February 20, 2024

VIA ELECTRONIC FILING

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

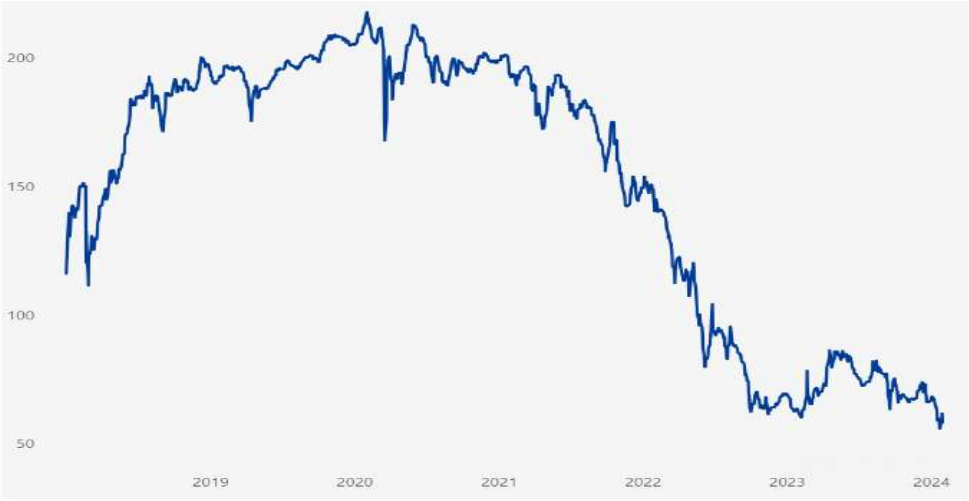
Re: Neste Comments on Proposed Low Carbon Fuel Standard (LCFS) Regulation Published on December 19, 2023

Dear Ms. Sahota:

Neste appreciates the opportunity to provide these comments to the California Air Resources Board (CARB) regarding the proposed LCFS regulation published on December 19, 2023. Neste is the world's largest producer of renewable diesel (RD) and sustainable aviation fuel (SAF), over 90% of which are produced from waste and residues. During the past ten years, Neste's transformation journey has taken it from a local oil refiner to a global leader in renewable and circular solutions. Neste's goal is to achieve carbon neutral production by 2035 and supply California with products that will enable the state to be carbon neutral by 2045. We are in the business of combating climate change by producing effective climate solutions, and our vision is to create a healthier planet for our children.

Neste believes that finalizing this rulemaking quickly is the highest priority. The LCFS credit market continues to be unstable due to the record amount of renewable energy generating significantly more credits than are required to offset deficits created by the currently outdated CI targets. As shown below in Figure 1, the LCFS credit prices continue to go down because the CI reduction goals are not strict enough, and delays in this rulemaking have made the problem worse. The market had expected CARB to complete this rulemaking to be complete in late 2023, but it only officially started in January 2024. Thus, the instability of the credit market continues to get worse as shown in Figure 1 and it will take that much longer to recover. This continued uncertainty about credit prices makes it difficult for the industry to make its investment decisions and thus essential emissions reductions are on pause. Other LCFS programs, such as Oregon's Clean Fuels Program, have essential program upgrades on pause as well because most believed California's LCFS rulemaking would be complete by now. We urge CARB to prioritize this rulemaking and ensure it is completed by **2nd quarter 2024**.

Figure 1: LCFS Credit Prices Trends (in USD) from 2019 through 2024



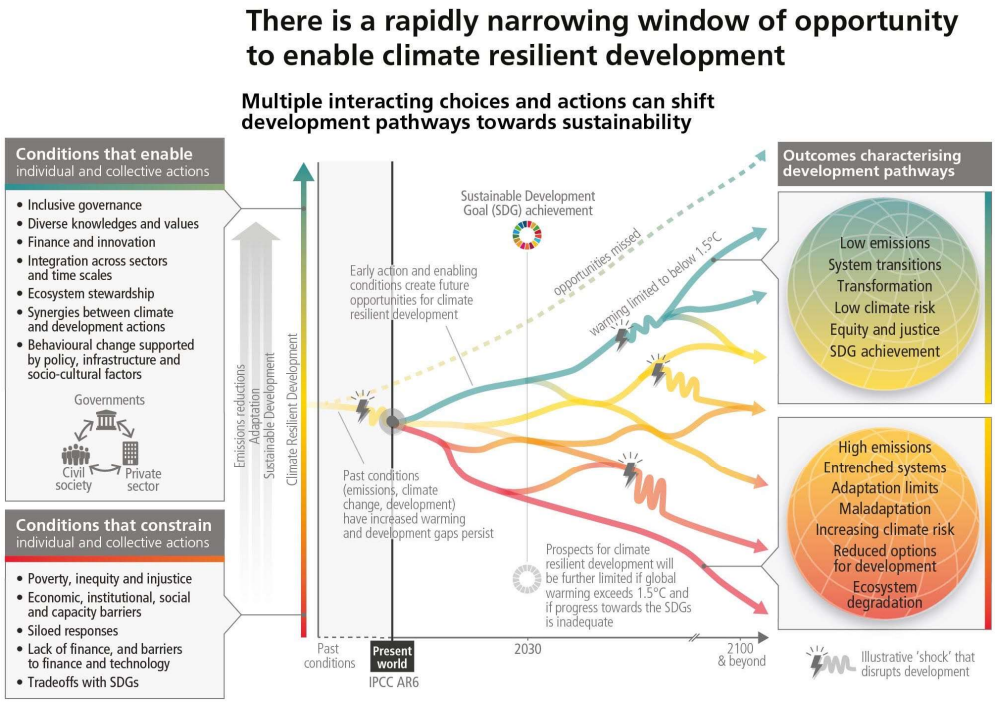
February 20, 2024

Neste recommends the following as part of the LCFS rulemaking:

- 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 account for the adjustment to the fossil diesel baseline that effectively cancels out the proposed 5% step down for diesel;
- 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;
- Avoid an arbitrary cap on feedstocks used to produce renewable diesel and SAF. Such a cap will 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.

