

April 21, 2025

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

Submitted Electronically: <https://ww2.arb.ca.gov/lispub/comm/bclist.php>

RE: Hyundai's Comments to the California Air Resources Board's Low Carbon Fuel Standard Third 15-Day Changes

Dear Chair Randolph:

Hyundai Motor North America ("Hyundai") appreciates the opportunity to comment on the California Air Resources Board's ("CARB") Low Carbon Fuel Standard's ("LCFS") third set of 15-day changes published on April 4, 2025.

Hyundai offers a variety of electric vehicle ("EV") powertrains including six battery-electric vehicle models between our Hyundai and Genesis brands as well as light-duty and heavy-duty hydrogen fuel cell electric vehicles ("FCEV"). We strongly support robust policies and incentives to increase EV adoption, particularly given last year's slowdown in EV take rates.

We were disappointed to see changes to CARB's Board-approved LCFS amendments that removed the option for automakers to earn up to 45 percent base credits. This allowance would have boosted EV adoption, which is especially important when adoption rates are waning, and state incentives such as the Clean Fuel Rewards program and Clean Vehicle Rebate Project are no longer available to consumers. Automakers are in the best position to repurpose the credit proceed, avoiding EV purchase stagnation by implementing programs that reengage prospective EV buyers.

Regarding hydrogen fuel requirements, it is crucial that the minimum percentage of renewable hydrogen is cost competitive. The average price of hydrogen is \$33.49ⁱ per kilogram which means it would cost \$212 to fill a Hyundai NEXO FCEV and \$2,244 to fill a Hyundai XCIENT Fuel Cell Class 8 tractor. The requirement for 80 percent renewable hydrogen and the addition of carbon capture and sequestration technology will undoubtedly increase the cost of hydrogen. Since this technology is still in its infancy, it is crucial that hydrogen fuel be affordable otherwise FCEVs are unlikely to become a viable option for consumers. CARB seems to understand that hydrogen technologies will be necessary to meet California's climate goals. Therefore, we strongly suggest that the renewable hydrogen percent requirement be limited to a level that would reduce the carbon intensity of hydrogen to zero, achievable with a 33 percent renewable hydrogen blend (depending on the source of the biogas).

In closing, Hyundai urges CARB to reinstate automakers' ability to earn up to 45 percent of base credits as well as reconsider the requirement of 80 percent renewable hydrogen due to cost competitiveness. Hyundai aligns with comments submitted by the Alliance for Automotive Innovation and appreciates CARB's consideration of our requests. Feel free to reach out to Gil Castillo at gcastillo@hmausa.com if you would like to discuss further.

Sincerely,



Olabisi Boyle
Senior Vice President, Product Planning & Mobility Strategy
Hyundai Motor North America

Enclosures:

Attachment 1 – Hyundai comments to CARB LCFS first 15-day changes

Attachment 2 – Hyundai comments to CARB LCFS second 15-day changes

ⁱ See S&P Global, [California hydrogen pump prices for light-duty vehicles reach new highs](https://www.spglobal.com/commodity-insights/en/news-research/latest-news/energy-transition/100124-california-hydrogen-pump-prices-for-light-duty-vehicles-reach-new-highs) (October 1, 2024) located at <https://www.spglobal.com/commodity-insights/en/news-research/latest-news/energy-transition/100124-california-hydrogen-pump-prices-for-light-duty-vehicles-reach-new-highs>

ATTACHMENT 1

August 27, 2024

Ms. Laine Randolph, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Submitted Electronically: <https://ww2.arb.ca.gov/lispub/comm/bclist.php>

RE: Hyundai's Comments to the California Air Resources Board's Low Carbon Fuel Standard 15-Day Changes

Dear Chair Randolph:

Hyundai Motor North America ("Hyundai") appreciates the opportunity to comment on the California Air Resources Board's ("CARB") Low Carbon Fuel Standard's ("LCFS") 15-day changes that were published on August 12, 2024.

