California Cap-and-Trade Program: Allowance Supply

AUGUST 16, 2019

Background

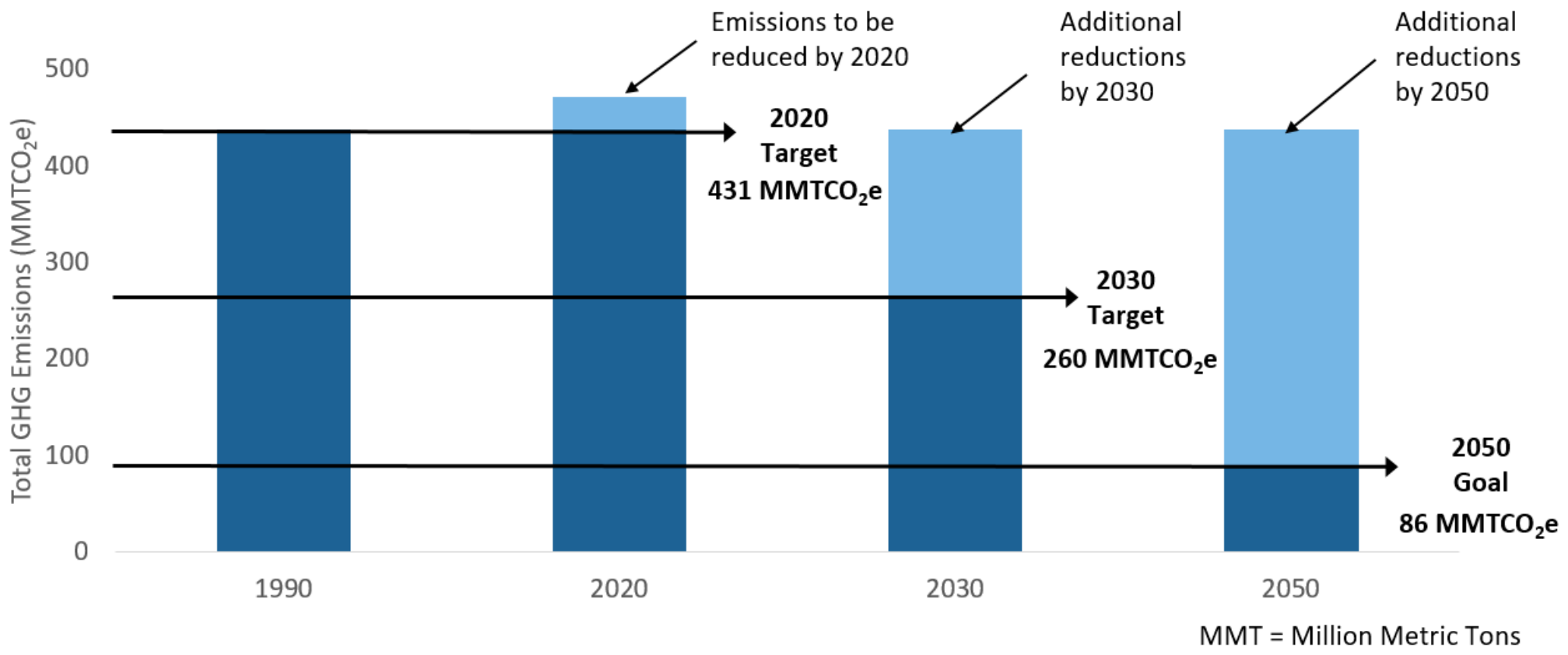
Resolution 18-51

"quantify and report to the Board, by no later than December 31, 2021, the volume of unused allowances from 2013 through 2020, including volumes held in private accounts, and the potential for unused allowances to hinder the ability of the program to help achieve the SB 32 target. The Executive Officer shall hold a public workshop in 2019 to discuss potential methodologies to evaluate this topic."

