Daniel Witt
Head of State & Local
Public Policy
Lucid Group
Washington, DC

October 27, 2021

Marissa Williams, Joshua Cunningham, Mike McCarthy
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Lucid Comments on October 13, 2021 Advanced Clean Cars II Workshop

Dear Ms. Williams, Mr. Cunningham, and Mr. McCarthy:

Lucid Motors appreciates the opportunity to comment on the October 13, 2021 Advanced Clean Cars II (ACC II) workshop. We are a California-based electric vehicle manufacturer, with headquarters in Newark, CA, and are excited to deliver our first electric vehicles to California customers in the coming days. The Lucid Air is the world's most powerful and efficient electric sedan, with a range exceeding 500 miles, the fastest recharge speed in the industry (350 kW), 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 heavy-duty sectors and unlocking low-cost, mass market, uncompromising zero emission vehicles (ZEVs) to enable the complete and quick transition to zero emissions transportation.

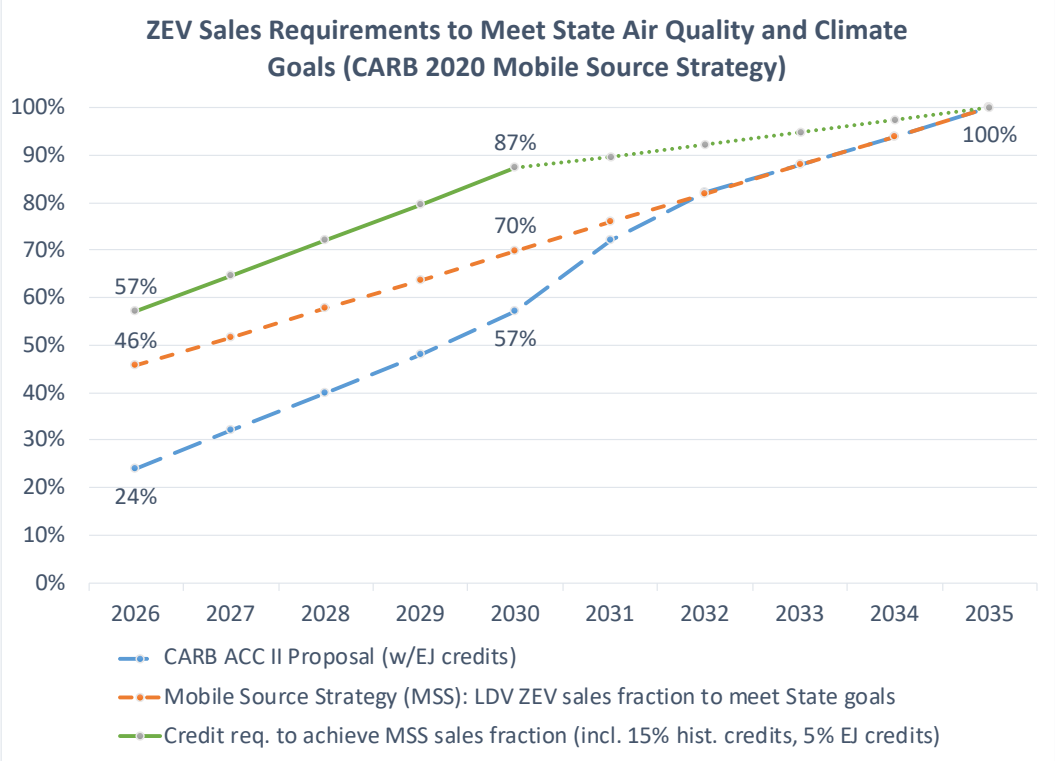
The State's Clean Air and Climate Objectives Require At Least Doubling the Stringency of the ACC II Rule in Model Year 2026

In our previous comment letters related to earlier workshops, we've proposed four principles to guide development of the ACC II regulation:

1. The ACC II regulations should be guided by the State's prevailing air quality and climate obligations, which requires as much or even more focus on driving ZEV sales in the 2021-2026 timeframe as it does achieving 100 percent ZEV sales by 2035.
2. Transitioning to 100 percent ZEV sales requires designing the regulation around no-compromise solutions.
3. Efficiency matters, even for ZEVs, and should be an underpinning metric of ACC II.
4. Support and maintain a competitive ZEV market that drives continual innovation.

