

May 10, 2024

VIA ELECTRONIC FILING

Ms. Rajinder Sahota  
Deputy Executive Officer - Climate Change & Research  
California Air Resources Board  
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Sacramento, Ca 95814

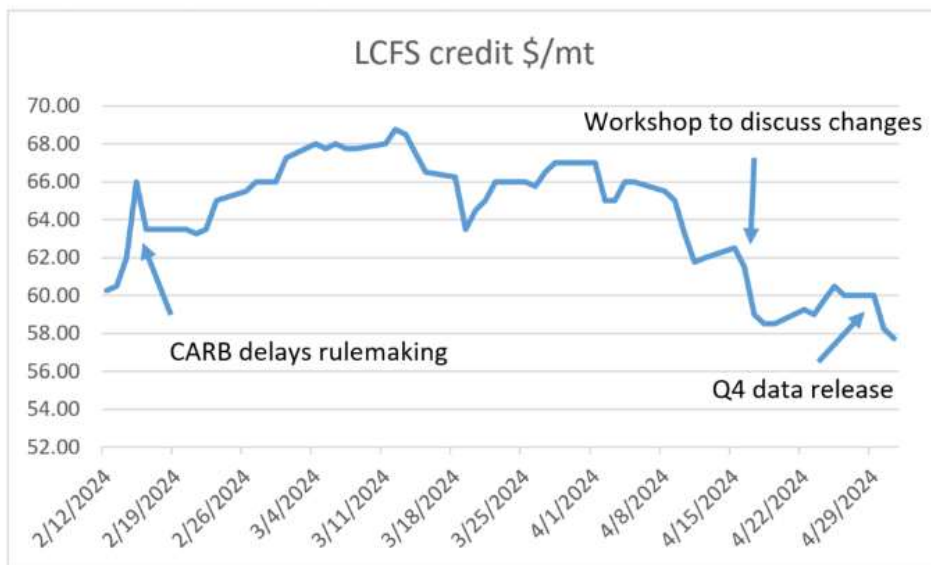
**Re: Neste Comments on Low Carbon Fuel Standard (LCFS) Workshop Held on April 10, 2024**

Dear Ms. Sahota:

Neste appreciates the opportunity to provide these comments to the California Air Resources Board (CARB) regarding the LCFS program updates presented at the April 10, 2024 workshop. These comments are in addition to the comments submitted by Neste for the 45-day regulatory package on February 20, 2024<sup>1</sup>, and we hope that CARB considers all of our recommendations as part of this LCFS rulemaking.

Neste continues to believe that finalizing this rulemaking quickly is the highest priority and that CARB must pursue more aggressive CI reductions. The sharp price declines since CARB released the 45-day regulatory package, and the continued decline since CARB delayed the rulemaking and hosted the April 10<sup>th</sup> workshop, demonstrate that the market firmly believes the CI reduction goals currently being discussed are not aggressive enough to balance out the credit market (see Figure 1 below). The market price is reflecting the broad belief that there are too many credits available today and the demand for those credits is unlikely to outpace supply in the near future. Market participants that are holding credits are selling them at lower and lower prices because the supply of credits continues to outpace demand, as reflected by the continued increases in the credit bank quarter after quarter. Current market prices reflect the belief that supply will remain above demand even after this rulemaking and prices for credits currently trading for 2025 transfer (currently only \$3 above prompt values) demonstrate a lack of confidence in the proposed regulatory updates having any meaningful effect on the supply and demand imbalance. We urge CARB to prioritize this rulemaking and ensure it is completed by **2<sup>nd</sup> quarter 2024**.

**Figure 1: LCFS Credit Prices Trends (in USD) from February 2024 through May 2024**



<sup>1</sup> <https://www.arb.ca.gov/lists/com-attach/6974-lcfs2024-B2IUN1YkACcLaARb.pdf>

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Neste recommends the following as part of the LCFS rulemaking to ensure it adequately addresses market concerns:

- Ensure the regulatory updates go into effect in 2024 to avoid further unrealized emissions reductions due to overperformance of the credit market;
- Apply an immediate CI step-down of **12%** (and not the proposed 5%) in 2025 to adequately address the large credit bank and to provide a predictability to a credit market that is unsure how the bank will be addressed;
  - Neste also supports the 9% step down proposed by staff if it means CARB can more quickly finalize this rulemaking
- Start applying the CI Automatic Acceleration Mechanism (AAM) proposed by CARB in 2026 (using 2025 data) and not wait until 2027 to address overperformance in the LCFS credit market should it persist; and
- Avoid an arbitrary cap on feedstocks used to produce renewable diesel and SAF. Such a cap would likely have the unintended consequences of extending dependence on fossil fuels, exacerbating air quality challenges, and compromising the ability to decarbonize the aviation and maritime sectors.