It is very important that CARB pursue the most aggressive carbon intensity (CI) reduction goals. The IPCC has stated in 2023 that, "There is a rapidly closing window of opportunity to secure a liveable and sustainable future for all (very high confidence);" and, "The choices and actions implemented in this decade will have impacts now and for thousands of years (high confidence)" as shown in Figure 2 below[1]. The time for action is **now**, and the future of our planet is counting on CARB's leadership to address climate change. Modeling work being conducted by the Low Carbon Fuels Coalition (LCFC) shows that CARB can be aggressive without jeopardizing the stability of the LCFS. As such, we recommend that CARB pursue aggressive action on this rulemaking, as any hesitance will only favor fossil fuels and delay emission reductions.

Figure 2: IPCC Data on Rapidly Narrowing Window to Address Climate Change



Neste is proud of being an early supplier of renewable diesel in California. We started selling renewable diesel in the state in 2012 when many questioned the viability of the LCFS program, and are glad to see that over **6.5 billion** (with a "b") gallons of fossil diesel have been displaced with renewable diesel over the life of the LCFS program. That is more than twice the diesel California consumes in one year. This equates to

[1] https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf , pg 25

about 45 million metric tons of GHG emissions reduced by renewable diesel, the equivalent of what 15 or so large refineries emit in one year. This was all possible due to the leadership CARB showed when it enacted the LCFS program, and Neste encourages CARB to demonstrate that same leadership today to continue setting ambitious carbon reduction goals.

Neste congratulates CARB for creating effective policies and market signals that have resulted in the California diesel market becoming **61%** renewable as of 3rd quarter 2023. What is more impressive is that consumers saw a drop in diesel prices during more recent increases in renewable diesel consumption, showing that phasing out fossil fuels can actually protect the consumer. As noted by CARB staff in the LCFS Rulemaking Standardized Regulatory Impact Assessment (SRIA)[2] and Initial Statement of Reasons (ISOR)[3] stronger action in the LCFS rulemaking can speed up the phaseout of fossil fuels and result in billions of dollars worth of health benefits to Californians.

With this rulemaking, CARB has an opportunity to implement Governor Newsom's July 2022 directive[4] to speed the transition away from petroleum and CARB can do so by maximizing the stringency of the LCFS regulation. Hesitation to be ambitious at this point will only delay critical progress toward meeting the state's carbon emission goals. Neste urges CARB to make every effort to maximize the carbon reductions that will occur under this LCFS rulemaking. Our planet and our children are counting on your leadership.

Below is a summary of some key benefits of the California LCFS to the California consumer as well as detailed discussion of policy recommendations for the Proposed LCFS Regulation. Neste also supports the comments from the Low Carbon Fuels Coalition and ICF on this rulemaking. We appreciate your consideration.

Overview of the Benefits of the California LCFS Program

The LCFS Continues to Drive Use of Renewable Energy While Protecting California Consumers

Per the US Department of Energy Alternative Fuels Data Center,[5] renewable diesel is now competitive in price with conventional diesel in California. This is largely due to the incentives and stable renewable fuels market created by the California LCFS program, and Neste agrees with CARB that, "LCFS credit prices have not shown any historical correlation with retail gasoline prices" (See page 83 of the ISOR). In other words, there is no data showing that the LCFS is directly contributing to price spikes at the fuel pumps and studies have shown there is no such correlation[6]. In fact, CARB estimates that consumers will see an annual savings of **$20 billion** in lower transportation costs in 2045 when compared to 2021 costs, and all from using alternative fuels (See page 82 of the ISOR).

The price of petroleum crude, however, continues to be the main driver for spikes in the diesel and gasoline markets, and California consumers will continue to be impacted by these spikes as long as California continues to depend on fossil fuels. As shown below in Figures 3 and 4, diesel and gasoline prices (orange lines) follow the price of crude (black lines) and consumers saw price spikes when crude prices peaked. On the other hand, there are no obvious diesel or gasoline price increases (orange lines) due to increases in renewable fuels blending or LCFS credit prices (area/pillars in gold). The LCFS program provides the certainty needed to establish thriving renewable fuels markets, while protecting consumers at the pump.

[2] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2024/lcfs2024/appc-1.pdf
[3] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2024/lcfs2024/isor.pdf
[4] https://www.gov.ca.gov/wp-content/uploads/2022/07/07.22.2022-Governors-Letter-to-CARB.pdf
[5] https://afdc.energy.gov/fuels/prices.html
[6] https://www.bateswhite.com/newsroom-insight-Low-carbon-fuels-standards-Cain-2022.html

