August 27, 2024

VIA ELECTRONIC FILING

Ms. Rajinder Sahota
Deputy Executive Officer - Climate Change & Research
California Air Resources Board
1001 I Street
Sacramento, Ca 95814

Re: Neste Comments on Proposed Low Carbon Fuel Standard (LCFS) Regulation Published on August 12, 2024

Dear Ms. Sahota:

Neste appreciates the opportunity to provide these comments to the California Air Resources Board (CARB) regarding the proposed LCFS regulation 15-day package published on August 12, 2024. These comments are in addition to the comments submitted by Neste for the 45-day regulatory package on February 20, 2024[1] and the April 10, 2024 LCFS Workshop[2]. All of our recommendations should be considered as part of this LCFS rulemaking. Neste also supports comments from the Low Carbon Fuels Coalition (LCFC) and ICF on this rulemaking.

Neste is disappointed by the lack of public discussion on the substantial changes proposed in this 15-day package that go well beyond what would be expected in a 15-day package. Many are not connected to the 45-day package.[3]

Neste is a long-time, public supporter of California's LCFS program. As such, it is unfortunate to see that the new proposed package contains risky policy experiments that undermine the proven policy frameworks of one of California's longest running and most successful climate programs. The proposal raises serious concerns about unintended consequences, implementation feasibility, and program reliability. Industries consider all of these factors in decisions about long-term capital investments and job creation related to both road and aviation fuels, as well as for agriculture production and practices. These cost implications may lead to higher costs for consumers and fuel supply instabilities without delivering significant environmental improvements as compared to CARB's proposals in the 45-day regulatory package. We encourage CARB to reconsider the changes made in this 15-day package and focus on sending the right market signals that drive investments in production of renewable energy.

Neste emphasizes the significant negative impact that the proposed changes in this 15-day package will have on renewable energy in California and throughout the U.S. With this rulemaking, CARB has an opportunity to implement Governor Newsom's July 2022 directive to accelerate refinery transitions away from petroleum to the production of clean fuels and to incentivize use of SAF. The 45-day package published in December, 2023, was on track to achieve that goal. However, the unintended consequences of this 15-day package reverse that trajectory[4].

Virtually all SAF consumed in California is produced in HEFA plants that also produce RD; therefore, RD and SAF production are directly connected. Renewable diesel production subsidizes SAF production in many ways and no large scale production plants currently operate only to produce SAF. In fact, federal incentives

[1] https://www.arb.ca.gov/lists/com-attach/6974-lcfs2024-B2lUN1YkACcLaARb.pdf
[2] https://ww2.arb.ca.gov/form/public-comments/submissions/11066
[3] https://oal.ca.gov/rulemaking_participation/#six
[4] https://www.gov.ca.gov/wp-content/uploads/2022/07/07.22.2022-Governors-Letter-to-CARB.pdf

under the federal Inflation Reduction Act (IRA) will drive lower CI feedstocks to SAF production. This raises the question of whether there will be enough non-soy/canola feedstocks to meet California's demand for RD. Neste urges CARB to reject the proposals to cap feedstocks and, instead, maintain the technology neutrality that has been a hallmark of the LCFS program. This proposed 15-day package adds to the costs of feedstocks used to produce RD/SAF, the costs of producing the RD/SAF at plants, and could force producers to pass on these costs to the truck drivers and airlines that use renewable energy.

Therefore, Neste makes the following recommends related to the proposed 15-day package in order to protect consumer fuel prices, to continue incentivizing investments in SAF, and to be more aligned with the 45-day package published in December 2023:

1. We urge CARB to issue another 15-day package to respond to feedback and correct problems created by this 15-day package;
2. Ensure that regulatory updates go into effect in January, 2025, to avoid further unrealized emissions reductions due to current overperformance of the credit market;
3. Return to CARB's policy goals stated in its April 10, 2024 public workshop;
4. Revise proposals after analyzing the impacts on fuel supply, consumer costs, and for aviation (SAF) in particular;
5. Reject the proposal to give CARB discretion to stop accepting new renewable diesel pathway applications. Continue the current, successful policy of technology neutrality (95488(d));
6. Adopt an immediate CI step-down of 12% (instead of the proposed 9%) in 2025 to adequately address the large credit bank and more quickly stabilize the credit prices;
7. Adopt a proposed CI Automatic Acceleration Mechanism (AAM) but apply it in 2026 (using 2025 data) and not 2027 in order to address overperformance in the LCFS credit market;
8. Remove the additional requirements proposed in (95488.9(g)) that fail to incentivize feedstock innovation and could increase costs;
9. Revise proposed LUC factors (95488.3(d)) to incentivize improvements in farming practices; and
10. Maintain technology neutrality and reject the proposed 20% caps on soybean and canola oil used to produce RD and SAF (95482(i)). Such a cap is likely to increase use of fossil diesel and jet fuel as stated by CARB at the April 10th workshop[5], and lead to avoidable RD and SAF price increases.

Detailed comments and analysis follow below.

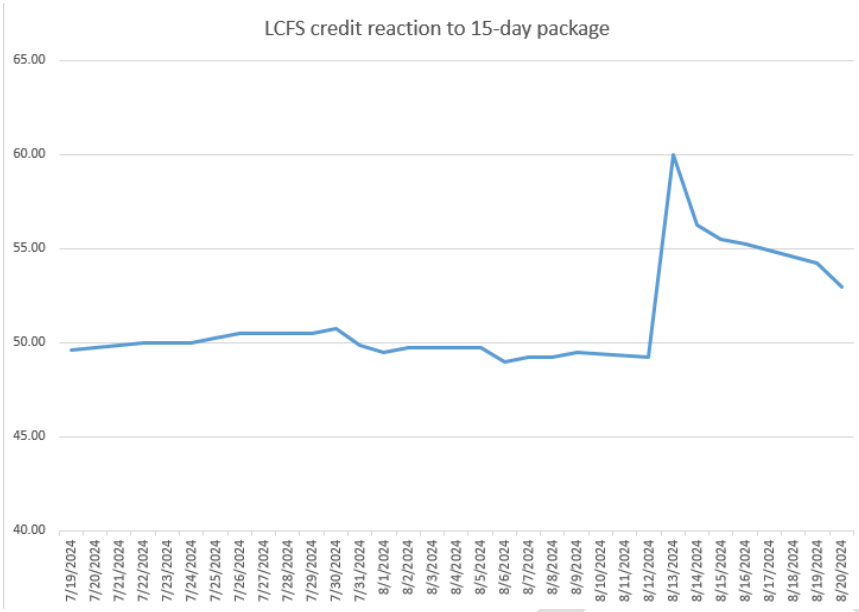
Detailed Comments and Analysis on Proposed LCFS Regulation Published on August 12, 2024

