



May 2, 2022

Via CARB Comment Submittal Form

Liane Randolph, Chair
 California Air Resources Board
 1001 "I" Street
 Sacramento, CA 95814

RE: Coalition Comments on Scoping Plan - Alternative 3 is Not Acceptable

Dear Chair Randolph and Members of the Board:

On April 20, 2022 at the Scoping Plan Update Workshop, CARB staff notified participants that they planned to recommend Alternative 3 to the Board. However, Alternative 3 would be disastrous for the climate, public health, and the economy. It is simply not good enough, and we urge CARB to pursue a more ambitious alternative that reaches carbon neutrality by 2035 with minimal to no reliance on carbon capture, use, and sequestration (CCUS), including no CCUS on fossil fuel or bioenergy infrastructure.

California already faces catastrophic wildfires, hazardous air pollution, and extreme heat as a result of climate change. The Scoping Plan defines the pathway to reaching carbon neutrality, but the urgency of the climate crisis has intensified, as Governor Newsom is well aware. “No challenge poses a greater threat to our way of life, prosperity, and future as a state than climate change,” said Governor Newsom on April 22, 2022.¹ Given the climate and air quality crises that the state already faces, CARB must select a pathway to carbon neutrality that is more ambitious than Alternative 3 and that will deliver significant reductions in greenhouse gas emissions, air pollution, and health impacts.

Below, we detail the solutions that need to be included in any pathway that CARB finalizes in its Draft Scoping Plan later this month.

1. Exclude Any New Investments in Fossil Fuel Infrastructure and Pursue Renewable Energy

All stakeholders want to see a Scoping Plan that aims for a reliable, affordable, and clean electric grid. Yet, every single alternative created by CARB projects building new gas plant capacity, including the “no combustion” Alternative 1.² Alternative 3 proposes to build 10 GW of new gas capacity, equivalent to at least 33 new large gas power plants.³

There are climate, public health, and cost reasons not to pursue new gas capacity. The latest IPCC report is clear that we must rapidly reduce our reliance on fossil fuels, as relying even on existing fossil fuel infrastructure puts climate change mitigation out of reach. Gas plants emit

¹ *Governor Newsom Joins Groundbreaking for World’s Largest Wildlife Crossing as State Launches Nature-Based Strategies to Fight Climate Change and Protect Biodiversity*, California Office of the Governor (Apr. 22, 2022), available at <https://www.gov.ca.gov/2022/04/22/governor-newsom-joins-groundbreaking-for-worlds-largest-wildlife-crossing-as-state-launches-nature-based-strategies-to-fight-climate-change-and-protect-biodiversity>

² *CARB Draft Scoping Plan: AB32 Source Emissions Initial Modeling Results*, slide 25 (showing cumulative new resource capacity build in 2035, including Alternative 1 retiring ~7GW of gas capacity and ~6GW of new gas build for capacity; slide 26 (showing new gas for all alternatives by 2045) (Mar. 15, 2022), available at <https://ww2.arb.ca.gov/sites/default/files/2022-03/SP22-Model-Results-E3-ppt.pdf> [hereinafter “CARB Draft Scoping Plan Modeling Results”]

³ One of the most recently proposed gas plants rejected by the California Energy Commission was the Puente Power Plant, which would have been 262 megawatts.

many dangerous pollutants, and the majority of California’s gas-fired power plants are located in the state’s most disadvantaged communities.⁴ Last, the cost of building new renewable energy technology is cheaper than the cost of running *existing* gas plants, much less building new infrastructure.

Despite this, all of the proposed pathways propose building new fossil fuel infrastructure. Rather than building new fossil fuel infrastructure, the Scoping Plan should pursue additional renewable energy and storage technologies. New gas infrastructure has no place in California’s zero-emissions plans.

2. Pursue Direct Emissions Reductions Rather Than Gambling on Carbon Capture and Other Unproven Technologies.

Relying on carbon capture to do the work of decarbonizing is not feasible. Yet, Alternative 3 relies extensively on carbon capture, usage, and sequestration (CCUS) in addition to direct air capture (DAC) of carbon dioxide. For example, Alternative 3 unrealistically projects that within the refineries sector, CCUS will operate on the “majority of operations by 2030.”⁵ Alternative 3 also projects major investments in CCUS and DAC to compensate for emissions from new gas plants.

