

Presentation to Environmental Justice Advisory Counsel

California's Cap-and-Trade Program and Affordability:
Emerging Challenges and Potential Solutions

Michael Wara

Stanford

Climate & Energy Policy Program
Woods Institute for the Environment

May 15, 2025

Cap and Trade Reauthorization

- Affordability is the key challenge
- How do we decarbonize (and therefore how should we spend money)?
- Climate credit redesign
- Increased allocation of allowances to utilities
- Subsidies to buy down cost of needed electric system investments



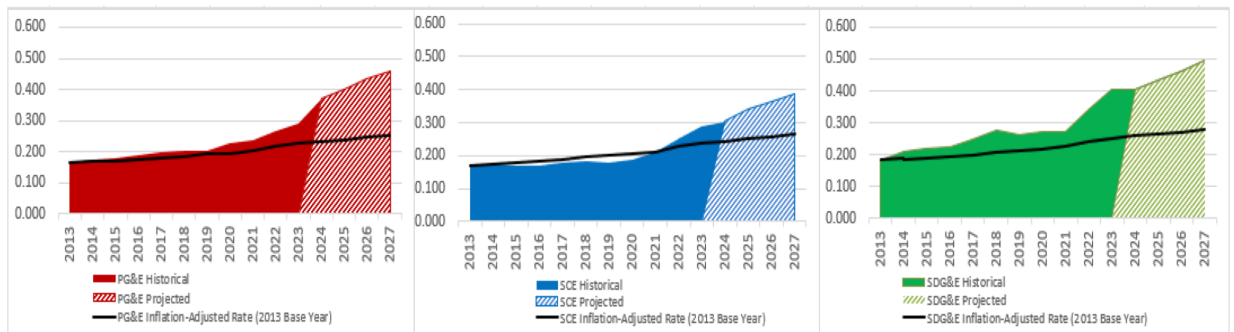
May 15, 2025

Cap and Trade Reauthorization

- Affordability is the key challenge

2024 SENATE BILL 695 REPORT

PG&E, SCE, and SDG&E Electric Bundled Residential Average Rates (\$/kWh)

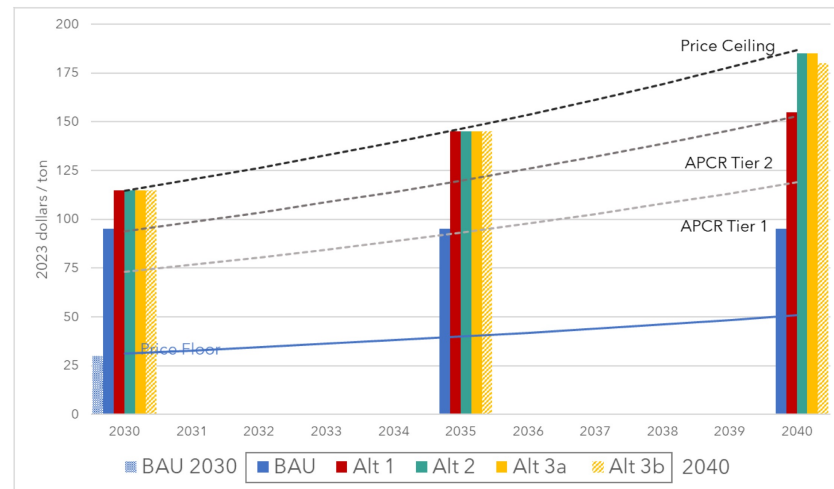


CPUC SB695 Affordability Report (2024)

Cap and Trade Reauthorization

- Affordability is the key challenge

Modeled Prices Under Different Scenarios



Allowance Supply and Demand
in California's Cap and Trade Market: Initial Results,
Bushnell et al (2024) for CARB

Cap and Trade Reauthorization

- Affordability is the key challenge

Figure 6

Illustrative Example of Relationship Between Cap-and-Trade Allowance Prices, Gasoline Cost Increases, and Allowance Values

Floor and Ceiling Prices and Allowance Allocations Reflect 2025 Levels

Hypothetical Price Scenario	Price Per Allowance	Per Gallon Retail Gasoline Price Impact	GGRF Revenues (Annual)	Total Value of All Allowances ^a (Annual)
Price Floor	\$25.87	\$0.20	\$3.2 billion	\$6.9 billion
February 2025 Actual Price	29.27	0.23	3.6 billion	7.8 billion
Price Ceiling	94.92	0.74	11.6 billion	25.4 billion