Figure 3: Price Trends of US Crude, Diesel and RD Share of CA Diesel

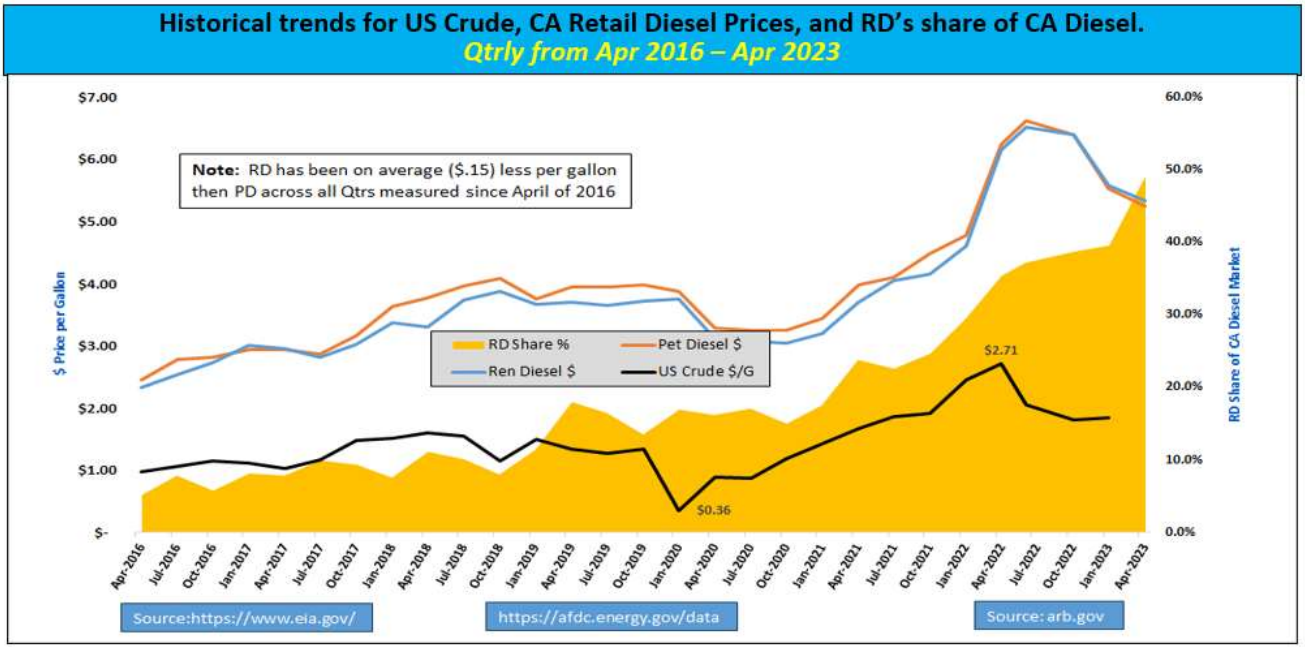
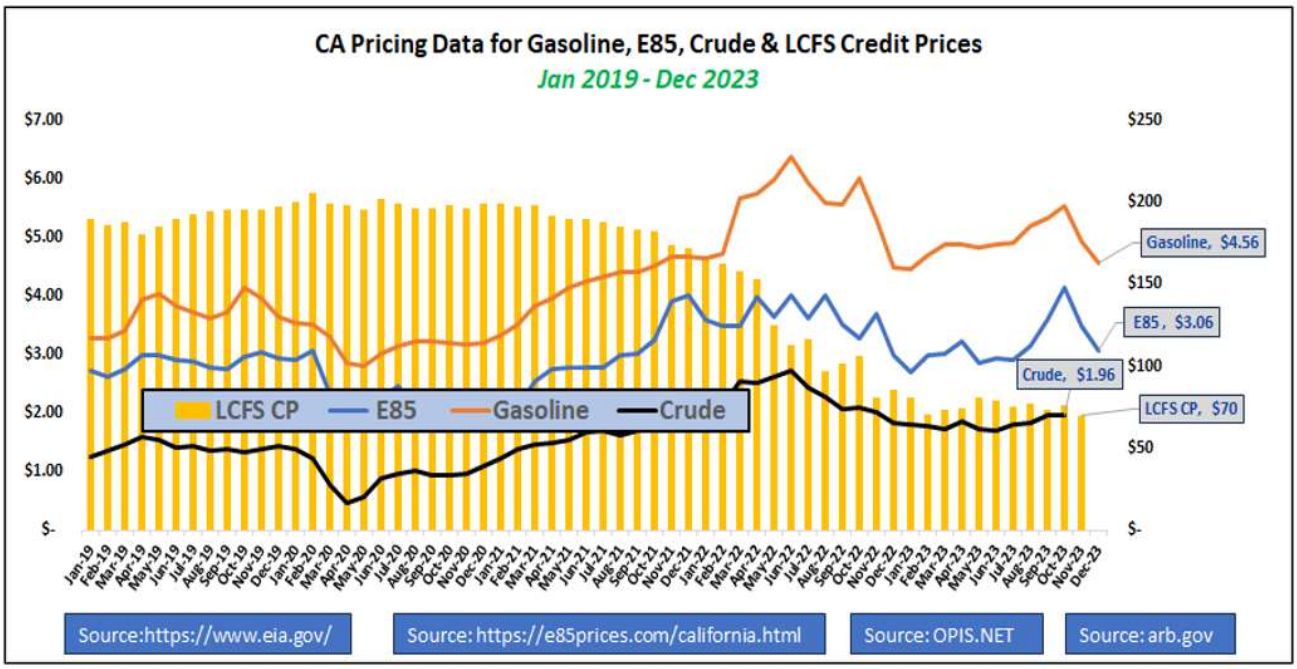


