



San Francisco International Airport

February 20, 2024

The Honorable Liane M. Randolph  
Chair, California Air Resources Board (CARB) <https://ww2.arb.ca.gov/lispub/comm/bclist.php>  
1001 I Street  
Sacramento, CA 95814

TRANSMITTED VIA EMAIL

RE: Low Carbon Fuel Standard Missing Key Programs to Drive SAF Uplift as Key Components to Reach California’s Climate and Regional Air Quality Goals

Dear Chair Randolph,

As you know San Francisco International Airport (SFO) is a global leader of sustainable aviation fuel (SAF) uplift, using ten million gallons of neat SAF delivered last year. Receipt of this fuel was exclusively enabled by CARB’s 2018 Low Carbon Fuel Standard Rulemaking that incentivized SAF beyond any other state or country. Since this adoption, SFO and the Sustainable Aviation Fuel (SAF) Coalition we launched that is comprised of airlines, airports, conventional and alternative aviation fuel producers, and other nonprofit and government partners, has met with CARB staff and leadership to compel additional programs to sustain the state’s SAF leadership. Further, the SAF Coalition teamed with the Speaker of the Assembly, Robert Rivas, to author the widely supported AB1322, which passed unanimously through the California Legislature, to gap analyze SAF programs that could ensure California’s continued SAF competitiveness. While SFO respects the bold decarbonization vision that CARB outlined in its 2022 Scoping Plan Update, we write today to humbly request that CARB team with key members of our aviation industry, as AB1322 requested, to develop a far broader playbook than that proposed in this 2024 Low Carbon Fuel Standard (LCFS) Rulemaking to ensure the state meets Governor Newsom’s 20% clean fuels adoption for the aviation sector, estimated at 1.5 billion gallons of SAF by 2030.

California and CARB must model a complete program that addresses the greenhouse gas and criteria air emissions across all sectors. Aviation efforts are falling short of our European counterparts. SFO aligns with our industry peers to urge CARB to align LCFS policy across both hydrogen and SAF to allow for book and claim accounting for low-CI electricity and RNG inputs via the use of Power Purchase Agreements (PPAs). SAF and hydrogen are both nascent industries and the state should equally allow the indirect accounting for both technologies.

SFO continues to encourage CARB to consider LCFS and other levers that can materialize new markets to recognize SAF’s non-CO2 benefits, as outlined in previous communications with CARB, the California Natural Resources Agency (CNRA), the Bay Area Air Quality Management District, and GoBiz. These positive externalities include improvements to air quality, economic development through green jobs, and wildfire risk reduction, and are detailed in industry studies and should be represented in the LCFS, Scoping Plan, further CARB

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Rulemaking, GoBiz programs and/or CNRA incentive structures. A recent Airport Cooperative Research Program (ACRP), administered by the Transport Research Board of the U.S. National Academies of Sciences, found that a 50% SAF blend could reduce by nearly 40% oxides of sulfur and PM reductions of up to 65%. A more recent measurement campaign found that SAF produced via the alcohol-to-jet pathway could reduce non-volatile PM by up to 97%.

The California aviation sector utilizes four billion gallons of conventional jet fuel annually. By creating new programs that enable airlines to switch to SAF, California can reduce aviation GHG emissions by 50-80% on a lifecycle basis. If aircraft in California uplifted just 5% SAF by 2025, greenhouse gas emissions avoided from those flights would total up to 2 million metric tons of CO<sub>2</sub>. Without growing AJF use, aviation sector emissions are expected to grow to over 25% of California's emissions by 2040, as other sectors (e.g., buildings, road transport) have full decarbonization pathways.

SFO has set a goal of expanding SAF use by its airlines to 5% by 2025. And while we are on our way, hitting 1% last year, achieving this goal will require 200 million gallons of SAF per year (MGY) by 2025, or 16 new SAF plants. As this goal of 200 MGY represents only about one-third of California's 2019 renewable diesel supply, it requires a rapid scaling of SAF production to be achieved.

SAF is being commercialized and is scalable, but volumes are currently small, with roughly 15 million gallons used exclusively in California last year, compared to 2.5 billion gallons of biodiesel and renewable diesel consumption. The key factor limiting SAF growth is the total monetary value that SAF producers receive when compared to that available to producers of alternative fuels to serve the on-road market. This has been quantified and detailed in a 2020 submittal by Graham Noyes ("Cap and Rack Cost" + LCFS cost) and is recognized by the industry to be approximately \$0.40 per gallon. To that end, we request that CARB further review LCFS through its Public Workshops and consider revising the regulations to overcome the disparity in policies between the production of renewable diesel and SAF. Doing so will send the price signal producers need to secure investment capital to expand their facilities and increase supply to airlines uplifting SAF in California. It also offers a lifeline to renewable diesel fuel producers that exclusively serve the on-road sector, which is now obligated to increasingly electrify through State Executive Order and regulation to retrofit and retool plants for a future of aviation fueled by SAF.

With quotas and targeted SAF incentives announced and growing in Canada, the United Kingdom, Sweden, Norway, and the European Union, we hope that CARB will consider expanding the LCFS credit for SAF. Doing so will help power aviation's contribution to California's continued post-COVID and wildfire recovery in a way that keeps our state climate-competitive and fuels our industry's energy transition. While other states are starting to develop more robust SAF tax credits and incentive programs, CARB must grow SAF's LCFS credit value, or pursue other programs that can scale (not hinder) SAF as a key waypoint in California's climate emergency response planning and create a lasting legacy for our state.

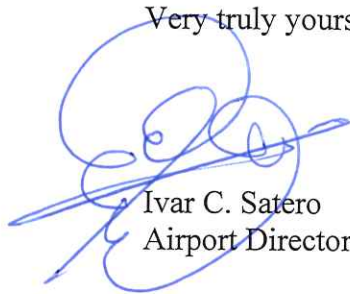
*The Honorable Liane M. Randolph, Chair, California Air Resources Board (CARB)*

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We stand ready to support CARB's leadership, side by side with our airline and SAF producer peers, through the development of a mutual and robust SAF campaign that we hope you'll take on through this LCFS Rulemaking.

Very truly yours,

A handwritten signature in blue ink, consisting of several loops and a long horizontal stroke, positioned above the printed name and title.

Ivar C. Satero  
Airport Director