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California Air Resources Board

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Reference: August 18, 2022 LCFS Workshop

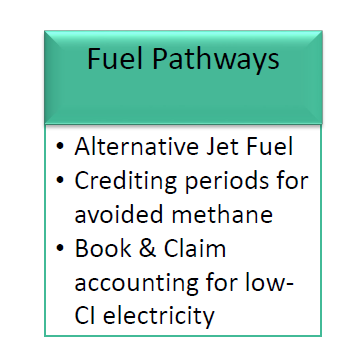
We would like to offer our support for the LCFS program and encourage its ongoing development. The growth of credits CARB illustrates the success of the program. As more credit generators enter the program, the excess of credits will continue to affect credit prices and a more stringent compliance curve would lead to stable credit prices and support more innovation and support of zero emission transportation.

The program has emphasized zero emission technologies including electric and hydrogen fuel cell vehicles. These options are of value not only due to their high efficiency and corresponding low GHG emissions but also due to their zero contribution to criteria pollutants in urban areas. The future role of hydrogen is particularly important in disadvantaged communities where heavy-duty trucks continue to contribute a significant portion of particulate emissions. Federal programs such as hydrogen hubs will advance heavy duty vehicle technology and pave the path for a zero-emission future. ARB should consider local projects in California with the highest policy support[[1]](#footnote-1).

Several updates to the LCFS programs would help accelerate the introduction of hydrogen technologies. These include:

* Allow book and claim for process electric power for projects in California
* Include Organic Waste Feedstock in new Tier1 Calcualtor
* Expand HRI for California-based hydrogen production
* Develop other preferences for in-state production technologies

Specific policy actions that CARB could implement include allowing for book and claim of RNG and renewable power pathways for fuel producers in California shown during the July 7 Workshop below.



Expanding the use of renewable energy for process fuels would support renewable power generation in the state. Allowing book and claim for process energy would eliminate ambiguities over the definition of electrolysis. CARB could provide an incentive for in- state fuels that reflects the reduced transportation emissions within the state of California. This would include the continued assessment of empty backhaul emissions for all forms of fuel transported to California. The HRI and FCI credits could also be limited to hydrogen and power generated within California. While these actions may be viewed as punitive to out of state producers, CARB must recognize that the source of funds for the LCFS is fuels that based on deficits generated from fuels paid for by California customers.

The hydrogen Tier 1 calculator should also include provisions for organic waste such as those included in the Tier 1 OW calculator. Alternatively, a hydrogen option could be added to the Tier 1 OW calculator. In either event the feature of the Tier 1 OW calculator that limits avoided methane due to methane concentrations should be replaced with a limit based on Btus of hydrogen production.

Numerous pathways exist for the conversion of organic wastes to hydrogen including anaerobic digestion, thermal chemical gasification and pyrolysis, and other routes. The calculator should recognize that inactive carbon associated with the term (1 – DOCf) is not part of the anaerobic digestion calculation due to its ultimate fate of decomposition. This approach should carry through for hydrogen pathways.

CARB should also provide greater clarity on the use of DOCf factors. Given the challenges in compliance with AB1383, the use of the UN IPCC Guidance of 0.77 would be appropriate.

Numerous routes also exist for the production of hydrogen from biomass. The role of biomass for hydrogen as well as within the CCS protocol needs to be clarified. Addressing these issues will require more input from the public and we recommend that CARB hold a public workshop on the treatment of organic waste and biomass as feedstocks for hydrogen.

We look forward to CARB’s implementation of new measures to support the growth of hydrogen technologies.

1. Support of California projects does not violate the US Constitution prohibiting Federal government interference with interstate commerce, especially if CARB crafts the policy carefully. [↑](#footnote-ref-1)