September 5th, 2022

Dear CARB personnel,

As a Californian living in Sacramento, I appreciate the opportunity to submit comments on the August 18th 2nd Public Workshop to Discuss Potential Changes to the Low Carbon Fuel Standard. I will comment on two items: 1) potential caps on fuels from crop-based feedstock, and 2) the outdated default emission factors (EF) for marine transport of BD/RD embedded in the Tier 1 pathways and CA-GREET3.0.

Regarding a cap on fuels produced from certain feedstocks you run the risk of creating unintended consequences. Also, defining “waste” feedstock versus “not waste” or even “crop-based” is not so cut-and-dry as I had first imagined. I understand the concept behind indirect land use change but would also argue that for something like soybeans, where 80% by weight goes into useful soymeal, attempting to penalize fuels produced from the remaining 20% of soybean oil through an arbitrary cap is not necessary. The use of ILUC is supposed to do this via an increased CI score and therefore less LCFS credit, no? I could turn around and argue that massively negative CI scores for natural gas obtained from dairy cow manure are inappropriate because there should be ILUC aspects involved with large dairy herds given all the land, water, medicine/antibiotics, feed (maybe some of it derived from soy and corn?), and other resources necessary to maintain a dairy herd. However, both soybeans and dairy herds produce useful products aside from LCFS-eligible hydrocarbons. I could make similar arguments for and against every feedstock currently used to make LCFS-eligible sources of energy. Discussions about greater societal good vis-à-vis feedstock is obviously not the purview of life cycle analysis though. You have already and will undoubtedly continue to receive extensive feedback from invested parties regarding this issue. I look forward to reading the public comments. Deciding that seed oil-based fuels are to be disincentivized via an import cap because RD is comprising an ever-growing percentage of LCFS credits doesn’t sit right with me though. Why choose to pick on it in particular? Additionally, the Inflation Reduction Act means a transition from the current national BTC to a CI-based system generating 45Z credits starting in 2025. This should have the effect of incentivizing lower-CI fuels as the marginal RD or BD plant producing higher-CI fuels from soy or canola oil may not be profitable due to loss of the BTC and inability to generate 45Z credits because the fuel CI scores are too high. I would surmise the continued expansion of fuels produced from seed oils ends up being self-limiting as legislative targets and incentives continue to be implemented that reduce the CI score necessary to be the marginal producer. Increasing the CI reduction targets to 25 or 30% by 2030, as is being discussed, along with the replacement of the BTC with CI-based 45Z credits should result in a market-based “cap” on certain higher-CI fuels without the need to arbitrarily cap them.

Shifting gears, the emission factors for marine transportation, specifically the ‘ocean tanker’ transportation process, need updating. While the transportation process EF is usually a very small component of the overall CI score, I would argue there is room for improvement. Given the rapid growth of RD being imported into California by maritime transport, I feel some simple changes to the current models as well as the next iteration of CA-GREET are warranted. The current default tanker size for movement of finished BD/RD into California is half the size of the tankers being used as I write this – I track the actual chartered tankers in real-time. The default 22,500 dwt tanker is less efficient per ton-mile product moved than larger vessels, and results in a small penalty to the resultant CI score unless a user-defined EF value is calculated by the applicant and approved by CARB. CA-GREET3.0 also has these smaller, incorrect vessel sizes as baseline. As a layperson I don’t have access to details of the Tier 2 application (I tried). The publicly-available Tier 2 applications are so heavily redacted as to be useless in this regard (and many others) so am not aware of what optionality exists for an applicant to provide user-defined EF values for maritime transport, or if the applicants even feel it is worthwhile to do so. Regardless, it would make for a more accurate model to update the default settings to reflect current reality. Additionally, there was a recently announced tanker charter to transport *feedstock* (not finished RD, mind you) from PADD3 to California, presumably to either the Marathon/Neste or Phillips 66 project in the SF Bay area. Given current projections for expansion of PADD3 RD production, there could be as many as 8 to 12 MR-size (45-50,000 dwt – multiply this by 0.9/90% to get the estimate of tonnage capacity for the desired product – RD or feedstock in this case) tankers involved in transporting RD and feedstock from PADD3 to California via the Panama Canal. Each MR tanker can carry around 320,00 barrels (~13.5 million gallons). The round-trip voyage, including loading and unloading, takes about 35 days, so rough math has each tanker doing ~10 round-trip voyages a year. Assume 10 tankers, 10 trips/year, and 13.5 million gallons/trip and you roughly get ~1.3 billion gallons/year arriving by MR tanker from PADD3. That volume alone is worth fine-tuning the LCFS/GREET pathway for BD/RD. Argonne’s latest GREET update in late 2021 included several changes to maritime-related factors including the baseline tanker size for RD transport, but it appears they have chosen a 100,000 dwt vessel (90,000 ton product transport capacity), which is considerably larger than the 45-50,000 dwt MR tanker I mention above. I have recently reached out to them to discuss the particulars of the PADD3 🡪 California transportation pathway. I would be happy to discuss this with you as well.

Thank you again for this opportunity to express my views about potential updates to the LCFS program. Although I will admit to having my own biases, I am not directly affiliated or employed by any entities with a financial or intellectual stake in the outcome of the LCFS program. I will continue to remain involved via public forums and comments to the best of my abilities.

Sincerely,

Josh Kehoe