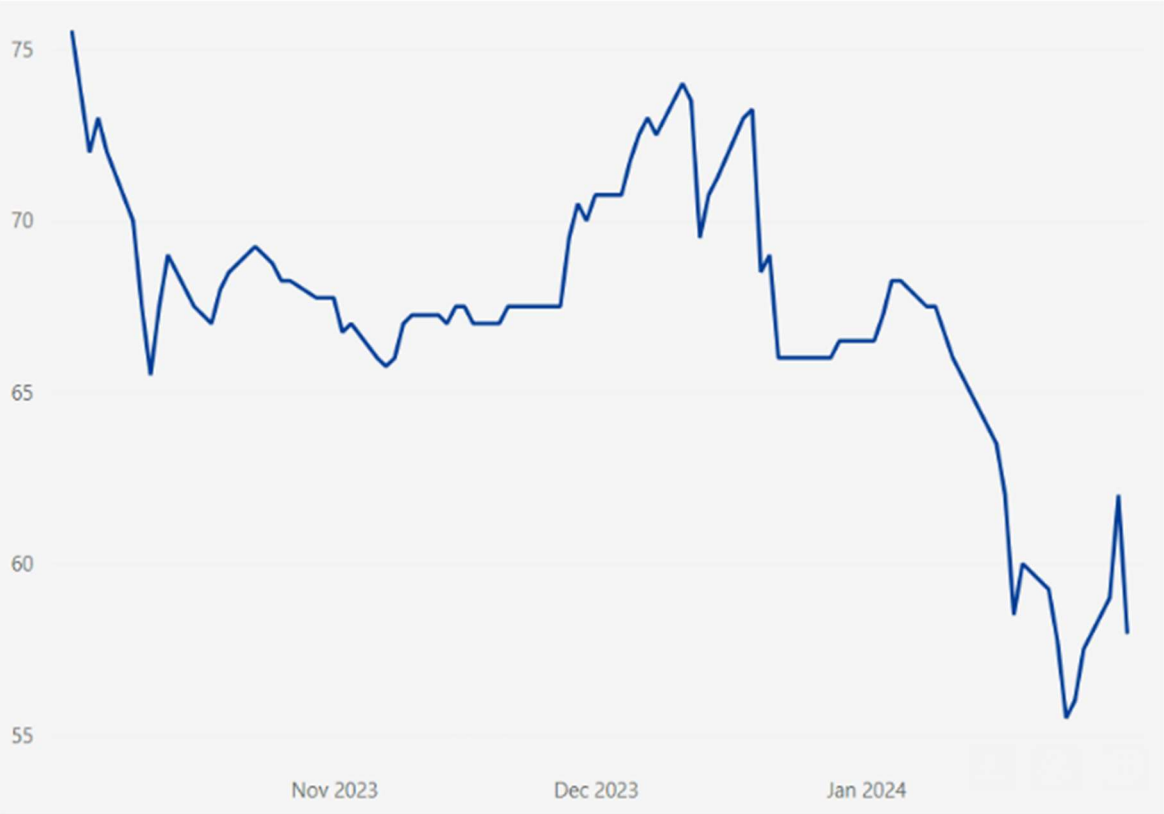
Figure 4: Price Trends of US Crude, Gasoline, Ethanol and California LCFS Credits



The LCFS Continues to Drive Economic Growth in California

One of the major successes of the California LCFS program is the billions of dollars invested in the state to meet the renewable fuels demand created by the LCFS program. Per Bloomberg, renewable energy is the fastest growing business in the state, and has greatly contributed to the GDP growth in California[7]. It in fact helped California surpass Germany as the 4th largest economy in the world. The LCFS is not only advancing the state's climate goals, it is generating economic growth, job creation and tax revenue growth that is helping drive the California economy. As seen in Figure 5 below, LCFS credit prices continue to tumble since the proposed LCFS regulation was published in December 2023, signaling that the market likely believes that CARB can be more aggressive in this rulemaking. This further makes the case for CARB to take aggressive action by updating the LCFS incentives for renewable fuels so that California remains the center of renewable fuels investments in the nation.

Figure 5: LCFS Credit Prices Trends (in USD) Since November 2023



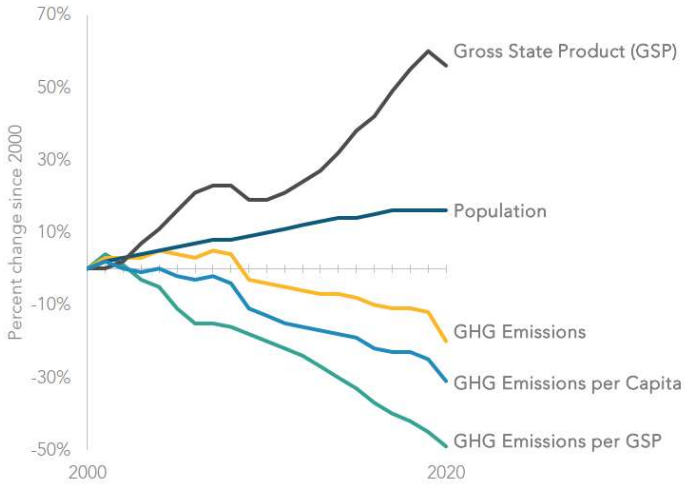
Per the 2022 Scoping Plan, the "LCFS is a key driver of market development for renewable diesel and its coproducts. While the federal renewable fuel standard (RFS) and blenders tax credit also benefit producers, an analysis of their respective contributions to market development, and interviews with industry representatives and independent experts, point to LCFS as a more important factor in market development, at least in recent years" (see page 38 of the 2022 Scoping Plan)[8]. The ISOR for this rulemaking similarly states on page 7 that, "Private investments, policy signals such as a more stringent LCFS, and federal incentives will all need to be leveraged to realize the outcomes in the 2022 Scoping Plan Update". On Page 53 the ISOR states "Cumulatively, from 2024 through 2046, the proposed amendments are estimated to increase total revenue for credit generating businesses as compared to the baseline scenario by **$149**

[7] https://www.bloomberg.com/opinion/articles/2022-10-24/california-poised-to-overtake-germany-as-world-s-no-4-economy
[8] https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf

billion, of which approximately $128 billion is estimated to accrue to California businesses." In other words, the LCFS rulemaking is expected to drive significant value to California business.

Figure 1-1 in the 2022 Scoping Plan shows that California has been able to reduce its carbon footprint while having strong GDP growth (see below). This is largely due to the success of the LCFS program. In fact, per the US Bureau of Economic Activity (BEA), California has had stronger GDP growth than neighboring states with no LCFS programs.[9]

Figure 1-1: California total and per capita GHG emissions[25]



The California LCFS Program Has Delivered Significant GHG and Criteria Emissions Reductions:

CARB should clearly state its commitment to the LCFS program given the significant GHG emissions reductions it has delivered thus far. It has been highly successful in driving emissions reductions in the transportation sector thus far. Below is an overview of some of the successes of the LCFS program through 3rd quarter 2023[10].

- ***145.8 million tons of CO_2***, the equivalent of removing carbon emissions from 14% of gasoline vehicles in the US in 2022[11]
- Displaced the equivalent of ***29.4 billion gallons*** of conventional gasoline, diesel and jet fuels since its inception in 2011. This is the equivalent of 21% of total annual US gasoline consumption as of 2022[12].
- Renewable diesel capacity has grown substantially and far exceeds what was previously modeled in 2018 when the current CI benchmarks were established (page 22 of the ISOR)

In addition to delivering GHG emissions reductions, the LCFS has also been instrumental in driving reductions in criteria pollutants from vehicles across the state, including in disadvantaged communities that are disproportionately impacted by air emissions from the transportation sector. As part of this LCFS rulemaking, CARB estimated that the LCFS would reduce annual emissions as shown below in Table 1, and that toxic air contaminant (TAC) emissions would similarly go down.

