

From: [Lisa McGhee](#)
To: [ARB Clerk of the Board](#)
Subject: Form form Lisa McGhee at Green Power Motor Company
Date: Thursday, December 10, 2020 1:31:11 PM
Attachments: [HVIP 20-2021 by GP, w attachmt.pdf](#)

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Thank you Ryan: Below are my answers in the Form. Also attached is my document. Thank you for your help and quick response. ~Lisa

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Subject:

HVIP Funding Tables and the ZEV Power Train Certification (Updated from 12-7-20)

Message: *Update from 12-7-20 GP Comments: See attached comments and Appendix of HVIP Table.*

The ZEV Power Train Certification (ZEVPC) Resolution 19-15, passed unanimously June 2019.

Staff's findings State: That the heavy-duty zero-emission industry is still relatively new and thus is subject to many of the issues associated with any emerging market. For example, there is still substantial variability in vehicle quality and support; purchasers are still relatively unfamiliar with zero-emission technology and its operational impacts; and there is limited historical information available by which to judge manufacturers. Given time, staff believes the market could eventually resolve these issues on its own. However, considering California's near-term zero-emission goals, it is necessary to take actions today to help stabilize the industry as the state begins to roll out its suite of heavy-duty zero-emission measures.

The purpose of the program is to support the investment by reducing the incremental cost and for the fleet to have a benefit when driving the technology. Societal benefits are achieved from better air quality. Higher performing and reliable vehicles by OEM's that are trusted--- is a key purpose for the ZEV PT Cert which begins 2021 and was adopted June 2019 anonymously by this Board. There should be alignment to support higher standards by OEMs that support these higher standards, fleets have expressed, and you listened when developing the ZEV PT certification --- fleets expect durability, reliability, and efficiency in their commercial vehicles.

Recommended Modifications to the Funding Table and HVIP by GP

- 1. Plus-up option for durability testing such as Altoona. This is the gold standard in reliability and durability testing of Federal Transit buses and can cost upwards of over \$500k to complete the testing.*
- 2. Higher Funding Table for OEM's testing and certifying to resolution 19-15 the ZEV Powertrain Cert. This board has adopted the ZEV PT Cert. with an intention to ensure fleet confidence in the technology and to provide more incentives to OEM's that test to these higher standards. Higher performing standards will benefit stakeholders and resolve the technology failures that the Staff found that was repeating in the industry. Another aim of the ZEV PT Certification is to create remedies while also capturing more data about the technology and establishing quality EV's.*
- 3. Correct the Tables and consider the vehicles by Class and Efficiency not just weight or size. Compare vehicles in Classification by Curb Weight & kWh battery capacity size to the results of the EV Efficiency & Range. This determines reduced GHG on the grid, and a benchmark for kWh/mile for the EV efficiency by Class. Find the book-ends for each Class and create an incentive for the most efficient to the ratio of the kWh capacity. This will establish a benchmark for the technology. Highly efficient technology should be incented over building larger and heavier vehicles that do not achieve a good economy for its Classification and Application. Without setting a standard for efficiency--- EV vehicles may not be developed with the same benefits as other OEM's have accomplished. This could result in a higher cost per mile to operate an EV by one OEM over other like Families of Vehicles. EV technology should aim to achieve EV efficiency standards the same as the SAFER or CAFE economy standards has historically achieved.*
- 4. Create a higher incentive CAP for ZEV OEM's that demonstrate high deliverable volumes in the program (GP is #2 behind BYD). For example, there have been issues: The HVIP program in Jan 2020 had \$363 million dollars between the paid and non-paid EV MHD vouchers and currently that number is at \$255 million. (\$133 million is from 1,260 EV MHD*

delivered vehicles and the rest is non-paid). However, In 2019, HVIP had \$96 million dollars to one OEM - Chanje, which now only has \$2.2 million and all its 1,100 vouchers have disappeared. This OEM only delivered 25 vehicles.

5. *Plus-up on Advanced charging integration such as Wireless (inductive). Wireless is a Contactless, supports Covid-19, takes up less real estate, has fewer moving parts to maintain or replace, it eliminates driver errors & training verses having to plug-in. This advances MHD further and the same as laptop and smart phones have established with wireless technology.*

6. *Higher Funding Table for small business and minority business' facing ZEV mandated regulation by a vocation (Transit, Airport Shuttle, Drayage). COVID-19 has a big impact on small business. This will reflect equity and diversity. The recommendation of the enhanced tables is similar as to what has been done for Schools.*



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