July 9, 2021

California Air Resources Board
P.O. Box 2815
1101 I Street
Sacramento, CA 95814

Re: NBB Comments on 2022 GHG Scoping Plan

Thank you for the opportunity to provide comments on the 2022 GHG Scoping Plan. The National Biodiesel Board (NBB) is the U.S. trade association representing the entire biodiesel and renewable diesel value chain, including producers, feedstock suppliers, and fuel distributors. NBB supports the comments submitted by the California Advanced Biofuels Alliance (CABA) and offers the following additional comments for your consideration. Our comments focus on how biodiesel and renewable diesel can help the state meet its dual needs: getting immediate reductions in both carbon and toxic pollutant emissions, particularly diesel particulate matter (DPM), while the state pursues deep decarbonization and electrification.

Deep Electrification is Appropriate but Not Enough

The state's aggressive effort to electrify as many sectors as quickly as possible is laudable and an appropriate element in any well-designed strategy to address climate change. However, as other Scoping Plan workshop attendees have observed, that "silver bullet," single technology focus on electrification glosses over the fact that deep electrification, especially in the heavy duty transportation sector, is many years if not decades away[1]. From a climate impact standpoint, waiting for the carbon reductions to be achieved through long-term measures like deep electrification ignores a critically important consideration -- the time value of carbon. Put simply, substantial reductions in carbon emissions now are vastly superior from a climate impact standpoint than the same reductions occurring many years in the future.

[1] The rulemaking record for CARB's recently adopted Advanced Clean Trucks regulation, touted to be significantly more aggressive than the original staff proposal, suggests around a 10% penetration of electric Class 7-8 heavy duty trucks by VMT by 2040, a class which represents the largest share of HDV emissions from the heavy duty sector and is also among the most difficult to electrify. See Appendix D of the ACT Initial Statement of Reasons. This inherent difficulty in electrifying the heavy duty sector is also recognized in the Governor's Executive Order N-79-20, which includes the caveat "where feasible" in a number of directives to state agencies when pursuing actions to achieve zero emissions in medium and heavy duty vehicle operations by 2045.

Missouri Headquarters
605 Clark Ave.
PO Box 104898
Jefferson City, MO 65110
(800) 841-5849

Washington, D.C. Office
1331 Pennsylvania Ave., NW
Suite 505
Washington, DC 20004
(888) 246-3437

California Office
1415 L Street
Suite 460
Sacramento, CA 95814
(916) 760-8870

Massachusetts Office
36 Jonspin Road
Suite 235
Wilmington, MA 01887
(978) 267-3020

www.nbb.org www.biodiesel.org

Further, a number of workshop attendees, including members of the Environmental Justice Advisory Committee (EJAC), also questioned the Scoping Plan Update's focus on reaching carbon neutrality in 2045 when the state has not yet shown how it would reach the earlier 2030 target while reducing important criteria and toxic emissions affecting the residents of disadvantaged and EJ communities. A more comprehensive approach is needed, one that not only looks down the road to 2045 and beyond, but also fills in the years between now and then with meaningful measures and policies that achieve both carbon reductions and improvements in public health in the years while the state waits for an electrified future.

Immediate Carbon Reductions are Available through Use of Drop-In Biofuels Now While the State Pursues Deep Electrification

