

June 23, 2022

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

**Re: Draft 2022 Scoping Plan Update Refinements**

Dear Chair Randolph and Board Members of the California Air Resources Board,

Advanced Energy Economy (AEE) appreciates the opportunity to submit comments on the California Air Resources Board (CARB) Draft 2022 Scoping Plan Update and appreciates the significant effort that went into its development. AEE is a national business association representing over 100 companies across the advanced energy and transportation sectors, including large-scale renewable energy and energy storage developers, distributed energy resource providers, electric vehicle (EV) manufacturers, EV charging hardware and software providers, aggregators, and other clean energy solution providers. Through this lens, AEE respectfully requests that CARB call for a revision to the Scoping Plan that puts California on a path to achieving its statutory near-term greenhouse gas (GHG) emission reduction goals and positions the state to achieve carbon neutrality by 2045 by relying on cost-effective, reliable clean energy technologies and solutions.

**First, AEE recommends that CARB update its Draft Scoping Plan in a manner that clearly articulates a vision for achieving 40 percent GHG emission reductions from 1990 levels by 2030 pursuant to Senate Bill (SB) 32.** Prioritizing near-term GHG emission reductions using readily available technologies is foundational for achieving statutory climate goals and positioning California to achieve carbon neutrality by 2045 or earlier. However, the Scoping Plan provides a limited view of how California is expected to achieve its 2030 goal of reducing annual emissions below 259 million tons of CO<sub>2</sub> equivalent (CO<sub>2</sub>e). Recent analysis from Energy Innovation finds that, to meet California’s SB 32 goals and remain on a path to carbon neutrality by 2045, the state’s annual GHG reduction rate would have to more than triple from current levels.<sup>1</sup> Regrettably, the Draft Scoping Plan does not appear to provide detailed recommendations or a pathway for achieving this accelerated level of GHG emission reductions by 2030. Instead, the Draft Scoping Plan asserts that “non-Cap-and-Trade Program policies *could potentially reduce* the state’s GHG emissions to 304 MMTCO<sub>2</sub>e in 2030...leaving Cap-

---

<sup>1</sup> Busch et al., California Energy Policy Simulator 3.3.1 Update at 1, released June 16, 2022.  
<https://energyinnovation.org/wp-content/uploads/2022/06/California-Energy-Policy-Simulator-Insights.pdf>

and-Trade to potentially deliver 44 MMTCO<sub>2</sub>e that same year.”<sup>2</sup> The Draft Scoping Plan also states CARB will assess in 2023, after the Draft Scoping Plan is finalized, whether California’s cap-and-trade program needs to be updated to achieve its 2030 goals.<sup>3</sup>

Put simply, the Draft Scoping Plan appears to provide little information on how existing sector-based and industrial policies would reduce California’s annual GHG emissions to 304 MMT CO<sub>2</sub>e in 2030, and suggests that California’s signature cap-and-trade program may not currently be designed to yield the additional emissions reductions necessary to achieve SB 32 targets. To rectify this situation, AEE respectfully requests that CARB modify its Scoping Plan to clearly identify a pathway (or pathways) by which California can maximize cost-effective GHG reductions in accordance with SB 32 requirements and provide greater clarity on any potential cap-and-trade program modifications that are necessary to achieve California’s 2030 climate goals. California cannot afford to wait until the next Scoping Plan cycle to address these issues, and more aggressive near-term policy action will ultimately put the state on a more sustainable path to deep decarbonization.

**Additionally, AEE recommends that CARB reassess the feasibility of its Proposed Scenario to achieve carbon neutrality in 2045 and run additional scenarios that reaffirm the importance of existing clean energy technologies in California’s effort to decarbonize its economy.** CARB Staff’s Proposed Scenario appears to rely heavily on carbon dioxide removal (CDR) solutions to achieve carbon neutrality by 2045: due to continued GHG emissions in all major sectors, the Proposed Scenario assumes nearly 100 MMTCO<sub>2</sub>e in emission reductions from CDR technologies by 2045 – up from just 1-2 MMTCO<sub>2</sub>e in 2030.<sup>4</sup> In other words, nearly a *quarter* of the emission reductions necessary to achieve carbon neutrality relative to 1990 GHG emission levels are assumed to come from CDR in the Proposed Scenario.<sup>5</sup>

AEE does not oppose CDR and recognizes technologies like direct air capture (DAC) will likely have a role to play in offsetting emissions in sectors where abatement is extremely difficult to achieve. However, AEE is concerned that the Proposed Scenario puts undue emphasis on a relatively nascent pool of technologies at the expense of relatively mature technologies and policies that can further mitigate emissions today. Rather than pursue a strategy that increases California’s risk of not achieving its climate goals by overly relying on CDR, we recommend CARB run at least one other scenario that achieves carbon neutrality in 2045 with additional focus on maximizing cost-effective emissions reductions – at least 90 percent from 1990 levels – from accelerating existing policies and relying on proven technologies.

---

<sup>2</sup> Emphasis added. Draft Scoping Plan at 90.

<sup>3</sup> *Id.* at 87.

<sup>4</sup> *Id.* at 73.

<sup>5</sup> *Id.* AEE understands that the 1990 baseline used to express compliance with SB 32 goals is approximately 431 million metric tons of CO<sub>2</sub>e.

Transportation is by far California’s largest source of emissions, and any effort to revisit carbon neutrality modeling must consider the appropriate policies and technologies needed to encourage the transition to zero-carbon fuels such as renewable electricity, reduce vehicle miles traveled, and drive greater efficiency of any remaining internal combustion engine vehicles. A new scenario should consider the feasibility of strengthening existing or pending CARB regulations like the Low Carbon Fuel Standard, Advanced Clean Cars, and Advanced Clean Truck rules to achieve additional emission reductions and direct continued investment in zero-emission vehicles.

Similarly, AEE asserts that the assumptions for power sector decarbonization could be strengthened to achieve additional emissions reductions in the near-term and by 2045. The power sector is arguably the sector best-positioned to decarbonize, and instead of relying on new, incremental gas generation capacity, AEE maintains that a preferred scenario merits further exploration of zero-emission resources like geographically-diverse renewables and energy storage. New research also finds that California can readily and reliably achieve an 85 percent clean electricity target by 2030 – well above California’s statutory 60 percent target by the same date. Moreover, the California Public Utilities Commission’s landmark 2021 integrated resource planning decision to order the procurement of 11.5 gigawatts of renewable and zero-emission resources demonstrates that California is prepared to support power sector decarbonization and electrification with clean energy.<sup>6</sup> Continued emphasis on and investment in load flexibility, demand response, and energy efficiency will also enhance grid reliability and reduce customer energy costs in the transition to a decarbonized power sector.

AEE appreciates the opportunity to provide comments on the 2022 Draft Scoping Plan Update. By establishing a clear pathway to the achievement of California’s SB 32 goals and assessing scenarios that can reliably achieve carbon neutrality goals with cost-effective, readily available technologies, California can reaffirm its status as a global climate leader and put the state on a path toward a clean energy future.

Respectfully submitted,

*/s/ Noah Garcia*

Noah Garcia

Principal

Advanced Energy Economy

1010 Vermont Ave NW, Suite 1050

Washington, DC 20005

Tel: 202.380.1950

E-mail: [ngarcia@ae.net](mailto:ngarcia@ae.net)

---

<sup>6</sup> California Public Utilities Commission, D.21-06-035. Issued June 30, 2021.