



February 20, 2024

California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Proposed 2024 Low Carbon Fuel Standard (LCFS) Amendments

Dear California Air Resources Board,

Braya Renewable Fuels (Newfoundland) LP (“Braya”) is the owner of the Come By Chance refinery in Newfoundland, Canada. Braya recently completed the conversion of the idled conventional oil refinery to renewable diesel and sustainable aviation fuel production. The refinery is strategically located to source a variety of low-carbon intensity feedstocks and deliver fuels to various end markets, including California, to help meet LCFS demand and California’s broader greenhouse gas initiatives. Renewable diesel and sustainable aviation fuels help decarbonize sectors—heavy transport and aviation—that are key to economic activity and have few other near-term, executable decarbonization solutions.

CARB’s successful LCFS program has attracted global attention and has inspired other states and nations with its market-based principles, scientific basis, and feedstock- and technology-neutral approach. The LCFS has exceeded expectations, is over-performing, and is becoming increasingly diverse in approaches that serve to reduce and replace fossil fuels as part of its decarbonization efforts. The LCFS has made meaningful investments in low-carbon fuels a reality - Braya’s conversion of a conventional crude oil refinery to biofuels is a perfect example of achieving that goal.

We appreciate the opportunity to provide the feedback you requested in advance of the recently postponed Public Hearing to Consider Proposed Low Carbon Fuel Standard Amendments. We also have new evidence and data in support of the previous workshops conducted over the course of 2022 and 2023.

Braya Opposes Artificial Cap on Vegetable Oil Feedstocks

As presented in our previous comments in response to the November 9, 2022 and February 22, 2023 workshops, a number of studies have concluded that lipid-based feedstocks for biofuels do not impact food resources or cause deforestation and damaging land conversion. At present, crop-based feedstocks are needed to spur continued growth and investment in renewable diesel and sustainable aviation fuels, which are key solutions for decarbonizing the heavy transport and aviation sectors for the foreseeable future.

In our response submitted in December 2022, we provided evidence and a study conducted in November 2021 by LMC International and commissioned by the Advanced Biofuels Association (ABFA), identifying global lipid demand from all sources and all end-users and the fact that the current crop-based feedstock supply exceeds biofuels’ forecast demand through 2030 while still meeting the demand for non-biofuel use. Further, the study assumed a maximum use of lipid-based feedstock for biofuels



even though advances are being made regarding the use of wastes, starches, algae, and biomass, which will provide alternative feedstock supplies and naturally lower the demand for crop-based biofuels. The summary slides and 2030 conclusions can be found here:

<https://advancedbiofuelsassociation.com/study-shows-available-advanced-biofuels-feedstocks-can-pace-biofuel-demand-through-2030/>.

Following the February 2023 workshop, Braya submitted additional relevant data in our responses submitted in March 2023, utilizing the same scientific approach and presenting a Short-Term Outlook through 2025 developed by LMC in February 2023 (the “Report”) in response to an updated request by the ABFA. The study identifies a number of events that have occurred globally and have positively impacted the amount of available crop-based and lipid feedstocks. To summarize, and as set forth in the Report, the supply of fats, oils, and greases (FOG), as well as soybean and canola have all increased and will continue to do so at no detriment to increased global demand or at the expense of the environment or society due to land use change. The Report is located in Appendix 1 on Page 11 of the ABFA’s response to the EPA Set Rule on its website at the following location:

<https://advancedbiofuelsassociation.com/wp-content/uploads/2023/02/ABFA-2023-Set-Rule-Comments-Final.pdf>

We re-emphasize that time and investment are still needed to continue growing the supply of second-generation biofuels. The efforts are underway, but the continued support of the LCFS will help make this goal a reality. To date, the LCFS has maintained an unbiased, technology-neutral approach, allowing the program to evolve naturally, without picking winners and losers, which has been a key to CARB’s success. CARB already has a stringent and ongoing review process in place to address indirect land use change (“iLUC”) applicable to biofuel incentives. This mechanism significantly penalizes producers that utilize crop-based feedstocks by elevating CI scores well above those of non-crop-based feedstocks. A prohibition on crop-based feedstocks will increase costs across the board, including to end-use consumers, and stifle investment in the vital expansion of renewable diesel and sustainable aviation fuel supply that would otherwise continue as CARB continues to work toward its electrification goals.