<u>Ensure that regulatory updates go into effect in January, 2025, to avoid further unrealized emissions reductions due to current overperformance of the credit market.</u>

Neste continues to believe that finalizing this rulemaking by January, 2025, is the highest priority and that CARB must pursue more aggressive CI reductions. Figure 1 below shows that the market remains unconvinced that the proposed 15-day package changes will be sufficient to balance the ongoing growth in the credit bank. While 2025 may show signs of a modest draw in the bank, the smaller annual compliance target changes from year to year will quickly shift the balance back toward credit bank growth by 2026. Prices are likely to continue hovering in the same range without stronger targets. We urge CARB to prioritize this rulemaking and ensure the amended regulation is in effect in January, 2025.

[5] https://ww2.arb.ca.gov/sites/default/files/2024-04/LCFS%20April%20Workshop%20Slides.pdf, slide 21

Figure 1: LCFS Credit Prices Trends (in USD) from July 2024 through August 2024



<u>Reaffirm CARB's policy goals stated in its April 10, 2024 public workshop.</u>

CARB has discussed the policy priorities and assumptions for this rulemaking. and acknowledged the negative implications of limiting RD production.. Below is an overview of the issues with limiting RD and the priorities of this rulemaking presented by CARB in its April 10th LCFS Workshop[6]:

- **Soybean oil today has a higher CI compared to other biomass-based diesel and will naturally be phased out by the lowering of the diesel CI standard (slide 40)**
    - It is uncertain if substantial increases in virgin oil fuel use in California will occur over long-term (slide 57)
- **Any limits on RD will be backfilled by fossil diesel (slide 21)**
    - The EJAC Scenario that proposed limits on RD resulted in 386 MMT CO2 increase and $85 net cost increase in costs (slide 31)
    - Near and long-term air quality benefits are a priority for this rulemaking (slide 18)
- **60% of fossil diesel has been displaced by biomass-based diesel in 2023, resulting in PM and NOx benefits (slide 12)**
    - In 2022-2023, waste-based feedstocks volumes rose much more quickly than virgin oilseed feedstocks such as soybean and canola oil (slide 53)
    - CI incentives working to prioritize waste-based feedstocks (slide 57)
- **Transportation costs are a priority for this rulemaking (slide 18)**
- **Attracting federal incentives that encourage renewable energy use is a priority for this rulemaking (slide 18)**
- **Incentivize more production of clean fuels needed in the future is a priority for this rulemaking (slide 17)**
    - Price-signals for investment in new production must continue (slide 18)

Neste agrees with all these public statements made by CARB in the April 10th LCFS workshop. However, the new proposed 15-day package is counter to most of these statements. Such an about-face so late in the rulemaking process raises questions about the reliability of the LCFS program. Ultimately the biggest loss in this 15-day package is SAF production and the feedstocks needed to decarbonize the aviation sector.

[6] https://ww2.arb.ca.gov/sites/default/files/2024-04/LCFS%20April%20Workshop%20Slides.pdf

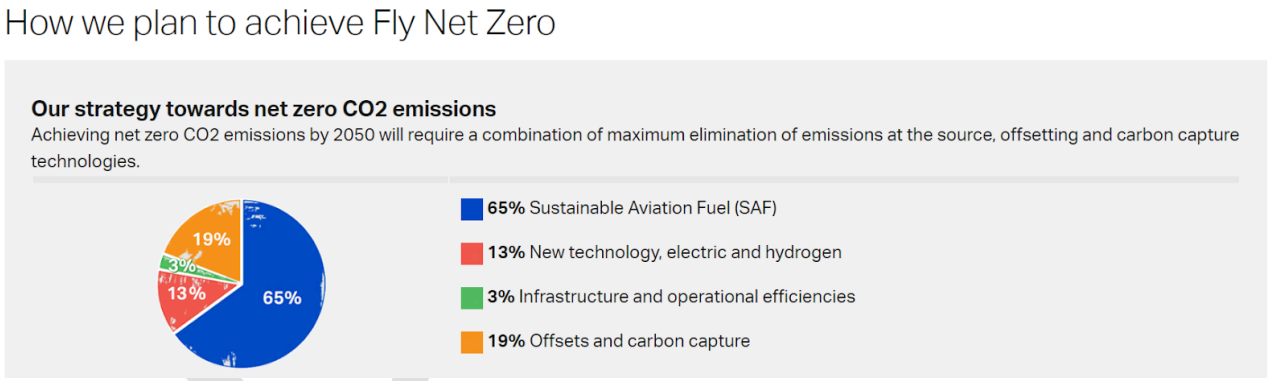
Revise proposals after analyzing the impacts on fuel supply, consumer costs, and for aviation (SAF) in particular.

As part of the federal SAF Grand Challenge,[7] the U.S. government will be providing $4.3 billion in funding to reach the goal of 3 billion gallons of annual production of SAF by 2030. Martinez Renewables, a joint venture (JV) between Neste and Marathon, applied for such funding and was recently awarded $50 million towards the construction of a facility to produce 150-350 million gallons annually of SAF.[8] In fact, multiple California facilities received a total of 9 large grants, out of 36 grants awarded, reflecting California's dominance of the SAF market in the U.S. A study conducted by Third Way estimates that SAF production is expected to increase the California GDP by $3.2 billion and create 4,500 jobs through 2050[9]. Companies would not have used the feedstock and production limitations in this new proposal for their applications. Therefore, any limits on renewable diesel affect the economics of RD/SAF plants precisely when companies are evaluating billions in investments for SAF production.

