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Comments on Draft TFTP

Please see attached for our comments.

Additional submitted attachment is included below.

[redacted]

June 18, 2026

California Energy Commission
Docket Unit, MS-4
Docket No. 23-SB-02
715 P Street
Sacramento, CA 95814

Re: Docket No. 23-SB-02; Comments on the Draft TFTP

Dear Sir/Madam:

Twelve™ Benefit Corporation (Twelve) appreciates the opportunity to provide comments on the Draft Transportation Fuels Transition Plan (TFTP) prepared by the California Air Resources Board (CARB) and the California Energy Commission (CEC).[1]

Twelve is a next-generation industrial company on a mission to electrify fuel and chemical production by replacing petroleum-based feedstocks with waste carbon dioxide (CO_2) and water. Founded in 2015 and based in Berkeley, California, we currently have a staff of almost 130 employees, with many of our personnel working at our Bay area headquarters. Over the last decade, we have developed, and we are now commercializing our proprietary electrochemical technology. That technology, a proton exchange membrane-based CO_2 electrolyzer, uses water and renewable electricity to transform waste CO_2 (e.g., CO_2 captured from an industrial point source like an ethanol fermentation plant or CO_2 captured directly from the air) into synthesis gas, a combination of carbon monoxide and hydrogen. Once formed, the synthesis gas is supplemented with additional hydrogen from a water electrolyzer and then fed into a Fischer-Tropsch (FT) reactor. The FT hydrocarbons that emerge from the reactor are then upgraded via hydrocracking and fractionation, ultimately resulting in our E-Jet® fuel – power-to-liquid (PtL) sustainable aviation fuel (also known as e-SAF) that meets the specifications in Annex A1 of ASTM International's D7566 Standard (*Standard Specification for Aviation Turbine Fuel Containing Synthesized Hydrocarbons*) – as well as our PtL naphtha, which we refer to as E-Naphtha™. Our E-Jet SAF, which has been tested and validated under a grant from the U.S. Air Force,[2] reduces lifecycle greenhouse gas (GHG) emissions by up to 90% in comparison to conventional, petroleum-based jet fuel.[3]

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[1] Posted in the 23-SB-02 docket on May 1, 2026.

[2] *See* https://www.af.mil/News/Article-Display/Article/2819999/the-air-force-partners-with-twelve-proves-its-possible-to-make-jet-fuel-out-of/.

[3] For more on our company and products, please visit our website at https://www.twelve.co.

Just last week, we commemorated the official opening of our first manufacturing facility, AirPlant™ One in Moses Lake, Washington.[4] The E-Jet® SAF now being synthesized there is the first e-SAF ever produced in the United States for commercial use, making AirPlant One the first commercial-scale e-SAF facility in the country. Over the coming years, we intend to build much larger AirPlants at other locations (including potentially in California), and to supply our E-Jet SAF and other products to the global airline industry and other customers. Ultimately, as a California-based company, we hope to be able to arrange for the uplift in the state of a substantial portion of the e-SAF that we produce at our domestic AirPlants, wherever they may be located.

With this background in mind, we take note of the Draft TFTP's indication that "California's jet fuel demand is the highest in the nation due to [the state] being home to some of the busiest airports in the country for both passenger travel and air freight, and it is expected to grow with expansions in both passenger travel and air freight."[5] In the document's discussion of fossil fuel demand reduction strategies, and specifically in the section entitled "Alternative Jet Fuel Production," CARB and CEC refer to e-SAF as a viable "alternative for [traditional, petroleum-based] aviation fuels."[6] The agencies go on to assert that "more State action facilitating the expanded supply and demand of SAF and e-fuels production facilities may be warranted."[7]

Twelve maintains that more State action is indeed needed, especially with respect to e-SAF, which offers the deepest lifecycle GHG emissions (i.e., carbon intensity (CI)) reduction of any of the different types of SAF available today. In this regard, we recommend that the final TFTP include an express commitment from CARB to revisit as expeditiously as possible the regulatory action it took in its 2023-2024 rulemaking amending the Low Carbon Fuel Standard (LCFS) regulations, and in particular its decision then not to allow e-SAF (and other e-fuels) producers to use indirect, book-and-claim accounting mechanisms (e.g., Renewable Energy Certificates) to account for the low-CI electricity that is crucial to e-SAF (and other e-fuels') production.

As we and other interested stakeholders explained at the time, this disallowance under the LCFS Program impedes the production and in-state uplift of e-SAF, effectively hindering the next-generation aviation fuel's ability to contribute to the decarbonization and defossilization of California's aviation sector and, in turn, the state's overarching 2045 carbon neutrality goal.[8] More recently, we observe that among the various solutions for increasing the production and in-state uplift of e-SAF that are included in a lengthy policy report issued earlier this month by Berkeley Law's Center for Law, Energy & the Environment (CLEE) is a call for CARB to "allow[]

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[4] *See* "AirPlant™ One Opens in Moses Lake: America's First Commercial E-Jet® Fuel Plant Begins Operations" (June 10, 2026), available at https://www.twelve.co/post/airplant-one-opens-in-moses-lake-america-s-first-commercial-e-jet-fuel-plant-begins-operations.

[5] Draft TFTP at 29-30.

[6] *Id.* at 66.

[7] *Id*.

[8] See Twelve's comment letter dated August 27, 2024, posted at https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/5-eiarecirc_lcfs2024-AHQFdABkUG8BcQFk.pdf, and the joint comment letter dated August 27, 2024, posted at https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/7479-lcfs2024-AGoAaQBoUG1XJQRb.pdf.

indirect or book-and-claim accounting for electricity from the grid used in the production of hydrogen and e-fuels."[9] In short, Twelve respectfully requests that the final TFTP include a commitment from CARB to reconsider as soon as possible e-SAF producers' ability to make use of book-and-claim accounting.[10]

Finally, with respect to the SAF tax credit budget trailer bill that Governor Newsom has put forward as part of his proposed 2026-27 budget, which the Draft TFTP references on page 66, the CLEE report also observes, correctly, that an e-SAF producer – in fact, any SAF producer – without diesel fuel tax liability, irrespective of whether its e-SAF/SAF production occurs within or outside the state, "would not financially benefit from" the tax credit.[11] Largely (but not exclusively) for this reason, we wish to emphasize that Twelve is strongly opposed to the SAF tax credit measure as it has been proposed by the Governor.

* * *

Thank you for your consideration of our comments. Twelve will continue to monitor the agencies' development of the TFTP, but please do not hesitate to contact me or my colleague, Ira Dassa (ira.dassa@twelve.co), if you have any questions about these public comments.

Sincerely yours,

Andrew Stevenson

Andy Stevenson
Vice President of Commercial
Twelve Benefit Corporation
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[9] CLEE, *E-Fueling Flight*, at 28 (June 2026), available at https://www.law.berkeley.edu/wp-content/uploads/2026/06/E-FuelingFlight_CLEEReport_June2026.pdf.

[10] Notably, in its Resolution approving the 2023-2024 LCFS rulemaking amendments, the Board "direct[ed] the Executive Officer to continue to monitor the development and commercialization of [e-SAF and other e-fuels] for inclusion in . . . a potential future LCFS update." CARB, *Resolution 24-14,* at 9 (Nov. 8, 2024), available at https://ww2.arb.ca.gov/sites/default/files/barcu/board/res/2024/res24-14.pdf. In Twelve's view, the allowance of book-and-claim accounting for e-SAF producers can and should be included in an LCFS regulatory update without any unnecessary delay.

[11] CLEE Report at 26-27.