[9] https://www.bea.gov/data/gdp/gdp-state
[10] https://ww2.arb.ca.gov/resources/documents/low-carbon-fuel-standard-reporting-tool-quarterly-summaries
[11] https://www.eia.gov/tools/faqs/faq.php?id=307&t=10#:~:text=EIA%20estimates%20that%20in%202022,1%2C488%20MMmt%20of%20CO2
[12] https://www.eia.gov/tools/faqs/faq.php?id=23&t=10

Table 1: Emissions Reductions Expected from this LCFS Rulemaking from 2024 through 2046[13]

Pollutant	Reduction
GHGs	558 million MT
PM2.5	4,281 tons
NOx	25,586 tons

Per page 8 of the ISOR for this rulemaking, "The LCFS also supports other existing State GHG reduction efforts; notably, the Short-Lived Climate Pollutant (SLCP) Reduction Strategy, Advanced Clean Cars II (ACC II) regulations, Advanced Clean Fleets (ACF) regulation, Clean Truck Partnership, Advanced Clean Trucks (ACT) regulation, 2020 Mobile Source Strategy, Sustainable Freight Action Plan (SFAP), Commercial Harbor Craft (CHC) regulation, In-Use Locomotive regulation, Innovative Clean Transit (ICT) regulation, and Renewable Portfolio Standard (RPS)." In other words, all of these regulations depend on the LCFS regulation to drive further emissions reductions in each of these emissions sources, thus making the LCFS the cornerstone of emissions reductions in the state of California.

Renewable Diesel Has Delivered Significant Emissions Reductions:

Renewable diesel is now the single ***largest carbon reducer*** over the life of the LCFS program, and has resulted in **31%** of the GHG reductions achieved by the LCFS program[14]. Combined with newer heavy duty diesel engine technologies delivering near-zero NOx and PM emissions, studies have shown that increased use of renewable diesel and biodiesel can achieve three times the GHG reductions possible in the next 10 years versus accelerated electrification[15]. If liquid renewable fuels were further incentivized by the LCFS, California would see dramatic decreases in GHG, criteria and toxic pollutant emissions more quickly because liquid renewable fuels are widely available TODAY.

In addition to generating lower GHG emissions, renewable diesel burns much cleaner than conventional diesel. This leads to improvements in the air quality of regions with high diesel truck traffic, which tends to impact disadvantaged communities. Below are some examples of renewable diesel's co-benefits documented by CARB. In other words, renewable diesel use has resulted in significant NOx and PM reductions across the state, including in disadvantaged communities, and by far the largest reductions among all fuels in the LCFS program. This further highlights the need for CARB to continue making the LCFS a top priority and to prioritize currently available technologies such as renewable diesel so that local communities can benefit from reduced emissions immediately.

- As part of the Alternative Diesel Fuels (ADF) Regulation, CARB determined that renewable diesel reduced **NOx by 10%** relative to conventional diesel[16]
    - CARB also found that PM, benzene, ethyl benzene, and toluene emissions from renewable diesel were significantly lower than from conventional diesel combustion.
- As part of the Commercial Harbor Craft Regulation, CARB determined that renewable diesel reduced **NOx by 11.8%** and **PM by 26.6%** when compared to conventional diesel[17]

[13] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2024/lcfs2024/isor.pdf (pages 56 and 58)
[14] https://ww2.arb.ca.gov/sites/default/files/2023-01/quarterlysummary_013123.xlsx
[15] https://dieselforum.org/news-posts/posts/10-years-of-opportunity-cutting-emissions-from-medium-and-heavy-duty-vehicles-in-the-northeast
[16] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2015/adf2015/adf15isor.pdf
[17] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2021/chc2021/appe.pdf

  - CARB noted that the cleaner combustion of renewable diesel is driven by the superior cetane rating (consistently above 70) which leads to maintenance benefits for truck owners
- Renewable diesel does not contain sulfur, eliminating all SOx emissions

Table 2 below summarizes the significant GHG and criteria emissions reductions achieved when switching from conventional diesel to renewable diesel.

Table 2: Renewable Diesel Emissions Reductions When Compared to Conventional Diesel

Pollutant	% Reduction
GHGs	80%
PM	26.6%
NOx	10-11.8%
SOx	100%

Considering that California diesel trucks now run on 54% renewable diesel as of 3rd quarter 2023[18], a large percentage of the emissions reductions shown in Table 2 are being realized today. Additional emissions reductions are possible if CARB further prioritizes the use of renewable diesel by going beyond the 30% CI reduction as noted in the ISOR. Local communities are benefiting TODAY from significant emissions reductions due to the cleaner burning fuels incentivized by the LCFS program, and CARB should work towards maximizing these emissions reductions generated by renewable fuels.

Renewable Diesel Driving Economic, Climate and Air Quality Benefits Locally TODAY

As noted above, RD has delivered significant economic and environmental benefits across the state. It is also important to note that Neste's focus on circular solutions - where waste and residue can be collected, processed and repurposed for energy – works on a community level. Through our acquisition of Mahoney Mahoney Environmental®, Neste has helped foodservice establishments turn used cooking oil (UCO) and other waste products into useful products like renewable fuels. Mahoney manages the entire recycling process — from equipment set-up to collection and processing. Mahoney shares the benefit of the UCO and passes that added value onto restaurant operators.

Mahoney is a licensed EPA recycler, and all facilities recycle nearly 100% of the materials processed. Mahoney's goal is to be the premier back-of-the-house service provider to foodservice operators — from national and regional chains to independent restaurants to airports – throughout the United States.

