The Truth About California's Zero Emission Vehicle Regulation

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Cinematic anguish over the "death" of the electric car is woefully misplaced. Californians have the cleanest vehicles in the world and our technology choices have grown significantly over the past few years due to the Zero Emission Vehicle (ZEV) Regulation adopted by the Air Resources Board in 1990. Moreover, we are not alone -- nine other states have adopted the regulation and more are coming on board each year. When you consider the impact California has had on the auto industry and how that has translated across the globe there is no other conclusion except this: the ZEV regulation is a great success.

Contrary to popular myth, the Board did not dismantle the ZEV Regulation in 2003. It remains in place and is being implemented. Automakers are still obligated to demonstrate and commercialize zero emission vehicles, selecting from today's technologies of battery electric or hydrogen fuel cell vehicles. After meeting their minimum ZEV quotas, automakers must also produce a complementary number of advanced technology vehicles from the categories of gasoline-electric hybrids, natural gas vehicles, hydrogen internal combustion engines, and partial-zero emission (PZEV) gasoline cars.

Today, half a million Californians are driving partial zero emission vehicles or PZEVs. These vehicles have near-zero tailpipe emissions, zero evaporative emissions, an extended emissions warranty of 15 years or 150,000 miles, and are 80% cleaner than the average new car. Gasoline-electric hybrid vehicles are also a dramatic success. There are more than 100,000 hybrids on California's roads today, with more models being introduced each year. Hybrids give consumers a way to reduce both emissions and fuel consumption offering a win/win rarely seen in the automotive world.

The ZEV regulation is an important part of the Air Resources Board's mission to improve air quality and protect public health and furthers the Governor's clean air goal of 50% emission reductions. Our motivation has always been to reach mass scale deployment as soon as possible. To achieve this goal, the Board is supporting a wide variety of zero and near-zero emission fuels including hydrogen, compressed natural gas, liquefied natural gas, E-85 (a blend of 15% gasoline and 85% ethanol), batteries and plug-in hybrids. Hydrogen and batteries used for transportation energy have additional benefits, including energy security and the ability to use renewable sources of energy which means nearly zero emissions throughout the whole energy cycle.

Whether fuel cells, batteries or other technologies, our commitment to zero emissions has never wavered. Our strategy, however, has been adjusted from time to time in consideration of the state of technology and key economic factors.

ZEVs have to be affordable if they are ever going to become mainstream transportation vehicles – a factor has been the key sticking point to date.

When the Board modified the ZEV regulation in 2003, its principal concern was cost. At that time, battery packs were expected to add approximately $20,000 to the base cost of a conventional automobile (itself priced at $20,000). The Board concluded that while some innovative customers would pay that premium, the vast majority of regular car buyers would balk at a luxury price for limited-range vehicles. That would cause ZEVs to remain unsold on car lots where they would do no environmental good for any one. Hydrogen fuel cell vehicles were even more expensive at that juncture in time, coming in at a cost of $1 million per vehicle. To keep momentum going while recognizing this practical reality, the Board amended the ZEV regulation to place greater emphasis on near-ZEV technology in the near to mid-term. That gave pure ZEVs more time to develop and achieve the necessary cost savings before a mass market launch.

A little known fact is that inaction in 2003 would have produced even more dire results. Had ARB *not* amended the ZEV regulation there would have been a blackout of zero emission cars for several years due to the credits manufacturers had amassed for the 4,000+ ZEVs they had placed on the road since 1996. Changing the regulation forced manufacturers to put new zero emission vehicles on California's roads. It also gave California significant emission reductions through the increased production of near-zero emission vehicles such as hybrids and partial zero emission vehicles. Boosting the number of hybrids has had an added benefit – it launched battery technology into mass production, helping to advance battery technology overall. Eventually, we expect that investment to lead to improved, affordable pure-battery electric vehicles and plug-in hybrids.

The fact that one clean vehicle technology (battery electric vehicles) was transformed over time into many different alternatives is a good thing. Competition spurs advancement across the board. Also, as single technologies become more refined, others benefit due to shared components, shared learning curves and volumes of scale.

Due to the original ZEV vision and to some inspired creativity as circumstances change, California is solidly on the road to a clean air future. We've taken that regulatory experience into the challenging new frontier of greenhouse gas control for motor vehicles and expect to be just as effective in that arena.

If you would like to do your part and find a clean vehicle that will meet your needs today, go to www.DriveClean.ca.gov.