

September 6, 2017

Sam Wade - Branch Chief
Transportation Fuels Branch, Industrial Strategies Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Mr. Wade,

Thank you for the opportunity to comment on the draft proposal for re-adopting California's Low-Carbon Fuel Standard for the 2020-2030 time period. We have appreciated the transparency and open engagement from ARB through the early phases of this process and look forward to engaging on a consistent basis moving forward.

NextGen California submitted a Proposed Environmental Alternative on August 21st, in which we requested that staff examine higher carbon intensity (CI) reduction targets than the 18% proposed in the Pre-Rulemaking Concept Paper,¹ this Proposal is also submitted as an attachment to this letter. The Proposed Environmental Alternative plays a specific role in demonstrating CEQA compliance for this rulemaking. The fundamental argument in that letter - that a higher CI reduction target offers multiple environmental advantages which are especially relevant in light of petroleum refinery and industrial assistance provisions in AB 398 (Chapter 135, Statutes of 2017) - remains valid and should be considered as part of the rulemaking, in addition to its role in determining CEQA compliance.

In addition to reiterating our support for a stronger CI target, NextGen would like to make three additional comments which will help shape the re-adoption process for the next year:

1. The long-term goal of California's climate policy is to achieve broad decarbonization of our economy by mid-century, so the LCFS must be judged on its contribution towards that goal, not just whether it can meet nominal 2030 targets.
2. Alternative jet fuels should have a role in the LCFS, but must not compromise the stringency of the program nor lead to inequitable outcomes.
3. We support the investigation of whether pathways to reward electric vehicle owners for charging with renewable electricity could be developed, but such pathways must reflect real and additional procurement of renewables and not just increase the rewards for renewable energy development promoted by other policies.

¹ https://www.arb.ca.gov/fuels/lcfs/lcfs_meetings/080717conceptpaper.pdf

Fuel Policy Must Contribute to a Trajectory for Long Term Success

Preventing climate disaster requires a broad transformation of global energy systems on a rapid time scale. The IPCC indicates that to prevent the worst effects of climate change, industrialized economies must predominantly decarbonize by mid-century². California has adopted this target through Executive Order B-30-15,³ which calls for an 80% reduction in GHG emissions by 2050. Many of the infrastructure and business investment decisions made by companies in the 2020's to comply with a re-adopted LCFS will still be operational and affecting our emissions portfolio in 2050. This means that the rule needs to seek a balance between allowing the LCFS credit market signals to function without interference, and avoiding incentives which promote investments that compromise the state's ability to hit 2050 targets.

There are several potential programmatic structures which could help incentivize investments in technologies that help meet long-term state GHG goals. The simplest would be strong CI reduction targets which would rapidly reduce the LCFS credit incentive given to fuels which have limited value as a long-term solution. Other measures, such as an additional requirement for a fraction of very-low carbon fuels, such as those identified by AB 692 (Quirk, Chapter 588, Statutes of 2015), could also help ensure that the LCFS contributes to long-term goals. Comprehensive life cycle analysis, including consideration of indirect effects like indirect land-use change (iLUC), also helps direct incentives to fuels with the greatest potential to provide long-term benefit. We look forward to working with ARB to find an effective solution in this rulemaking.

Alternative Jet Fuels Should Have a Role in the LCFS, Within Limits

Staff has explored the potential of alternative jet fuels to contribute to the LCFS over the last year. This included an opportunity for public comment at the March 13, 2017 workshop and a discussion of National Renewable Energy Laboratory modeling of the potential credit generation from alternative fuels. Alternative jet fuels clearly have the potential to yield significant GHG reductions while meeting the energy density demands of aviation fuels. This implies that alternative liquid fuels may be the best available option for GHG reduction from this sector. These fuels clearly can, and should, be part of California's long-term sustainable fuel portfolio.

A re-adopted LCFS for 2020-2030 must ensure that including these fuels does not produce undesired consequences. Specifically, CI targets must be strengthened to ensure that the supply of alternative jet fuels does not reduce program stringency in the on-road sector and mute the market signal which would drive low-carbon options into the balance of the transportation sector. The NREL study indicated 2-3 billion gallons of potential additional low-carbon fuel supply could enter the CA market if alternative aviation fuels were included

² http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_SPM_FINAL.pdf

³ <https://www.gov.ca.gov/news.php?id=18938>

under the LCFS.⁴ This potentially massive source of LCFS credits could lower credit prices and mute the LCFS market signal for on-road fuels. While the carbon reductions from aviation fuels do contribute to attaining global GHG reduction targets, they represent a small fraction of CA emissions and we cannot meet long-term State GHG reduction targets if on-road fuels do not also significantly reduce their carbon intensity. Simply put, solving aircraft GHG emissions at the cost of compromising solutions for on-road GHG emissions is a tradeoff California should avoid.

To address this, ARB should ensure that if aviation fuels are included in the re-adopted LCFS program, the CI reduction targets are set higher than the currently modeled 18% in order to ensure that on-road transportation reduces its carbon sufficiently to maintain a trajectory towards mid-century decarbonization. This may present challenges for the current rulemaking since the alternative aviation fuel market is rapidly developing, adding substantial uncertainty to any predictions about future volumes and CIs. Staff must balance the desire to fully include aviation fuels in the LCFS against the needs to provide an unambiguous market signal to the on-road transportation fuel market. We suggest staff consider a limit on the total credit generation from aviation fuels, or one or more mid-term reviews of alternative aviation fuel supply relative to CI targets, in order to ensure that these fuels do not diminish the incentive to the balance of the CA fuel market.