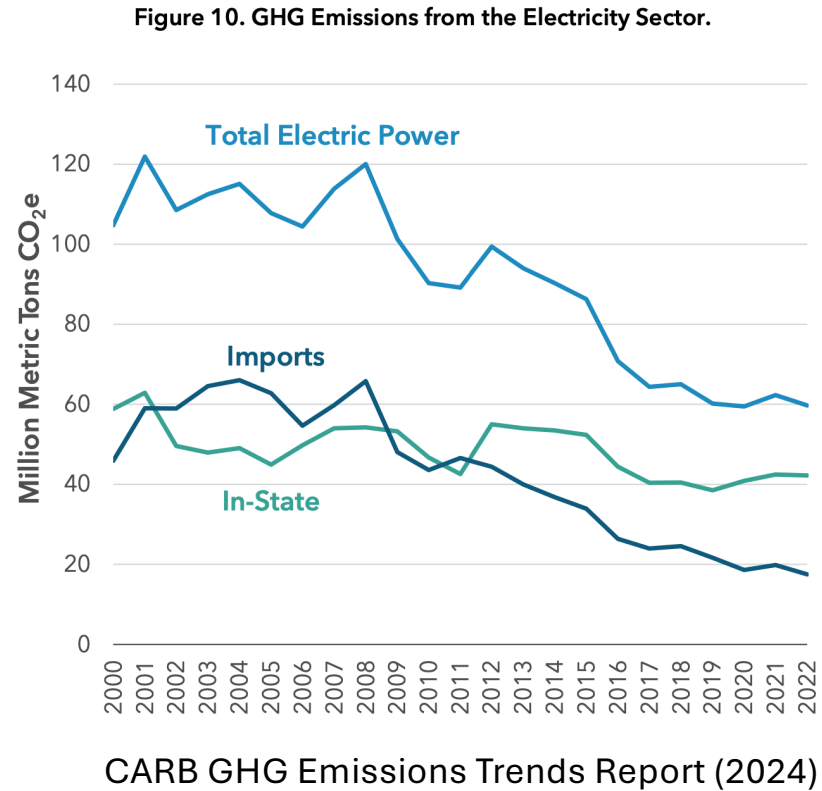
^a Includes combined value of both free and auctioned allowances.

GGRF = Greenhouse Gas Reduction Fund.

CA LAO, 2025

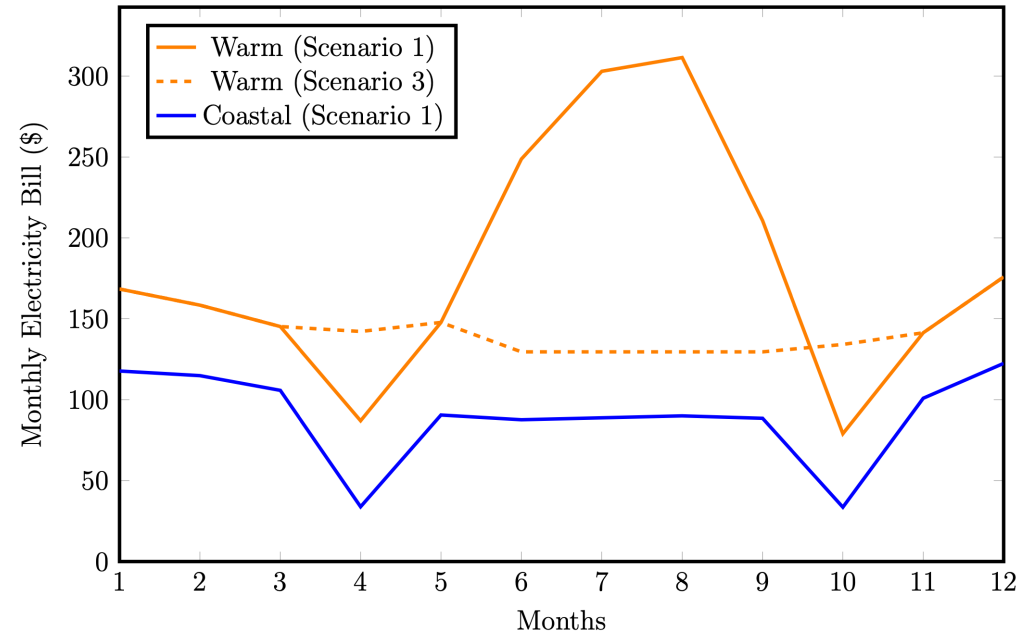
Cap and Trade Reauthorization

- How do we decarbonize (and therefore how should we invest money)?