Braya supports and appreciates CARB’s efforts to support low-carbon fuel production and distribution. We commend CARB for understanding the impact of unnecessarily and prematurely eliminating a much-needed source of feedstocks that can readily meet the LCFS’s objectives, specifically regarding medium to heavy transport and aviation biofuels, as there are currently no viable alternatives available on a scale to meet California’s goals. We also note that the LCFS structure is effective in reducing the relative share of crop-based biofuels to the overall mix of biofuels to the extent such fuels do not represent significant carbon intensity reductions. Notably, crop-based biofuels represent about 60 percent (60%) of liquid biofuels (discounting natural gas, hydrogen, and electricity) in the years 2021 to 2023 according to the most recent [LCFS Quarterly Data Spreadsheet](#) available through the end of the third quarter of 2023. Indeed, these same crop-based fuels represented roughly 75 percent (75%) of the contribution to the success of the LCFS during the years of 2011 to 2021. Many other sources of feedstock are limited in quantity or can be difficult to trace back to the source and are, therefore, not used at large. Advances in technology and feedstocks are being realized as evidenced by the declining relative share of crop-based fuels, but it will take time to generate significant volumes of these feedstocks as electric initiatives come to fruition. In the meantime, crop-based biofuels are critical to meeting the near-term needs of the market and to continue reducing the carbon intensity of fuels in industries that are notoriously difficult to decarbonize.

Braya Supports Emission Factor Updates

The global agriculture industry has made significant investments in improved farming practices, feedstock processing and decreased emissions at the biofuels facility level over the past decade. Paradoxically, the current CA-GREET3.0 model does not account for or reward these substantial improvements. Additionally, the current CA-GREET3.0 model lacks key customization features such as not providing for specific vessel sizes (instead using wide ranges) and electricity mixes that are not representative of the various regions feeding into the LCFS. CARB has proposed to use an updated calculator CA-GREET4.0, in conjunction with the release of the new amendments, but much of the data is still woefully out of date. Specifically, the “Land Use Change” values for soy and canola oil remain unchanged at 29.1 and 14.5, respectively, as both calculators are based on a now decade-old GTAP-BIO model.

In June 2023, Floyd Vergara, former Chief and Assistant Chief in the Industrial Strategies Division and Research Division at CARB, overseeing the development of the LCFS, submitted public comments to CARB on behalf of Clean Fuels Alliance America (CFAA) and California Advanced Biofuels Alliance (CABA) in response to the May 31 and June 1, 2023, Low Carbon Fuel Standard Virtual Community Meetings: [Clean Fuels CABA Comments CA LCFS EJ Community Meetings May-June 2023](#). The evidence provided by Mr. Vergara uses the most recent updates to the Argonne National Laboratory calculators and GTAP modeling by Purdue in 2023 and conclusively shows that the iLUC scores being used by CARB in both the CA-GREET3.0 and CA-GREET4.0 models are grossly inaccurate and unfairly punitive to crop-based biofuels. Notable findings include:

- 2023 Purdue estimates for soy iLUC are at 9.78 gCO₂e/MJ, compared to CARB’s 29.1 gCO₂e/MJ.
- Purdue used 4x the shock volume of 3.22 billion gallons in 2023 to achieve the 9.78 gCO₂e/MJ.
- Accordingly, CARB’s iLUC score of 29.1 for 800 million gallons is more than three times higher than the score that would result from using newer, more accurate evidence and methodologies.

We recommend updating the model used by CARB to reflect this more current and accurate data by reviewing Argonne and Purdue University’s most recent releases. Such an update would also negate the age-old argument that a cap on crop-based biofuels is needed. Regenerative agriculture and superior agronomic practices are being adopted globally. Many countries, including Argentina, have been using these practices for decades on farmland that has been in place since at least the 1980s as shown by a number of studies, including the Organisation for Economic Co-operation and Development’s (OECD) paper, [Agricultural Policies in Argentina](#). Additionally, CARB benefits from the United States Renewable Fuel Standard (U.S. RFS) structure that requires evidence that crop-based feedstock must not be grown on land that was placed into production after December 19, 2007 as defined at [40CFR Part 80 §80.2 under “renewable biomass,”](#) exceeding the requirements under the LCFS.

Finally, we support Mr. Vergara’s assertion that the use of biomass-based diesel is a significant positive factor in the health of citizens located in EJ communities given that drop-in biofuels reduce diesel particulate matter by up to 80% in older engines as shown in the CARB Assessment of the Emissions from the Use of Biodiesel as a Motor Vehicle Fuel in California [“Biodiesel Characterization and NOx Mitigation Study.”](#) As additional support, the CFAA engaged Trinity Consultants to prepare [a number of Health Effects Studies for CARB](#) on the positive impacts of using drop-in biomass-based diesel in place of



petroleum diesel. Of note are the “immediate community health improvements that can be measured in reduced medical costs and health care burdens” and estimates that switching to biomass-based diesel could result in the prevention of “over 900 premature deaths per year, hundreds of thousands of asthma cases reduced or avoided per year, and reducing over 100,000 work loss days per year, totaling \$7 billion dollars per year in avoided health costs.”

Braya Supports Credit True-Ups for Temporary Pathways

Braya applauds CARB for moving forward with the credit true-up for Tier 1 and Tier 2 pathways and is supportive of implementing a credit true-up for temporary pathways. Temporary pathways are inherently conservative CI scores; the longer a producer’s facility-specific CIs are under review, the greater the expected loss of revenue that can be so vital at the start of operations. A true-up based on facility-specific production data will not only support new biofuel producers but will also provide more accurate data for CARB to measure the program’s success in decreasing GHG emissions.