We also suggest that staff consider assigning alternative aviation fuel producers a compliance obligation based on a volume of conventional fuel equivalent to their alternative fuel production if they choose to enter the LCFS credit market. While this will reduce the benefit of LCFS to alternative aviation fuel producers, it could also mitigate the market-distorting effects of alternative jet fuel production at the upper end of the range suggested by the NREL study.

Finally, we ask staff to consider the equity impacts of including alternative aviation fuel under the LCFS. The LCFS market transfers value between participants in a predictable fashion: high-carbon fuels pay into the credit market and the resulting revenue ultimately benefits low-carbon fuels. When the overwhelming majority of fuels under the LCFS are consumed in on-road applications, as they are at present, any costs borne by on-road fuel consumers stay within the on-road fuel system, as do the benefits from the cleaner fuels the system incentivizes. Essentially, on-road users are paying for benefits which impact themselves through the on-road transportation system they utilize.

Alternative aviation fuels have the potential to disrupt this relationship. If, as expected, alternative aviation fuels generate a significant amount of credits, there will be a revenue flow

⁴ https://www.arb.ca.gov/fuels/lcfs/lcfs_meetings/031717nrel_presentation.pdf It is important to note that the potential impact of alternative jet fuels strongly depends on other criteria, such as oil price and RFS credit price, in addition to inclusion under the LCFS. The study also does not examine the impacts of this additional credit supply on LCFS credit price, so this value should be viewed as a ceiling for aviation fuel in 2030, not a prediction.

from on-road fuels which have a compliance obligation, such as motor gasoline, to aviation fuels. Insofar as the consumers of aviation fuels represent a smaller and typically higher-income subset of the population than on-road fuel consumers, and the pollution co-benefits of alternative aviation fuels affect a smaller subset of the general population - residents near airports - there is a risk that inclusion of these fuels could produce results contrary to California's economic and environmental justice goals. ARB should carefully consider and, if necessary, take steps to mitigate potential equity problems from expanding into this new segment of the fuel market.

Additional LCFS Credit for EV Charging from Renewable Sources Must Produce Additional GHG Reductions

At the August 7th workshop, as well as earlier workshops on EV charging, staff has asked for input regarding how to appropriately issue additional credits for EVs charged on renewable or low-carbon electricity. We recognize the potential benefit to incentivizing additional renewable electricity generation through access to the LCFS market, but urge caution when adopting LCFS provisions to provide these incentives.

One of the principles of life cycle analysis, upon which the LCFS is based, is a clear need to demonstrate additionality of any actions which affect the outcomes under study. This means, the policy or action being considered must cause an impact in addition to what would have happened in absence of the policy or action. Low-carbon electricity presents a particular challenge to determining additionality when assessing the CI of electricity used in vehicles. California's RPS policy requires an increasing amount of renewable electricity to be brought onto the state's grid. At present, California procures significantly more renewable energy than is required by the RPS. So there is a significant risk that a pathway for granting LCFS credits for charging with renewable energy would result in charging providers simply contracting with existing renewable generators for electricity supply and nominally meeting the conditions for additional LCFS credit generation but not resulting in any additional reductions of GHGs from the status quo. This would have the perverse effect of granting revenue through transactions in a low-carbon fuel credit market for an action which does not actually reduce carbon emissions.

Because the excess of renewable energy compared to RPS targets is likely to persist for several years, until RPS targets catch up with current over-procurement, ARB needs to impose strict tests of additionality before renewable electricity should be considered for LCFS credit generation above the grid baseline. There are many potential options for ensuring the additionality of renewable energy charging credits. We recommend Staff consider options including, but not limited to, the following:

- To be eligible for additional LCFS credits, the generator supplying renewable electricity must have been constructed after the adoption of the revised rule.
 - Rationale - This ensures that LCFS credits are not simply providing additional revenue for past actions.
- To be eligible for additional LCFS credits, the generator supplying renewable electricity must not have been used by any utility, balancing authority or grid operator as compliance for the RPS or any other clean energy mandate or incentive program.
 - Rationale - This ensures that capacity which was brought online to displace fossil generation does not get redirected to vehicle charging instead. Any capacity which contributes to additional LCFS credits beyond those granted to standard CA Grid Mix electricity should be brought online specifically for the purpose of vehicle charging, and not trade off against attaining the state's other GHG goals.
- Generation capacity used to supply electricity which results in additional LCFS credits can be used to satisfy RPS or other clean energy policy requirements, but once it is used for that purpose, loses its eligibility to generate electricity for additional LCFS credits.
 - Rationale - Allowing a one-way transition from LCFS credit generation to RPS or other policy compliance helps create an incentive to build renewable generation capacity earlier than would have happened otherwise. This earlier construction results in real and additional reductions in cumulative GHG emissions and so should be allowed to generate LCFS credits.

We recognize that there may be other programmatic structures which can ensure the additionality of actions leading to additional LCFS credits, and welcome a thorough and transparent discussion of them as this process moves forward.

Conclusion

We thank ARB for the opportunity to contribute to this critical policy development effort and appreciate the efficiency and transparency which has characterized the pre-rulemaking process so far. We look forward to constructive engagement in this process as we move forward.

Sincerely,

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Climate Policy Advocate
NextGen California