twelve

May 10, 2024

Submitted electronically at https://ww2.arb.ca.gov/public-comments/low-carbon-fuel-standard-workshop-april-10-2024

Clerk's Office
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Twelve Benefit Corporation Feedback on CARB's April 10, 2024, Low Carbon Fuel Standard Workshop

Dear Sir/Madam:

Twelve Benefit Corporation (Twelve), which submitted written comments on the California Air Resources Board's (CARB) Low Carbon Fuel Standard (LCFS) 45-day rulemaking package in February, appreciates the opportunity to provide additional feedback in response to the LCFS Workshop that CARB held on April 10, 2024.[1]

We take this opportunity to again urge CARB, for the reasons we laid out in our earlier comment letter and reiterate here, to put in place regulatory provisions under the LCFS Program that will promote rather than inhibit the production and uptake in California of ultra-low carbon intensity (CI) Power-to-Liquid Sustainable Aviation Fuel (PtL SAF) such as Twelve's E-Jet® (and potentially other PtL transportation fuels). Made from water, renewable electricity, and waste carbon dioxide, not from crop-based or other biomass feedstocks, our E-Jet fuel is expected to reduce lifecycle greenhouse gas emissions by up to 90% in comparison to conventional, petroleum-based jet fuel. With the right regulatory signals, and more specifically with CARB allowing producers to use indirect accounting mechanisms (e.g., Renewable Energy Certificates) to account for the low-CI electricity that is integral to the PtL fuel production process, PtL SAF could make a significant contribution to the decarbonization of California's aviation sector. Absent this flexibility, though, Twelve's E-Jet (and the PtL SAF that other companies plan to produce) probably will not find its way to California for uplift in the state. This would be regrettable, particularly in view of California's well-earned reputation as the leading jurisdiction in the U.S. (and globally) on low carbon fuels policy.

During the April 10 Workshop, staff made it perfectly clear that CARB's ultimate goal is to wean California off combustion-based transportation fuels. While this certainly makes sense for the on-road vehicle (i.e., cars, trucks, and buses) and other sectors (e.g., cargo handling

[1] We participated in the April 10 Workshop via Zoom, but did not offer oral remarks during the public comment portion of the meeting. Our February 20, 2024, comment letter is posted in the CARB Comments Log at https://www.arb.ca.gov/lispub/comm/iframe_bccomdisp.php?listname=lcfs2024&comment_num=6888&virt_num=224, and a joint letter we submitted with several other companies is posted at https://www.arb.ca.gov/lists/com-attach/7030-lcfs2024-VD4AaQRsU25SIABf.pdf.

equipment) that have zero emission vehicle (ZEV) regulations in place, CARB's own analysis in the *2022 Scoping Plan for Achieving Carbon Neutrality* shows that this is wholly unrealistic for the aviation sector. Indeed, in that influential planning document, CARB projected that SAF will account for at least 80 percent of California's aviation fuel demand in 2045, and it asserted that "the state must continue to support low-carbon liquid fuels . . . **for much harder sectors for ZEV technology such as aviation** . . . ."[2] CARB went on to explain as follows:

> California must use the best available science to ensure that raw materials used to produce transportation fuels do not incentivize feedstocks with little to no GHG reductions from a life cycle perspective. A dramatic increase in alternative fuel production must not come at the expense of global deforestation, unsustainable land conversion, or adverse food supply impacts, to name a few examples. CARB will continue to monitor scientific findings on these topics **to ensure that California policies, such as the LCFS, send the appropriate market signals** and do not result in unintended consequences.[3]

Twelve maintains that for the hard to electrify/hard to decarbonize aviation sector, an appropriate market signal that the LCFS can and should send *now* is the allowance of indirect accounting so as to foster the development of innovative, ultra-low CI PtL SAF. As we indicated in our earlier comment letter, without indirect accounting for renewable electricity, it will be very challenging for Twelve's E-Jet and the PtL SAF produced by others to contribute to California's carbon neutrality and GHG reduction goals. This would stem from PtL fuel producers effectively being required under the LCFS to co-locate their facilities with, or otherwise ensure a direct, behind-the-meter connection to, a renewable energy source, which is often infeasible (and in the case of hydropower, difficult or physically impossible to accomplish).

We note, too, that just last week, the federal government, for purposes of the SAF blender's tax credit in section 40B of the Internal Revenue Code (IRC), saw fit to base its approach to electricity sourcing for SAF production facilities on CARB's book-and-claim accounting provision in 17 CCR 95488.8(i).[4] This was a welcome development under the 40BSAF-GREET Model, and from Twelve's perspective, there is no reason to think the federal government's approval of book-and-claim accounting for electricity will not also hold true for PtL SAF under the Clean Fuel Production Credit in IRC section 45Z. As CARB well knows, SAF producers, like producers of any other alternative fuel, seek to benefit from all available federal and state incentives, including the LCFS when the fuel ultimately gets uploaded to an aircraft in California.

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[2] CARB, *2022 Scoping Plan for Achieving Carbon Neutrality*, at 190 (Dec. 2022) (emphasis added), available at https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf; *see also* Appendix E: Purpose and Rationale of Proposed Amendments for the Low Carbon Fuel Standard Requirements, at 86. In the April 10 Workshop presentation, and specifically in slides 23, 42, and 44-46, CARB acknowledged the state's need for hundreds of millions of gallons of liquid aviation fuel, whether SAF or conventional jet fuel, in 2045.

[3] *2022 Scoping Plan,* at 191 (emphasis added).

[4] *See* U.S. Department of Energy, *Guidelines to Determine Life Cycle Greenhouse Gas Emissions of Sustainable Aviation Fuel Production Pathways using 40BSAF-GREET 2024*, at 13-14 (April 2024), available at https://www.energy.gov/sites/default/files/2024-04/40bsaf-greet_user-manual.pdf.

Consistency between the federal and CARB approaches to indirect accounting is therefore imperative for credit stacking to be possible. For this reason as well, CARB should afford PtL SAF producers flexibility with respect to their renewable electricity sourcing and allow the use of indirect accounting mechanisms.

Thank you for your consideration of this additional feedback, not to mention our earlier comment letter and associated proposed regulatory revisions. Please do not hesitate to contact me or Ira Dassa (ira.dassa@twelve.co) if you have any questions.

Sincerely yours,

Andrew Stevenson

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