SAF production in the US and abroad is strongly linked to RD production when using HEFA technology. Unfortunately, most HEFA SAF plants cannot be designed to only produce SAF. The 15-day package changes the economics of RD/SAF plants.

Per the International Air Transport Association (IATA) that represents airlines globally, the aviation sector has a goal to achieve net zero carbon emissions by 2050 as part of their Fly Net Zero campaign[10]. As shown below in Figure 2, IATA projects that SAF will represent at least 65% of the carbon emissions reductions in the aviation sector.

Figure 2: IATA Strategy for Reaching Carbon Neutrality by 2050



The reason SAF represents such a large part of the aviation sector's decarbonization strategy is because there is no technology besides SAF that can decarbonize flights in the medium to long-haul categories. As shown below in Figure 3, the Waypoint 2050 study estimates that medium to long-haul flights represent **~73%** of the aviation sector's emissions, and that SAF is the only viable decarbonization technology for such

[7] https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/09/fact-sheet-biden-administration-advances-the-future-of-sustainable-fuels-in-american-aviation/
[8] https://www.faa.gov/general/fueling-aviations-sustainable-transition-fast-grants
[9] https://thirdway.imgix.net/pdfs/override/Soaring-to-New-Heights.pdf
[10] https://www.iata.org/en/programs/sustainability/flynetzero/

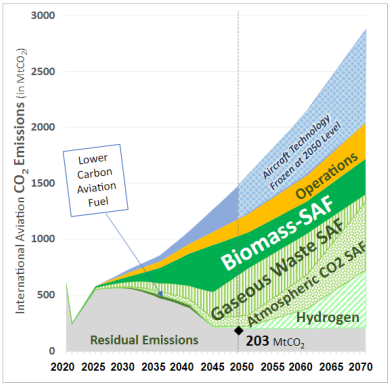
flights (see page 48 of report)[11]. Therefore it is essential that agencies such as CARB prioritize policies that incentivize the production and use of SAF so that necessary SAF investments can be made.

Figure 3: Waypoint 2050 Available Aviation Decorbanization Technologies for Each Flight Distance Type

	2020	2025	2030	2035	2040	2045	2050
Commuter » 9-50 seats » < 60 minute flights » <1% of industry CO_2	SAF	Electric and/or SAF	Electric and/or SAF	Electric and/or SAF	Electric and/or SAF	Electric and/or SAF	Electric and/or SAF
Regional » 50-100 seats » 30-90 minute flights » ~3% of industry CO_2	SAF	SAF	Electric or Hydrogen fuel cell and/or SAF	Electric or Hydrogen fuel cell and/or SAF	Electric or Hydrogen fuel cell and/or SAF	Electric or Hydrogen fuel cell and/or SAF	Electric or Hydrogen fuel cell and/or SAF
Short haul » 100-150 seats » 45-120 minute flights » ~24% of industry CO_2	SAF	SAF	SAF	SAF	Electric or Hydrogen combustion and/or SAF	Electric or Hydrogen combustion and/or SAF	Electric or Hydrogen combustion and/or SAF
Medium haul » 100-250 seats » 60-150 minute flights » ~43% of industry CO_2	SAF	SAF	SAF	SAF	SAF	SAF	SAF potentially some Hydrogen
Long haul » 250+ seats » 150 minute + flights » ~30% of industry CO_2	SAF	SAF	SAF	SAF	SAF	SAF	SAF

In fact, the International Civil Aviation Organization (ICAO) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) will start mandating reductions effective in 2027, and the industry is counting on SAF production for compliance. Figure 4 below shows the importance of SAF, specifically biomass-based SAF (in green), in meeting the decarbonization goals of CORSIA[12].

Figure 4: ICAO's CORSIA Carbon Emission Reduction Technology Projections



[11] https://aviationbenefits.org/media/167187/w2050_full.pdf
[12] https://www.icao.int/environmental-protection/pages/SAF.aspx

To meet the decarbonization goals of the aviation sector, IATA has outlined the following four policy measures needed to boost SAF production. [13]

- Diversify feedstocks
- Co-processing
- Incentives to improve the output mix at renewable fuel facilities
- Incentives to boost investments in renewable fuel production

This proposed 15-day package is counter to all four of IATA's recommendations for SAF policy measures because CARB is proposing to limit feedstocks, complicate investments in new SAF production such as co-processing, impact economic incentives for SAF and RD production and perhaps yield overall reductions in renewable fuel production. CARB could also cause California, and the U.S. as whole, to forgo the huge economic potential of domestic SAF production as outlined in a recent study[14]. It is estimated that SAF expenditures could total nearly $1.5 trillion between 2025 and 2050, and create an estimated 400,000 new jobs in the U.S. The combination of eliminating the proposal to remove the intrastate jet fuel exemption, limiting RD production, and limiting feedstocks that can be used to produce RD/SAF, CARB is creating uncertainty and unnecessary cost increases for those evaluating SAF production investments. Instead, incentivizing development of new, more sustainable feedstocks, new production technologies and overall investments in new production will better help California to meet the goals of the 2022 Scoping Plan.

Reject the proposal to give CARB discretion to stop accepting new renewal diesel pathway applications. Continue the current, successful policy of technology neutrality (95488(d))

As part of this rulemaking, CARB is proposing to stop accepting new pathway applications for biomass-based diesel starting in 2031 if certain ZEV mandates are met in 2029 (95488(d)). Neste strongly objects to this arbitrary proposal that has never been discussed in prior rulemaking documents, and is too significant a change for a 15-day package[15]. This proposal was not part of the 45-day package, and creates a lot of uncertainty for RD and SAF producers.