AB 32 Target Progress

- Emissions fell below 2020 target in 2016 and have fallen faster than anticipated
- Per capita and per GDP emissions continue to decline
- Good outcome from the perspective of the atmosphere

Background: GHG Reduction Targets



Source: CARB, 2018

California's Climate Policy Portfolio

Double building efficiency

50% renewable power

More clean, renewable fuels

Cleaner zero or near-zero emission cars, trucks, and buses

Walkable/bikeable communities with transit

Cleaner freight and goods movement

Slash potent "super-pollutants" from dairies, landfills and refrigerants

Cap emissions from transportation, industry, natural gas, and electricity

Invest in communities to reduce emissions

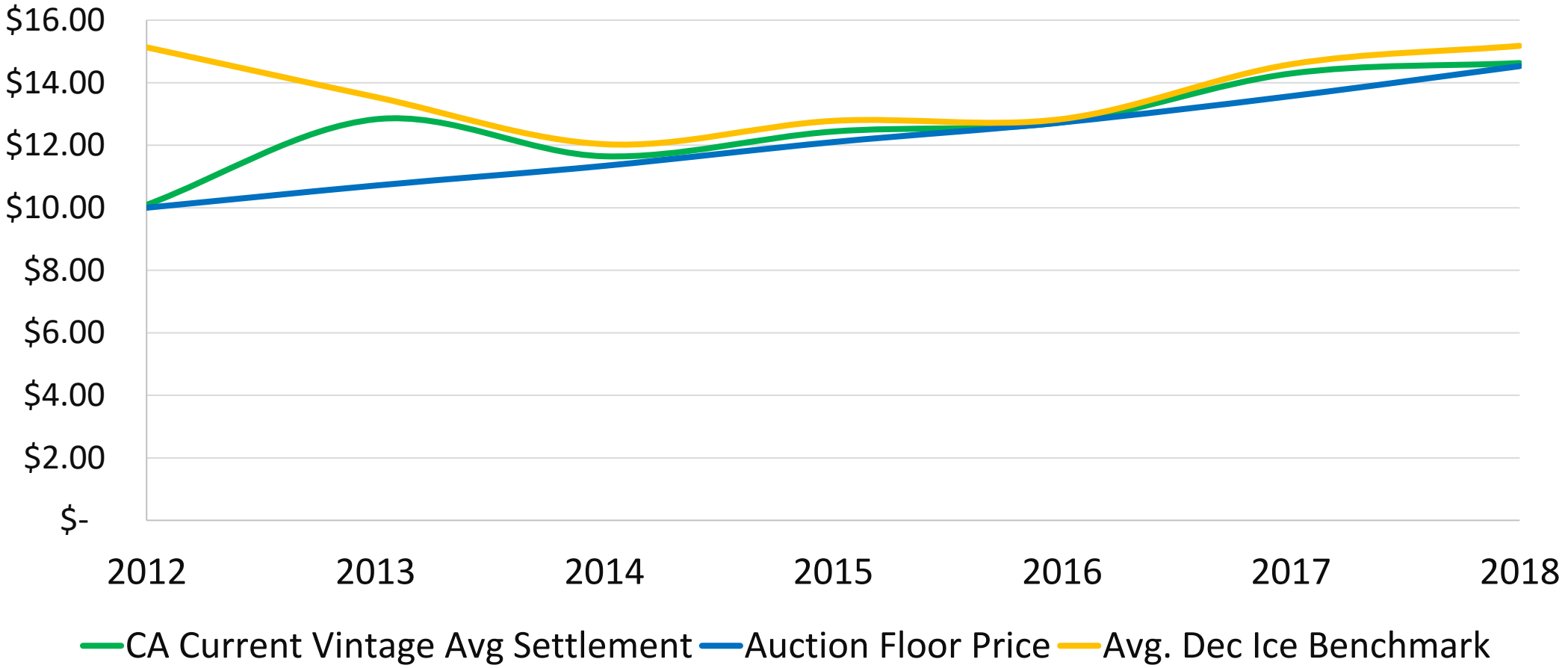
Protect and manage natural and working lands