Mahoney services about 80,000 foodservice facilities nationwide, and about 13,400 in California. In California, Mahoney collects about 66,980,000 pounds of UCO and recycles it. The environmental impact from recycling the UCO collected in California is equivalent to:

- 73,452 Tons of Waste Diverted from a Landfills and/or waterways
- 11,300,328 Trees Planted
- 12,830 Cars Made Zero Emission

Mahoney is proud to employ over **100 employees** in California and that makes an economic impact with job creation across the state. Mahoney also does business with hundreds of restaurants, including small

[18] https://ww2.arb.ca.gov/resources/documents/low-carbon-fuel-standard-reporting-tool-quarterly-summaries

and minority owned businesses. The goal is to make kitchens and the environment safer for future generations.

As part of our circular approach to fueling, Neste has partnered with the City of Oakland to collect used cooking oil locally and convert it into renewable diesel for use in the city's fleet. By making waste more valuable and supporting jobs that collect and treat it, this concept helps the local economy in the city while the cleaner-burning Neste MY Renewable Diesel improves the lives of its residents by reducing local emissions from the city's fleet.

By simply switching to Neste MY Renewable Diesel, the city of Oakland's fleet has been able to reduce the following emissions when compared to fossil diesel:

- GHG emissions by 74 percent
- Fine particulates by 33 percent
- Carbon monoxide emissions by 24 percent
- Nitrogen oxide emissions by 9 percent

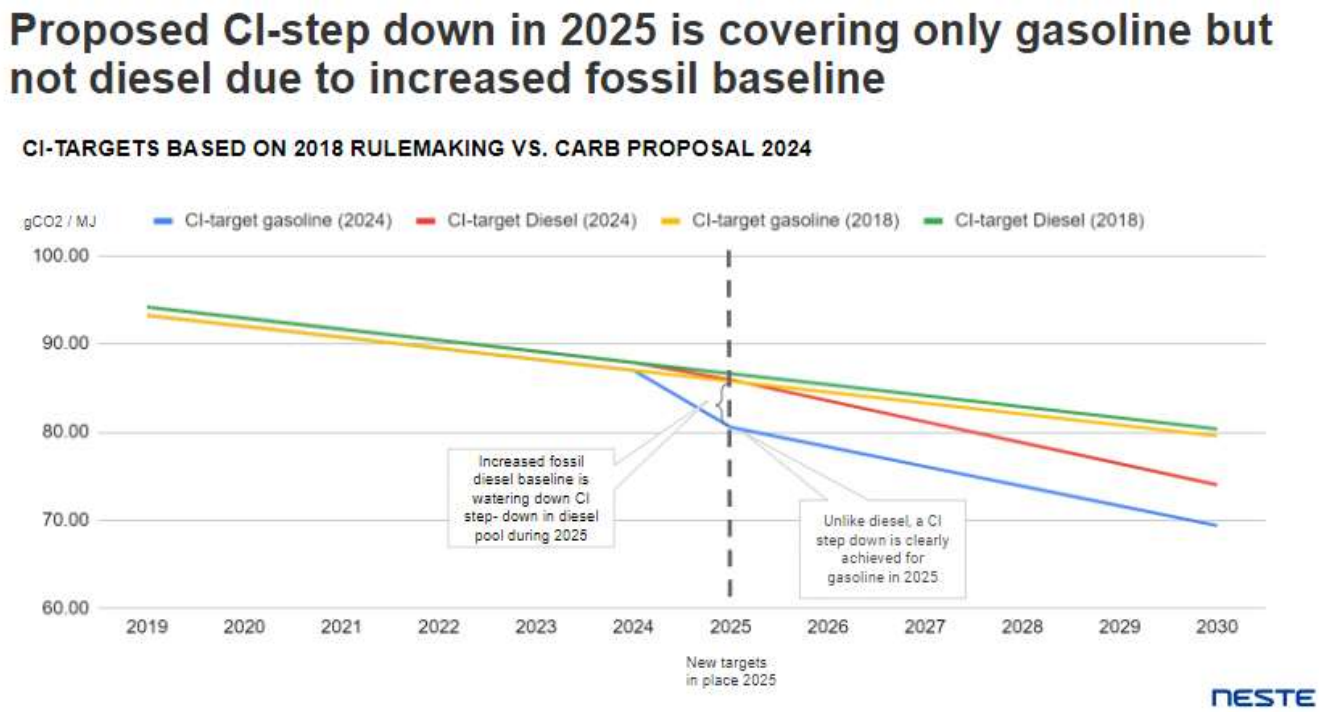
This concept creates a win-win-win for the city, its businesses and its residents. It helps the local economy in and around Oakland, improves air quality in the city, and, of course, ensures that used cooking oil does not end up as waste. Neste hopes that CARB continues to incentivize these circular solutions that are having real impacts in local communities TODAY.

Overview of the Comments on the Proposed LCFS Regulation

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. This could also provide visibility to the industry that could bolster investments in future alternative energy projects. Overperformance is a lost opportunity for GHG reductions, and the longer the market overperforms, the longer California passes up significant reductions in GHGs and harmful air pollutant emissions. Neste supports a CI step down in the range of 12% for 2025 as modeled by ICF in the "ISOR Case", versus the 5% proposed by CARB. ICF found that a CI reduction of 25% in 2025 is needed to "ensure that the credit bank reverses and that the bank is drawn down to a level that is in line with a credit bank of only two quarters' worth of deficits". As part of this rulemaking, CARB also updated the fossil diesel baseline from 100.45 gCO2/MJ to 105.76 gCO2/MJ, a 5% CI increase that essentially canceled out the 5% CI step down that CARB proposed for diesel. Neste plotted the CI reduction targets proposed by CARB in Tables 1 and 2 of the Proposed LCFS Regulation in Figure 6 below, showing that the CI step down is nonexistent 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.

Figure 6: Fossil Diesel Baseline Increase Effect on CARB Diesel Annual CI Reduction Targets



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

In the current environment, where the credit price is at 2015 lows and the credit bank is at a record 20.6 million credits[19], it is important that adjustments to the CI reduction targets are made through a predictable process and send credible, long-term signals to the market. Neste therefore appreciates that CARB is proposing an AAM that will move up the CI standard by one year (and subsequent years) when triggered, resulting in a predictable impact on the longer-term fuel market.