The proposal to grant the Executive Director discretion to cease accepting renewable diesel pathway applications based upon exceeding a threshold number of registered ZEVs and NZEVs is contrary to law because it has not been adequately justified and bears no rational relationship to the statutory text or goals of the LCFS program's goal of reducing emissions. In fact, the proposed action may have the opposite effect of increasing emissions by freezing out new, innovative forms of renewable diesel from entering the market. AB 32 gives CARB a clear mandate to establish regulations designed to achieve the statewide greenhouse gas emissions limit but such regulations must be designed according to several other factors including minimizing costs and diversification of energy sources. The benchmark CI scores are what ensure the LCFS program operates in furtherance of the statewide greenhouse gas emissions limit and the new automatic acceleration mechanism ensures that where market signals outside of the LCFS program result in greater progress, the benchmark CI can be adjusted to remove excess production of less effective low carbon fuels.

The LCFS itself may not be used to artificially restrict low carbon fuels beyond the benchmark CI where doing so ignores the statutory mandates to minimize cost and preserve diversified energy sources. But that is exactly what CARB's proposal does. CARB is proposing to artificially restrict renewable diesel sources and in doing so is placing its thumb on the scale and reducing competition that would otherwise benefit consumers through lower prices and greater choice. Further, by locking in existing production methods,

[13] https://www.iata.org/en/pressroom/2024-releases/2024-06-02-03/
[14] https://thirdway.imgix.net/pdfs/override/Soaring-to-New-Heights.pdf
[15] https://oal.ca.gov/rulemaking_participation/#six

CARB may even be acting against the primary purpose of the statute to lower carbon emissions by preventing the introduction of new innovations into the renewable diesel supply chain.

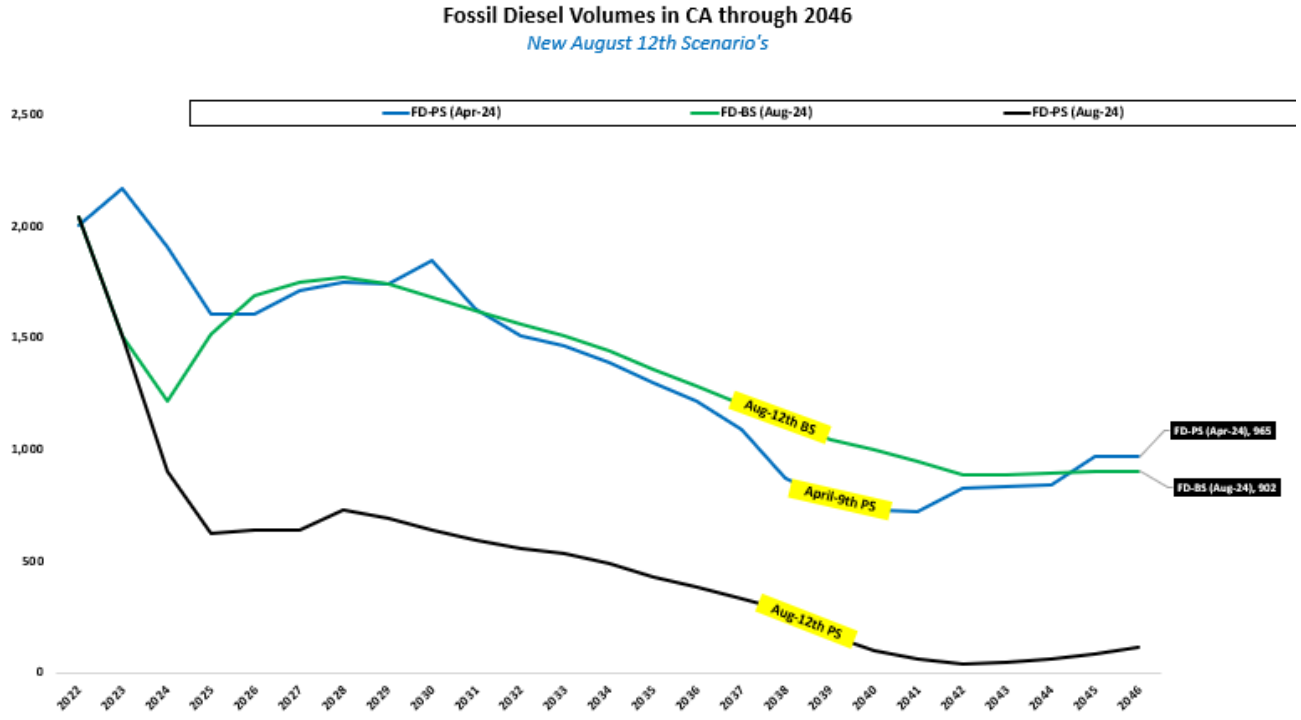
While CARB has arbitrarily not explained the basis of its proposed action, one must assume it is concerned that the benchmark CI and automatic acceleration mechanism have not been adequately designed to achieve their purposes of incentivizing the desired supply of low carbon fuels. For the following reasons, this action also raises constitutional issues. When markets are frozen to benefit incumbents at the expense of innovative new entrants, such restrictions must be rationally related to the desired effect. Here, where the desired effect is reduction of emissions and supplies of low carbon fuels in line with the desired benchmark, regulations that protect existing participants from new competition but do not regulate the volume they are able to supply achieves neither goal.

Neste strongly believes that this proposal, among several meant to limit liquid renewable fuels, is likely to lead to higher consumption of fossil diesel, as noted by CARB in the April 10th LCFS workshop[16] (see slide 21). However, the modeling CARB presented as part of this 15-day package does not reflect that, making Neste question the accuracy of the environmental analysis for this 15-day package. Figure 5 below shows how fossil diesel fared in this 15-day package, and Neste would expect the April 9th Proposed Scenario (pulled from 45-day package) shown in blue below to be identical to the August 12th Baseline Scenario shown in green below. That is not the case, and there is no explanation for the decrease in fossil diesel use shown from 2023 through 2025 under the August 12th Proposed Scenario shown in black.

