

Simon Mui

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**Zero Emissions Vehicle Regulation Revisions
December 10, 2009**

**Before the
California Air Resources Board**

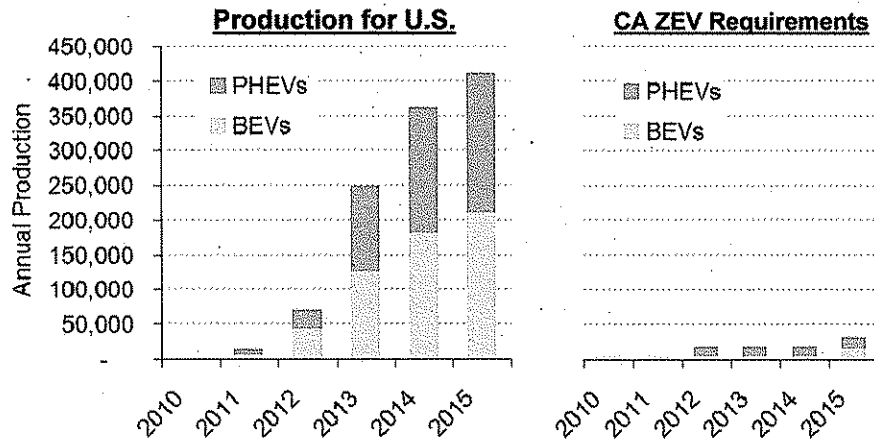
**Simon Mui, Ph.D.
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**History Repeats Itself:
ZEV Automaker Comments (Circa 2001)**

- "The ZEV mandate has caused and is causing **limited resources to be diverted to wasteful uses**; namely, to the development of EV technology for which there is no reasonable prospect of market success." *Industry Consultant*
- "Research and development of these [fuel cell] technologies continues with significant commitment... We recommend that the **proposed amendments be modified to allow for the development and implementation of these promising technologies.**" *Major Automaker*
- "If... automakers can free up the resources required by the **mandate to focus on the areas that promise future breakthroughs—such as fuel cells** and other advanced technologies—automakers can develop new vehicles that will deliver even cleaner air while meeting consumer needs. But they cannot achieve these goals if automakers are obligated to devote research and development efforts to a technology that has already been shown to have considerable shortcomings [BEVs]." *AAM*

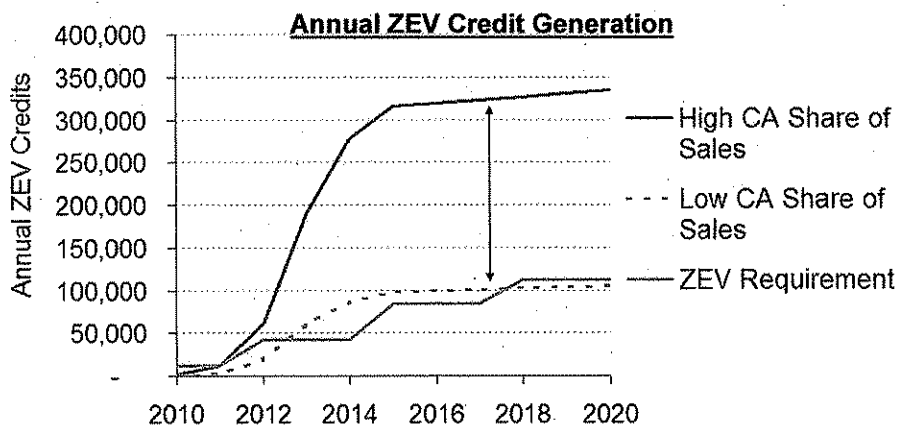
* ARB (2001), ZEV FSOR

Automaker BEV and PHEV production plans will allow for industry compliance well beyond 2015.



Source: Baum & Associates and NRDC. U.S. estimates based on conservative assessments of company and media reports (\$3 - \$3.50/gallon gasoline). CA ZEV requirements assume a 100 mile BEV and 40 mile plug-in hybrid.

Policy Alternative 2 is unnecessary for compliance. ZEV credit generation will likely exceed requirements.



- Highly conservative: assumes flat sales beyond 2015
- Low case assumes that CA capture 10% of U.S. ZEV sales
- High case assumes that CA capture 25% of U.S. ZEV sales from major automakers and 50% of sales from new entrants