



**COMMENTS OF HIF USA
ON
CALIFORNIA AIR RESOURCES BOARD DRAFT 2022 SCOPING PLAN UPDATE**

JUNE 21, 2022

Highly Innovative Fuels USA (HIF USA) offers comments on the California Air Resources Board (CARB) Draft 2022 Scoping Plan Update (the Draft Scoping Plan). HIF USA appreciates that the Scoping Plan process helps to identify the policies and approaches that CARB will apply and employ to achieve the goals of AB32, including laying out a pathway to achieving carbon neutrality by 2045.

A subsidiary of HIF Global, HIF USA is a global eFuels company focused on harnessing renewable energy sources to achieve fuel sector decarbonization, which fully supports CARB's mission to achieve carbon neutrality in the California fuels market. Specifically, HIF USA is currently developing a commercially viable process for generating carbon-neutral fuels that can be used in traditional transportation applications. This type of opportunity could significantly advance CARB's progress towards the 2030 emission reduction target and longer-term carbon neutrality.

HIF USA writes in support of the Draft Scoping Plan and offers comments on ways in which CARB can use the current Scoping Plan update process to support the proliferation of innovative carbon-neutral fuels in California and beyond to ensure that the state will achieve its carbon neutrality goals. As explained in these comments, HIF USA appreciates CARB's existing support in the draft Scoping Plan for the role that eFuels can play in decarbonizing the transportation sector, and we believe that additional emphasis in the final Scoping Plan would add further benefits.

1. The Scoping Plan's Emphasis on Fuel Diversification and Implementation Feasibility Are Important and Should Be Finalized.

HIF USA applauds CARB's overall approach to achieving California's carbon neutrality and greenhouse gas (GHG) emission reduction goals, specifically its decision to choose the Scenario alternative that emphasizes implementation feasibility, is based upon a realistic timeframe, and supports the phased build-out of clean technology and clean fuel deployment. HIF USA agrees with CARB that the coming decades are critical to address climate change, and we support CARB's emphasis on technological feasibility, cost-effectiveness, and equity-based solutions.

California has long been a leader in environmental policy, including with respect to climate change. CARB's LCFS, cap-and-trade, and other market-based programs have created powerful incentives for private sector investment in the emission-reducing technologies of the future. The current Scoping Plan process provides an important opportunity for CARB to chart a course to carbon neutrality that capitalizes on emerging technologies and private sector expertise. With respect to fuels in particular, CARB has a unique opportunity to use this process to improve and adapt existing State programs to reflect the diversity of transportation fuels currently available or under development.



2. E-Fuels Play a Key Role in Decarbonizing the Transportation Sector, and HIF USA Supports the Draft Scoping Plan’s Contemplation of an Expanded Role for Such Fuels.

E-Fuels are critically important to support CARB’s stated goal of ensuring that an adequate supply of zero- and low-carbon alternative fuel is available to power traditional internal combustion (ICE) vehicles. As CARB recognizes, “ICE vehicles from legacy fleets will remain on the road for some time, even after all new vehicle sales have transitioned to ZEV technology.” Draft Scoping Plan at 152. Thus, HIF USA appreciates CARB’s recognition that the State of California—and other governmental entities in the United States and around the world—“must continue to support low-carbon liquid fuels during this period of transition,” including in hard-to-electrify sectors such as aviation, locomotives, and marine applications. *Id.*

HIF’s process involves using low-carbon-intensity electricity to power a process known as electrolysis. This process produces “green hydrogen” by breaking water molecules into hydrogen and oxygen. The hydrogen is then combined with CO₂ captured from industrial sources to produce eMethanol in a reactor through a process called synthesis. Further processing produces other carbon-neutral eFuels that can be used for different purposes, such as eGasoline for road transport, Sustainable Aviation Fuel or air transport, methanol for marine transport, and liquefied petroleum gas (LPG). HIF USA is currently in the design phase for an eFuels facility in Texas that will produce carbon-neutral drop-in fuels, such as e-gasoline, for sale in the California transportation fuels market. We have already started to pursue pathway certification for its process to generate credits under the California Low Carbon Fuel Standard (LCFS), a program that provides important incentives for projects of this kind.

There are a number of advantages to eFuels, including that they can be used in traditional ICE vehicles and they allow for existing infrastructure to become carbon-neutral by continuously reusing and recycling CO₂ generated through industrial processes. The Draft Scoping Plan already tacitly recognizes the significant advantages of eFuels and the unique contributions they will make in decarbonizing the transportation sector. We recognize CARB as a leader in advancing the fight against climate change and innovating to develop new fuels; power to fuel is no exception to these innovations. We note that other jurisdictions are moving forward with such regulatory constructs and that the Draft Scoping Plan is reasonably read to encompass such approaches. This is critically important because eFuels will play an important role in decarbonization of the market by:

- Facilitating the capture and beneficial utilization of CO₂ emitted from existing industrial sources;
- Providing a steady supply of low-carbon-intensity liquid fuels to power legacy ICE vehicles that are expected to remain on the road for years to come; and
- Ensuring equity and affordability, key goals of the Draft Scoping Plan, by making cost-effective carbon-neutral transportation fuels available to Californians of all income levels.

