



December 1, 2020

Clerk of the Board
Air Resources Board
1001 I Street
Sacramento, CA 95814

Subject: CVRP - Proposed Fiscal Year 2020-21 Funding Plan

Members of the Board:

The Alliance for Automotive Innovation (Auto Innovators)¹ appreciates the work of ARB staff developing the fiscal year (FY) 2020-21 Funding Plan for Clean Transportation Incentives and specifically the Clean Vehicle Rebate Project (CVRP) portion of the funding plan. The CVRP is critical to growing the ZEV market. While we support most of the changes proposed, we do not support the increase in minimum range for plug-in hybrid electric vehicles (PHEVs).² This last-minute change, never discussed at any workshop, eliminates eligibility of the lowest priced vehicles, reduces options for single-vehicle households, adds market uncertainty to the program, and does not encourage manufacturers to increase PHEV range. This proposed change eliminates every ZEV less than \$30,000 and half of the PHEVs in the market. Instead of the proposed change, we recommend the board direct staff to develop a 5-year plan for PHEVs.

PHEVs are a critical element in developing and expanding the ZEV market. In fact, the 2020 Mobile Source Strategy document includes PHEVs (in ever decreasing portions) through 2045. These vehicles are powered by a combination of a battery and a gasoline engine. Battery range varies between 15 and 50 miles, at which point the gasoline engine seamlessly operates to drive another 350-615 miles. Refueling time for the gasoline engine is 5 minutes, and “refueling” time to charge the battery is typically under 8 to 10 hours from a standard 120-volt household outlet. Even PHEVs with a 25-mile label range will operate on electricity about 40-50% of the time on average, which could increase with more public charging. Moreover, these vehicles act as a bridge to full electrification allowing customers to experience electrification and the low cost of operation without any range anxiety.

¹ Formed in 2020, the Alliance for Automotive Innovation members include vehicle manufacturers (BMW, FCA, Ferrari, Ford, GM, Honda, Hyundai, Isuzu, Jaguar Land-Rover, Karma, Kia, Maserati, Mazda, Mercedes-Benz, Mitsubishi Motors, Nissan, Porsche, Subaru, Suzuki, Toyota, and Volkswagen), original equipment suppliers, technology companies, and other automotive-related companies and trade associations. The Alliance for Automotive Innovation is headquartered in Washington, DC, with offices in Detroit, MI and Sacramento, CA. For more information, visit our website <http://www.autosinnovate.org>.

² At the October 24, 2019 hearing, the Board directed staff to increase the minimum PHEV range from 20 miles to 35 miles on the Urban Dynamometer Driving Schedule (UDDS). In this year’s proposed FY2020-21 Funding Plan, the staff proposes to further increase the minimum range to 45 miles (UDDS). A 35-mile UDDS range equates to about 25 miles on the EPA label, while 45 miles (UDDS) equates to about 30 miles (EPA label).

Consequently, we have significant concerns with the proposed change that eliminates eligibility for half of the PHEVs. To summarize our concerns:

- **Eliminates the Lowest Priced Vehicles:** While the proposed plan maintains rebates for the highest priced vehicles, it eliminates rebates for the lowest priced vehicles. This seems counterproductive particularly during a pandemic with economic uncertainty and near-record-high unemployment. To illustrate this point, below is a list of vehicles eligible for a CVRP rebate. Vehicles eliminated by the proposed plan have been crossed out. The proposed change effectively eliminates eligibility of every vehicle below \$30,000.

