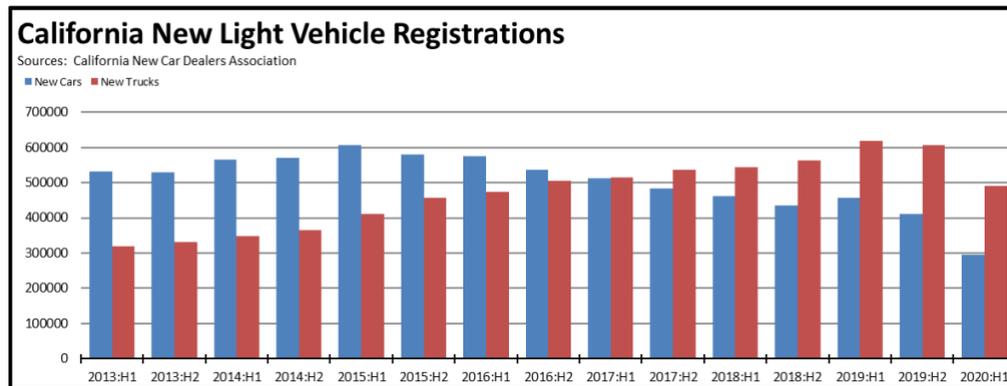


# State's Progress on 5 Million Zero Emission Vehicles (ZEV) by 2030: H1 2020 Results

The latest new vehicle sales data from [California New Car Dealers Association](#) shows total light vehicle sales in the first half of 2020 at 786,219, down 26.9% from sales in the same period in 2019 primarily as the result of weakened sales in the second quarter. Sales nationally were down 23.5%. In addition to the associated jobs impacts, new vehicle sales are also a critical component of state and local revenues, with Motor Vehicle and Parts Dealers (NAICS 441) still producing 8% of total taxable sales in the most recent data for the first quarter in 2020.

## Light Trucks at 62.5% of Sales



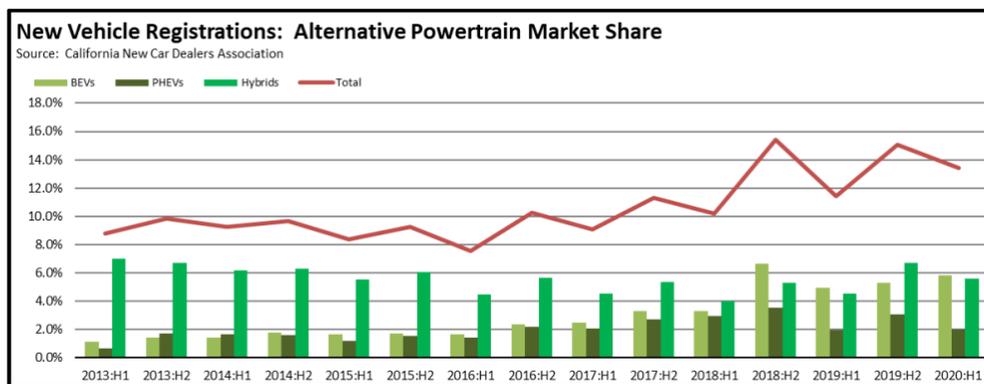
- Californians continued their shift to light trucks, with the market share in the first half rising to 62.5%. For all states other than California, light trucks continued rising to 77% of the market.
- While electric vehicle producers are beginning to introduce light truck options, a greater shift to alternative fuel vehicles will require additional development of these models in order to achieve the state's goals rather than the cars that comprise virtually all of the offerings to date.

## PEV Sales Drop in 1<sup>st</sup> Half

	2020:H1		2019:H2		2019:H1	
	number	mkt share	number	mkt share	number	mkt share
BEV	45,601	5.8%	53,945	5.3%	52,807	4.9%
PHEV	15,724	2.0%	31,136	3.1%	21,193	2.0%
PEV	61,325	7.8%	85,081	8.4%	74,000	6.9%
HEV	44,028	5.6%	68,357	6.7%	48,861	4.5%
<b>Total</b>	<b>105,353</b>	<b>13.4%</b>	<b>153,438</b>	<b>15.1%</b>	<b>122,861</b>	<b>11.4%</b>

Source: Derived from [California New Car Dealers Association](#)

- Even with reduced sales compared to both periods in 2019, the true electric vehicles—Battery Electric Vehicles (BEV)—managed to increase their market share slightly in the most recent results. This outcome reflects the current pandemic crisis economic situation, with the higher wage workers that still comprise the primary market for these vehicles largely retaining their jobs through telecommuting. However, overall market share—as well as regulatory claims for progress on the ZEV goals—still largely depend on sales of the combustion vehicle components, both Plug-in Hybrids (PHEVs) and standard hybrids (HEVs). Note that all figures in this report incorporate the recent revisions by California New Car Dealers Association in their estimates.
- BEV sales—and consequently the focus of the panoply of incentives and subsidies enacted by the regulatory agencies—still rely to a high extent on a single producer. Tesla sales in the first half were 89% of all California sales in this segment. Evolution of the market has yet to demonstrate sustained participation by a broader range of producers offering models that appeal to a larger share of consumers beyond the higher income segment targeted to date by Tesla.
- In spite of the uptick in market share, BEVs remain only a small component of the overall market. Using a simple exponential regression, at the current rate of market share growth, it would take nearly 40 years before BEVs reach 100% of vehicle sales, indicating the current trendline under current policies and economic conditions. Electric vehicles have yet to demonstrate their ability to achieve consumer acceptance, leaving open the question of whether alternatives such as fuel cells, combustion approaches combining more hybrid technology, or other developments still represent the more economically viable path in automotive technology. Electric vehicles have been adopted for other purposes in other countries—including in China to match an energy profile that includes a significant dependence on coal generation and strategic vulnerabilities related to oil supplies, in Europe in a rushed response to deal with the outcomes associated with their initial decision to rely instead on diesel. In the US where this shift relies more on consumer acceptance, the transition has not yet been made in spite of 3 decades of trying on the part of the regulatory agencies.

