March 15, 2023

Dr. Cheryl Laskowski, Branch Chief
Low Carbon Fuel Standard (LCFS)
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Braya Comments on the California Air Resources Board ("CARB") Low Carbon Fuel Standard ("LCFS") Public Workshops: Potential Changes to the Low Carbon Fuel Standard

Dear Dr. Laskowski,

Braya Renewable Fuels (Newfoundland) LP ("Braya") is the owner of the Come By Chance refinery in Newfoundland, Canada, an idled oil refinery that is converting to renewable diesel and sustainable aviation fuel operations with an expected in-service date in the summer of 2023. 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.

We again commend CARB on the very successful LCFS program that 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 the most recent workshop conducted on February 22, 2023. We also have new evidence and data in support of the previous workshops conducted on July 7, 2022, August 18, 2022, and November 9, 2022.

<u>Braya Opposes Artificial Cap on Vegetable Oil Feedstocks</u>

As presented in our most recent comments in response to the November 9, 2022 workshop, 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 current, 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 that response submitted in December 2022, we included a study conducted in November 2021 by LMC International and commissioned by the Advanced Biofuels Association (ABFA). The study identified global lipid demand from all sources and all end-users and the fact that the current crop-based

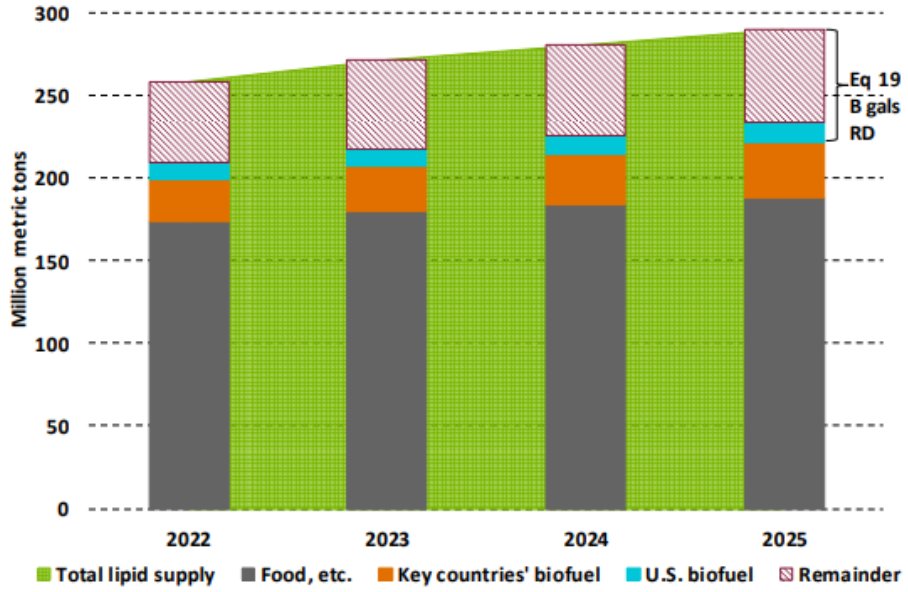
feedstock supply exceeds biofuels' forecast demand through 2030 while still meeting the demand for non-biofuel use. Further, the study assumed a maximum use of lipid-based feedstock for biofuels even though advances are being made regarding the use of wastes, starches, algae, and biomass, which will 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/ .

Braya genuinely appreciates the thought that CARB staff put into the comments submitted for the November 2022 workshop, as well as CARB's new request during the February 2023 workshop for additional relevant data. Since the last comment period, another study utilizing the same scientific approaches and presenting a Short-Term Outlook through 2025 was developed by LMC in February 2023 (the "Report") in response to an updated request by the Advanced Biofuels Association (ABFA). The study concludes that a number of events have occurred globally that 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.

> ➢ **Based on LMC's forecasts of supply and demand to 2025, feedstock supplies available for use in the U.S. are more than enough to allow a significant increase in U.S. BBD demand, after accounting for food.**

Diagram 2: Global lipid market forecast to 2025, supply vs. demand



Note: U.S. biofuel lipid demand is LMC base case forecast, based on current policy outlook.

- The total U.S. approved lipid supply has risen to 149 million metric tons in 2025.
- Of the total 290 million metric tons of total global lipid supply, 68 million metric tons are available for use in biofuel production in the U.S. and globally, which amounts to over 19 billion gallons of renewable diesel.

You will see from the study that much of the additional supply will be available to U.S. producers, as the other major consumer countries, including the EU, UK, Brazil, and Canada, have already been backed out of the demand side of the equation. Therefore, this outlook is more appropriate than the assumptions presented in the most recent CARB workshop that uses only U.S. soybean availability. Indeed, U.S. soybean volumes are likely to increase as well, without negative environmental or societal impacts. Finally, the chart presented by CARB does not take into account an abundance of qualifying global feedstocks that remain untapped and should be put to good use.

The three biggest factors that have influenced the increased global supply of lipid-based feedstocks include Russia's invasion of Ukraine, an end to the repeated lockdowns in China, and the Oceanic Niño Index cycle.