Below is a detailed discussion of the updates presented in the April 10<sup>th</sup> workshop. Neste also supports the comments from the Low Carbon Fuels Coalition (LCFC) and ICF on this rulemaking. We appreciate your consideration.

### **Overview of the Comments on the LCFS Program Updates Presented on April 10, 2024**

#### ***Step Down CI Reduction Is Needed Immediately to Stabilize the LCFS Carbon Market:***

Neste sees an immediate step down in the CI as integral to quickly addressing the overperformance of the LCFS program and the depressed credit prices. The credit market continues to indicate that CARB is not being aggressive enough in this rulemaking, and credit prices continue to drop as CARB seems to continue favoring just a 5% step down. The market is making it very clear that more needs to be done to address the credit bank in the short term, and it is precisely why Neste continues to support a step-down of 12% as modeled by ICF<sup>2</sup>. In the April 10<sup>th</sup> workshop CARB also modeled a 9% step down, and Neste is willing to support this step down if it means a quicker approval of this updated LCFS regulation. This higher 9% step down will bring predictability to the credit market as to how the credit bank will be addressed versus relying on the unpredictable automatic acceleration mechanism to trigger in 2-3 years. Addressing the credit bank more quickly will also make new technologies more competitive in the LCFS, and this includes electrification and hydrogen. Therefore, it is paramount that CARB pursues the predictable 9% step down to start decreasing the credit bank in 2025. Delaying credit bank reductions will likely delay implementation of new technologies.

The need for a step down near 9% is further bolstered by several assumptions CARB made in the CATS modeling that all lead to a significant underestimation of future credit generation. Firstly, the CATS assumes a CI of 61 g/MJ for renewable diesel even though the average CI for renewable diesel in California is in the 30-40 g/MJ CI range. This inflated CI used in the CATS model leads to a significant underestimation of the credit generation from renewable diesel, and thus millions of credits annually are not accounted for in the CATS model. Secondly, CARB seemed to also assume renewable diesel would peak at 2.1 billion gallons per year and then slowly decrease, however renewable diesel is virtually at this volume as of 2023<sup>3</sup> and only continues to grow as new production comes online. This lower renewable diesel consumption assumed by CARB translates to a higher fossil diesel volume in the CATS model, resulting in higher deficits than what are

<sup>2</sup> <https://www.arb.ca.gov/lists/com-attach/7078-lcfs2024-VDVcNFlyVGsLdFQu.pdf>

<sup>3</sup> [https://ww2.arb.ca.gov/sites/default/files/2024-04/quarterlysummary\\_Q42023.xlsx](https://ww2.arb.ca.gov/sites/default/files/2024-04/quarterlysummary_Q42023.xlsx)

actually occurring today. Lastly, Neste also believes that this LCFS rulemaking will eliminate some bottlenecks for ZEV and H<sub>2</sub> adoption, further increasing credit generation. This all results in the CATS underestimating credit generation from renewable diesel, and thus the credit bank will grow quicker than CARB has estimated.

ICF also found that CARB did not correctly calculate the fossil diesel baseline as part of the 45-day package. ICF determined that CARB should only add CH<sub>4</sub> and N<sub>2</sub>O tailpipe emissions and not CO<sub>2</sub> because they are biogenic. The diesel baseline should therefore be 103.19 g/MJ and not 105.76g/MJ. This further changes the CATS modeling results because the diesel baselines shifts credit/deficit generation for diesel. To truly balance the LCFS credit market, **a 9% CI step down must be made in 2025**. This step down is needed before the AAM can be effectively implemented, otherwise the AAM could be triggered excessively and overperformance will persist.

***Neste Agrees with CARB that There is NO Causal Relationship Between the LCFS and Fuel Prices:***

Neste agrees with CARB that there is no causal relationship between the LCFS credit price and what consumers pay for fuel at the pump. As noted on page 3 of our February 20, 2024 comment letter<sup>4</sup>, the price consumers pay at the pump is directly linked to the cost of petroleum crude. Thanks to the LCFS, California has sped up the phaseout of fossil fuels, and thus created a market with more options for consumers. That is further reflected by renewable diesel being priced similarly to fossil diesel in California<sup>5</sup>.

***Automatic Acceleration Mechanism (AAM) Should Start in 2026 (using 2025 data):***

Neste continues to support the need for the AAM and continues to believe that it should be available in **2026** (using 2025 data) and not wait until 2027. It is essential that CARB have this mechanism in place should overperformance persist in the long term, and to balance out the credit market more quickly so that renewable fuel producers can feel more confident investing in new production.