Table 1: List of Available ZEVs Eligible for CVRP³

Model ⁴	MSRP
Hyundai Ioniq PHEV	\$26,500
Toyota Prius Prime PHEV	\$28,220
Kia Niro PHEV	\$29,490
Mini Cooper SE BEV	\$29,900
Nissan LEAF BEV	\$31,600
Ford Escape PHEV	\$32,650
Hyundai Ioniq BEV	\$33,045
Honda Clarity PHEV	\$33,400
Ford Fusion PHEV	\$35,000
Chevy Bolt BEV	\$36,620
Hyundai Kona BEV	\$37,190
Tesla Model 3 BEV	\$37,990
Toyota RAV4 Prime PHEV	\$38,100
Kia Niro EV BEV	\$39,090
Nissan LEAF PLUS BEV	\$39,750
Chrysler Pacific PHEV	\$39,995
Tesla Model Y Long Range BEV	\$42,190
BMW i3 BEV	\$44,450
BMW i3s BEV	\$47,650
BMW i3 REX	\$48,300
BMW i3s REX	\$51,500
Tesla Model Y Performance BEV	\$52,190
Tesla Model 3 Performance BEV	\$54,990
Toyota Mirai FCEV	\$58,550
Hyundai Nexo Blue FCEV	\$58,735
Polestar 2 BEV	\$59,900

- **Reduced Options for Single-Vehicle Households and Households without Access to L2 Chargers:** PHEVs can be used for long trips (even across the country) without any

³ Retrieved from <https://cleanvehiclerebate.org/eng/eligible-vehicles> on 25-Nov-2020. Vehicles no longer available removed.

⁴ Vehicle MSRP retrieved from each manufacturer's website.

consideration of public charging infrastructure availability. Moreover, unlike long-range large-battery BEVs, which greatly benefit from a Level 2 charger, PHEVs can typically be charged from common 120v household outlets. Thus, PHEVs make a natural fit in single-vehicle households and in households without the ability or resources to install a Level 2 charger. Nonetheless, the proposed change eliminates half of the PHEV options.

- **Market Uncertainty**: ARB staff rightly notes, “Based on the current state of the economy, staff does not want to introduce uncertainty into the ZEV market by introducing major changes to the project.” However, eliminating half of the PHEV options and all the lowest priced vehicles introduces a major change to the project. As noted above, PHEVs can act as a consumer’s first step into electrification and the proposed changes eliminate vehicle choices that a substantial number of consumers might otherwise buy to take that first step.
- **40-50% of Driving Electric from Vehicles No Longer Eligible**: SAE developed a “utility factor” (see SAE J2841) to estimate the fraction of PHEV driving miles that would use electricity, based on the maximum range of the vehicle. Real-world data suggests the utility factor is a reasonably accurate predictor of the average portion of miles driven on electricity. A 25-mile (EPA label or 35-mile UDDS) vehicle will operate on electricity 40-50% of the time on average. There is a reasonable possibility that this portion of driving will be replaced with gasoline miles.
- **Incentives for Producing Longer Range PHEVs**: Manufacturers understand the Board wants longer range PHEVs. The Advanced Clean Cars regulations, adopted in 2012, encourages this by awarding more ZEV credits for longer-range PHEVs. Another way ARB could encourage longer range PHEVs is by establishing a longer-term plan (3-5 years) to increase the range for eligibility to the CVRP. Unfortunately, minimum range requirements for PHEVs have been made at the last-minute without any analysis or long-term planning that could allow manufacturers to bring vehicles that meet the ARB’s desire for PHEVs with a longer range.

We support developing a 5-year plan to increase the minimum PHEV range for CVRP eligibility and are committed to working with ARB staff on the Advanced Clean Cars 2 program that will also address PHEV minimum requirements. Such a systemic approach will ensure the broadest market for access to electric vehicles.

Moreover, we will continue to work with ARB, the legislature, and administration to obtain additional funding that would maximize the CVRP rebates and expand the ZEV market. The ZEV market is in its early stages, and it is difficult to predict with accuracy the market for these vehicles. We plan to continue our work with ARB staff in the coming years to provide up-to-date ZEV market information to inform and refine future decisions.

In closing, we sincerely appreciate the staff's hard work over the last few years, and the Board's continued support and commitment to the CVRP and to developing the ZEV market. We look forward to working with you to ensure its continued success.

Sincerely,



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