- The Russian-Ukraine conflict has driven up diesel prices which supports the prices of BBD and stimulates supply.
- The conflict also caused an increase in fertilizer prices such that soybeans' need for about a third of the fertilizer due to its nitrogen-fixing properties promotes the planting of soybean over grains.
- As discussed with the LMC team presenting the Report, increased acreage as a result of the above change would be replacement crops, or cover crops. In the event that farmers need to use their existing fertilizer stores, additional acreage may occur but would be confined to marginal land.
- The invasion has also resulted in price increases for oils and fats, supporting their production to volumes even higher than previously anticipated, and well above food demands.
- The largest feedstock increases are for FOG, including animal fats and distillers' corn oil - feedstocks that are not primarily used as food - as a result of global Low Carbon policy initiatives and rapidly developing/improving supply chains.
- Collection and export of used cooking oil (UCO) are on the rise now that the leading producer, China, is finally coming out of repeated lockdowns due to COVID, a trend that is expected to continue for some time.
- Constraints on sunflower oil, due to the Russian Invasion, and palm oil due to labor shortages, have also increased the supply of U.S.-approved feedstocks.
- The current cycle of La Niña in recent years has reduced global oil crops due to extreme drought in some areas while others have experienced excessive rainfall, but we are entering the El Niño cycle which will support strong yields of soybean oil, with up to 4.5% additional production, and newly U.S. RFS-approved canola oil.
- Finally, while there was some discussion on Brazil's plan to increase biodiesel blending targets from 10% to 15% in March 2023, that change has not yet materialized, and the latest indications are that the government will limit the required blend to 11-13%. Given that it will almost

certainly be less than 15%, the result will be that there should be even more availability of feedstocks in the short term.

The Report, a more recent and positive study 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") potentially linked to biofuel incentives. This mechanism effectively penalizes producers that utilize crop-based feedstocks by elevating CI scores well above those of non-crop-based feedstocks. Capping crop-based lipids is at best unnecessary in light of the existing ILUC mechanism, and at worst will substantially increase costs and likely stifle investment in the vital expansion of renewable diesel and sustainable aviation fuel supply that would otherwise continue for the balance of this decade and into the next.

Again, Braya is supportive and appreciative of CARB's goals and efforts in supporting low-carbon fuel production and distribution. Our hope is that CARB will consider the impact of unnecessarily and prematurely eliminating a much-needed source of feedstocks that can readily meet the LCFS' objectives, specifically regarding heavy transport and aviation biofuels, as there are currently no viable alternatives available on a scale to meet California's goals.

Braya Supports Credit True-Ups for Temporary Pathways

Braya remains optimistic concerning the forethought that has gone into proposing the potential for a credit true-up for temporary pathways. Currently, delays in pathway certification could result in the expiration of temporary pathways while the review and verification processes are underway for a producer's facility-specific Tier 1 or Tier 2 pathway applications. This is particularly plausible in the case of new producers exploring untapped feedstock markets with which CARB staff have less/no prior experience. While the possibility exists to request an extension of temporary pathways beyond the current regulatory two-quarter limit, it is not a certainty that stakeholders and investors can depend upon. Furthermore, 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 it will also provide more accurate data for CARB to measure the program's success in decreasing GHG emissions.

On the same note, Braya, and many other biofuel producers, are operating under stages after start-up, which includes additional projects to ensure increased efficiencies and lower emissions at their facilities, but this takes time and additional investment. 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 efforts.

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 for 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 Proposed Emission Factor Updates

Investments have been made globally, as a direct and positive result of the LCFS program, to improve farming practices, feedstock processing, and decreased emissions at the biofuels facility level, over the last decade or more, but the current CA GREET model does not account for any of them. Additionally, the current model does not allow for specific vessel sizes, only ranges. Updating the model with current and accurate data could be as simple as reviewing Argonne's latest release in November 2022 which includes science-based changes and advancements made over the years. Doing so would also negate the argument that a cap on crop-based biofuels is needed.

Braya Supports CARB's Continued Advancement of the Standards

Braya remains in support of Alternative C, under CARB's Compliance Target Options, as discussed during the November 9th 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 updated study 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 capping beneficial feedstock supply.

During the November workshop, CARB also 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. Without such a mechanism, we doubt the program will remain viable in the long term with a glut of credits that is driving prices so low that producers – who have made responsible investments and have followed all the rules – are now facing grave economic uncertainty. Also of tremendous merit is the concept of front-loading the new CI targets to further repair the currently crippling credit prices. We appreciate the additional discussion on these topics in the most recent workshop, including the preliminary credit price estimates presented, and 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 can focus attention on critical new feedstock sources, availability, and supply, as well as new technologies, thereby expediting approvals for new Tier 2 pathways. Braya also appreciates the recently released new "Guidance for calculating lifecycle GHG emissions for crop-derived feedstock and/or biomass used as process energy in biofuel production" to "facilitate the Executive Officer (EO) review of Lifecycle GHG emissions associated with feedstocks used in biofuel production or biomass used as process energy."

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 opportunities to discuss further and to provide any additional assistance and insight.

Respectfully,

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