Under the August 12th Proposed Scenario (black line) CARB is showing three different things that cannot occur at the same time: 1) fossil diesel use to drop to 0.5 billion gallons consumed in 2025, 2) 0.5 billion gallons of fossil diesel, would mean RD use would be close to 3 billion gallons and/or significant electrification of heavy-duty trucks, and 3) credit price at $150-220/tonne. First, if the annual fossil diesel use dropped to 0.5 billion gallons, and rest of the diesel needed would be replaced by RD or ZEVs, the credit market would be far from balanced in 2025 and the price far from $150-220. Secondly, CARB is heavily underestimating overall diesel demand. With the current trajectory until 2025, Neste estimates liquid diesel demand to be 3.5 - 3.8 billion gallons. This means that in the 0.5 billion gallon fossil diesel scenario, RD usage should be ~3 billion gallons, which could theoretically happen, however it is very unlikely at current low credit prices. If overall liquid diesel demand dropped to 3 billion gallons as modeled by CARB, then there should be 10x more heavy duty ZEVs on the roads in 2025. This scenario is even less likely than RD usage of 3 billion gallons. CARB's modeling simply does not make sense and the implications are risky negative impacts to the diesel market and other unintended consequences from this 15-day package.

[16] https://ww2.arb.ca.gov/sites/default/files/2024-04/LCFS%20April%20Workshop%20Slides.pdf

Figure 5: Fossil Diesel Volumes Under 15-day and 45-day Package Scenarios



This proposal also introduced the concept of "new" pathways. It is unclear in what category a pathway renewal will fall , creating uncertainty for pathway holders. This policy could also disincentivize investment in new innovative feedstocks for RD/SAF production using Climate Smart Ag (CSA). Instead of creating uncertainty for those investing in new RD/SAF production technologies, Neste recommends eliminating these provisions and maintaining the technology neutrality that has made the LCFS program so successful in reducing emissions from the transportation sector. To tackle climate change, California will need all the possible solutions and CARB should not eliminate climate solutions.

Adopt an immediate CI step-down of 12% (instead of the proposed 9%) in 2025 to adequately address the large credit bank and more quickly stabilize the credit prices.

Neste continues to view a step down in the CI in 2025 as integral to quickly addressing the overperformance of the LCFS program and the depressed credit prices. The 9% step down is definitely an improvement appreciated by Neste, however the credit market continues to indicate that proposed targets are not aggressive enough in this rulemaking, as shown by the continued drop in credit prices even after the 9% step down was proposed by CARB in this 15-day package. The market indicates that more needs to be done to address the credit bank in the short term. This is why Neste continues to support a step-down of 12% considering that ICF has modeled that a 20.25% step down is needed to ensure that the credit bank does not build[17]. The 9% step down may be enough to balance the credit market in 2025, but it is likely to be oversupplied again in 2026 and 2027. Neste estimates the Automatic Acceleration Mechanism (AAM) to be triggered in 2027 and having an impact in 2028. However, since the annual CI target increases after 2025 are only 1.45% per year, Neste estimates the market will be significantly oversupplied in 2029 again, triggering the AAM in 2030 and impacting 2031. Moreover, a balanced credit market in 2025 depends heavily on the operational level of new RD refineries and the speed of electrification. If all the RD plants in California and the U.S. Gulf Coast are fully operational, we are likely to see an imbalanced market again.

[17] https://www.arb.ca.gov/lists/com-attach/7078-lcfs2024-VDVcNFIyVGsLdFQu.pdf

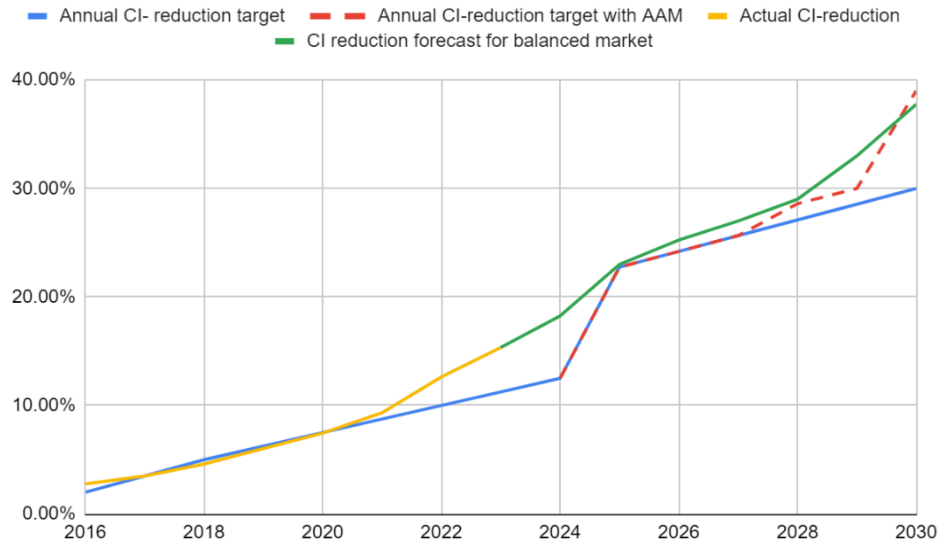
This CI step down will also speed up investment in lower CI feedstocks, making the various proposals to limit RD in this 15-day package unnecessary. These proposed limits on RD could affect innovation and lead to higher costs for consumers. CARB should therefore not proceed with the phaseout of RD pathways (95488(d)), the additional sustainability requirements (95488.9(g)), and the cap on soybean/canola oil (95482(i)). By lowering the CI, CARB signals to the market that it favors lower CI and lower LUC fuels.

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_4 and N_2O tailpipe emissions and not CO_2 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 12% 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.

Adopt a proposed CI Automatic Acceleration Mechanism (AAM) but apply it in 2026 (using 2025 data) and not 2027 in order to address overperformance in the LCFS credit market.

