NRDC

April 23, 2018

Mary Nichols, Chairman
California Air Resources Board
1001 I Street, PO Box 2815
Sacramento, CA 95812

RE: The Low Carbon Fuel Standard Regulation and the Regulation on Commercialization of Alternative Diesel Fuels

Dear Chairman Nichols and Members of the Board:

Thank you for your commitment to cleaner, healthier air for all Californians and for your international leadership in protecting current and future generations from the impacts of climate pollution. NRDC appreciates the work of the Board and staff to extend the Low Carbon Fuel Standard (LCFS), a key program to meet the state's carbon pollution reduction requirements under AB 32 and SB32. We respectfully submit these comments for your consideration.

The LCFS, in combination with the regulation on the commercialization of alternative diesel fuel (ADF) (ADF), establishes a direct, long-term regulatory structure to enable a transition to ultra-low, carbon-intensity (CI) fuels. The continued extension of the program to 2030 is critical to help ensure the state's public-health, air quality, and climate goals are met. California's program is also providing a model for other jurisdictions.

NRDC's analysis of ARB's compliance data shows that since 2011 through 3Q2017, the LCFS has helped California:

- Avoid about 33 million metric tons of greenhouse gas emissions, and almost 10 billion gallons of petroleum.[1]
- Increase investment in the clean fuels market—including production and distribution—by an estimated $2 billion, leading to an increase in alternative fuel use by 64 percent.[2]
- The LCFS, when combined with other strategies like cap-and-trade and clean vehicle standards, is delivering public health benefits that will continue to grow over time.

[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] Calculated from ARB's quarterly compliance data which tracks industry performance.

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- Make clean low carbon fuels more accessible and economically viable for fleets, such as local transit and fleet operators as well as everyday consumers.
- Increase the diversity of fuel supplies used and reducing its reliance on petroleum, thereby making the state less vulnerable to global oil price volatility as well as refinery outages.

1. We support staff's proposal to increase the requirement to a 20 percent carbon-intensity reduction by 2030. New analysis points to an even higher target being possible.

NRDC supports staff's proposal to reduce the CI of both gasoline and diesel fuels 20 percent by 2030. A consultant report by Cerology (2018) "California's Clean Fuel Future: Assessing Achievable Fuel Carbon Intensity Reductions Through 2030," confirms that staff's feasibility assessment is not only reasonable, but is conservative.[3] We recommend that ARB consider future upward adjustments to the standard if more rapid progress is made based on compliance data. At the same time, we also ask ARB to continue to monitor the progress of similar clean fuel standards in other major jurisdictions, such as Canada, to update its supply assessment of low-carbon fuel supplies for California.

We also support staff's adjustment to enable the ramp to increase ever year in a linear-fashion over time between the entire 2018 to 2030 period, as opposed to an earlier proposal that would have kept the standards flat between 2020-2022 at a 10% level. Doing so will provide low-carbon fuel providers a consistent signal over time while also allowing a smooth ramp up over the entire period.

Establishing strong signals now for the post-2020 timeframe is consistent with the transformational policies outlined by ARB under its First Update to the AB 32 Scoping Plan. California's near-term efforts to establish a strong market for clean, low carbon fuels are critical to make sure the state is on the pathway to the deeper reductions needed to meet the 2050 goals.

2. We support staff's addition of electricity pathways that recognize the potential to utilize 100% renewable electricity. We urge ARB to implement strong provisions for verify those pathways.

The success of the LCFS is in part due to the ability – within reasonable administrative limits – to recognize the many different potential pathways to reduce carbon-intensity. When coupled with 100% renewable electricity, electric passenger vehicles, trucks, and buses (collectively "EVs") have the potential to be zero-emitting on a lifecycle basis. We support ARB's proposal to recognize additional investments needed to link additional renewable electricity with EV charging.

The Board and staff should continue to monitor the implementation of this new program, whereby staff is proposing a "Green Tariff Shared Renewables Program" (GTSRP) as a way of verifying additional renewable usage. SB100 requires that utilities already increase the renewable electricity mix to 40%

[3] https://www.arb.ca.gov/lispub/comm/bccomdisp.php?listname=lcfs18&comment_num=5&virt_num=5

renewables by 2030, such that the LCFS should only credit additional, incremental renewable electricity contracts under any type of verification program.

We agree these incremental credits – beyond a baseline – should go to entities that are making the investments that are enabling EV customers to procure the additional renewables and that are providing the necessary verification and reporting data. It is unclear, at this early date, what entity will ultimately be most successful at enabling this effort. We support staff's recommendation to keep this open to either auto manufacturers, utilities, or charging station providers.