Given the significant credit bank and the expected record growth in renewable energy consumption in California, Neste recommends that the AAM first be activated in **2026** (using 2025 data) and not wait until 2027. It is essential that CARB have this mechanism in place should overperformance persist, and to balance out the credit market more quickly so that renewable fuel producers can feel more confident investing in new production.

Neste also supports 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.

19 https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/dashboard/quarterlysummary/Q3%202023%20Data%20Summary_013124.pdf

Feedstock Sustainability Certifications Are More Effective at Phasing Out Fossil Fuels

A Cap on Lipid Feedstocks Only Favors Fossil Fuels

Neste supports the sustainability requirements proposed by CARB in this rulemaking, and is strongly opposed to any caps on feedstocks used to produce liquid renewable fuels. Calls for caps on feedstocks as a means to balance the LCFS credit market are in reality calls to pause emissions reductions, and fossil fuels would be further used over renewable energy. Neste agrees with CARB that more aggressive emissions reductions will more quickly balance out the credit market and not pauses on emissions reductions. Arbitrary caps will likely lead to increases in GHG and criteria pollutant emissions, and will undermine California's ability to address difficult to decarbonize sectors such as the aviation and maritime sectors. Neste agrees with CARB that a cap on feedstocks will have the following negative impacts on California's most vulnerable residents:

- Increased dependence on fossil fuels (pg 102 of SRIA)
- Exacerbates existing air quality challenges due to higher NOx and PM (pg 102 of SRIA and pgs 118 and 124 of the ISOR)
- Will lead to worst health outcome among all scenarios modeled by CARB (pg 124 of ISOR)

Neste agrees with CARB that, "The inclusion of land use change emissions in LCFS life cycle methodologies result in stronger incentives for waste-and-residue-based feedstocks, which are not associated with land use change impacts, relative to crops. As a result, the majority of biomass-based diesel in the LCFS has historically come from waste feedstocks like used cooking oil, animal fat and inedible distiller's corn oil" as stated on page 35 of the ISOR. Waste and residues continue to be the dominant feedstock used to produce California's liquid renewable energy, and create a true circular solution while eliminating a major environmental hazard. In fact, per the World Economic Forum "Clean Skies for Tomorrow" report prepared by McKinsey and Co[20], waste and residue volume worldwide is estimated to be 40 MT/yr (see Figure 11 on page 27) a figure that is 10 times larger than what CARB estimates in its modeling. As noted on page 116 of the ISOR, a cap on lipid feedstocks will "result in higher volumes of fossil diesel being used than any of the other scenarios evaluated" and resulting in "credit prices immediately reaching the maximum credit price in 2025 and remaining at the maximum levels for every year analyzed." A cap only favors fossil fuels and undermines CARB's goal to be carbon neutral by 2045, and therefore should be rejected.

There is simply no data supporting the need for a cap on crop-based feedstocks. The Advanced Biofuels Association (ABFA) conducted a study that concluded, "To 2030, feedstock supplies available for use in the U.S. are more than enough to meet our forecast demand—after accounting for food[21]." In fact, data is showing that meat prices are dropping due to the production of renewable energy because more animal feed is being produced[22]. As part of the July 7th LCFS Workshop, CARB received compelling data showing that the Indirect Land Use Change (ILUC) factors are helping prevent deforestation and other land use issues. The ILUC factors also reduce credit generation from diesel produced from these feedstocks, something proponents of a cap are seeking. Neste therefore strongly opposes a cap, and strongly recommends that vegetable oils derived from newer crops and farming technologies should be accounted for in the LCFS. There is no data showing that crop-based feedstocks are affecting food prices, availability and overall land use.

[20] https://www3.weforum.org/docs/WEF_Clean_Skies_Tomorrow_SAF_Analytics_2020.pdf
[21] http://advancebioprod.wpengine.com/wp-content/uploads/2021/12/LMC-Lipid-Feedstocks-Outlook-SUMMARY-SLIDES-Nov-2021.pdf
[22] https://www.bloomberg.com/news/articles/2024-01-28/why-us-chicken-pork-prices-will-fall-when-soy-based-renewable-diesel-ramps-up

Highlight of Comments submitted to CARB as part of July 7th, 2022 LCFS Workshop:

- Technology advancements have resulted in significant increases in production yields per acre and thus crop production is increasing while land use remains stable
    - A cap could actually eliminate investments in newer farming practices that could lead to even lower CI fuels
- Liquid biofuels have achieved about 75% of the GHG reductions since the inception of the LCFS program
- Liquid biofuels burn much cleaner and lead to immediate air quality benefits, especially to communities of color that are disproportionately affected by the air pollution of the transportation sector

A cap will likely also deter what could be one of the greatest environmentally positive changes to date in farming methodology. CARB has a great opportunity to acknowledge through incentives that not all farming is the same. Methodologies utilizing low to zero till, reduced fertilizer, cover cropping, and other climate smart agriculture (CSA) practices could change farming practices for the better to the point that it reshapes an industry to make the planet a healthier place for our children. Renewable fuel companies are also making major investments on future low-CI technologies such as green hydrogen, algae and Power to X. Renewable fuel producers often use existing feedstocks to produce newer generation biofuels, and concurrently phase out older generation feedstocks. This means announcements for new renewable energy are often tied to repurposing of existing feedstocks. By prematurely restricting the production of liquid renewable fuels today, CARB will delay essential GHG reductions, improvements in air quality in disadvantaged communities, and the production of next generation renewable fuels.

