



Pacific Ethanol, Inc.



April 23, 2018

Mary Nichols, Chairman
Members of the Board
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Chairman Nichols and Members of the Board:

We write to you as representatives of a diverse coalition of businesses, fuel providers, and public health, consumer, business, science and environmental organizations that are working together to support California's forward-thinking climate and clean energy policies. Longtime supporters of the Low Carbon Fuel Standard, we see the standard as a critical policy in the state's climate change-fighting toolbox. We urge you to move forward in 2018 with strengthening the LCFS and extending it to 2030 to meet our SB32 goals.

To date, the LCFS has delivered impressive benefits to California:

- Since its inception in 2011 and through Q3 2017, the LCFS has helped the state avoid about 33 million metric tons of carbon emissions, and almost 10 billion gallons of petroleum.¹
- In Q3 2017, the most recent quarter for which LCFS data are available, the carbon intensity of all transportation fuels used in the state decreased 3.7 percent relative to a 2010 baseline.²
- Since its inception, the LCFS has increased investment in the clean fuels market—including production and distribution—by an estimated \$2 billion, helping lead to alternative fuel use increasing by 64 percent.³ The LCFS is spurring investments across the clean fuel supply chain.
- The LCFS, when combined with other strategies like carbon pricing, is delivering health benefits that will continue to grow as the use of cleaner fuels and cleaner vehicles increase due to these programs.
- The LCFS credit program helps make the use of clean, low carbon fuels economically viable for fleets, such as local transit operators. And with more diverse fuel choices, more efficient cars

¹ Calculated from California Air Resources Board, *2017 LCFS Reporting Tool, Quarterly Data Summary, Report No. 3*, https://www.arb.ca.gov/fuels/lcfs/dashboard/quarterlysummary/20180131_q3datasummary.pdf

² California Air Resources Board, draft LCFS ISOR Executive Summary, February 20, 2018, https://www.arb.ca.gov/fuels/lcfs/2018-0220_preliminary-draft-lcfs-staffreport_es-ch1-2.pdf

³ Calculated from ARB's [quarterly compliance data](#) which tracks industry performance.

and less-frequent trips to the pump, Californians' annual fuel costs are declining thanks to our climate and energy policies.

Clearly, the LCFS is doing much good for our state and is working as intended. The following comments both reflect on the value of the LCFS as a performance-based policy framework that serves as a model for other jurisdictions and outline our views on several policy provisions proposed by staff in the Initial Statement of Reasons (ISOR) issued March 6, 2018.

The LCFS is one of the most flexible, fuel-neutral, performance-based standards in the world. We commend the California Air Resources Board for its foresight in establishing a standard based on lifecycle emissions. This approach ensures that the program is grounded in science and that the market will compete to provide the lowest carbon fuels at the lowest cost. As noted above, the LCFS approach has successfully promoted innovation and investment in a wide range of low carbon alternative transportation fuels, including ethanol, biodiesel, renewable diesel, conventional and renewable natural gas, and electricity. Fuel neutrality has allowed the LCFS to adapt flexibly to changes in fuel markets and to the evolving science of the lifecycle emissions of different fuels. As such, the policy can expand to include new fuels and fuel pathways provided that they meet the same high standards of science-based, life-cycle analysis and detailed reporting that have been critical to its success to date, and that crediting is based on actual transportation fuel use rather than on fueling infrastructure capacity.

Specific responses to CARB staff proposal in ISOR:

1. Proposed 2020 and 2030 targets

CARB staff's proposal to increase the 2030 carbon intensity reduction target to 20 percent is positive, although the science shows an even higher target is feasible, and we recommend that staff further explore setting a target above 20 percent by 2030. On the 2020 target, staff's proposed reduction goes too far, and we urge a second look at the proposed interim targets.

The ISOR's proposed 20 percent carbon intensity reduction target by 2030 improves upon the 18 percent target described in the Scoping Plan. The more ambitious target is readily achievable, and supports investment in low-carbon fuel production and distribution infrastructure. Moreover, the proposal's steady 1.25 percent increase in annual carbon intensity reduction targets addresses in some measure concerns we had about the adverse market signal sent by the plateau at 10 percent from 2020-2022 in earlier proposals. However, the reduction in stringency for 2019-2021 is too steep. It jeopardizes the progress the alternative fuels sector has made in bringing projects online and could chill the climate for long-term capital investment at a time when it is needed to hit 2030 targets. We urge staff to consider more ambitious interim carbon intensity reduction targets. The essential outcome is to provide a clear, strong market signal that demand for clean fuels will rise steadily and predictably over time.

