AB 32 Scoping Plan Process
EJ Advisory Committee Scenario Design Input
July 2021

Introduction

CARB is soliciting feedback from the EJ Advisory Committee on key outcomes for energy and technology, and timing to achieve carbon neutrality. CARB staff will take feedback and incorporate into building draft scenarios for initial GHG emissions modeling. CARB staff have developed a series of high-level questions to help guide the discussion.

Scenario Input Questions for EJAC Consideration

A. Carbon Neutrality Timeframe

2030 target in SB 32: 40% below 1990 levels

1. **Increase ambition in 2030?**

Science calls for carbon neutrality (CN) by mid-century

2. **Achieve CN in 2045, 2035, or other year?**

B. Role of Engineered Carbon Removal

Carbon capture and sequestration

3. **With fossil fuel combustion (e.g., industry, electricity generation, refineries). Yes or no?**
4. **With industrial process emissions (e.g., cement). Yes or no?**
5. **Is there any role for biomass for energy?**

Refrigerant emissions and other sources of non-CO2 emissions may remain.

6. **Compensate for these remaining emissions with direct air capture with sequestration? Or, what is the alternative?**

C. Carbon Free Electricity Grid

SB 350 calls for a 2030 Renewables Portfolio Standard (RPS) of 60%
SB 100 requires 100% retail sales of electricity be zero carbon by 2045

7. **Do we accelerate the 2030 RPS target?**
8. **What year do we have a zero carbon electricity grid?**
9. **Any role for biomass combustion to generate electricity?**
10. **Any role for combustion of renewable natural gas (RNG) or renewable hydrogen to replace fossil gas for reliability?**

D. Vehicle Fleet Electrification

Zero Emission Vehicle (ZEV) EO (N-79-20)

100% sales of light-duty vehicles are zero emission by 2035

11. Change?

All drayage trucks are zero emission by 2035

12. Change?

All heavy/medium duty vehicles are zero emission by 2045, and off-road vehicles by 2035, where feasible

13. Change?

E. Vehicle Miles Traveled (VMT)

SB 375 requires development of local Sustainable Communities Strategies (SCS), which outline how regions will reduce per capita VMT.

The recent AB 74 ITS transportation carbon neutrality paper assumed a 15% reduction in per capita VMT in 2045.

14. Increase ambition of per capita VMT reductions?

F. Petroleum Fuels

Governor Newsom directive to CARB to evaluate a phase out of extraction by 2045, recent letter to evaluate carbon neutrality by 2035

15. Change extraction phase out date, what date?

16. Any phase down of refinery operations to supply CA fuels?

17. Do we produce any in demand renewable fuels from waste biomass instate at converted refineries?

G. Methane

California needs to reduce emissions of short-lived climate pollutants, including methane, per SB 1383. Dairy operations and landfills account for 3/4 of Statewide methane emissions.

18. How should we use biogas captured from dairies and landfills – electricity generation, industrial heat, transportation fuel, other?

H. Woody Biomass and Solid Biomass Waste

Landfill organics diversion goals, phase out of agricultural burning, and wildfire mitigation efforts may provide large quantities of solid biomass waste that can be responsibly utilized.

19. How should we best utilize solid biomass waste?

- **Produce renewable hydrogen for use in zero emission fuel cells?**
- **Produce liquid fuels?**
- **Produce RNG for industrial or electricity sector?**

I. Residential and Commercial Building Decarbonization

New buildings

20. All new buildings use electric appliances only starting in what year?

Existing buildings

21. In what year should sales of gas appliances be phased out?

22. Even with a gas appliance ban for new purchases, we may need to retrofit existing buildings to replace existing gas appliances. What percent of existing buildings are retrofitted to be all electric and by what year?

23. While transitioning to electric appliances, do we keep fossil gas or RNG or both?

J. Industry (Manufacturing, Construction, and Agriculture)

24. What to do with industries that can't electrify due to technology availability? (cement, glass, steel, etc.)

- **What would be their energy source (RNG, renewable hydrogen, natural gas, some combination)?**
- **What would be their long-term operations in the state?**

Resources

The materials listed below were developed after the adoption to the 2017 Scoping Plan in response to Legislative and Board direction. They can provide some good background materials on the different sectors and some of the topics where we would like to hear from you. None of these materials reflect any of the recent directives and EOs from the Governor. So, the modeling we will do for the Scoping Plan will be all new as it does need to reflect updated direction, your feedback, and other stakeholder feedback.

Transportation Sector
https://escholarship.org/uc/item/3np3p2t0
https://zenodo.org/record/4707966#.YKPiaKhKi73

Electricity Sector
https://www.energy.ca.gov/sb100#anchor_report

Economy Wide
https://ww2.arb.ca.gov/sites/default/files/2020-10/e3_cn_final_report_oct2020_0.pdf

Workforce
https://laborcenter.berkeley.edu/putting-california-on-the-high-road-a-jobs-and-climate-action-plan-for-2030/