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

BSBIOS is a Brazilian biodiesel producer operating two biodiesel plants, one in Passo Fundo, Rio Grande do Sul (headquarters), and another in Marialva, Paraná, with production capacity of 125 million gallons per year in each. BSBIOS also has operations in Paraguay and Switzerland. The plant in Passo Fundo has been in continuous production since 2007, manufacturing biodiesel from soybean oil and waste-based feedstock such as animal fats and UCO for both domestic and foreign markets. Additionally, the plant features a co-located crushing plant that sources soybeans, from almost entirely within a 50-mile radius of the plant, in the state of Rio Grande do Sul, a pioneer in soybean production since the 1960s and one of the country's leading soy producer states. For your information, Rio Grande do Sul is Brazil's southern-most state and borders on Argentina.

As part of the Brazilian biofuel sector, BSBIOS acknowledges the importance of having a robust LCFS program to promote low-carbon fuels and commends CARB's commitment to continuously reviewing and improving the program, demonstrating a deep understanding of the complex issues involved in reducing greenhouse gas emissions from the transportation sector. Additionally, BSBIOS would like to highlight the influence of CARB's LCFS program in the development of Brazil's RenovaBio program, which incentivizes the production and use of low-carbon fuels based on the same principles as CARB's LCFS program.

In connection with the Public Workshop to Discuss Potential Changes to the Low Carbon Fuel Standard held by CARB on February 22<sup>nd</sup>, BSBIOS recognizes the need to move towards more sustainable feedstock in the biofuels industry, and we are committed to exploring new sources of low-carbon feedstock that can help reduce greenhouse gas emissions and promote sustainability. In fact, around 40% of the feedstock used in our plants in Brazil are waste or residue based.

We are aware of CARB's concerns about crop-based feedstocks, including issues related to land use change and food security. However, restricting the use of crop-based feedstocks is not a viable solution for California in the short term given the high demand for biodiesel and renewable diesel that will exist in California until CARB next amends the LCFS. It is also not the best approach until there are further science-based studies that provide a full understanding of the potential impacts of crop-based biofuels on the environment and food security.

When CARB assesses the potential impacts of crop-based biofuels, it should consider, among other aspects, the following:



1) Positive impacts of recent advancements in crop technology and management that have allowed for increased crop yields globally, resulting in higher soybean production without the need for additional land or resources.

In Brazil, as an example, sustainable soybean practices such as no-till farming, biological nitrogen fixation, establishment of two or sometimes three cropping cycles a year, and more adapted genotypes are widely adopted sustainable practices that have significantly contributed to the increasing yields in recent years. Moreover, the Brazilian Agricultural Research Corporation (EMBRAPA) has reported that a significant increase in soybean production in Brazil can be achieved over the next few decades without putting pressure on forest areas through a combination of increased productivity and efficiency, recovery of degraded pasturelands, as well as the adoption of sustainable practices such as crop rotation, integrated crop-livestock-forest systems, and precision agriculture [1].

## 2) The important role expected to be played by cover crops in the sustainability of biofuel feedstock production also must be considered.

These crops are planted between the main crop cycles to improve soil health, prevent erosion, and reduce nutrient leaching. In addition to their soil health benefits, some cover crops can also be used as feedstock for biofuel production. For example, carinata, a non-food oilseed in the process to start being commercially grown in Brazil, is a promising cover crop for biofuel feedstock production. It is drought-tolerant, has a high yield potential, and can be grown on marginal lands, reducing the competition with food crops.

## Global supply of lipid feedstock is expected to increase due to aforementioned factors discussed in topic 1 and 2, among others.

In the February workshop CARB expressed concern about the **US** supply and demand for soybean oil on slide 39 of its presentation. However, we believe CARB's analysis should not be limited to the US because there is substantial soy acreage in the world outside of the US and should also consider other types of lipids feedstocks. See for example, the study titled "Outlook for Global Lipid Feedstock to 2030," [2] conducted by LMC in 2021, which projects that the global lipid supply will increase by 84 million metric tons. Of this, 25 million metric tons will come from RFS-approved feedstock and another 25 million metric tons from potentially approved feedstock, which comply with the important sustainability criteria established by the program. A most recent study from LMC published last February [3], not only reaffirmed finds of previous study, as projected higher supply of lipid feedstock to 2025 than expected in previous studies. Among several factors positively impacting the supply of lipids feedstocks, the study mentions the end of La Niña resulting in higher projections for soybeans and canola yields and higher collection rates for UCO in Asia.

In conclusion, we urge CARB to adopt Alternative C that it put forth in the November 2022 workshop discussing potential changes to the LCFS. If CARB were to do so in the amendment, the new target carbon intensity reduction for 2030 would be 35%, which we also support, and there would be no cap on crop-based feedstocks. As an alternative to restricting crop-based biofuels, we believe in promoting sustainable practices and new technologies that increase production



without expanding into new land is the best approach. Furthermore, it's essential that CARB take into account global lipid feedstocks as they will play a crucial role in the feedstock supply and demand scenario for biofuels around the world in the next decades. By doing so, we believe the biofuel industry can maximize its contribution to reducing greenhouse gas emissions while supporting food security and sustainable land use practices.

We appreciate in advance the space given to stakeholders to engage in the discussion and CARB's efforts to review and work with all comments received.

Respectfully,

Jonathan Vacari BSBIOS Certification Coordinator

## Sources:

 [1] Available at Embrapa's website: <u>https://ainfo.cnptia.embrapa.br/digital/bitstream/item/201610/1/DOC-414-OL-.pdf</u>
[2] Available at ABFA's website: <u>https://advancedbiofuelsassociation.com/wp-content/uploads/2021/11/LMC-Lipid-Feedstocks-Outlook-2030-CONCLUSIONS-Nov-2021.pdf</u>
[3] Available as an attachment of ABFA's public comments to RFS Annual Rule, page 12. <u>https://advancedbiofuelsassociation.com/wp-content/uploads/2023/02/ABFA-2023-Set-Rule-Comments-Final.pdf</u>

## ENERGIA RENOVÁVEL