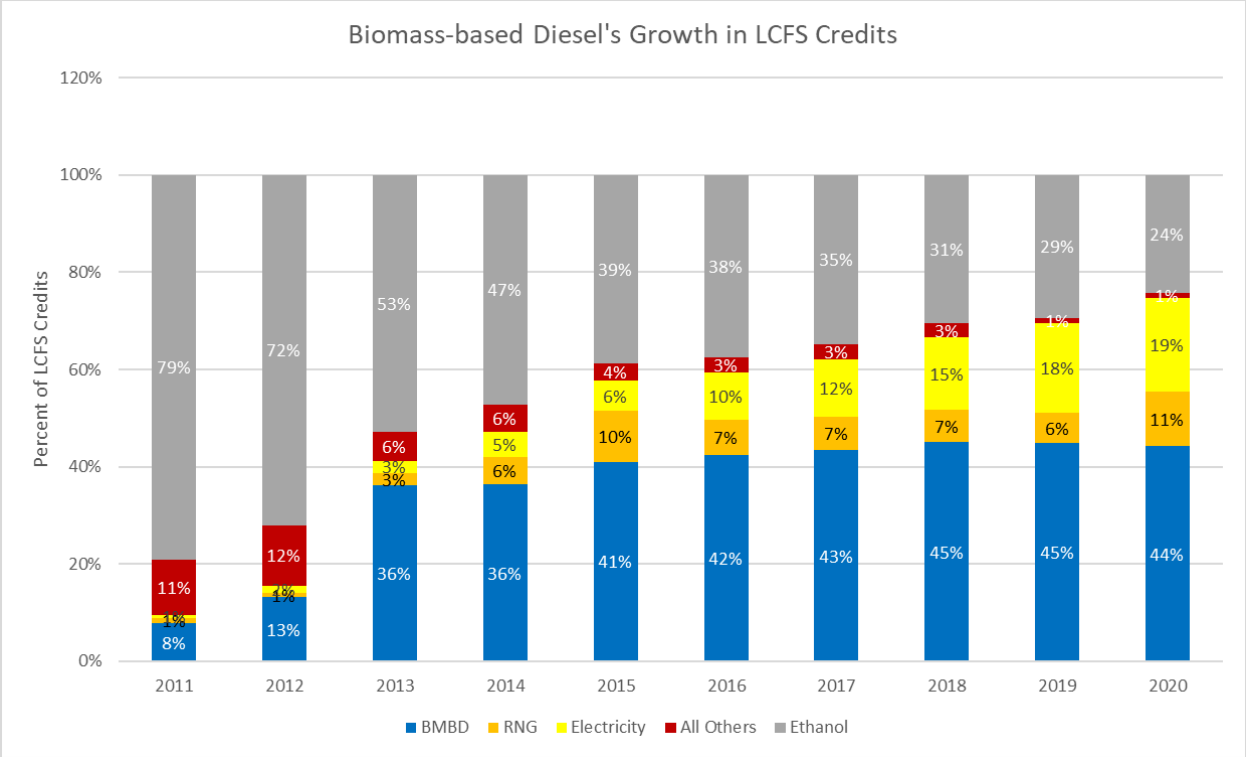
The state can and should do better. There are drop-in solutions available right now, including biodiesel and renewable diesel, which can provide immediate and continuing reductions in carbon emissions (upwards of 86%[2] or more, on par with electricity). These sustainable diesel replacements are already providing the bulk of the state's carbon reductions under its Low Carbon Fuel Standard (LCFS) program. Biodiesel and renewable diesel (collectively, "biomass-based diesel") have reduced carbon emissions by over 32.3 million metric tons in California since 2011, 6.8 million metric tons in 2020 alone, equivalent to removing more than 1.4 million cars off the road last year. These substantial GHG reductions have helped California reach its 2020 GHG targets four years ahead of schedule[3], and they can play a similar role in meeting the 2030 and 2045 targets and beyond.

Biomass-based diesel has played a key role in the LCFS, providing nearly half (45%) of the LCFS carbon reductions over the last three years and 42% overall since 2011[4] (Fig. 1), more than renewable natural gas and electricity combined. These sustainable diesel replacements have grown from a mere 14 million gallons in 2011 to nearly 900 million gallons in 2020[5] (a 6100% growth), so that nearly a quarter (24%) of the diesel fuel pool now comprises biomass-based diesel. And that growth is expected to continue as California progresses toward its 20% carbon intensity reduction target in 2030. Indeed, the University of California at Davis has identified

[2] Depending on the feedstocks used, BMBD have been scored in California with carbon intensity as low as 8-16. See CA LCFS certified "Current Fuel Pathways", accessed Oct. 31, 2020.
[3] California Air Resources Board press release, https://ww2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time, accessed Oct. 31, 2020.
[4] CARB LCFS Dashboard, opt cit.
[5] Ibid.

the need for up to 60-80% of the diesel fuel pool in California to be replaced by biomass-based diesel if California is to achieve its 2030 target[6].