While the Draft Scoping Plan plainly recognizes in a number of places the important role of green hydrogen as a low-carbon transportation fuel, it could be emphasized even more strongly in response to comments on the draft that the LCFS presents a key tool to incentivize production of green hydrogen as an input in the production of fuels that can be used in traditional transportation applications.

3. The Draft Scoping Plan’s Recognition of Alternative Fuel Supply Diversification Is Appropriate and Could Be Expanded.

To ensure a smooth transition in the fuels sector, CARB must support diversification of available alternative fuels in California. HIF USA appreciates CARB’s recognition that the transition away from traditional fossil fuels will depend largely upon the proliferation of low- and zero-carbon alternatives. In finalizing the Scoping Plan, we encourage CARB to look beyond electricity and hydrogen, as well as the renewable fuels that have recently dominated the California alternative transportation fuels market (*e.g.*, biodiesel), to eFuels as a viable option, in particular power-to-fuel scenarios. Indeed, this scoping plan process presents an important opportunity to *enhance* the mix of low-carbon and carbon-neutral fuels available to Californians, potentially balancing the alternative fuel mix through regulatory and market-based incentives.

4. Actions Taken by CARB Pursuant to The Scoping Plan Will Leverage Private Investment and Innovation to Drive the Energy Transition.

HIF USA appreciates CARB’s recognition that “private investment in alternative fuels will play a key role” in diversifying the transportation fuel supply in California and beyond, and that “strong and steady policy signals” from government can catalyze deeper and broader investments by the private sector in necessary technological innovations. Incentive programs are indeed one of the most important tools that government has at its disposal to encourage private sector investment in a low-carbon future. As history has shown, however, private investment can only be nurtured through certainty—both in terms of return-on-investment and timing.

With respect to alternative fuels, the best way for CARB to encourage private investment is to build upon the successes of the LCFS program by increasing clarity in the pathway application process, increasing the number of LCFS staff available to assist pathway applicants, and making targeted revisions to its regulations to improve the pathway and crediting process. CARB has struggled in the pandemic (and even before it) with having adequate staff to process pathway applications, and this has hindered progress in achieving AB32’s goals. We encourage the Board to ensure that there are sufficient staff to process LCFS pathway applications from the private sector in a timely manner, as needed to encourage the level of investment that the Draft Scoping Plan contemplates. Additionally, as indicated above, certainty is needed to secure private investment. CARB’s ability to maintain its role as a global leader on climate and emissions regulation is dependent on providing clear policy guidance to send market signals to encourage private investment in the energy transition.

5. CO₂ Utilization Plays an Important Role in Achieving Carbon Neutrality.

CARB rightly recognizes the important role that CO₂ removal must play in the coming years if net-zero CO₂ or GHG emissions are to be achieved. HIF USA notes that the draft Scoping Plan appears to be silent on the role of the reuse of captured CO₂ in achieving carbon neutrality, including by repurposing it as a feedstock for the production of clean transportation fuels.

Permanent sequestration of captured CO₂ may not always be feasible, such that the final Scoping Plan should expressly recognize the benefits of re-use of CO₂ captured from facilities where it would otherwise vent into the atmosphere.



6. Strategies for Success

HIF USA agrees with CARB’s characterization of the LCFS as the “primary mechanism for transforming California’s transportation fuel pool with low-carbon alternatives” (Draft Scoping Plan at 153) and agrees that the LCFS program has played a vital role in encouraging the growth of the alternative fuel market in California and beyond. Success in the next two decades, if carbon neutrality is to be achieved by 2045, depends significantly on building upon the successes of the LCFS program and providing the program with sufficient resources to evaluate additional pathways. Under the Scoping Plan (as currently drafted or with greater emphasis on innovative fuels), the staff and Board could also meaningfully streamline the pathway approval process for innovative projects, which provide step-change opportunities to reach the goals of AB32.

Conclusion

HIF USA recognizes, as CARB does, that this is a critical moment in history to address and potentially prevent the worst predicted effects of global climate change. We see this challenge as an opportunity, one that can be facilitated through the Scoping Plan process and the California regulatory, incentive, and market-based programs that will flow from it. We look forward to working with CARB staff on our LCFS pathway application that will facilitate bringing innovative fuels to California.

If you have any questions or would like to discuss these comments, please contact Meg Gentle, HIF Global (meg.gentle@hifglobal.com) or Shannon S. Broome, Hunton Andrews Kurth LLP (sbroome@hunton.com).