Neste reiterates support for ICF's recommendation that the AAM triggers be reevaluated to ensure a smoother reduction of the credit bank. By lowering the "Credit Bank to Average Quarterly Deficit Ratio" AAM trigger from 3 to 2.5, CARB can provide an even more predictable credit market.

***Sustainability Certifications Can Drive Further Decarbonization:***

Neste supports the inclusion of sustainability certification requirements versus an arbitrary cap on feedstocks to address concerns with the growth of crop and forest-based feedstocks. Neste supports the comments made by CARB staff at the April 10<sup>th</sup> workshop regarding the impacts of a cap, principally that fossil fuels would backfill liquid renewable fuels with such a cap. A cap will likely lead to higher GHG, criteria and toxic pollutant emissions, and result in higher health impacts to local communities.

Proponents of the cap are also using incorrect, inconsistent and outdated data, making their support for the cap technically flawed. Examples include:

- Most proponents of the cap argue that crop-based feedstocks are driving all growth in liquid renewable fuel production, however CARB shows in slide 53 of the April 10th workshop presentation that waste and residues drove most growth in 2022-2023.
- Most supporters of the cap are pressing CARB to be less aggressive in this rulemaking because of concerns with higher energy prices for the consumer, while also arguing that the cap is needed to stop lower cost renewable diesel from delaying the implementation of electrification.

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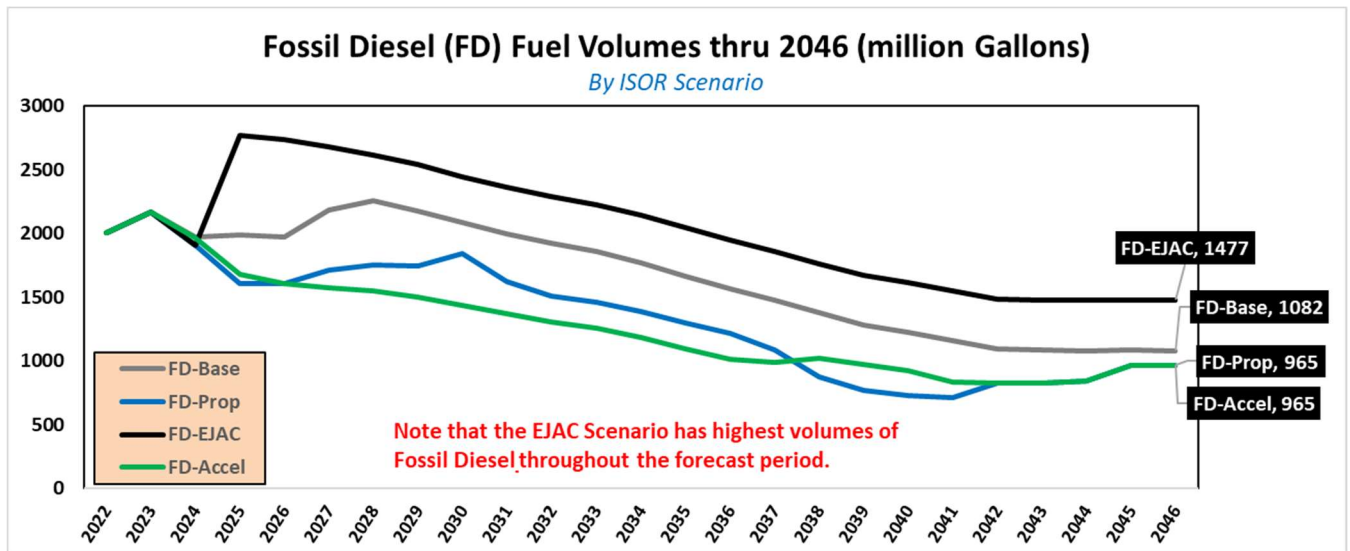
<sup>4</sup> <https://www.arb.ca.gov/lists/com-attach/6974-lcfs2024-B2IUN1YkACcLaARb.pdf>

<sup>5</sup> <https://afdc.energy.gov/data/10969>

- Virtually all supporters of the cap also support eliminating the interstate jet fuel exemption, even though the cap would limit/reduce SAF production. Elimination of the exemption would not be successful without a robust SAF supply.
- Proponents of the cap also stated in the April 10th workshop that fossil fuels have lower emissions than several liquid renewable fuels. This could not be further from the truth as noted by countless life-cycle analyses and stack testing.

Figure 2 below shows how fossil diesel fares under each scenario evaluated by CARB in this rulemaking. Under the EJAC scenario (black line) there will be sharp **increases** in fossil diesel, which is counter to the goals of the LCFS. By 2046, fossil diesel is projected to be 53% higher under the EJAC scenario than what CARB has proposed under this rulemaking (blue line). The LCFS was designed to phase out fossil fuels and not to promote their growth, so it is clear that CARB must reject the EJAC scenario. Whereas CARB’s Proposal for this rulemaking and the Accelerated (green line) scenarios lead to immediate and consistent reductions in fossil diesel, and thus achieving true climate and health benefits in the short and long term.