Hyundai offers a diverse line up of quality and affordable electric vehicles ("EV") which include battery, plug-in hybrid, hybrid, and fuel-cell electric (both light- and heavy-duty) vehicles. We are committed to innovative initiatives that propel forward the EV transition. For example, we are a proud member of IONNA¹, the joint venture of eight automakers to build out more than 30,000 chargers across the nation. As a key partner in the NorCAL ZERO demonstration project², we deployed 30 heavy-duty XCIENT fuel-cell trucks to support the world's most capable hydrogen refueling station in Oakland. Additionally, we seek to convert drivers to EVs by offering a hands-on experience with EVs through a low-commitment, "try-before-you-buy" subscription program, Evolve+³. We will continue to doggedly pursue innovative solutions to spur EV adoption among early majority buyers.

Hyundai recognizes CARB's hard work and dedication in revamping the LCFS regulation. We greatly appreciate the proposal for automakers to earn Base Credits for plug-in electric vehicles ("PEVs"). Automakers are best positioned to efficiently utilize proceeds to further advance the EV transition as automakers have the most at stake. Additionally, we support the 9% stringency increase in carbon intensity ("CI"), as well as the proposed automatic acceleration mechanism, in hopes these together will increase the LCFS credit prices.

¹ See ionna.com.

² See Press Release, Hyundai Newsroom, Hyundai Motor Spearheads U.S. Zero-Emission Freight Transportation with NorCAL ZERO Project Launch (March 5, 2024), <https://www.hyundai.news/eu/articles/press-releases/norcal-zero-project-launch.html>.

³ See Press Release, Hyundai Newsroom, [Hyundai Announces Evolve+ EV Subscription Program at the Chicago Auto Show](https://www.hyundai.news/eu/articles/press-releases/hyundai-announces-evolve-ev-subscription-program-at-the-chicago-auto-show) (February 9, 2023), <https://www.hyundai.news/eu/articles/press-releases/hyundai-announces-evolve-ev-subscription-program-at-the-chicago-auto-show>.

However, significant investments are still needed for CARB to meet its environmental goals. California is behind in charging infrastructure to support the quantity of PEVs (aka ZEVs) required by CARB's Advanced Clean Car II (ACC II) regulation⁴ and woefully behind in hydrogen infrastructure for both light-duty and heavy-duty applications⁵. For example, in Southern California, there are no performant heavy-duty stations publicly available. The existing three stations are not a viable option due to limited fuel and station reliability issues. Additionally, PEVs are facing headwinds in the market, resulting in a much slower adoption rate than anticipated. Therefore, significant incentives are needed to rebuild the momentum.

Below are specific requests that we kindly ask you to consider.

1. The existing monies that the utilities collected but did not allocate through the Clean Fuel Reward ("CFR") program should be divided among automakers who sold PEVs from the time the program expired, September 1, 2022 until the next iteration of LCFS is implemented next year. Unfortunately, the automakers experienced a lost opportunity during this timeframe that would have otherwise supported EV expansion investments.
2. The CFR program has been changed to be used only for medium- and heavy-duty vehicles. We request that proceeds from credits generated from light-duty vehicles be utilized for light-duty vehicles.
3. The proposal states that the light-duty fast charging infrastructure ("FCI") program sunsets at the end of 2030. We request that this program be extended to 2035 to align with CARB's ACC II requirement of 100% ZEV sales by 2035 model year.
4. We request that the final amendments allow hydrogen-powered fuel-cell electric vehicles ("FCEVs") to receive Base Credits or, at a minimum, Incremental Credits subject to the applicable requirements for PEVs. Like PEVs, these vehicles produce no tailpipe emissions and should receive the same benefits as PEVs.
5. We have strong concerns that hydrogen produced using fossil gas feedstock can no longer generate credits starting in 2031. The hydrogen industry is still in its infancy. By removing fossil gas as an allowed feedstock at such an early stage, it may undercut the market's development. While we understand that water electrolysis is the goal, without abundant

⁴ See [CA AB 2127](https://www.energy.ca.gov/publications/2024/assembly-bill-2127-second-electric-vehicle-charging-infrastructure-assessment) Second Electric Vehicle Charging Infrastructure Assessment (updated March 6, 2024), located at <https://www.energy.ca.gov/publications/2024/assembly-bill-2127-second-electric-vehicle-charging-infrastructure-assessment>. The assessment states that 1.01 million chargers are needed to support 7.1 million light-duty vehicles by 2030, and 2.11 million chargers to support 15.2 million light-duty vehicles in 2035 to meet California's zero-emission vehicle targets. As of August 26, 2024, the California Energy Commission website shows 105,012 total public and shared private chargers (<https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics-collection/electric>).