We hope CARB and a broad array of stakeholders agree with these underlying principles, especially the first – that the ACC II regulation should align with requirements to meet the

State's air quality and climate change targets. The 2020 Mobile Source Strategy clearly outlines the ZEV sales trajectory needed to meet the State's existing climate and clean air obligations,[1] which starts at about twice the proposed stringency of the ACC II rule in 2026 (see figure below). Additionally, in the 2022 Scoping Plan Update, CARB is considering scenarios that achieve 100 percent light-duty ZEV sales ahead of 2035 – in order to meet Governor Newsom's recent request to evaluate more rapid greenhouse gas (GHG) emissions reductions, including achieving carbon neutrality by no later than 2035.



Instead, the most recent ACC II proposal targets ZEV sales levels in 2026 that are lower than previously estimated ZEV sales levels in 2023.[2] Since that time, auto companies have only increased their investments in ZEV technologies and manufacturing capacities. Furthermore, it appears the additional elements proposed in the latest workshop only weaken the stringency further, including:

- PHEV crediting that gives as much credit for a PHEV with 65-miles of all-electric range as a full ZEV with 500+ miles of range,
- Environmental justice crediting that, among other things, double counts ZEVs,
- Exemptions for small-volume manufacturers, and
- Credit pooling for Section 177 States.

[1] See Figure 13 in: CARB (2021) Revised Draft 2020 Mobile Source Strategy, California Air Resources Board, April 23. https://ww2.arb.ca.gov/sites/default/files/2021-04/Revised_Draft_2020_Mobile_Source_Strategy.pdf

[2] Reported OEM ZEV+PHEV sales projections are 25 percent in 2023 (See slide 38 from the May ACC II workshop: https://ww2.arb.ca.gov/sites/default/files/2021-05/acc2_workshop_slides_may062021_ac.pdf). The ACC II proposal aims for 24 percent ZEV+PHEV sales in 2026 (See slide 27 from the October ACC II workshop).

We strongly support CARBs efforts to deploy ZEVs in low income and disadvantaged communities, and also appreciate the desire to offer flexibility for ZEV Section 177 states. However, these efforts should support stronger regulatory and emissions outcomes, not weaker ones than originally proposed.

Alternatives that would comport with better emissions outcomes, such as early action credit banking, were not discussed during the latest workshop. And yet, the most recent Section 177 State, Nevada, recently adopted standards with early action as a key attribute of the regulation. If ACC II is truly about mass-adoption, we believe early action credits warrants stronger consideration.

CARB staff should be lauded for the level of public engagement throughout this process. But with every passing workshop, refinements have led to less stringent outcomes. At this point, we have significant concerns that CARB is on the cusp of proposing a regulation that likely won't become binding on a majority of the industry until after 2030.

Accordingly, we encourage you to evaluate significantly more stringent rules in the economic and environmental analyses, including scenarios that align with the Mobile Source Strategy and draft Scoping Plan scenarios for ZEV sales through 2030. We expect those analyses in some cases would demonstrate significant additional emissions benefits for the state at reasonable, and potentially negative, cost. We hope you will also consider strengthening the proposed ACC II rule in the forthcoming ISOR accordingly.

Efficiency is the Key to Enabling ZEVs for all Households

We appreciate CARB's focused efforts to advance ZEVs in all communities and households through environmental justice crediting. We support potential crediting schemes that advance environmental justice and equity outcomes, but have some concerns with the current proposal, which:

- Will serve to weaken the stringency of the program below initial proposed levels
- Potentially could be difficult to track and implement
- Includes an impractical assumption of discounting ZEV prices by 25 percent
- Inherently double counts ZEVs
- Encourages placing the lowest functioning ZEVs with the highest depreciation values, including plug-in hybrids and battery electric vehicles with low range, in low-income households. In turn, this proposal creates additional inefficiencies with infrastructure deployments in those areas leading to higher costs to create a sufficient charging network and higher operating costs for price-sensitive consumers.