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 even after the CI step down, and to balance out the credit market more quickly so that renewable fuel producers can feel more confident investing in new SAF production. Figure 6 below shows the actual reported CI reduction under the LCFS program and our forecast going forward.

Figure 6: Neste's Projected CI Reduction Under the Proposed LCFS Amendments

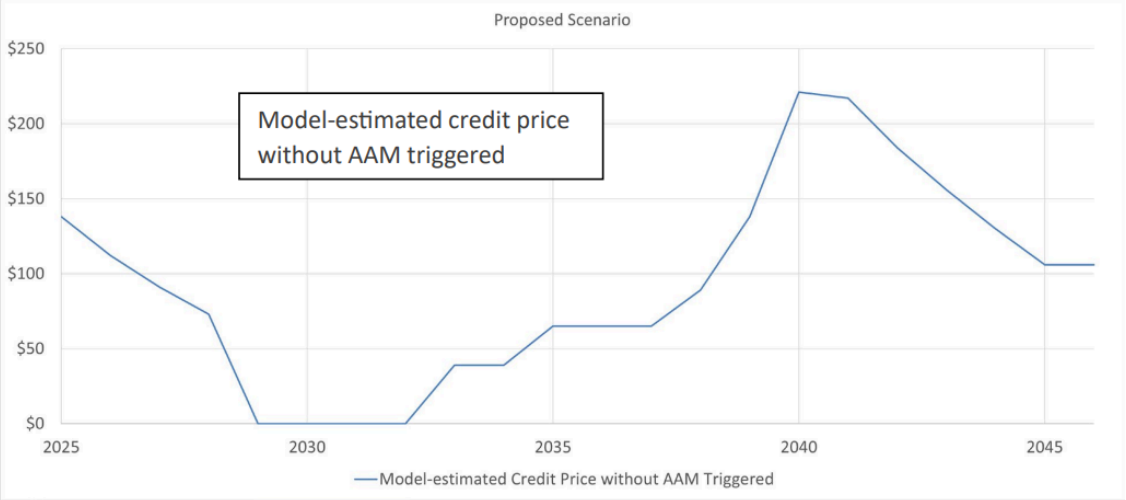


As shown above, the step down is not enough to draw down the credit bank in 2025, and the annual CI reduction targets are not enough to prevent overperformance of the program even with AAM. However, if the AAM were triggered earlier there are more possibilities of the credit market being balanced, attracting more low carbon fuels to the road/aviation sectors and accelerating electrification.

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.

The substantial changes made in this 15-day package should also be rejected because they are projected by CARB to crash the LCFS credit market from 2029 through 2032, resulting in credit prices at $0/tonne (see the Figure 7 below)[18]. If credit prices decline to $0/tonne, as CARB staff modeled in a scenario without the auto-acceleration mechanism triggered, the effects on California's carbon emission goals could be devastating. It would raise uncertainty for low-carbon investments. Even after credit prices rise in later years, it could take time for low carbon infrastructure to be rebuilt and market confidence in long-term price signals will have been damaged. California could also slide from being a market leader in low carbon fuels and technologies as the $0 credit value would show that the lowest cost fuel would satisfy compliance requirements for the foreseeable future. This could stifle innovation in new pathways and technologies that could further lower emissions.

Figure 7: CARB Modeling of LCFS Credit Prices Under the August 12, 2024 15-day Package



<u>Remove the additional requirements proposed in (95488.9(g)) that fail to incentivize feedstock innovation and could increase costs.</u>

As part of the 15-day package, CARB made several substantial changes to the new Sustainability Requirements (95488.9(g)), including:

- Requirement to apply low-GHG farming practices as soon as 2028;
- Feedstock attestation requirements that could apply as soon as 2025;
- Additional requirements for the previously proposed Sustainability Certification;
- The concept of "existing" and "new" fuel pathway applications

Taken together these requirements will shrink the pool of feedstocks available in California due to farmers choosing not to engage with these complex administrative burdens that do nothing to improve sustainability, could increase costs in California due to this smaller pool of feedstocks, and increase administrative burdens that themselves could create additional costs. They could also create a lot of confusion and uncertainty, especially for those wishing to bring new lower CI feedstocks to California. Neste

[18] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2024/lcfs2024/15day_attc.pdf

supports previously proposed sustainability certification and that in itself will lead to higher costs for feedstock producers. The new requirement in this 15-day package to certify per EU-RED is likely to add to the certification costs, making the sustainability certification cost prohibitive. In addition, the proposed changes in 95488.9(g) contain a lot of errors, including references to sections that do not exist, making it impossible to understand compliance obligations. As a result, Neste does not support ANY of the changes made to the sustainability requirements in 95488.9(g) as part of this 15-day package, and requests that CARB reconsider them.

Specific to the requirement to apply low-GHG farming practices (also called Climate Smart Ag (CSA)), Neste is generally supportive of applying these practices. However they could potentially increase total value chain costs by anywhere from $80 to $150 per metric ton of feedstock, especially in the early adoption stage. To incentivize adoption, it is crucial that these practices are recognized and incentivized through reduced CI scores. For example, implementing reduced tillage and cover cropping could potentially lower CI scores by 20-30% for soybean oil, making it a more competitive and desirable feedstock for low carbon fuel solutions. This proposal not only has the potential to effectively phase out higher CI vegetable oils but also contribute to improved soil health, increased biodiversity, and reduced reliance on synthetic fertilizers, creating a more resilient and sustainable agricultural system in the long run. By aligning these practices with CARB's goal of reducing greenhouse gas emissions and promoting sustainable fuels, we can create a positive loop that benefits farmers, consumers, and the environment.