Recommendations for the Sustainability Requirements for Crop-Based and Forest-Based Feedstocks

Neste agrees that requiring additional sustainability requirements are more appropriate at addressing concerns with the growth of crop-based and forest-based feedstocks than arbitrary caps on feedstocks. Currently, all of Neste's feedstocks are subject to sustainability due diligence and we ensure sustainability of most of our renewable fuel production chain through certifications like ISCC EU, ISCC Plus, RedCERT2 and national verification schemes[23]. All of our Neste operated refineries also hold ISCC certificates. In the United States, our renewable fuel sustainability is approved by the Environmental Protection Agency (EPA). Neste also supports the comments submitted by the LCFS Coalition on CSA and the need to recognize CSA in the LCFS, and we look forward to working with CARB staff to establish detailed guidance on the sustainability requirements so that industry is clear on how they will apply.

Neste believes it is essential that approved certification systems be posted and available to the public within 3 months of submission of a complete application. The logistics of a certification will be very complex, and maximum amounts of time will be required to ensure feedstocks are certified by January 2028. Lastly, we recommend that CARB provide a 3 year grace period for certification systems that are revoked or suspended, to ensure that there is sufficient time to get certified under a new system.

Climate Smart Ag Recommendations

Instead of pursuing a cap on crop-based feedstocks that could hamper investment on CSA, CARB should instead incentivize these new technologies by recognizing that CSA can result in fuels with lower CI values. Climate change is already happening, and CARB should start working on creating these science based ILUC factors and CA-GREET model that account for the lower emissions from CSA such as regenerative cultivation methods and cover crops to drive the development of the low CI fuels of tomorrow.

[23] https://www.neste.com/sustainability/supply-chain/raw-material-sourcing

Intrastate Jet Fuel Exemption:

In analyzing CARB's proposal to eliminate the exemption for intrastate jet fuel, in combination with other measures already discussed in these comments, it is likely to help bring stability to the credit market and help correct the current imbalance. Neste believes that the proposal will also drive continued growth in SAF demand and production, as well as potentially for other renewable fuels. We see such proposals as important to continue driving investments in the production of SAF, and enhancing its viability as an alternative to fossil jet fuel to provide significant GHG and air pollution reduction benefits. We agree with CARB that SAF is the only viable way to decarbonize emissions on a large scale from the hard-to-carbonize aviation sector. The current proposal allows for multiple options for obligated parties to comply. These options can be in addition to, in combination with, or even instead of using SAF.

Neste recognizes that the aviation sector has concerns with the proposal. Since this is the first proposal of its kind, we encourage CARB and all stakeholders to continue working to identify enhancements, additional options for implementation, or alternative approaches to advance the publicly stated emissions reductions goals of the aviation sector.

Low-CI Hydrogen Recommendations:

Neste appreciates CARB's proposing to create greater incentives for the production and use of low-CI hydrogen, especially as noted in Section 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 California hydrogen pipeline. Globally, Neste is investing millions in the development of low-CI hydrogen to produce even lower CI versions of drop-in fuels like renewable diesel and SAF.[24] We hope to eventually expand the use of low-CI hydrogen at all our facilities and have the option to bring those lower CI fuels to California. The California hydrogen pipeline requirement creates unnecessary barriers and should be deleted.

In Section 95488.8 (i)(3), Neste also recommends the elimination of the December 22, 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.

General Recommendations:

Neste also has the following general comments that apply to more administrative requirements in the LCFS regulation:

1. **Transition to CA-GREET 4.0:** Given that the LCFS rulemaking is delayed, a 2024 start date for using CA-GREET 4.0 will not be feasible. The start date for using it should be 2025 or later, and for credit transactions it should be required in 2027 or later to give all stakeholders enough time to apply for new CARB fuel pathways. This should be reflected throughout the Proposed Regulation as it appears that a 2024 startup date was assumed.
2. **Temporary Fuel Pathways:** Per Section 95488.9(b), the Temporary Pathways are increasing by an average of 5 gCO2e/MJ for all fuels. Neste could not confirm the exact reason for this, and recommends that CARB provide the data and calculations associated with these significant CI increases.

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

3. **Incentives to Be Below Certified CI:** In Section 95488.10, lists that CARB is willing to issue credits for those pathway holders with a verified CI that is below the certified CI. To further incentivize CI reductions, CARB should also have a multiplier when below the certified CI just as imposed when the verified CI is above the certified CI. This will incentivize investments in emissions reductions more quickly.
4. **Low-CI Hydrogen:** CARB is introducing the concept of Low-CI hydrogen throughout the Proposed Regulation. We recommend clarification on how this is different from Renewable Hydrogen. If different, Neste requests a definition for Low-CI Hydrogen be added into the Proposed Regulation.
5. **Clarify Section 95488.8(i)(1):** Low-CI/renewable hydrogen can be used to produce liquid renewable fuels such as renewable diesel. Can CARB please clarify that 95488.8(i)(1) also applies to low-CI electricity used to produce hydrogen that is then used to produce liquid renewable fuels. It is Neste's understanding that this is CARB's intention, but Section 95488.8(i)(1) should be modified to state "or Used to Produce Hydrogen as a transportation fuel or for alternative fuel production."
6. **The Tier 1 Calculator for HEFA:** The "Pathway Summary '' tab has automatic column and row hiding that is difficult to manage and Neste requests that it be removed.
7. **Ocean Going Vessels (OGVs):** Facing increasing CI reduction targets proposed by the International Maritime Organization (IMO), shipping companies are looking to renewable fuels as a way to reduce their emissions. CARB should consider including fuel used in those ocean going vessels within the LCFS to support and accelerate the decarbonization of large container ships, tankers, and other OGVs.
8. **Severability:** Given the significant number of updates that will occur as part of this rulemaking, Neste recommends that CARB make the following updates to the Severability language in Section 95497.

§ 95497. Severability.

Each provision of this subarticle shall be deemed severable, and in the event that any provision, or part thereof, in this subarticle is held to be invalid~~,~~ or temporarily unenforceable, the remainder of this subarticle shall continue in effect.

Neste looks forward to continued participation in the LCFS rulemaking, and leading in the fight against climate change.

Please feel free to contact me if you want additional information or have questions regarding our submission.

We appreciate your consideration.

Oscar Garcia

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