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October 24, 2022

Submitted electronically at: <https://ww2.arb.ca.gov/applications/public-comments>

Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Airlines for America® Comments on the Recirculated Draft Environmental Analysis for the Draft 2022 Scoping Plan Update

Dear Sir/Madam:

Airlines for America® (A4A), the trade association for the leading U.S. passenger and cargo airlines,¹ appreciates the opportunity to comment on the California Air Resources Board's (CARB) *Recirculated Draft Environmental Analysis for the Draft 2022 Scoping Plan Update* circulated September 21, 2022 (*Recirculated Draft EA or EA*) in response to CARB's *Notice of Comment Period (Notice)*.²

A4A previously submitted comments on the *Draft 2022 Scoping Plan Update*³ and on CARB's September 30, 2021, technical workshop on the draft scenario inputs for the 2022 Scoping Plan Update.⁴ In those comments, we provided extensive background on our member carriers' longstanding commitment to environmental progress and reducing commercial aviation's greenhouse gas (GHG) emissions footprint, including through the development and deployment of sustainable aviation fuel (SAF, or as CARB refers to it under the Low Carbon Fuel Standard (LCFS) Program, alternative jet fuel (AJF)). Accordingly, we trust that CARB is already aware of our commitments and the commercial aviation industry's strong record of improving our environmental performance even as we continue to grow and help drive economic growth and prosperity across our local, state, national and global economies. In short, a future in which our economy has been fully decarbonized while it continues to grow and thrive cannot be achieved unless governments and aviation stakeholders work together to successfully decarbonize the aviation sector. This, in turn cannot be achieved unless the aviation sector transitions from fossil fuels to SAF. It is with this perspective that we offer the following comments on the *Recirculated Draft EA*.

¹ A4A's members are Alaska Airlines, Inc.; American Airlines Group Inc.; Atlas Air, Inc.; Delta Air Lines, Inc.; Federal Express Corporation; Hawaiian Airlines, Inc.; JetBlue Airways Corp.; Southwest Airlines Co.; United Airlines Holdings, Inc.; and United Parcel Service Co. Air Canada, Inc. is an associate member.

² Both the Recirculated Draft EA and Notice posted at <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents>.

³ See <https://www.arb.ca.gov/lists/com-attach/4322-scopingplan2022-WjtXZVQ0BQkLbIQ7.pdf>.

⁴ See <https://www.arb.ca.gov/lists/com-attach/48-sp22-inputs-ws-UDZTPAZpVWcBawhX.pdf>.

The *Notice* indicates that the EA has been recirculated because “CARB has determined that recirculation of the Draft EA is warranted” in part because “new substantial information compared to what was presented in the Draft EA” has become available, including “revised carbon removal targets.”⁵ CARB’s “2022 Draft Scoping Plan Documents” webpage states:

The recirculated Draft EA includes direction from the Board as discussed at the June 23-24, 2022 Board hearing and direction provided by Governor Newsom in a letter dated July 22, 2022.⁶

In the referenced July 22, 2022, letter, Governor Newsom states:

Further reducing our dependence on oil will require greater action in sectors directly regulated by the federal government, such as the aviation sector. **I am requesting CARB to adopt an aggressive 20% clean fuels target for the aviation sector.**⁷

In an apparent response to the Governor’s request, CARB has revised its Proposed Scenario within the EA to provide:

20% of aviation fuel demand is met by electricity (batteries) or hydrogen (fuel cells) in 2045

Sustainable aviation fuel meets most or the rest of the aviation fuel demand that has not already transitioned to hydrogen or batteries.⁸

This represents a significant change from the Proposed Scenario originally set forth by CARB in the *2022 Draft Scoping Plan Update*, which provided:

10% of aviation fuel demand is met by electricity (batteries) or hydrogen (fuel cells) in 2045

Sustainable aviation fuel meets most or the rest of the aviation fuel demand that has not already transitioned to hydrogen or batteries.⁹

A4A strongly opposes this change – specifically, the doubling of the “aviation fuel demand” to be “met by electricity (batteries) or hydrogen (fuel cells) in 2045: from “10% to “20%,” and the concomitant reduction of the remaining aviation fuel demand in 2045 to be met by SAF from 90% to 80%. The new 20% target for aviation fuel demand from electricity or hydrogen appears

⁵ *Notice* at 2.

