August 4, 2022

Cheryl Laskowski, Ph. D.
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Lucid's Comments on the July 7, 2022 Public Workshop: Potential Changes to the Low Carbon Fuel Standard

Dear Dr. Laskowski:

Lucid USA, Inc. ("Lucid") appreciates the opportunity to comment on the July 7, 2022 public workshop regarding potential changes to the Low Carbon Fuel Standard program (LCFS). We are excited for CARB to begin discussing future changes to the program to align with ongoing State and agency priorities.

As you are undoubtedly aware, the LCFS is one of – if not the most – powerful climate change programs in California, and likely the world. As CARB and California look ahead to achieving carbon neutrality statewide and transitioning entirely to an electrified transportation sector, now is the critical time to look at how the program may be best improved to achieve these outcomes and its continued success.

Our comments are summarized as follows:

- We encourage CARB to continue looking into stronger standards for the 2030 carbon intensity (CI) adjustments and recommend setting post-2030 CI targets more ambitiously than minimum existing regulations' milestones.
- CARB should consider incentivizing vehicle efficiency improvements that lower the cost of zero-emission vehicles (ZEVs) to drive widespread access to low-cost, no-compromise ZEVs.
- Rather than creating a precedent where credits are phased out, we recommend defining a "successful transition" for each technology considered under LCFS to eliminate market uncertainty for ZEV manufacturers.

About Lucid

Lucid is a California-based electric vehicle manufacturer with headquarters in Newark. The Lucid Air is the world's most powerful and efficient electric sedan with a range of 520 miles, the fastest recharge speed in the industry (300 miles in 22 minutes at a 300+ kW charger), and the first commercially available vehicle to be vehicle-to-grid capable. We have a clear vision for transitioning our market-leading technology to mainstream market segments. Importantly, our

technology leadership – especially on efficiency – will be key to enabling electrification of the heavy-duty sector and unlocking low-cost, mass market, no-compromise ZEVs.

LCFS carbon intensity adjustments should align with State climate goals for 2030 and be more ambitious for post-2030 CI targets

Lucid strongly supports the principle of aligning with state transportation and equity objectives for the 2030 CI adjustments. We encourage CARB to continue looking into stronger standards at least in line with the approved Scoping Plan, which may include tighter economy-wide emissions reductions in 2030 than minimally required under SB 32, as well as the overarching objective of achieving carbon neutrality statewide as soon as possible.

Regarding post-2030 CI targets, we support aligning the program with Executive Order N-79-20, which sets a goal of achieving 100 percent light-duty zero emission vehicle sales in the state by 2035. Additionally, we agree that LCFS should consider existing regulations with post-2030 milestones but caution CARB on leveraging the milestones set out in the Advanced Clean Cars II Regulations (ACC II) without additional market analysis. As discussed in Lucid's comments on ACC II,[1] the current stringency of the regulation appears to be low. CARB's analysis included in the ACC II ISOR regarding near-term automaker ZEV production plans and modeling of a slow turnover of conventional vehicle models to ZEVs suggests the ZEV market in California could easily and significantly outpace minimum proposed regulatory requirements in ACC II that are reflected in the proposed Scoping Plan scenario by millions of vehicles in 2030 and beyond.[2] We consequently recommend setting post-2030 CI targets more ambitiously than minimum ACC II milestones in 2030 and beyond and actively soliciting additional data regarding expected ZEV sales levels when considering targets.

LCFS should create market conditions for efficiency to drive widespread access to low-cost, no-compromise ZEVs

With increasing range now a staple in the ZEV marketplace, efficiency will be the determining factor as to when long-range, no-compromise ZEVs reach all vehicle segments. Improved ZEV efficiency delivers the same benefits it does for conventional vehicles – improved environmental performance, enhanced national security, and lower operating costs. Efficiency reduces electricity grid impacts, upstream emissions, and the amount of additional energy resources needed to support the State's electrification priorities. It reduces demand for lithium and critical materials, along with potential supply chain bottlenecks; therefore, ZEV efficiency reduces vehicle production costs by reducing the amount of batteries needed to achieve a

[1] Witt, Daniel. Lucid Motors. *Lucid Motors CA ACCII Comments*. May 31, 2022. https://www.arb.ca.gov/lispub/comm/iframe_bccomdisp.php?listname=accii2022&comment_num=468&virt_num=154.