3. We recommend that ARB provide further clarification and a review of the proposed provisions around "non-residential EV charging" and "Time-of-Use" electricity pathways.

NRDC supports staff's efforts to increase the participation in the LCFS for non-residential EV charging by fleets or public/workplace charging. However, the provisions allow for any entity to claim credits that go unclaimed, without sufficient provisions to ensure that the workplaces, fleets, or public charging companies are notified of the value of the credits and the transfer of those property rights to the claiming entity. We recommend that the Board and staff work to ensure that the system is not abused by entities that may simply collect credits.

As an alternative, ARB could develop a methodology to estimate the amounts of electricity unclaimed and assign those credits to regulated utilities or charging providers, all of whom are required to provide the LCFS value back to the benefit of EV customers. ARB could also allow entities who have existing rebate programs for charging infrastructure or electric vehicles to identify those unclaimed credits for purposes of those rebate programs.

On time-of-use charging, NRDC notes that there is significant research on the capability for utilities to integrate additional renewables through managed EV charging, including use of demand response. While there is a large potential, it is unclear how the additional for TOU charging would be additional if GTSRP programs that already credit for incremental electricity are fully utilized. We recommend that ARB make the TOU charging provisions a pilot program, pending a third-party reviewer analyzing the effectiveness of the provision based on the first two years of data, to ensure that the credits generated are truly enabling renewables that would have been curtailed otherwise.

4. ARB should work to develop and implement an EV credit program that is state-wide, consistent, and that results in an upfront "clean fuels reward" for EV customers toward the purchase or lease of an electric vehicle or charging infrastructure.

NRDC supported the development of regulatory principles early-on in the development of the LCFS to help ensure that parties receiving EV LCFS credits would ultimately use proceeds to benefit current and future EV customers making the switch to clean electricity. NRDC agrees with utilities, NGOs, and automakers that six years later, the program could improve its efficacy and effectiveness in terms of expanding the EV transportation market. At the same time, we are cognizant that regulated parties have already established programs that are in place and that EV customers are starting to receive benefits. We ask the Board to direct ARB staff to develop a solution that captures the input from utilities, automakers, charging service providers, and NGOs in a timely, deadline-driven manner that meets the following objectives.

- Point-of-sale, clean fuels reward:
    - LCFS credits generated should go to increasing customer adoption of electric vehicles (passenger vehicles, trucks, buses, goods movement vehicles) to increase the use of electricity as a clean fuel.
    - Based on their express choice, EV customers should be able to select either a lump sum “clean fuels reward” that could go towards the purchase or lease of an electric vehicle or the purchase of charging infrastructure, ideally provided at the point-of-sale.
- State-wide consistency and reach
    - The clean fuels reward program should work the same for all California EV customers across utility boundaries and apply to all automakers selling electric vehicles. Additional state-, utility-, or automaker-specific programs could still be layered upon the baseline LCFS reward. But at its core, the LCFS clean fuels reward program should be well advertised, transparent, and easy to understand.
- Increased fairness
    - The amount of EV reward should correspond with the expected electric miles traveled or, more accurately, the GHG emissions avoided from that electric vehicle model based on the footprint. ARB should simply provide a table for the reward amounts that models would receive so that a 240-mile EV is credited fairly versus a 15-mile plug-in hybrid, for example.
    - The clean fuels reward should also encourage increased EV access and affordability in low-income, disadvantaged communities
- Higher-impact
    - The LCFS clean fuels reward should be supportive of regulated entities bringing the stream of credit value up-front (i.e. providing 3+ years of credit value).
    - ARB could consider allowing a “LCFS balancing account” to be used for electricity that have a very-high likelihood for future credit generation. ARB could consign three years or more of credit generation to the EV regulated entity at a discounted amount, with those regulated entities in turn agreeing to have future credits retired.

5. We support allowing alternative jet fuel to opt-in to the program

We support CARB’s proposal to allow alternative jet fuel (AJF) to generate LCFS credits as an opt-in fuel. We mirror stakeholder comments on this issue, namely:

“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.”

NRDC also notes that the inclusion of alternative jet fuel will also prevent the effects of encouraging a refinery to produce on-road renewable diesel in lieu of renewable-based jet fuel, allowing the refinery to optimize the production based on demand from fleets.

As a separate stakeholder comment letter notes, “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 de-carbonization 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.”

6. ARB’s CEQA analysis of the NOx emission, based on expert third-party review, is conservative.

NRDC supports the CEQA analysis of the LCFS and ADF rules as being conservative. The agency has diligently attempted to identify and remediate any potential past NOx increases due to biodiesel use as well as to mitigate any potential future NOx increase from additional biodiesel use. An independent, third-party technical review of ARB’s CEQA analysis by Sonoma Technologies, Inc will be submitted separately. STI has worked with government agencies and industry over the past 35 years around air quality studies, measurements, regulatory and data support, in addition to conducting CEQA trainings for government agencies.