CARB can expand ZEV access much more broadly by designing the whole of the program around desired equitable outcomes. To the extent that includes enabling and accelerating sales of long-range, low-cost ZEVs, CARB should include efficiency as a key element of the program. *This is the single biggest parameter CARB can control that will reduce the cost and environmental impact of ZEVs.*

Promoting improved vehicle efficiency delivers the same benefits for ZEVs as it does for conventional vehicles – including improved environmental performance, enhanced national security, and lower operating costs. Unlike conventional vehicles, however, ZEV efficiency has the added benefit of reducing vehicle production costs and purchase prices, too, by reducing the amount of batteries needed to achieve a targeted range and reducing the cost of the battery itself by putting downward pressure on commodity prices for lithium and other critical minerals.

As described in our previous comment letters, we think equity is best served by driving the market toward no-compromise and efficient ZEV solutions, with credit enhancements specifically targeting long-range, low cost ZEVs and other value-added elements for drivers. We hope CARB will consider the impacts of improved ZEV efficiency in its economic and environmental analyses, and ultimately include the following elements in its proposed regulation as a complement to other potential environmental justice elements:

- Minimum requirements to generate a full ZEV credit that ensure no compromise solutions compared to conventional vehicles, including:
    - 350 mile minimum range
    - 800+ volt architecture to minimize recharge times and charging infrastructure required to support the transition to 100 percent ZEVs
    - Footprint-based, minimum efficiency standards that would begin in 2026 at levels similar to leading performance today (for example, 3 miles/kWh for large SUVS and 4 miles/kWh for sedans), and would improve in-line with conventional vehicle efficiency over time (that is, 2-5 percent per year)
- Partial credits for ZEVs with lower functionality and PHEVs. (We feel that PHEVs do not belong in this regulation, per our previous comments, but if they are included, they should not be able to generate the same number of credits as a fully functional, long-range ZEV.)
- Credit enhancements for the most efficient ZEVs
- Credit enhancements for mass-market, low-cost, long-range ZEVs (i.e., $25,000 ZEVs with 350 miles minimum range and other minimum requirements)
- Credit enhancements for other value-added ZEV elements, such as vehicle-to-grid capabilities
- A GHG-ZEV undercompliance mechanism, like the GHG-ZEV overcompliance mechanism in ACC I, in which vehicles sold with emissions above prevailing GHG standards would generate additional ZEV deficits.

Avoid Unnecessary Requirements that would Add Costs or Burden

Similar to our suggested focus on efficiency and crediting mechanisms to drive the market most quickly to low-cost, mass market solutions, we encourage CARB to avoid adding costs or other burdens unnecessarily, which would work counter to emissions and equity outcomes.

We remain concerned with some of the ZEV assurance measures CARB has proposed – including those that assume future car markets and ZEVs should look and feel the same as historic market models for gasoline vehicles, or those that might expose vehicles and drivers to cyberthreats.

We also have questions about the down-selectability requirement in the convenience cord proposal. It's not clear what this provision intends to achieve, and it could potentially lead to drivers accidentally charging at lower speeds than anticipated, while unnecessarily adding cost to produce the hardware.

We appreciate the need to assure the mass market about new technologies but hope that you prioritize opportunities to reduce costs and speed ZEV adoption – like proposed through the CCS requirement – while avoiding adding unnecessary costs or burdens that could slow the market.

Pivotal Moment for CARB and the Climate

We submit these comments in the middle of a week that started with record-breaking rain, which helped alleviate record-breaking drought. The week will continue with CARB considering adopting the Mobile Source Strategy and reviewing strategies to achieve carbon neutrality as soon as 2035. And it will finish with Governor Newsom, Chair Randolph and a broad delegation of California policymakers traveling to Scotland specifically to advocate for ending our global reliance on oil.[3]

The context could not be more clear regarding the need for strong and effective ACC II standards. We hope that you will consider these comments and use the ACC II regulation to drive the market forward in a way that most rapidly ushers in low-cost, fully functional ZEVs to ensure the State meets its array of climate, air quality, and equity objectives.

Thank you,

Daniel Witt
Head of State & Local Public Policy
Lucid Motors

[3] https://www.gov.ca.gov/2021/10/25/california-governor-newsom-to-attend-united-nations-climate-change-conference-to-call-on-global-community-to-end-reliance-on-oil/