[2] For example, based on these numbers we estimate 7.8 million ZEVs on the road in California in 2030, compared to 4.8 million ZEVs in 2030 in the proposed Scoping Plan scenario (Alternative 3). Note that Alternative 4 in the Draft Scoping Plan Update, which reflects the modeling from the AB 74 Studies on Vehicle Emissions and Fuel Demand underlying the 25% carbon intensity reduction scenario by 2030, has only 4.1 million ZEVs in 2030.

targeted range. Efficiency additionally reduces the cost of the battery itself by putting downward pressure on commodity prices for lithium and other critical materials. Lucid believes strongly that efficiency can serve as a primary innovation leading to lower cost ZEVs over the coming decade.

CARB can take an important step to encourage ZEV efficiency in the LCFS by allowing automakers with highly efficient electric vehicles to generate incremental LCFS credits by opting in to generate unique EER values above and beyond the baseline EER values for a particular vehicle category. These incremental credits would fall under an "Exceptional Efficiency Values" category, where eligible ZEVs above a certain percentage more efficient than CARB's baseline assumptions can generate LCFS credits.[3] For example, a vehicle that is 50% more efficient would require 33% less battery, reducing incremental vehicle costs by well over $2,000 under CARB's analysis.[4] It would also require 33% less energy to travel a mile, reducing electricity generation needs and greenhouse gas and criteria pollutant emissions from upstream electricity generation by a similar amount.

We appreciate and support the principle of streamlined implementation, and we think such a program could be designed without needing to give every vehicle and class its own EER value, while providing an important incentive for automakers to improve efficiency and marketability of electric vehicles and reducing their environmental impacts. Coupled with a more stringent regulation overall, this crediting approach could generate additional value for exceptional efficiency, supporting the more rapid production and adoption of low-cost, no-compromise ZEVs and advancing the environmental and equity goals of the ACC II regulation. By prioritizing and rewarding efficiency, LCFS can accelerate universal access to ZEVs – including for lower income residents and disadvantaged communities – accelerating market, emissions, and equity outcomes. Lucid hopes CARB will consider incentivizing vehicle efficiency improvements through incremental EER crediting for highly efficient electric vehicles, and we would be happy to work with you to develop a streamlined approach to doing so.

LCFS should not create a precedent where credits are phased out

Lastly, Lucid does not recommend phasing out credits for electric forklifts due to the precedent it sets. Without defining a "successful transition" for each technology considered under LCFS, it becomes unpredictable when other crediting opportunities or equipment will be phased out, sending mixed signals to the ZEV market. Rather than simply removing electric forklifts, we

[3] For example, the SRIA assumes passenger BEVs have an average efficiency of 3.7 mi/kWh over model years 2026-2035 (p. SRIA-88), suggesting passenger vehicles eligible for "Exceptional Efficiency Values" would have an average efficiency of 5.55 mi/kWh over those model years.
https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/appc1.pdf.

[4] For example, the SRIA estimates the incremental battery cost for a small car in 2026 to be $6,889 for a BEV300 and $9,385 for a BEV400 (Table 27, SRIA-64). A 33% reduction in this cost translates to savings of $2,273 and $3,097, respectively. The savings for larger vehicles with larger battery packs would be even greater, and additional incremental cost savings would accrue from lower sales tax and registration.
https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/appc1.pdf.

recommend CARB set clear guidelines on when and why phase-outs would occur for specific technologies. This would eliminate market uncertainty for ZEV manufacturers utilizing LCFS credits.

Conclusion

Thank you again for the chance to comment on the recent LCFS workshop. Lucid is grateful for the level of public engagement throughout this process and the efforts of CARB staff to develop a thoughtful, deliberate rule that balances the circumstances of automakers while transitioning quickly to 100% ZEV sales. We look forward to the opportunity to discuss these concepts with you further, and please do not hesitate to reach out with any questions.

Respectfully submitted,

Lillian Mirviss
Manager, State & Local Public Policy
Lucid USA, Inc.