

Passenger Vehicle Manufacturers are Outperforming the ZEV Regulation through Model Year 2020

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Since 2005, all auto manufacturers have complied with California's Zero Emission Vehicle (ZEV) Regulation, and all have collectively exceeded its requirements - and by increasing margins. Since 2012, each auto manufacturer has entered every model year with a positive balance in its ZEV credit bank. CARB staff's understanding is that manufacturers plan this to ensure compliance and hedge against uncertainty about future sales. Prior to 2017, manufacturer credit banks typically provided one to two years of compliance ahead of the ZEV requirement.¹ As of the end of the 2020 model year (MY), most manufacturers are retaining credit balances sufficient for compliance for more than two years.

Manufacturers are also complying more and more on their own. Transfers, or credit sales, between auto manufacturers have slowed dramatically in the last five years. Transfers went from an industrywide high of 93,770 total ZEV credits transferred in the 2015 model year among ten auto manufacturers² to only 19,957 total ZEV credits transferred among three auto manufacturers in the 2020 model year, based on data submitted to CARB.

To illustrate historical compliance margins, Figure 1 below shows MY 2014 through 2020 ZEV credit compliance requirements and the number of credits produced for both ZEVs³ and transitional zero emission vehicles (TZEVs), more commonly known as plug-in hybrids. The period from the 2014 to the 2020 model years represents the most recent data available. The solid green shaded area represents the minimum ZEV requirement for large volume manufacturers, while the orange dotted area represents the maximum TZEV credits that can be used for compliance for large volume manufacturers. Intermediate volume manufacturers may meet their compliance obligation exclusively with TZEVs. The total annual requirement for all manufacturers is the sum of the orange and green areas (vertically) for each model year.

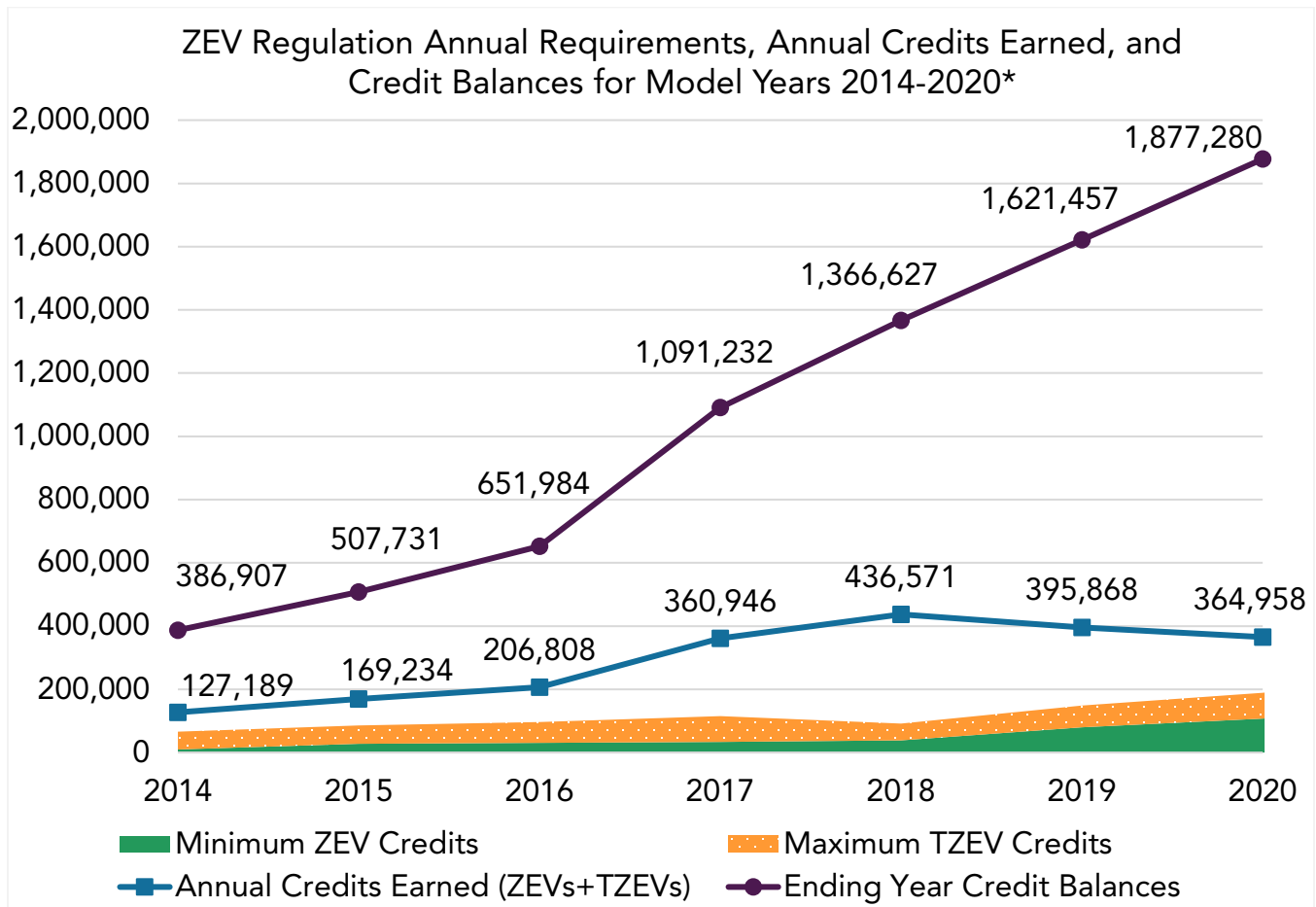
The blue line with square markers represents the total credits earned (all ZEVs and TZEVs) during each model year for all manufacturers. The purple line with circular markers represents

¹ CARB, California's Advance Clean Cars Midterm Review, January 18, 2017, [MTR Summary \(ca.gov\)](#), Appendix A: Analysis of Zero Emission Vehicle Regulation Compliance Scenarios: Estimated minimum 1.2 million ZEVs and PHEVs by 2025, p. A-9, [Attachment A Compliance Scenarios \(ca.gov\)](#).

² 2015 ZEV Credit Annual Disclosure https://ww2.arb.ca.gov/sites/default/files/2020-10/2019_zev_credit_annual_disclosure.pdf

³ ZEVs include battery electric vehicles (BEVs), range extended battery electric vehicles (BEVx), and fuel-cell electric vehicles (FCEVs).

overall cumulative credit balances for all manufacturers at the end of each reporting year, after considering credits earned and credits used for that year. Since the purple line remains far above zero, the entire industry remains in compliance through model year 2020.



* Excluding credits from small volume manufacturers, such as Lightning Systems, Inc.

Figure 1. California Zero-Emission Vehicle Credit Requirements and Credits Earned from Model Year 2014 to 2020