August 8, 2022

Ms. Liane Randolph
Chair, California Air Resource Board 1001 I Street
Sacramento, CA 95814

Submitted electronically

RE: California Air Resources Board's Potential Future Changes to the Low Carbon Fuel Standard (LCFS) Program. July 7, 2022 public workshop.

Dear Chair Randolph,

These comments are submitted by the Environmental Defense Fund (EDF). Representing over 3 million members and supporters nationwide, EDF has been actively pursuing solutions to global climate change for over 30 years, including almost a decade of efforts to reduce harmful pollution from aviation to mitigate climate change and deliver public health benefits by means of alternative fuels.

EDF welcomes the opportunity to provide comments on the July 7, 2022 "Potential Future Changes to the LCFS Program" workshop organized by the California Air Resources Board (CARB). EDF commends the agency for its continuing efforts to promote a cleaner, lower-carbon transportation sector. The comments below offer a number of recommendations for CARB to consider in its continued efforts to strengthen the program and maximize the program's benefits in mitigating greenhouse gas (GHG) emissions in a sustainable manner. These comments focus on one of the matters CARB is seeking feedback, namely, approaches for avoiding deforestation, land conversion, and adverse food supply impacts.

While EDF's comments are relevant for the full spectrum of biofuels that generate credits under the LCFS, we would like to emphasize the importance of alternative fuels for aviation, as these become particularly relevant following Governor Newsom's letter to CARB on July 22 that requests bolder action than that outlined in the draft Scoping Plan and includes the adoption of an aggressive 20% clean fuels target for the aviation sector and the mandate for CARB to evaluate and consider an increase in the stringency of the LCFS. The adoption of a target for aviation – which would need to be structured as a sub-target within the LCFS to ensure alternative fuels are actually deployed for aviation – represents a unique opportunity to set a future-proof program that delivers climate (both from CO_2 and non-CO_2 climate impacts) and public health benefits without unintended consequences on ecosystems, livelihoods, and communities.

Governor Newsom's request represents a milestone for aviation with nationwide implications. The structured deployment of sustainable aviation fuels (SAF) opens an opportunity to chart a path forward for civil aviation to deliver on the imperative of a net-zero climate impact by 2050. Expanding the scope of the LCFS program to include aviation

fuels beyond the existing opt-ins is a necessary step towards that goal. However, deploying SAF only makes sense if the SAF significantly reduces emissions, meets a high standard of environmental integrity, and is transparently and accurately accounted for to avoid double counting emissions reductions. (The same principles also apply for alternative fuels for ground transport.) CARB has the opportunity to set a program for aviation that delivers on real benefits from the start by adopting, inter alia, approaches for avoiding deforestation, land conversion, and adverse food supply impacts.

Over the past decade, EDF has been highly engaged in climate policy at the United Nations' International Civil Aviation Organization (ICAO), leading and participating in expert working groups developing ICAO's Sustainability Framework for SAF -- an effort that builds on California's LCFS as well as other programs from other parts of the world. In parallel, EDF has also been highly engaged in efforts at the United States Congress with regards SAF tax credits, which are currently under consideration as part of the Inflation Reduction Act of 2022. CARB should carefully consider the implications of these developments as all these policies interact with each other. For instance, in the absence of an expansion of the LCFS to aviation fuels uplifted in California, the tax credits envisioned under the Inflation Reduction Act of 2022 could potentially divert a large amount of alternative fuels currently being deployed for ground transport, with broad implications that require a careful evaluation.