Design Features to Support Steadily Increasing Allowance Price

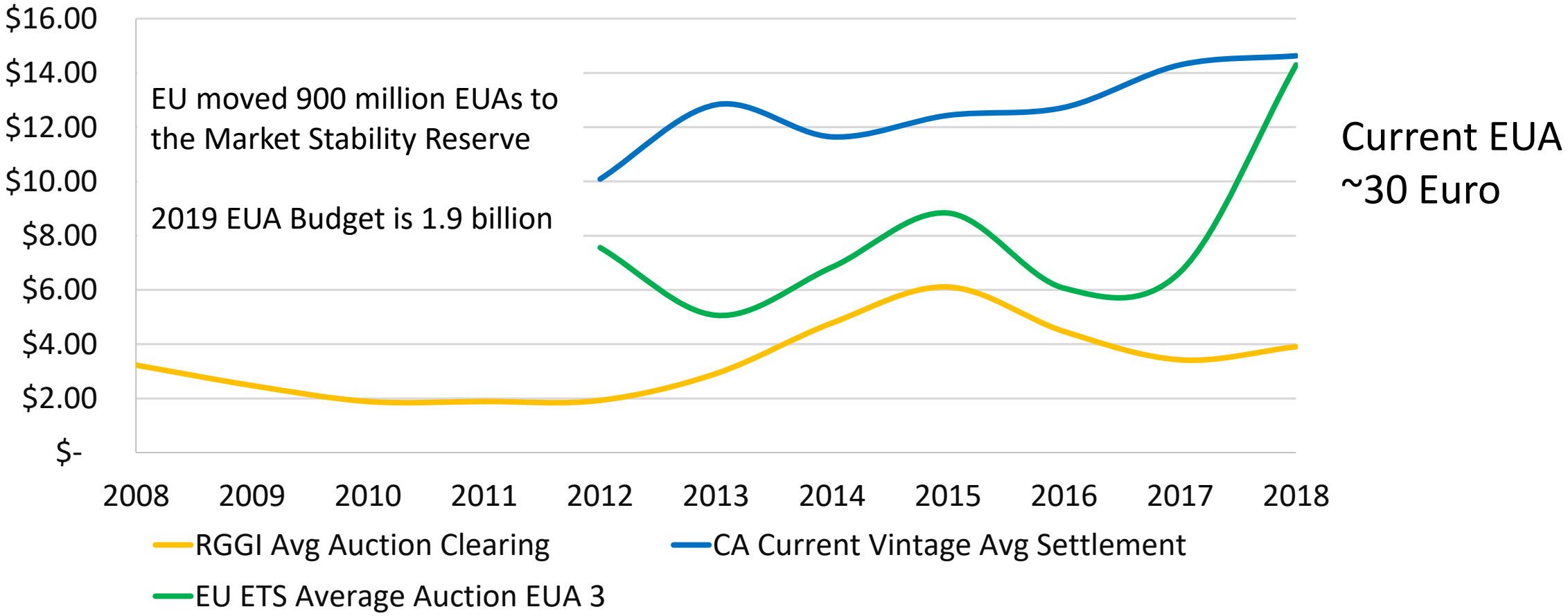
Included since the beginning

- Annually increasing Auction Floor Price (5 percent plus inflation)
- Holding limits to deter and prevent market manipulation and prevent limitless banking
- Self-ratcheting mechanism to remove unsold auction allowances until there is increased demand

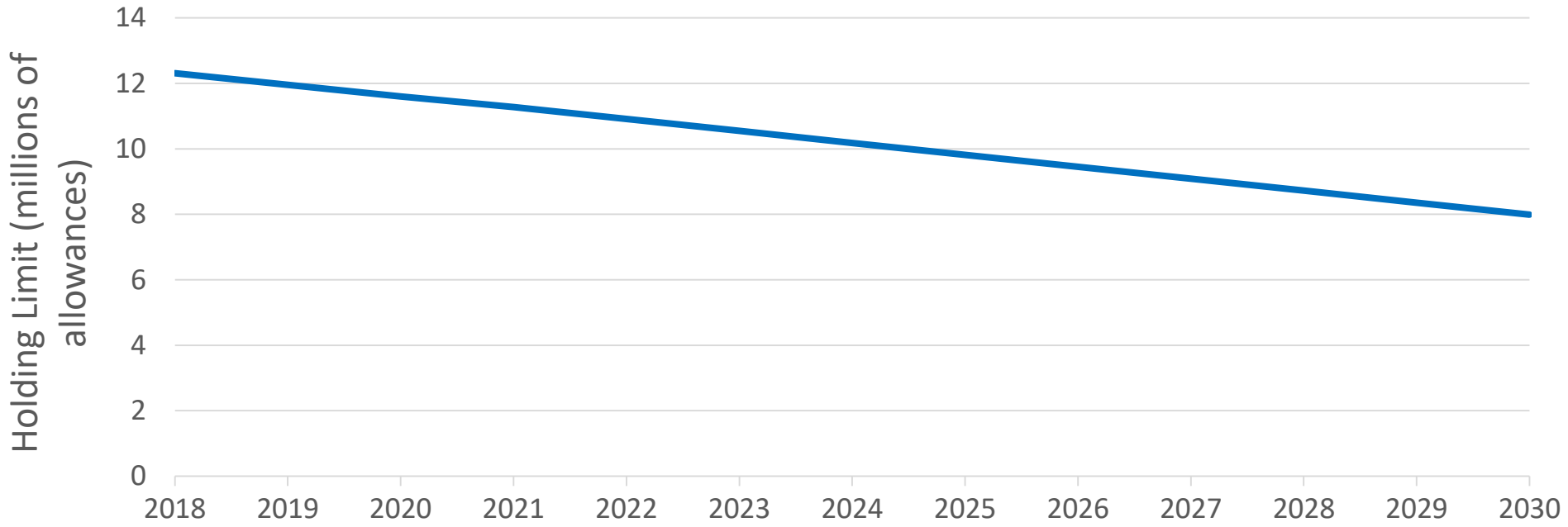
Comparison of CA Floor Price, Average Annual Auction Settlement Price, and Secondary Market Benchmark