**Figure 2: Fossil Diesel Consumption Under Each Scenario Evaluated by CARB**



Neste also believes that sustainability certifications will increase the costs of sourcing feedstocks for renewable fuel production, and CARB can prevent the consumer from absorbing these costs by recognizing the emissions reductions from climate smart agriculture (CSA). These emissions reductions are already being certified through several sustainability certification schemes such as ISCC. In fact, the IRS guidance accompanying the 40B SAF-GREET model allows some crop-based feedstocks to reduce their carbon intensity (CI) score if certain CSA practices were employed in their production. CI reductions for no-till, cover crop and enhanced efficiency fertilizer will be accounted for in CI calculations. Neste believes that recognizing CSA strikes the right balance between ensuring feedstocks are sourced sustainably and at the same time leverages available data to provide more value to those producers that are working towards decarbonizing their energy production. Recognizing CSA also allows the LCFS to continue driving innovation, which is one of the most important priorities for this regulation.

**Land Use Change Evaluations Should Occur for all Feedstocks:**

Neste supports CARB’s proposal to establish empirical methods to evaluate ILUC of feedstocks, ensuring consistency and fairness across feedstocks. Neste requests that CARB work with liquid renewable fuel producers to define this proposal and to establish guidelines for this new process to ensure

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consistency/fairness in these new ILUC evaluations. We also believe that these new ILUC evaluations should be applied not only to new feedstocks but also to those that CARB already analyzed in 2015 (corn, soybean, canola). By doing so, the market will have the incentive to develop more sustainable feedstocks while maintaining empirical justification of their reduced ILUC.

An example of this is winter canola. Despite primarily being produced in the Northern Great Plains (Montana, North Dakota, Minnesota, etc.) with spring varieties, growing winter canola after wheat in regions where wheat/fallow rotation is a common practice (for example, in the US Great Plains) can lower the risk of displacing food production. Moreover, some studies suggest that winter canola can increase yields of subsequent wheat<sup>6</sup>, break wheat pest cycles and improve soil health thanks to soil coverage increase and crop rotation diversification. This combined with the production of canola meal (around 60% of grain production) to the food industry can considerably reduce the ILUC risk and even bring additionality.

Some efforts are already ongoing to effectively analyze and quantify the potential impact on ILUC for this winter canola. The most outstanding one is being led by the US Canola Association together with Purdue University and Argonne National Laboratory (organization that provided ILUC values in 2015 for CARB's GTAP analysis), who are working to *"update the ILUC values, establish a separate LCA for winter canola and incorporate canola into the GREET model"*<sup>7</sup>.

### **General Comments on Slides Presented at the April 10<sup>th</sup> Workshop:**

Neste also has the following general comments on the slides presented at the April 10<sup>th</sup> workshop:

1. **Renewable Diesel/Biodiesel Percentage on Slides 22-23:** CARB seems to be assuming that the renewable diesel/biodiesel percentage will be in the 47% range in 2030, when in fact it is already 66% as of 4<sup>th</sup> quarter 2023<sup>8</sup>. This is a rather large difference and should be updated in upcoming presentations/modeling.
2. **UCO Pricing Information on Slide 37:** CARB seems to be using inflated UCO prices and we recommend that CARB refer to Jacobsen or Argus for more accurate pricing data. CARB assumes about \$2000 per ton of UCO when the price is closer to \$1000 per ton. It must also be noted that any cap on crop-based feedstocks will put pressure on UCO and increase costs for consumers.

### **Carbon Intensity Benchmark for Fossil Jet Fuel (Table 3) Needs to be Updated in Draft Regulation:**

In Table 3 of the draft LCFS rule presented in the December 19<sup>th</sup> 45-day package, CARB does not appear to be using the fossil jet fuel CI of 89.43 g/MJ starting in 2025 as noted at the bottom of table. Neste requests that CARB update Table 3 to reflect the correct CI for fossil jet fuel starting in 2025.

Please feel free to contact me for additional information or questions regarding our submission.

We appreciate your consideration.



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<sup>6</sup> <https://access.onlinelibrary.wiley.com/doi/10.2134/agronj2011.0244>

<sup>7</sup> <https://www.uscanola.com/news-views/usca-blog/carbon-intensity-of-canola-production-why-how-it-matters/>

<sup>8</sup> [https://ww2.arb.ca.gov/sites/default/files/2024-04/quarterlysummary\\_Q42023.xlsx](https://ww2.arb.ca.gov/sites/default/files/2024-04/quarterlysummary_Q42023.xlsx)