While the rate of renewable energy and storage deployment necessary in the more ambitious Alternatives 1 and 2 may seem daunting, CARB should consider it to be *far more* daunting to deploy the massive quantities of CCUS and DAC technology projected in Alternative 3. These technologies require the same permitting process as renewable energy, but also require massive underground storage facilities, pipelines, and cost-prohibitive technology that is not yet operational at a utility-scale. Rather than adopt an Alternative that increases direct emissions but also deploys massive amounts of CCUS and DAC, CARB should take further steps to *avoid* rather than capture emissions.

3. Reduce Emissions from the Transportation Sector to Comply with the Governor’s Executive Order

Alternative 3 needs to do more to reduce transportation sector emissions. First, Alternative 3 does not assume any early retirement of medium- or heavy-duty combustion trucks⁶. Not only would this fail to comply with the governor's executive order to transition 100% of medium- and

⁴ Brightline Defense, *Winding Up for Offshore Wind*, p. 2 (Dec. 2020), available at <https://www.offshorewindnow.com/brightline-defense-report> (“78% of gas-powered plants [in California] are located in frontline environmental justice communities”).

⁵ CARB, *Pathways Scenario Modeling - 2022 Scoping Plan Update*, p. 8 (Dec. 15, 2021), available at https://ww2.arb.ca.gov/sites/default/files/2021-12/Revised_2022SP_ScenarioAssumptions_15Dec.pdf.

⁶ CARB Draft Scoping Plan Modeling Results, slide 20.

heavy-duty vehicles to zero-emission vehicles by 2045,⁷ it could also leave dirty, diesel trucks in California communities beyond 2050. Because CARB is legally prohibited from forcing the retirement of any truck added to our roads for at least 13 years to 18 years (SB 1, 2017, Beall), it is crucial that combustion trucks be retired as soon as they reach their statutory “useful life” and that all new trucks be zero-emissions if we are going to meet our statewide clean air standards on time. CARB staff clearly agrees with this assessment as they proposed the Zero-Emission Trucks Measure in the January Draft of the State Implementation Plan Strategy, which aims to retire fossil fuel trucks as soon as possible and replace them with zero-emission vehicles.⁸

Second, Alternative 3 should incorporate higher reduction targets to vehicle miles traveled (VMT) to reduce direct vehicle emissions. Strategies like mass transit investments are critical to decarbonizing the transportation sector and addressing access to opportunity. These changes can facilitate more emissions reductions at potentially lower cost than other policy measures while also supporting affordable housing and livable communities. It is possible for the PATHWAYS modeling to include VMT reduction measures among the options for reducing transmission emissions, and we urge CARB to incorporate such programs into Alternative 3.

4. Phase Out Oil Refining, Gas Extraction, and Correct Assumptions in Alternatives 2-4

CARB should phase out oil refining by 2045 and oil and gas extraction by 2035 as part of a managed decline of fossil fuels. The fossil fuel supply chain not only emits large amounts of greenhouse gas, it poisons the air, water, and soil of communities and ecosystems that are forced to live adjacent to them. These communities, predominantly low-income communities of color, have become sacrifice zones for the oil and gas supply chain.

Additionally, CARB should correct impractical assumptions in Alternatives 2-4. In Alternative 1, emissions from petroleum refining are higher than all other scenarios with less aggressive reductions in oil demand until about 2032. As currently proposed in the Scoping Plan, Alternatives 2-4 achieve far lower emissions from petroleum refining than Alternative 1 starting as early as 2022. We believe this must be an error. To the extent that Alternatives 2-4 have lower emissions because they rely on CCUS, it cannot be assumed that CCUS will be constructed and operating on most refineries starting in 2022. CARB’s scenario assumption inputs from December note that Alternatives 2-4 will use CCUS on the “majority of operations by 2030.”⁹ Even the assumption that CCUS can be constructed and operating at refining facilities in California within the next eight years is an incredibly ambitious assumption.