While Neste supports CSA practices like reduced tillage and cover cropping, we strongly oppose a blanket approach that bundles these practices together. Such an approach ignores the unique needs of different regions and crops, with some practices being more feasible than others. For example, cover cropping is not feasible across all growing regions due to factors such as climate, workforce availability, and commodity prices. A bundled approach would also unfairly penalize farmers who are already implementing some but not all CSA practices. CARB should instead take a nuanced approach that recognizes the diverse feasibility of CSA practices. This would ensure that farmers are incentivized to adopt practices that are appropriate for their specific context, ultimately leading to greater adoption of sustainable practices and a more effective low carbon fuel program.

Implementing a separate specified feedstock attestation letter seems redundant or unpurposeful, especially if the language in the letter needs to be as specific as currently proposed. The different entities upstream of the fuel producer will not know under which pathway the fuel producer will eventually claim the feedstock batch,or how could they realistically state something about a pathway they know nothing about in an attestation letter. Some of the key points in the proposed attestation letter could perhaps be incorporated into a specified source feedstock transfer document; after which the attestation letter would not really serve any purpose. The points included on the feedstock transfer document could include the fact that the feedstock has not been intentionally modified to be a waste or residue and that the biomass has not been mixed with any other type of material. For certain feedstocks it could further indicate what type of treatment it has undergone after the point of origin. A practical solution would be that the LCFS accepts RFS separated food waste statements and ISCC or similar feedstock self declaration and would not require a separate LCFS document with a very specific wording. Separate feedstock attestation would only increase feedstock suppliers' and fuel producers' administrative burden and not the actual sustainability of the feedstocks that would flow to the LCFS program. Meaning that feedstock suppliers would likely choose not to sell feedstocks as LCFS compliant only due to the fact that a separate and very specific LCFS attestation or feedstock transfer document is required.

Lastly, CARB added new requirements to the sustainability certification that seem to dictate the contents of the sustainability certification. Sustainability certifications should stand alone and we request that CARB not impose any new requirements on how the certifications should be performed. Please remove any requirements proposed on the actual certifications because they appear in conflict with already approved

certification schemes and will interfere with the ability to procure a certifier who is willing to take on California specific requirements.

Below are some additional comments on the sustainability requirements:

- The frequency of the new attestation requirement is not clear. Will a one-time attestation suffice?
- Forest coordinates for forest residues will be a challenge to collect and report
- The rollout times for sustainability, attestation and CSA practices requirement are unrealistic and could lead to supply disruptions and price spikes
- CARB should clarify the ESG criteria that will meet the requirements of an approved sustainability certification system.

Revise proposed LUC factors (95488.3(d)) to incentivize improvements in farming practices.

Neste believes that the proposal to calculate only more conservative Land Use Change (LUC) factors in 95488.3(d) will be detrimental to those working to develop lower CI feedstocks, and will setback the development of new feedstocks that are key to decarbonizing the road and aviation sectors. Neste supports CARB's concept of establishing empirical methods to evaluate LUC of feedstocks, however CARB must ensure fairness across feedstocks and recognize those feedstocks that have LUC lower than the factors in Table 6. Neste requests that CARB work with liquid renewable fuel producers to define this proposal and to establish guidelines for this new process to ensure consistency/fairness in these new LUC evaluations. We also believe that these new LUC 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 LUC.

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 in rotation with wheat reduces disease risk and offers farmers additional markets in the US great plains. Growing winter canola in fallow periods can lower risk of displacing food production in parts of the Midwest and Southeast US farmlands. Moreover, some studies suggest that winter canola can increase yields of subsequent wheat[19], 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. The LUC evaluation process proposed in this 15-day package could end investment in winter canola and other lower CI feedstocks that will ultimately impact the ability to reach the states carbon reduction goals.

Maintain technology neutrality and eliminate the proposed 20% caps on soybean and canola oil used to produce RD and SAF (95482(i)).

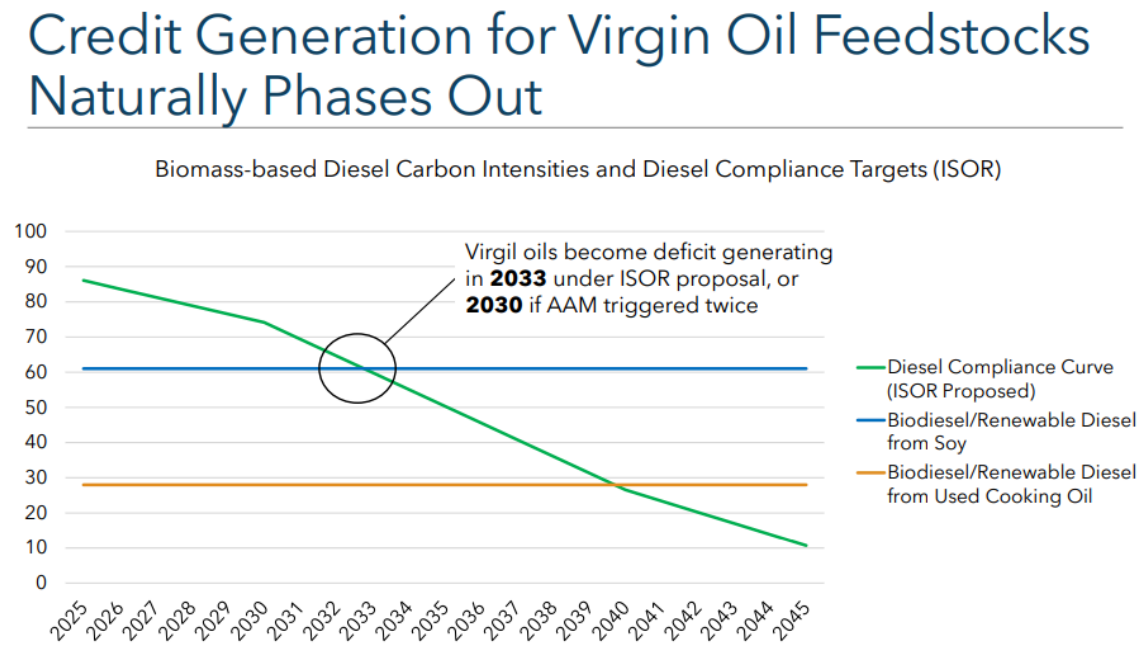
Neste opposes the proposal to cap soybean oil and canola oil to 20% of production at the company level (95482(i)). It is unclear how it will apply and could lead to cost increases for consumers while not achieving much environmental benefit. There is currently much work being done to reduce the CI and LUC of soybean and canola. This proposal could jeopardize the ability to meet future renewable fuel demands. Technology neutrality will ensure that consumers receive fuels at the lowest cost possible while still allowing the state to keep reducing the CI of fuels.