Similar to many other producers, Braya is constantly evaluating further capital projects to increase efficiencies and lower emissions. A true-up that would allow credit generators to be rewarded for reducing their CI scores over time would encourage these proactive and environmentally friendly projects.

Finally, we believe that CARB should synchronize efforts with other agencies to utilize data and precedents to streamline processes. Doing so would be of significant value, both to increase access to new pathways/new producers and reduce burdens on CARB’s resources and staff. For example, the EPA has a number of approved pathways based on GREET modeling for national and global feedstocks. CARB should explore whether these pathways could be leveraged to establish a wider range of temporary pathways that could be used until facility-specific pathways (based on operational data) are fully available.

Braya Supports CARB’s Continued Advancement of the Standards

Understanding that 30% under Alternative B is what CARB has identified as the basis on which to move forward with the current proposed rulemaking, Braya remains optimistic and in support of Alternative C, under CARB’s Compliance Target Options, as discussed during the November 9, 2022 workshop. With standards based on achieving a 35% reduction in carbon intensity by 2030, Alternative C is the only option that truly advances CARB’s efforts by making rational use of currently available and efficient biofuels while incentivizing new technologies that are being developed. Further, under Alternative C there would be no cap on crop-based feedstocks, allowing the program to set more aggressive and beneficial targets. During the February 2023 workshop, CARB presented Alternative B as the base case for discussions, citing that a majority of stakeholders were in support of at least a 30% CI reduction based on comments received in December 2022. However, during the lengthy Q&A to follow, a majority of stakeholders providing input appeared to be in strong support of a 35% target, and Braya agrees. We hope that the supporting data we are providing as evidence, in addition to expanded support from other stakeholders will assist CARB in making the decision to move forward with a 35% target without artificially capping beneficial feedstock supply.



Also during the November workshop, CARB presented the possibility of devising a “Self-adjusting CI target mechanism” that would trigger an auto-adjustment in standards. We believe that this concept has merit, assuming that it would spur credit bank drawdown and stop plummeting prices when LCFS credits are being over-generated. We were pleased to see this mechanism’s adoption in the currently proposed rulemaking. However, we would like to see this much-needed mechanism implemented earlier than currently proposed. Without such a mechanism, producers who have made responsible investments in reliance on a functioning incentive-based LCFS program will face grave economic uncertainty. Braya also supports front-loading the new CI targets to further repair the currently significantly depressed credit prices. We look forward to CARB moving forward with both provisions.

Braya Supports Streamlining and Updating the Application and Review Process for Pathway Approval

By updating and improving the existing Lookup Table and Tier 1 calculators in addition to adding new and/or separate Tier 1 calculators, CARB will be able to focus attention on critical new feedstock sources, availability, and supply, as well as new technologies, thereby expediting approvals for new Tier 2 pathways. Braya truly appreciates all the effort the CARB staff have put into this daunting endeavor.

Braya Supports an LCFS Verification Body Firm Rotation Alternative for CPA Firms

Due to the increased federal and state regulatory oversight inherent in the nature of a licensed CPA firm, we suggest verification bodies that are also CPA firms not be subject to the audit firm rotation but would instead adhere to a Lead Verifier rotation every six (6) consecutive years. We have found it increasingly difficult to identify alternate qualified verification bodies under the current system.

Braya Supports Less Intensive LCFS Verifications

CARB staff’s current proposal includes a provision allowing less intensive verifications solely for electricity used as transportation fuel by permitting verification bodies to skip site visits so long as they have visited the site within the last two (2) years and have issued a positive verification statement.

CARB’s rationale included:

- “[T]here is little change of operation from reporting period to reporting period thus reducing the benefit of annual site visits.”
- “There is no or little risk to the integrity of the LCFS program to allow for less intensive verification services without a site visit in the annual verifications for the following two years.”
- “This should reduce the cost of verification services which is often passed on to program participants.”

We wholly agree with CARB’s statements above and believe it should apply to all validations and annual verifications for any reporting entities. In CARB’s MRR program (section 95130), less intensive verification is applied without prejudice to verification services by accredited verification bodies. We agree with staff that less intensive verification leads to little to no risk to the integrity of the LCFS program and that there is little change in operation from reporting period to reporting period, while also providing cost savings to verification providers that are then passed on to program participants. Finally, we acknowledge the importance of adhering to CARB’s specified conditions that necessitate comprehensive verification services. These conditions already include the issuance of an adverse



verification statement or a qualified positive verification statement in the preceding year and the occurrence of a change in operational control of the reporting entity in the previous year.

Thank you in advance for taking the time to review our comments and solutions concerning these very important issues. We look forward to working with CARB and welcome any opportunities to discuss further and provide any additional assistance and insight.

Respectfully,

A handwritten signature in blue ink, appearing to read 'Jennifer M. LeRow', with a stylized flourish at the end.

Jennifer M. LeRow
Director of Regulatory Compliance
Braya Renewable Fuels (Newfoundland) LP