Fig. 1 Biomass-based Diesel Provides the Bulk of Transportation Fuel Carbon Reductions



Source: LCFS Dashboard, 4/30/21, https://ww3.arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm.

The growth in California of biomass-based diesel translates to displacement of over 3.9 billion gallons of petroleum diesel since 2011. In other words, the use of biodiesel and renewable diesel has avoided adding to the atmosphere the anthropogenic carbon emissions resulting from nearly 4 billion gallons of displaced fossil diesel since the LCFS started. The state can and should do more to incentivize even more displacement of fossil diesel through the use of biodiesel and renewable diesel.

Immediate Reductions in Emissions Harmful to Public Health are Available through the Use of Drop-In Biofuels Now While the State Pursues Deep Electrification

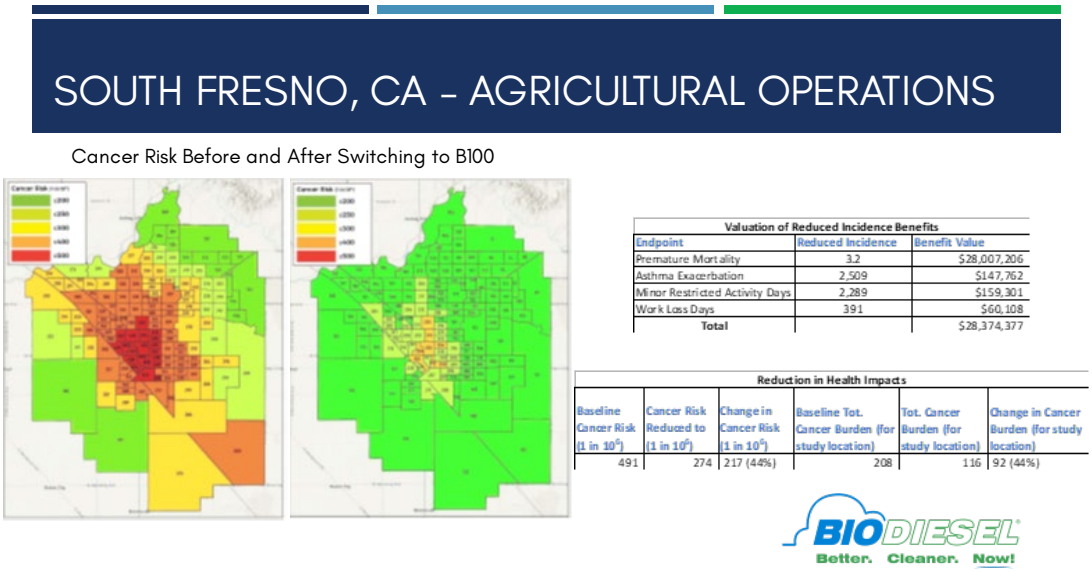
As noted, biodiesel and renewable diesel provide important and substantial carbon reductions now and will do so in the years to come. But just as important, these fuels reduce diesel particulate matter and other toxic emissions that are harmful to human health. Thus, NBB believes the maximum level of benefits from these fuels can and should be pursued by the state

[6] Bushnell et al. (Feb. 2020), "Uncertainty, Innovation, and Infrastructure Credits: Outlook for the Low Carbon Fuel Standard Through 2030," University of California Institute of Transportation Studies, at v.

while California pursues widespread electrification. The use of biodiesel and renewable diesel in the state's existing fleet of heavy duty vehicles provides an immediate improvement in the health of California's local communities. This has been shown by the groundbreaking Trinity Consultants study[7] recently commissioned by NBB. That study quantified the public health benefits at the neighborhood/census tract level of switching to biodiesel in 13 sites on both coasts and Colorado, including four in California, showing that such a switch would reduce or avoid:[8]

- 370 cancer cases (a 45% reduction in cancer risk, see Fig. 2 as an example)
- 230 premature deaths per year
- 150,000 asthma attacks per year
- 31,000 work loss days per year
- $2.0B health costs per year.