⁷ Executive Order N-79-20 (Sept. 23, 2020), available at <https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf>.

⁸ CARB, Draft 2022 State Strategy for the State Implementation Plan, p. 48-50 (Jan. 31, 2022), available at https://ww2.arb.ca.gov/sites/default/files/2022-01/Draft_2022_State_SIP_Strategy.pdf.

⁹ CARB, Pathways Scenario Modeling - 2022 Scoping Plan Update, p. 8 (Dec. 15, 2021), available at https://ww2.arb.ca.gov/sites/default/files/2021-12/Revised_2022SP_ScenarioAssumptions_15Dec.pdf.

5. Evaluate Public Health Benefits on the Same Level as Economic Costs

Public health impacts should be a primary consideration for evaluating the pathway to carbon neutrality. In the latest workshop, CARB did not project overall health cost savings from pursuing any of its alternatives. Rather, staff presented health benefits in two snapshots: reviewing impacts in January and July. In contrast, job and economic impacts were presented for an entire year. It is critical that CARB attempt to understand the full costs and benefits to human health before recommending a specific alternative.

All Californians, particularly those living in disadvantaged communities and facing disproportionate impacts, want to see tangible improvements in air quality and are deeply concerned about health impacts. Without consideration for the cost savings associated with cleaner air, CARB cannot conduct an apples-to-apples comparison between alternatives. It is therefore critical that public health impacts of each alternative be fully evaluated before staff can responsibly recommend one.

6. Exclude Green Hydrogen Injections into the Methane Pipeline System

Alternative 3 projects that 7% of hydrogen would be blended into the methane pipeline by 2045.¹⁰ Experts have raised alarm bells about the safety of blending hydrogen into gas pipelines, especially in residential areas where untested gas blends pose safety risks.¹¹ This approach would also entrench a gas distribution system that leaks methane into the atmosphere and pollutes neighborhoods and homes rather than phasing it out in favor of more economical, safer, and more climate-friendly electrification. Green hydrogen is currently expensive, potentially unsafe, and generates less heat than methane. In order to provide the same heat output as gas, current pipeline systems might have to be replaced to prevent leaks and would have to be expanded to compensate for the lower heating abilities of hydrogen compared to gas. CARB should reserve scarce and expensive green hydrogen for hard-to-electrify industrial uses rather than propping up a gas pipeline system that will continue to emit greenhouse gasses and create stranded fossil fuel assets.

7. Set a Date for Electrification Retrofits in Addition to Replacing Gas Appliances at End-Of-Life

Alternative 3 recommends that gas appliances in commercial and residential buildings are retired at the end of their useful life.¹² From an economic perspective, this approach hampers the

¹⁰ CARB Draft Scoping Plan Modeling Results, slide 17.

¹¹ Bouledroua et al. *The synergistic effects of hydrogen embrittlement and transient gas flow conditions on integrity assessment of a precracked steel pipeline*. Int. J. Hydrog. Energy Vol. 45 (35), 18010–18020 (July 2020), available at <http://dx.doi.org/10.1016/j.ijhydene.2020.04.262>.

¹² CARB Draft Scoping Plan Modeling Results, slide 21.

decommissioning of segments of the gas distribution system, as commercial and residential buildings will require gas until their appliances burn out. From a climate perspective, it entrenches methane leakage and gas combustion pollution, as gas appliances that were purchased before 2035 can operate for decades, potentially. From a justice perspective, this approach risks leaving the last customers on the gas system without heat when their gas appliances burnout, if they are not adequately prepared to switch to electric appliances.

We ask CARB to include in its Scoping Plan retrofits before end-of-life to protect customers from loss of service upon burnout, to better plan the transition away from gas to electric, and to support electrification efforts and their corresponding climate and public benefits.

We urge the Board and staff to address these issues immediately so that they can be incorporated into the Draft Scoping Plan. The climate crisis is not waiting, and neither should CARB. We need a real climate plan now.

Sincerely,

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