As noted by CARB in the April 10th workshop[20] (see slide 40), the LCFS is already designed to phase out feedstocks with higher LUC risk and strongly prioritizes waste and residues. As shown below in Figure 8,

[19] https://acsess.onlinelibrary.wiley.com/doi/10.2134/agronj2011.0244
[20] https://ww2.arb.ca.gov/sites/default/files/2024-04/LCFS%20April%20Workshop%20Slides.pdf

biomass-based diesel produced from soybean oil today is currently on track to be phased out as soon as 2030.

Figure 8: CARB's Graph Showing CI of Soybean and UCO Biodiesel/Renewable Diesel



The market is planning for this by investing in lower CI feedstocks, and planning the necessary operational logistical changes to achieve this phase out. CARB's proposal is not only redundant, but it will immediately disturb operations at facilities that could cause RD/SAF price increases and supply disturbances. The cap does not adequately account for the complexity of how soybean and canola oil are currently used, and this blanket cap could have uneven impacts across the industry and many unintended consequences. This policy will also lead to higher fossil diesel consumption, as noted by CARB in the April 10th workshop (see slide 21)[21].

It is also unclear how the cap will be applied, especially at companies that operate joint ventures and subsidiaries. The proposal also punishes those below the 20% cap and makes them subject to the cap immediately. The cap should apply to all entities in 2028 to ensure fairness and clarity on when the cap applies.

If CARB insists on implementing the cap, Neste recommends that it only apply to higher LUC feedstocks such as conventional soybean. The proposed cap should not discourage CSA and the development of lower CI feedstocks. Winter canola or regenerative soybeans should not be capped as they are crop-based feedstocks that are more sustainably grown and will be key to meeting decarbonization goals in California and throughout the world.

Low-CI Hydrogen Recommendations:

Neste reiterates appreciation for CARB's proposals to create greater incentives for the production and use of low-CI hydrogen, especially as noted in sections 95488.8 (i)(2) "Book-and-Claim Accounting for Pipeline-Injected Biomethane Used as a Transportation Fuel or to Produce Hydrogen" and 95488.8 (i)(3) "Book-and-Claim Accounting for Pipeline-Injected low-CI Hydrogen Used in FCV and Alternative Fuel Production." Neste recommends that all renewable facilities that use low-CI hydrogen be allowed to generate CI benefits from using low-CI hydrogen and not just facilities connected to a North American carrier pipeline (95488.8 (i)(2)) or California hydrogen pipeline (95488.8 (i)(3)). Globally, Neste is investing

[21] https://ww2.arb.ca.gov/sites/default/files/2024-04/LCFS%20April%20Workshop%20Slides.pdf

millions in the development of low-CI hydrogen to produce even lower CI versions of drop-in fuels like renewable diesel and SAF[22]. We hope to eventually expand the use of low-CI hydrogen at all our facilities and to have the option to bring those lower CI fuels to California. The hydrogen pipeline requirements create unnecessary barriers and should be rejected.

In Section 95488.8 (i)(3), Neste also recommends the elimination of the December 31, 2022 facility startup date for facilities to be eligible for the low-CI hydrogen CI benefits. As the lone renewable fuel company with a production footprint on 3 continents, allowing low-CI hydrogen from any of our facilities could help increase supply of lower CI fuels to California.

Purpose of Carbon Intensity Benchmark for Fossil Jet Fuel (Table 3) Unclear:

If CARB is not proceeding with the exemption for intrastate jet fuel, it is unclear what the purpose is of Table 3 of the 15-day package. Will it be used to calculate credit for SAF? It also appears that Table 3 does not include the proposed step down. Is this intentional?

Clarification Needed in the new Tier 1 Calculator for "Hydroprocessed Ester and Fatty Acid Fuels":

Neste appreciates the creation of the new Tier 1 Calculator for "Hydroprocessed Ester and Fatty Acid Fuels" and we would like to request clarification on the following two items:

- There was an increase from 0.76 to 3.497 gCO2e/MJ in the tailpipe emissions factor, but nothing to explain this large increase. Is this an error?
- As part of 95488.8 (i)(1) "Book-and-Claim Accounting for Low-CI Electricity Supplied as a Transportation Fuel, Direct Air Capture projects, or Used to Produce Hydrogen as a transportation fuel", we would like to ensure that low-CI electricity used towards hydrogen production that is ultimately used to produce RD/SAF is accounted for in the Tier 1 calculator. We would appreciate it if CARB makes this clear in the Tier 1 calculator.

Conclusion:

In summary, as a long-time, public supporter of California's LCFS program, Neste urges CARB to reject proposed risky policy experiments outside of the 45-day package that undermine the proven policy frameworks of one of California's longest running and most successful climate programs. We urge CARB to re-evaluate and propose an additional 15-day package that avoids the unintended consequences, implementation feasibility, and program reliability issues raised in this package. Consideration of these issues for industry decisions about long term capital investments for both road and aviation fuels, as well as for agriculture production and practices can also lead to higher costs for consumers. The impacts on aviation fuels in particular requires attention.

Neste appreciates your consideration. Our planet and our children are counting on your leadership. Please feel free to contact me for additional information or questions regarding this submission.

Sincerely,

Donna Warndof
Head of Public and Regulatory Affairs, Americas
Neste US, Inc.

[22] https://www.neste.com/en-us/news/neste-moves-forward-in-its-renewable-hydrogen-project-in-porvoo-finland