Fig. 2. Projected Cancer Risk Reduction and Other Health Benefits by Switching to Biodiesel



These benefits are especially important for disadvantaged and EJ communities, many of which are located at or near sites that still use high levels of fossil diesel. At these sites, there are significant numbers of legacy vehicles that can benefit from the reduced DPM emissions which biodiesel and renewable diesel provide. These sustainable diesel replacements would benefit even the more modern, 2010 and newer engines by reducing their GHG emissions and particle loading of the diesel particulate filters, thereby improving their longevity and maintenance.

[7] Available at: https://www.biodiesel.org/news-resources/health-benefits-study.
[8] Wilmington, Carson, West Long Beach near the Port of L.A./Long Beach; San Bernardino; South Fresno; and West Oakland.

Further Decarbonization through Expanded Use of Biomass-based Diesel

NBB has been fully supportive of efforts to address climate change and has been a strong partner in California, Oregon, Washington and many other states that have developed or are developing programs to reduce climate impacts from the use of petroleum fuels. We applaud CARB's efforts to update the Scoping Plan to establish a roadmap toward the laudable goal of further reducing carbon and toxic air emissions. To this end, NBB has previously provided comments on the need to update the carbon scoring mechanism in the LCFS program to reflect the latest science, correct errors, and reflect learnings gained since the regulation was last amended in the 2015 and 2018 rulemakings[9]. We appreciate CARB's commitment to using the most robust and up-to-date science in the LCFS program and believe the updates outlined in our previous comments would make the program even more solidly grounded in the most up-to-date science.

Further, the Scoping Plan workshop on natural and working lands makes it clear that the state will need to find ways to incentivize best practices that reduce carbon emissions in farming operations and further increase soil organic carbon. NBB believes its farmer members employ some of the most sustainable land management practices in the world. We strongly encourage CARB staff to work with NBB farmer members and others in this space, who have the expertise and experience to provide important insights that can inform California's efforts to reach carbon neutrality. We would be happy to collaborate with CARB staff and other agencies on ways to identify, quantify, and incentivize practices and technologies that improve carbon reduction and soil organic carbon, including providing a more direct market signal to farmers that encourage and expand such practices. Finally, we encourage CARB staff and other agencies to work with farmers and other land managers as the state develops methods to validate any changes in the level of soil organic carbon.

Conclusions

The biodiesel and renewable diesel industry, and more recently the growing sustainable aviation fuel sector, have been strong champions of California's efforts to address climate change. We applaud California's efforts to achieve carbon neutrality and, toward that end, believe CARB should continue strengthening the LCFS to achieve even greater carbon and air pollution reductions. We also strongly encourage CARB staff to update the LCFS to reflect the best available science, including direct observational data as we have previously requested. We

[9] See NBB's Nov. 11, 2020, comment letter on the next round of LCFS rulemaking, https://www.arb.ca.gov/lists/com-attach/120-lcfs-wkshp-oct20-ws-WjQCZgBjUV0FYFM8.pdf, incorporated herein by reference.

appreciate the good working relationship we have developed with CARB over many years and look forward to working cooperatively and productively as you proceed with the Scoping Plan Update. Adoption of these recommendations will help ensure that biomass-diesel fuels will continue to play the strong role they have played historically and must continue to play while California works toward a much lower carbon future.

Sincerely,

Floyd Vergara, Esq., P.E.
Director of State Governmental Affairs