February 20, 2024

California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812
[submitted electronically]

RE: Comments of Joby Aviation on the Proposed Amendments to the Low Carbon Fuel Standard

Joby Aviation appreciates the opportunity to provide comments on the California Air Resources Board's (CARB) Proposed Amendments to the Low Carbon Fuel Standard (LCFS).

About Joby Aviation

Joby's mission is to help the world connect faster and more easily with the people and places that matter most by delivering a new form of clean, quiet, electric vertical take-off and landing (eVTOL) aerial transportation. Building on recent advancements in energy storage, microelectronics, material science, and software, we are developing an all-electric aircraft with zero operating emissions that will transport a pilot and four passengers at speeds of up to 200 mph, while also having the ability to take off and land vertically.

Developing sustainable mobility solutions has never been more needed given the threat that climate change poses to our communities and to our planet. According to the U.S. Environmental Protection Agency (EPA), the top source of CO2 emissions in the U.S. is the transportation sector. We expect the electrification of transportation to accelerate and extend to the skies in the decade ahead, representing a bright spot where technology, economy, and sustainability converge. Applying electrification to small aircraft unlocks new degrees of freedom in aircraft design that were not possible with traditional, combustion engines.

Our aircraft has been specifically designed to achieve a considerably lower noise footprint than that of today's conventional aircraft or helicopters. It is quiet at takeoff and near silent when flying overhead, blending seamlessly into the environment. This will allow us to operate from new skyport locations nearer to where people live and work, in addition to

utilizing the more than 5,000 heliport and airport infrastructure facilities already in existence in the U.S. alone.

Joby is headquartered in Santa Cruz, CA with over 1,400 employees across California. In 2022, we completed the construction of our pilot production lines in San Carlos and Marina, CA, and we began manufacturing our production prototype aircraft. We are excited to support the clean transportation and climate goals of our home state.

Zero-Emission Aviation is Key to Meeting California's Climate Goals

The combustion of aviation and other transportation fuels releases substantial amounts of greenhouse gasses into the atmosphere. The transportation sector has the highest dependency on oil over any other sector, with over 90% of energy coming from fossil fuels.[1] At the same time, the aviation industry is undergoing rapid expansion due to the increasing popularity and accessibility of flying. The rise of low-cost carriers and a growing middle-class population worldwide have fueled a surge in air travel demand. Joby strongly supports the broader accessibility of flying as a mode of transportation. We also believe that eVTOL will play an important role in replacing internal combustion vehicles on the road. However, there is a challenge in ensuring minimizing the environmental impacts while reaping the undeniable benefits of increased mobility and connectivity.

For this reason, California and CARB have already created goals to reduce emissions from aviation. These include:

1. 20% of aviation fuel demand met by electricity (batteries) or hydrogen (fuel cells) by 2045; and
2. Sustainable aviation fuel meeting most or the rest of 2045 fuel need.[2]

These goals are ambitious, but Joby and others in the aviation sector are working to ensure that zero-emission aviation becomes a reality in California. In order to advance these goals, CARB will need to utilize every tool available to unlock zero-emission and sustainable aviation technologies and fuels. This includes the LCFS, which will play an important role in incentivizing a less carbon-intensive aviation industry. CARB should seek to streamline the participation of the aviation sector in the LCFS, such as by creating Tier 1 or Lookup Table participation pathways for electric aviation. It is also important that CARB initiate a rulemaking process to implement its aviation goals.

Joby Supports a Stronger LCFS Program

[1] See Data from the International Energy Agency: https://www.iea.org/energy-system/transport
[2] CARB 2022 Scoping Plan at p.73. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf

Joby supports increasing the carbon intensity (CI) reduction target of the LCFS program to at least 30 percent by 2030 and also increasing stringency in later years. As emphasized in the 2022 Scoping Plan Update, the aviation sector holds an important role in California's ambitious journey toward carbon neutrality by 2045, and the LCFS program is a critical instrument in facilitating the decarbonization of aviation.

Beyond setting a more ambitious yet attainable CI target for 2030, it is imperative to structure the LCFS program to be adaptable to market dynamics, ensuring support for continued investments in the cleanest low-carbon technologies. The inclusion of a compliance target "auto-acceleration mechanism," capable of automatically adjusting to expedite investments if the LCFS program surpasses expectations, serves as a strategic measure to maximize California's potential for emissions reduction in the transportation sector. This multifaceted approach aligns with Joby's commitment to sustainable aviation and complements the broader initiatives aimed at achieving California's environmental objectives.

Conclusion

Joby is excited to continue to work with CARB on achieving California's zero-emission aviation and larger climate goals.

Sincerely,

/s/ George Kivork
George Kivork
Head of U.S. State & Local Policy
Joby Aviation