NRDC also notes that the focus on biodiesel by itself, in part, provides only a narrow and limited view of the LCFS in its entirety in terms of impacts to public health. Overall, the program is expected to reduce criteria emission pollutants by substituting cleaner fuels for petroleum-based fuels, including use of clean electricity, hydrogen, renewable diesel, and biogas. With additional ADF requirements to use NOx reducing additives in biodiesel, the program in its entirety will ultimately result in even lower criteria emission pollutants versus a no-LCFS case.

7. NRDC supports the inclusion of accounting and permanence requirements for ethanol facilities, petroleum refineries, and crude oil producers that reduce their carbon intensity using carbon capture and sequestration.

Carbon capture and sequestration technologies have the potential to be a crucial tool in efforts to keep global temperature rise below 2 degrees centigrade, consistent with the Paris Accord. 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. A recent report prepared by Cerulogy Research for NextGen Policy Center showed significant potential for the technology to be deployed and contribute towards achieving LCFS targets.[4]

The Board voted years ago to allow all fuel producers to capture and sequester carbon dioxide from their own operations as another way to broaden the range of strategies employed to reduce fuel-production emissions. Pursuant to past direction by the Board, ARB staff has now devoted several years' worth of work into developing the technical framework that will be used to ensure permanence of the sequestration and govern the relevant accounting. We welcome ARB's efforts, and have actively participated in every step to date.

The proposed CCS Protocol under the LCFS represents the most comprehensive piece of CCS regulation by any jurisdiction, and goes to great lengths to ensure the safe and sound selection, operation, decommissioning and monitoring of CCS projects. NRDC has devoted considerable time and attention to the science and regulation of CCS for well over a decade now, and are encouraged by the level of detail, prevention and diligence that ARB has incorporated into the Protocol. We are providing separate technical comments on ways to further improve the Protocol, and encourage ARB to ensure that environmental risks are mitigated without erecting prohibitively large barriers to developing projects that would further the achievement of California's climate goals.

8. NRDC supports the inclusion of provisions that will result in direct emission reductions from refineries and crude oil facilities

Since 2012, NRDC has supported CARB's efforts to establish credits for GHG emission reductions from refinery improvement and crude oil emission reduction projects, and we have at times worked and joined together with labor organizations under Blue-Green Alliance. Credits for refinery improvements represent a significant opportunity to spur additional investments that improve the environmental performance of refineries and that create secure refinery jobs, while reducing the carbon-intensity of transportation fuels and fostering additional benefits such as reductions in criteria pollution. To that end, we asked ARB in 2015 to help ensure that the projects represent actual capital investments to reduce carbon emissions (as opposed to simply shutting down units), creating net reductions in carbon-intensity across the refinery, and be limited to projects undertaken to help comply with the standards beyond business-as-usual, and to demonstrate the projects would meet local restrictions around air quality and criteria emissions.[5] We thank ARB for working diligently to add provisions to help ensure we can achieve multiple benefits. At the same time, we urge ARB to continue to require from parties that the reductions are real and verifiable, consistent with maintain the integrity of the program.

9. NRDC strongly supports the inclusion of a third-party verification program to ensure accurate, robust reporting.

The LCFS is one of the world's most effective programs at incentivizing companies to lower the carbon-footprint of their products in a performance-based, data driven manner. As the value of the LCFS credit

[4] https://www.arb.ca.gov/lispub/comm/bccomdisp.php?listname=lcfs18&comment_num=5&virt_num=5

[5] NRDC and Blue Green Alliance (February 17, 2015). Letter to the Board.

market has increased, and as the breadth of projects have grown, it is incumbent on ARB to create a verification system that enhances the program's integrity.

We support ARB's efforts to ensure that regulated entities generating more than a *de minimis* amount of reduction credits provide third-party verification around the data reported to ARB, including site-specific annual visits. We support ARB's efforts to also require independent third-parties to participate in training and to have no conflicts of interest. Doing so will allow the performance-based, technology neutral flexibility that ARB provides to allow for companies to credit their innovations and improvements, while enabling the administrative aspects to be handled in manageable fashion.

In closing, we urge ARB continue its decade long support of the LCFS and extend it into the next decade. Climate policy solutions for the transportation sector are needed in California, in other states, across the nation, and around the world. ARB must continue its longstanding leadership role by sending a strong signal that California will move forward – together with other subnational and national jurisdictions.

Sincerely,

Simon C. Mui

Senior Scientist, Ph.D.

Clean Vehicles & Fuels, California