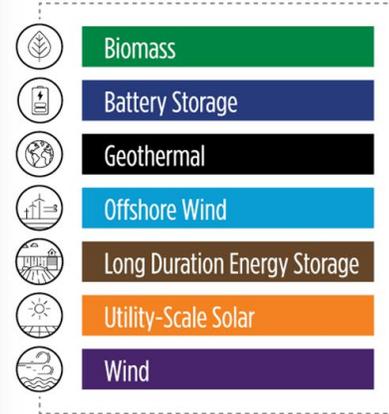
# Climate and Energy Goals

**Figure 4. GHG Emissions and Projected Reduction Goals**



Totals represent new and existing resources. The 2021 SB 100 Joint Agency Report projects the need for 148,000 MW of new resources by 2045.

In addition, California also expects new capacity from energy efficiency, customer solar and demand response.





# Policy Guidance

- Integrated Energy Policy Report
- CARB Scoping Plan
- Low-Income Barriers Study
- SB 100 Joint Agency Report





# Research Literature

- National Research – National Labs, DOE, etc.
- Previous EPIC Research
- Peer-reviewed scientific journals
- Third party research – non-profits, consultants, etc.





# Investment Plan Engagement

EPIC Plan	Number of Workshops Held	Written Comments Received
EPIC 1	3	242
EPIC 2	3	153
EPIC 3	9	179
EPIC 4	12	140



# CEC Commissioner Leadership



**Chair**  
**David Hochschild**

R&D Lead

Environmental position



**Vice Chair**  
**Siva Gunda**

Energy Reliability Lead

Public position



**Commissioner**  
**Patty Monahan**

Transportation Lead

Science/Engineering  
position



**Commissioner**  
**Noemi Gallardo**

Siting/ Transmission  
Lead

Attorney position



**Commissioner**  
**J. Andrew McAllister**

Energy Efficiency Lead

Economist position

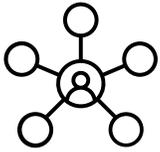


# EPIC R&D Supports CA Policy

- Achieving goals faster and at lower cost
- Wider portfolio of technology solutions
- De-risking technologies
- Technology Push and Market Pull
- Allows policy to increase in ambition



# Investment Plan Implementation



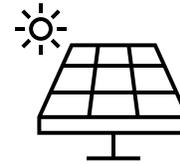
## Solicitation Scoping

- Continuous leadership and stakeholder engagement
- Narrows scope to reflect latest in scientific and market developments
- Ensure investments are relevant and impactful



## Proposal Evaluation

- Ensure projects have combination of innovation, feasible approach, appropriate team



## Project Management

- Conduct knowledge and technology transfer
- Communicate results to key stakeholders and decision-makers



# Impacts of EPIC R&D

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- Project-Level
  - Measures the scientific and technological advancement from a project
- Portfolio-Level
  - Measures benefits to ratepayers from EPIC investments around critical portfolio topics
  - Evaluates how EPIC projects have overcome key barriers (qualitative)
- Program-Level (Key Performance Indicators)
  - Measures the overall success and impact of the program



# Project-Level Impacts

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- What does success look like for the project:
  - Technology Performance
  - Economics
  - Manufacturing
  - Programmatic
- Will vary greatly depending on the project
- Mix of quantitative and qualitative metrics



# Portfolio-Level Impacts

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- Group projects by common areas
  - Building electrification
  - Vehicle-grid integration
  - Microgrids
  - Battery technology
- Aggregate impacts if appropriate
- Identify gaps



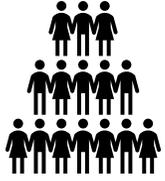
# Program-Level Impact

Impact Category	Quantifiable Impacts
Technology Development and Commercialization	<ul style="list-style-type: none"><li>• Follow-on private investment</li><li>• Leveraged public funding</li><li>• Number of commercialized technologies</li></ul>
Technology Diffusion	<ul style="list-style-type: none"><li>• Number and geographic distribution of project sites (technology learning)</li><li>• Connections of stakeholders in EPIC's recipient network</li><li>• Codes and Standards improved by EPIC projects</li></ul>
Knowledge Generation and Dissemination	<ul style="list-style-type: none"><li>• Number of publications and citations</li><li>• Number of online tools and the count of their usership</li><li>• EPIC Symposium attendance</li></ul>
Diversity, Equity and Inclusion	<ul style="list-style-type: none"><li>• Percentage of TD&amp;D funding in under-resourced communities</li><li>• Diversity of funding recipients</li><li>• Outreach and community events held</li></ul>
Economic Impact	<ul style="list-style-type: none"><li>• Economic Output</li><li>• Job Growth</li></ul>

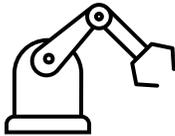


# Desired Outcomes

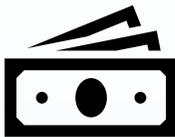
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Equitable transition to a decarbonized economy



Technology commercialization and adoption



Clear and sustained market and policy signal



Impactful research to inform decision makers



**Thank You**