Historical Average Annual Auction Clearing Prices



Declining Holding Limits



Estimated costs ($2018) to maximize holding limit

2018: $179 million

2024: $198 million

2030: $209 million

Post-2020 Program Adjustments

- Declining caps reflect SB 32 reduction target of 40 percent below 1990 levels by 2030
- Removal of allowances from post-2020 caps to reflect lower expected emissions in 2021
- Self-ratcheting mechanism to transfer unsold auction allowances to Reserve/Ceiling if no demand for 24 months (AB 398)
- Lower offset usage limits (AB 398)
- Price ceiling with two Reserve Tiers (AB 398)

Public Market Supply Data

- **Cap-and-Trade Regulation and Rulemaking Documents (California only data)**
  - Annual caps
  - Allowances to Allowance Price Containment Reserve and Price Ceiling
  - Set aside for Voluntary Renewable Energy Program
  - Fate of unsold auction allowances
- **Quarterly Compliance Instrument Report (Linked program data)**
  - Allowances in private and jurisdictional accounts, changes in volumes by vintage over time available in the market
- **Annual and Quarterly Auction Notices (Linked program data)**
  - California and Quebec allowances for auction, by vintage

Public Market Demand & Price Data

- **Mandatory Greenhouse Gas Data Reports (California program data)**
  - Annual covered emissions
- **Quarterly Auction Results Notices (Linked program data)**
  - Volume of allowances sold at auction and price
- **Compliance Surrender Report (Annual California only data)**

Discussion

- What are the metrics you would suggest we use to identify allowance supply issues?
- What challenges are posed in designing a program around companion policies which have their own uncertainty?
- What are the symptoms of an allowance supply concern in the short-term versus the long-term?
- How does allowance supply relate to the auction floor, ceiling, and market prices?
- What other mechanisms could potentially complement the existing program to address allowance supply concerns in the future?
- If changes needed to be made in allowance supply, how far in advance should the market be notified?

Panelists

- Severin Borenstein, E.T. Grether Professor of Business Administration and Public Policy, Haas School of Business and Faculty Director of the Energy Institute at the Haas School of Business, UC Berkeley

- Dallas Burtraw, Darius Gaskins Senior Fellow, Resources for the Future, Chair Independent Emissions Market Advisory Committee

- Jim Bushnell, Professor in the Department of Economics at the University of California, Davis, and a Research Associate of the National Bureau of Economic Research.

Additional Resources

California Air Resources Board: https://www.arb.ca.gov/homepage.htm

AB 32 Scoping Plan: https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm

Cap-and-Trade Program: https://www.arb.ca.gov/cc/capandtrade/capandtrade.htm

Cap-and-Trade Program Data: https://ww2.arb.ca.gov/cap-and-trade-program-data

Appendix D: Evaluation of Post-2020 Caps:

https://www.arb.ca.gov/regact/2018/capandtrade18/ct18398.pdf