Cap and Trade Reauthorization

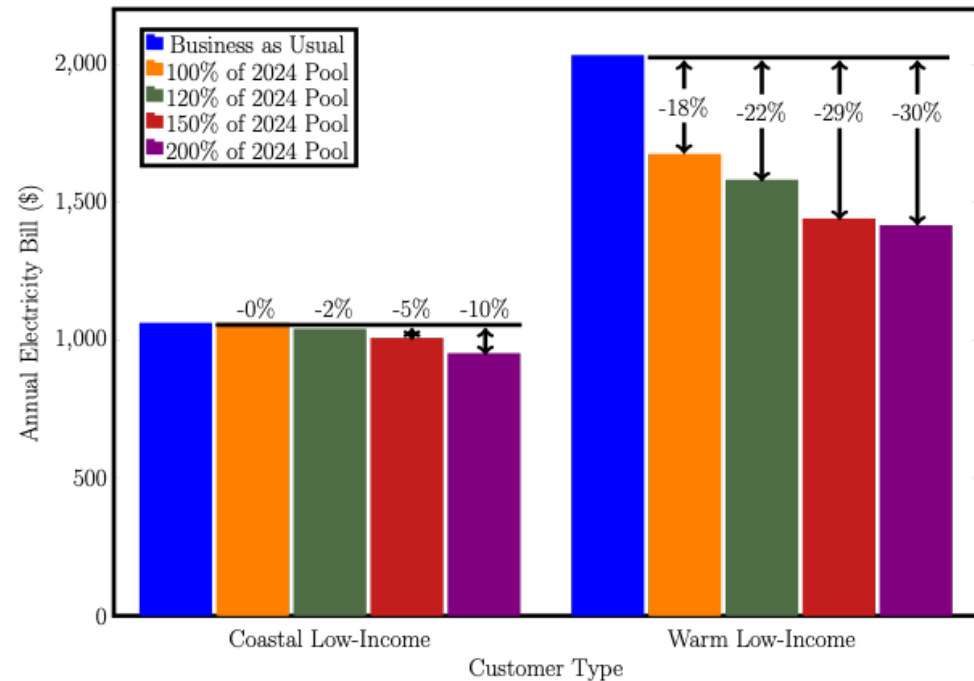
- Climate Credit redesign



Reallocating the Residential California Climate Credit
to Low-income Customers, Smith, Mastrandrea, and Wara (2024)

Cap and Trade Reauthorization

- Increased allocation of allowances to utilities

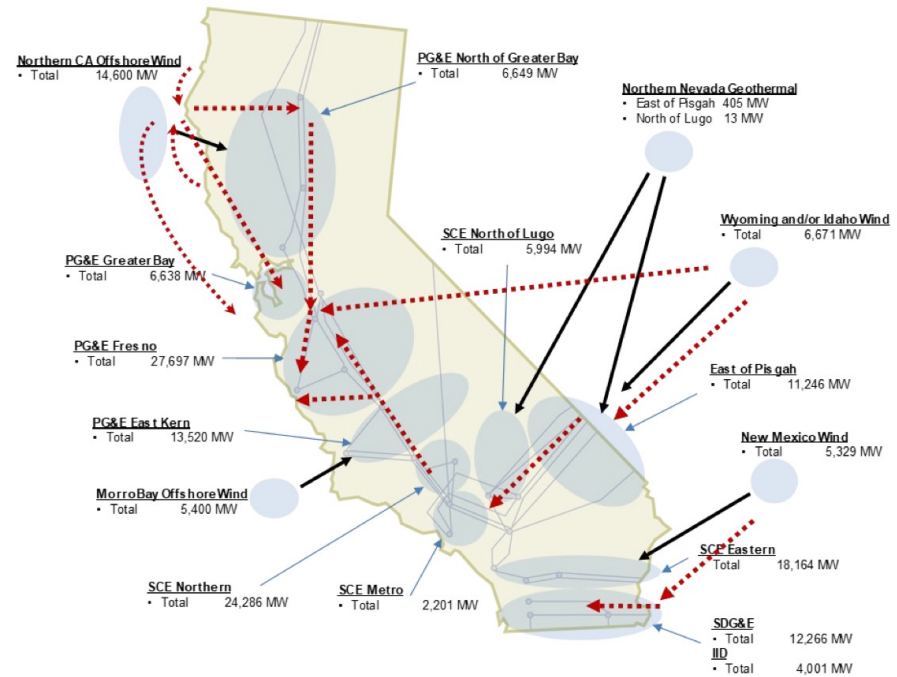


Smith, Macomber, Ahumada-Paras, Mastrandrea and Wara *in prep*

Cap and Trade Reauthorization

- Subsidies to buy down cost of needed electric system investments

Figure ES-1: Transmission Development



CAISO 20-year Transmission Outlook Update (2024)

Cap and Trade Reauthorization

- Affordability is the key challenge
- How do we decarbonize (and therefore how should we spend money)?
- Climate credit redesign
- Increased allocation of allowances to utilities
- Subsidies to buy down cost of needed electric system investments

Conclusions

- Decarbonization requires
 - 100% clean power
 - Electrification of end uses
- Reauthorization will likely raise cap-and-trade costs (and revenues)
- California should use cap-and-trade money to buy down the transition cost
- That will make both electricity and decarbonization more affordable to all
- That will help ensure that cap-and-trade is both economically and politically sustainable