⁶ See <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents>

⁷ See <https://www.gov.ca.gov/wp-content/uploads/2022/07/07.22.2022-Governors-Letter-to-CARB.pdf?emrc=1054d6> (emphasis original).

⁸ See *Recirculated Draft EA* at 17. A4A anticipates that CARB will also make available an updated *2022 Scoping Plan Update* for public review and comment if the targets are revised in that document.

⁹ See *Draft Scoping Plan Update* at p. 58.

to have been revised to implement the Governor's call for a "20% clean fuels target for the aviation sector" and wrongly assumes that "electricity (batteries)" and "hydrogen (fuel cells)" are the only aviation fuels that can be considered "clean fuels" and that SAF cannot be considered a "clean fuel." This is patently incorrect. As referenced in our June 24, 2022 comment letter, SAF already available in the California market reduces lifecycle GHG emissions by up to 80% compared to conventional, petroleum-based jet fuel while also helping to improve local air quality by providing substantial reduction in emissions of particulate matter (PM).

Accordingly, we strongly urge CARB to affirm that SAF is a "clean fuel" and to implement the Governor's request that "CARB adopt an aggressive 20% clean fuels target for the aviation sector" by establishing a goal that SAF will provide 20% of energy needed by the aviation sector in California by 2030. This action will not only implement the Governor's request but is fully consistent with the Proposed Scenario originally set out in the *Draft 2022 Scoping Plan Update*: achieving the 20% SAF goal in 2030 will put the State on the trajectory needed to ensure that SAF will provide 90% of the energy needed in the aviation sector in 2045 (with electricity and hydrogen providing 10%).

This is fully consistent with our June 24, 2022, comments, where we agreed that – of the four scenarios proposed for consideration – it made most sense to adopt the scenario in which "10% of aviation fuel demand [being] met by electricity (batteries) or hydrogen (fuel cells) in 2045" and "[SAF] meet[ing] most of the rest of the aviation fuel demand that has already not transitioned to hydrogen or batteries." We observed (footnotes omitted):

Electric and hydrogen-powered aircraft are still in the early stages of development and it remains to be seen whether these technologies will become a viable means of meeting significant portions of demand for air transportation services. While the 10% projection for electric and/or hydrogen propulsion by 2045 is ambitious and may not come to fruition in 2045, A4A believes that it is reasonable to use this projection as a basis for the final 2022 Scoping Plan.

In our view, the scenario adopted in the *Draft 2022 Scoping Plan Update* already established a very ambitious goal for the role of electricity and hydrogen in the aviation sector. In footnotes to those comments, we referred to several authoritative studies which establish that, while electricity and hydrogen are likely to play a role in decarbonizing aviation in the future, that role will likely be quite limited through 2050. Most significantly, we pointed out that the U.S. Government affirmed in its 2021 Aviation Climate Action Plan that "while [battery] technologies have the potential to play an important role in decarbonizing short-distance flights in the coming decades, they are not expected to provide a solution for the medium- and long-haul flights that generate most of the aviation sector's carbon emissions by 2050," and although "there may be a role for hydrogen on shorter-range flights and more broadly in the years beyond 2050, we do not expect hydrogen-powered aircraft to make a significant contribution toward achieving net-zero aviation emissions by 2050."¹⁰

Accordingly, it is unreasonable for the Scoping Plan to adopt a scenario in which 20% of the energy needs of the aviation sector will be met by electricity and hydrogen in 2045. Given that the Governor's request that CARB adopt a 20% clean fuels target for the aviation sector should

¹⁰ Federal Aviation Administration. (2021, November). United States Aviation Climate Action Plan. <https://www.faa.gov/sustainability/aviation-climate-action-plan>

be interpreted to include SAF as a “clean fuel” and that adopting a goal of having 20% of aviation’s energy needs met through SAF by 2030 will put the State on track to having enough SAF available to meet 90% of the sector’s energy needs in 2045, we strongly urge CARB to retain the scenario originally proposed in the *Draft 2022 Scoping Plan Update* and incorporate the Governor’s request as suggested.

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Thank you for your consideration of our comments. Please do not hesitate to contact us if you have any questions.

Sincerely yours,



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