

To: Cheryl Laskowski
From: Jeremy Martin
Date: December 21, 2022
Subject: Comments on November 9th workshop: 1of 3 on petroleum phaseout

We were encouraged to see that CARB is considering several important changes to the Low Carbon Fuel Standard (LCFS) that will, if implemented effectively, make it a more effective tool to support California's policy goals. Limiting the share of compliance coming from vegetable oil based renewable diesel, phasing out credit for avoided methane emissions at manure lagoon digesters, and phasing out petroleum crediting are all important changes that will strengthen the LCFS. We are submitting our comments in three parts, based on subject matter, plus a coauthored comment with environmental justice groups. This first comment addresses how the LCFS can support the petroleum phase out plan, a second comment addresses the need for a cap on high risk feedstock, especially for crop-based renewable diesel, and the third addresses the need to phase out credits for avoided methane emissions.

The range of stringencies CARB has proposed is appropriate, and the specific target we support will depend on other policy design decisions.

We support increasing the ambition of the LCFS, and the range of 2030 targets discussed at the workshop seems appropriate. We are not advocating for a specific target at this point, because the appropriate 2030 target depends on other measures adopted as part of the rulemaking, particularly limiting compliance from lipid-based fuels and credits for avoided methane pollution and other pathways. We look forward to exploring the CATS tool to understand the most suitable targets. We also support exploring a ratcheting or acceleration mechanism to provide predictable fine tuning of targets, which is a worthwhile goal.

Developing LCFS guardrails consistent with an emerging petroleum phaseout plan

The final Scoping Plan calls for the creation of an interagency work group to evaluate and plan for the transition away from petroleum and other fossil fuels. CARB should develop safeguards within the LCFS in conjunction with this phaseout plan's development, to ensure the LCFS remains aligned with the state's needs. The implications of the LCFS for oil refineries, hydrogen and carbon capture and storage projects is a concern for environmental justice communities and other stakeholders that do not always participate in LCFS workshops generally, so we encourage CARB to hold a workshop in the first few months of 2023 to get broader stakeholder feedback on how to most effectively align the LCFS with the state's commitment to equitably phase out petroleum and other fossil fuels. As discussed in a separate co-authored comment, CARB should engage directly with environmental justice groups to develop an appropriate structure for this workshop.

At the November workshop, CARB discussed setting a date to phase out petroleum crediting within the LCFS. This is appropriate, but in addition to a final date to eliminate all petroleum crediting, CARB should

include an evaluation of the suitability of a petroleum related project prior to issuing a pathway or project approval. Equity and environmental justice are key considerations in the petroleum phaseout plan, so any proposed petroleum project should include substantial community engagement prior to approval to ensure it is consistent with California's commitments in this area.

The scoping plan and policies for zero emissions vehicles make clear that the scale of petroleum refining required to supply the state will be dramatically reduced over the next several decades as the state phases out petroleum. It would be unwise for the LCFS to indirectly subsidize projects that are inconsistent with California's needs. To ensure the LCFS support is consistent with the planned petroleum phaseout, project approval for petroleum projects should include a schedule of credits they plan to claim, which could not be exceeded without a revised plan. Once the capacity of petroleum refining/extraction associated with approved pathways/projects equals the quantity of petroleum fuel projected in the scoping plan, no more approvals would be issued. If a project falls behind schedule CARB would need a mechanism to reclaim credits to ensure they are available to other projects. This would ensure that the LCFS supports only as much petroleum decarbonization as is consistent with the scoping plan and the state's vehicle and transportation demand policies and goals.

Excessive California consumption of renewable diesel may be contributing to fuel price instability

In the November 29th California Energy Commissioner Hearing on California Gasoline Price Spikes, Refinery Operations, and Transitioning to a Clean Transportation Fuels Future, there was some valuable information about the role of expanded renewable diesel consumption on the linked markets for other fuels, including petroleum diesel and petroleum gasoline. The presentation by the CEC Energy Assessments Division staff highlighted that in 2021 California exported 39 percent of the diesel it refined (1.8 billion gallons), compared to just 12 percent of gasoline and 20 percent of jet fuel. The presentation by Ysbrand van der Werf highlighted that renewable diesel consumption has grown to 37 percent of diesel fuel consumption, driven by subsidies in excess of \$3 per gallon from the Federal Renewable Fuel Standard (RFS), Blender's tax credits and the LCFS. The presentation suggested that this dynamic is partly responsible for creating a challenging market for refiners leading them to close refineries even when the gasoline market is profitable. Shipping hundreds of millions of gallons of midwestern soybean oil to California and then shipping a similar quantity of refined petroleum diesel out of state makes the whole US liquid fuel market less efficient and flexible than it would be if California policy supported a more balanced set of renewable fuels, lowering consumption of gasoline, diesel and jet fuel in parallel. This also leads to a higher level of petroleum refining in state than would be required if alternative fuels reduced consumption of gasoline, diesel and jet fuel at a commensurate rate. This is especially problematic because California is isolated from the rest of the US fuel market, so transportation of feedstocks and finished fuels is more difficult, expensive, and time consuming than moving feedstock and fuel between the Midwest and the Gulf Coast. It seems plausible that the unbalanced shift to renewable diesel contributed to the vulnerability of the California fuel market to price instability, although clearly this is just one of several important factors affecting consumer gasoline prices.

CARB should study whether it would be helpful to adjust the LCFS to ensure that the incentives to produce different fuels remain aligned with the needs of the California fuel market, particularly as these needs change dynamically during the transition away from legacy petroleum fuels to a transportation system primarily powered with renewable electricity. These are topics that should be explored within the multi-agency work group considering the implications of California's petroleum phaseout. CARB

should use the California Transportation Supply (CATS) Model and other tools to evaluate whether plausible or likely compliance scenarios will create foreseeable and avoidable problems in the fuel supply within the state. Specifically, CARB should evaluate how the mix of alternative fuels supported by the LCFS is likely to affect the overall fuel supply in the state. The different trajectories of light and heavy-duty EV sales and fleet turnover will lead to a differential rate of declining gasoline, diesel and jet fuel consumption, and it may be appropriate to encourage or constrain particular pathways to ensure the LCFS is supporting an efficient and equitable petroleum phaseout plan. Of course, the LCFS is just one policy mechanism operating in the context of other state and federal policies and technology and market forces that will shape demand, and the trajectories of future fuel demand are not perfectly predictable. But where adjustments to the LCFS can steer the market in a more productive direction and avoid predictable bad outcomes, CARB should act, as it has done in the past to accelerate the deployment of charging and hydrogen fueling infrastructure.