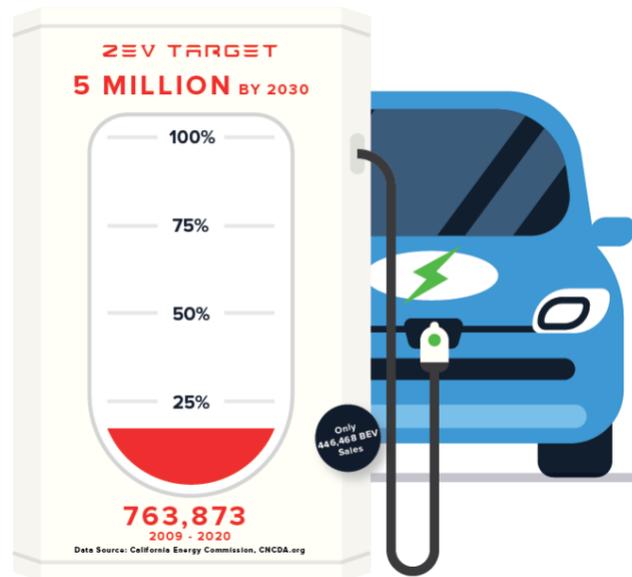


## Cumulative PEV Sales at 15.3% of 2030 Goal—True ZEVs at 8.9%

As part of the AB 32 climate change program, Executive Order B-48-18 administratively created a goal of 5 million zero-emission vehicles (ZEVs) on California roads by 2030. This action expands on the prior Executive Order B-16-2012, which set a goal of 1.5 million by 2025. While these goals were set administratively, they are embodied in the state’s climate change strategies, and both public and utility ratepayer funds are being used in an attempt to reach this goal, including purchase subsidies, refueling infrastructure, regulatory credit sales that raise the price of traditional fuel vehicles, a continuing net subsidy from gasoline consumers for roads and road repairs, and other measures.

Rather than only true ZEVs, the numbers in the Executive Order and previous interpretations by the agencies indicate the goal is to be achieved by both BEVs that run only on electricity and combustion PHEVs that run on both electricity and gasoline. Consequently, only a portion of the vehicles being counted to meet the zero-emission goal—roughly half based on current sales volumes—will in fact produce zero emissions when driven. Additionally, FCEVs (fuel cell electric vehicles) also would count towards the ZEV total, but CNCDA data show total market share for these vehicles to date at around 0.1%.

Using this more flexible interpretation that includes both true ZEVs and combustion PHEVs, total PEV sales since 2009 account for 15.3% of the 2030 goal. True ZEV sales, however, account for only 8.9%.



In addition to the distortion that comes from including combustion vehicles in the ZEV total, the Executive Orders also refer to ZEVs on California roads while the agency accountings rely on sales as the measure of progress. Using prior Energy Commission reviews to account for ZEVs no longer on the roads as a result of accidents, moves out of state, and other factors that over time remove vehicles from the active fleet, the actual progress rate consistent with the Executive Order language of “vehicles on California’s roads” would be 14.1%, while progress counting only true ZEVs would be 8.2%. As discussed in the 2018:Q1 report, carpool lane sticker data, however, suggests a much higher turnover of PEVs “off California’s roads” than in prior estimates. This factor would put the progress to date even lower.

## Manufacturing Job Provisions of Executive Order B-16-2012 Still Not Implemented

Executive Order B-16-2012 contains a number of provisions calling for actions to expand the ZEV and ZEV component manufacturing base in California. As detailed in past reports, by failing to take any meaningful actions to implement these provisions, California instead has seen the modern-day electric vehicle industry it fundamentally began in 1990, go to other states and increasingly to a growing concentration of the industry in China including both vehicles and the battery materials and components required to power them.

California has a significant ZEV production presence with Tesla, but that company located here primarily because of the availability of a vacant vehicle production facility that was fully permitted and ready to reopen. Even Tesla

when considering production expansion for both vehicles and battery pack assembly chose to go elsewhere, including now Nevada, Texas, and China. Recent operational challenges within California have also led Tesla to [consider moving](#) the Fremont production as well.

As with many other agency claims to offsetting benefits possible from “green jobs,” the manufacturing provisions in the executive orders appear to date to have been an attempt to justify otherwise-costly new regulations rather than a sustained attempt to expand blue collar jobs in the state. While California has promises for these “green jobs,” other states and China are seeing them being created, earning wages, and generating public revenues for schools and other public services.