⁵ See [CARB Hydrogen Station Network Self-Sufficiency Analysis per Assembly Bill 8](https://www2.arb.ca.gov/sites/default/files/2021-10/hydrogen_self_sufficiency_report.pdf) (October 2021), located at https://www2.arb.ca.gov/sites/default/files/2021-10/hydrogen_self_sufficiency_report.pdf, p. 14 ("With respect to hydrogen, the EO tasks all State agencies to work with other organizations in the private and public sectors to support the development of 200 hydrogen stations by 2025."). Additionally, according to the Hydrogen Fuel Cell Partnership, there are a total of 55 hydrogen stations 18,729 FCEVs in California as of July 3, 2024. See Hydrogen Fuel Cell Partnership, [FCEV Sales, FCEB, & Hydrogen Station Data](https://h2fcp.org/by_the_numbers) (Numbers as of July 3, 2024), https://h2fcp.org/by_the_numbers.

access to deionized water and more affordable green electricity – which will take considerable time to build out – hydrogen will not be cost-competitive. Meeting diesel Total Cost of Ownership is key to driving fleet adoption. We request that blended feedstock of bio and fossil gas be allowed in 2031 and beyond to generate credits until alternative technologies reach market readiness.

6. Though we are hopeful that the proposed CI standards will appropriately increase credit prices, we strongly encourage CARB to continue its dialogue with hydrogen refueling station operators. The current decline in LCFS credit values caused tremendous hardships on the operators, and this unfortunately resulted in a significant price increase at the pump. Appropriate LCFS credit values are imperative to maintain the affordability of hydrogen and ultimately drive FCEV adoption of all vehicle classes.

In closing, Hyundai appreciates CARB staff's efforts on these amendments. We also support the environmental goals that California's LCFS program strives to achieve. Hyundai is aligned with the comments submitted by the Alliance for Automotive Innovation. We are more than happy to discuss our comments further; please feel free to reach out to Gil Castillo at gcastillo@hmausa.com with any questions. Thank you.

Sincerely,

A handwritten signature in black ink, reading "Olabisi Boyle". The signature is fluid and cursive, with the first name "Olabisi" and the last name "Boyle" clearly distinguishable.

Olabisi Boyle
Senior Vice President, Product Planning & Mobility Strategy
Hyundai Motor North America

ATTACHMENT 2

October 16, 2024

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

Submitted Electronically: <https://ww2.arb.ca.gov/lispub/comm/bclist.php>

RE: Hyundai's Comments to the California Air Resources Board's Low Carbon Fuel Standard Second 15-Day Changes

Dear Chair Randolph:

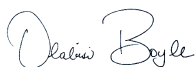
Hyundai Motor North America ("Hyundai") appreciates the opportunity to comment on the California Air Resources Board's ("CARB") Low Carbon Fuel Standard's ("LCFS") second 15-day changes that were published on October 1, 2024. We support the environmental goals that California's LCFS program strives to achieve.

Hyundai offers a diverse line up of electric vehicles ("EV") and is committed to initiatives that encourage EV adoption. However, as stated in our previous comment letter (Attachment 1), EVs continue to experience slower adoption rates in the market than anticipated. We believe that the LCFS program as well as complementary incentive programs are necessary to overcome this hurdle.

One area of particular importance is the opportunity for automakers to earn Base Credits for plug-in electric vehicles ("PEVs"). Accordingly, we greatly appreciate that this important provision remains in staff's LCFS proposal and urge Board approval of this provision. Automakers are well positioned to efficiently utilize LCFS credit proceeds to accelerate the EV transition. Additionally, we would like to thank you for allowing LCFS credit generation for 80 percent or more renewable hydrogen dispensed for calendar years 2030-2034.

In closing, Hyundai is aligned with the comments submitted by the Alliance for Automotive Innovation and appreciates CARB's dedication in its continued work revising the LCFS regulation.

Sincerely,



Olabisi Boyle
Senior Vice President, Product Planning & Mobility Strategy
Hyundai Motor North America