EDF's High-Integrity SAF Handbook provides relevant insights from the lessons learned from ICAO's SAF sustainability and accounting framework, as well as on how the tax credits envisioned under the Inflation Reduction Act of 2022 would interact with California's LCFS. The Handbook should also be useful to CARB as it embarks on the reform of the LCFS more broadly. The Handbook will be available here: https://www.edf.org/sites/default/files/2022-08/EDF%20HIGH-INTEGRITY%20SAF%20HANDBOOK%202022.pdf

Avoiding deforestation, land conversion, and adverse food supply impacts

In the July 7 workshop, CARB raised one of the key questions that define the environmental and social integrity of alternative fuels, namely, the need to avoid deforestation, land conversion, and adverse food supply impacts. As CARB staff evaluates approaches to avoid such impacts, EDF would like to highlight that the existing approach – which involves estimating and accounting for greenhouse gas (GHG) emissions from indirect land-use change (ILUC) emissions – should evolve as fast as possible into an approach that factors in the need to avoid unintended consequences on ecosystems, livelihoods, and communities to ensure the sustainability of the alternative fuels. This implies identifying feedstocks with ILUC risk and implementing measures to mitigate such risk and thereby avoiding unintended consequences on ecosystems and livelihoods. Furthermore, CARB should ensure that all feedstocks used to produce biofuels – not only crop-based feedstocks – have low ILUC risk to avoid unintended consequences and thereby ensure their sustainability.

The model that CARB used for estimating default ILUC emissions for the LCFS incorporates the following three main market-mediated responses: (i) new agricultural land, (ii) yield increases, and (iii) reduced food and feed demand (including reduced food consumption). Therefore, the default ILUC values represent a theoretical estimation of the GHG emissions from new agricultural land – including from deforestation – that is needed to meet residual

feedstock demand after considering (1) the amount of feedstock demand that would be satisfied by means of yield increases, and (2) the reduction in feedstock demand resulting from higher food and feed prices.

While this approach is critical to identify feedstocks with ILUC risk, it does not account for unintended consequences such as biodiversity loss, or the hunger, food insecurity and malnutrition that higher feedstocks prices could cause. Hence, accounting for the GHG emissions derived from ILUC alone while ignoring the broader environmental and social impacts is not consistent with the sustainability principles that should guide action.

These market-mediated responses do not necessarily take place at the local scale. In most cases –since global commodities as corn grain or soybeans are involved – they take place at the global scale. For instance, diverting food and feed crops in the United States to produce bioenergy could result in (a) forest land being destroyed in the Amazon Rainforest to make up for the reduced food supply in the United States and/or (b) food staples price surges that bring hunger and malnutrition across vulnerable communities in Central America, which could eventually become a driver for forced migration.

To avoid unintended consequences, CARB should ensure that only feedstocks that can demonstrate low ILUC risk entitlements are eligible to generate credits under the LCFS. This means focusing only on feedstocks produced with integrity by means of yield increases – e.g., from the introduction of additional cover crops or the restoration of degraded lands – while avoiding feedstocks produced on new agricultural land or by way of reduced food production. The ICAO SAF framework already includes the innovative tools for demonstrating compliance with the low ILUC risk imperative. EDF High-Integrity SAF Handbook builds on the framework to propose an enhanced full-fledge methodology. Implementing such a framework requires enhancing the traceability and certification requirements consistently with ICAO's and with those envisioned in the Inflation Reduction Act of 2022.

The need to demonstrate low ILUC risk also applies to wastes, residues, and by-products—although in a different way. These have been designated as having zero ILUC value because some of these have indeed low ILUC risk. But displacement effects resulting in ILUC may still occur when certain of these feedstocks displace other existing uses such as when tallow is diverted from the food or feed industry. Hence the need to narrow the scope of eligible wastes, residues, and by-products to those with low ILUC risk as demonstrated by means of certification.

Finally, adopting measures to prevent the negative environmental and social consequences of certain feedstocks would also ensure a level playing field across alternative fuel pathways, including electrofuels from renewable electricity, waste or direct air-capture CO_2 and water. This is a sine-qua-non condition for ensuring resources are invested wisely and effectively and deliver on the imperative of the net-zero climate goal. We urge CARB to consider the full range of environmental and social consequences of alternative fuels as it embarks in the reform of the LCFS. The decisions we make now need to secure a vital earth for all. There is no room for mistake.

We would be glad to clarify or elaborate on any points made in the below comments. If there are any questions, CARB staff can feel free to contact Katelyn Roedner (kroedner@edf.org) and Dr. Pedro Piris-Cabezas (ppiris@edf.org).

Sincerely,

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