On the longer term target, the science is clear: We can go beyond 20 percent in 2030. Recent analysis by the UK-based independent research firm Ceruly⁴ finds that California could feasibly increase its

⁴ "California's Clean Fuel Future Assessing Achievable Fuel Carbon Intensity Reductions Through 2030," Chris Malins, Ph.D., Ceruly Consulting, March 2018. <https://nextgenamerica.org/californias-clean-fuel-future/>

LCFS target in 2030 to well over 20 percent and spur more rapid deployment of clean fuels. The study evaluates a range of potential LCFS credit scenarios. Under moderate assumptions, research indicates there will be ample supplies of low carbon fuel and credit generation opportunities to support a 2030 carbon intensity reduction target of approximately 22 percent. If fuel or technology markets develop toward the higher end of their potential range, targets as high as 25% are feasible. In light of the Ceruleo analysis we recommend that staff further explore setting an achievable target above 20 percent by 2030. Adopting a target above 20 percent would send a more robust price signal to incentivize producers, reduce carbon dioxide emissions by millions of tons and incentivize the deployment of advanced, clean transportation technology.

2. Jet Fuel Provisions

The signatories of this letter support CARB's proposal to allow alternative jet fuel (AJF) to generate LCFS credits as an opt-in fuel. By including low carbon AJF in the program, CARB will stimulate the development of biofuels for a sector of transportation that may lack other effective options for decarbonization and help California attain its greenhouse gas reduction goals. By sending a clear and long-term market signal that AJF is eligible to generate LCFS credits in addition to Renewable Fuel Standard credits (known as RINs), CARB is facilitating investment and development in the decarbonization of the aviation sector. This pioneering work by California is crucial given the anticipated growth of the aviation sector, the technical and energy intensive demands of this sector, and the dependence of this transportation sector on liquid fuels.

As noted in the staff proposal, existing data suggests that the use of AJF may reduce criteria pollutant emissions during taxi, takeoffs and landings. Increased use of AJF in the future could provide significant air quality and health benefits to local air sheds, including to disadvantaged communities located near airports. Such ancillary benefits are a powerful incentive for including AJF in the LCFS. We anticipate that the details and scope of the criteria pollutant reductions will be more accurately modeled, measured and quantified as the scale of AJF production and use in California is expanded.

3. Carbon Capture and Storage

Carbon capture and storage technologies have the potential to be an important tool in efforts to keep global temperature rise below 2 degrees centigrade consistent with global commitments in Paris. Several carbon dioxide sources in the liquid fuel supply chain, including oil extraction and refining, and ethanol production, provide especially promising opportunities for capturing and sequestering carbon dioxide. We encourage CARB to ensure that risks are mitigated without erecting prohibitively large barriers to developing projects. Allowing all fuel producers to capture and sequester carbon dioxide from their own operations is another way to broaden the range of strategies employed to reduce fuel production emissions.

4. Refinery provisions: co-processing

Co-processing of biological feedstocks in existing petroleum refineries can be a viable option for obligated parties to participate in the LCFS. It is important to recognize the complex nature of refinery operations and the fact that low carbon feedstocks are anticipated to make up only a fraction of the refinery inputs. This will make accurate quantification of the carbon intensity of the finished fuels produced from co-processing particularly challenging. Where bio-based feedstocks are comingled with fossil ones, refiners must supply CARB with enough verifiable information to enable a full assessment

of both the emissions of co-processed fuels and the indirect effects of co-processing on other refinery operations.

In closing, we wish to emphasize the importance of California's role as a global climate policy leader. With its well-developed policy structure, California is uniquely positioned to provide support and resources to other jurisdictions that are developing climate policy frameworks and evaluating what policies to meet their jurisdiction's needs. California's LCFS is a model policy, variations of which have been replicated or are under consideration in several other subnational and national jurisdictions. We support CARB's work to develop a policy framework that is exportable. Building a regional, national, and international market for low carbon fuels is vitally important to send the right market signals to industry to invest in projects with scale.

Thank you for your consideration and for the opportunity to comment.

Sincerely,

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