

Zero Emission Vehicle Regulation

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California Air Resources Board

*California Energy Commission
Electric Drive Vehicles Workshop
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ZEV Program Goals

- Achieve significant air quality benefits
- Push research, development and deployment of zero emission vehicles
- Encourage ZEV commercialization through introduction of ZEV-enabling technology

ZEV Program Achievements

- Over 30,000 ZEVs placed through 2008
 - 250 fuel cell vehicles
 - 4,700 battery EVs
 - 27,000 neighborhood EVs
- Widespread acceptance of hybrid electric vehicles (>200,000)
- Focused research and development of battery electric and fuel cell vehicles

ZEV Program Challenges

- More development needed before gold vehicles ready for commercialization
- Pace of future development difficult to predict, requiring regular course corrections
- Infrastructure development must match vehicle deployment

ZEV Regulation Applicability

- Manufacturers of passenger cars and light duty trucks
- Requirements based on California sales (LVM, IVM)
- Not applicable to zero emission motorcycles

ZEV Program (2012 – 2014)

12% Mandate
42% by volume

gold

bronze

PZEV



silver

AT PZEV



ZEV



ZEV Program Gold Requirements

	2012 – 2014	2015 – 2017
Required Vehicles	25,000	50,000
Allowable Option	minimum 7,500 gold with 58,333 Silver +	minimum 25,000 gold with 83,333 Silver +

Silver Plus Category Vehicles

- Silver earning one or more credits
- Use of ZEV fuel
- Examples:
 - Plug-in hybrid electric vehicles
 - Hydrogen internal combustion engine vehicles

Expected Number of Vehicles

– for the purpose of meeting the requirements

Type	2009-2011*	2012-2014	2015-2017
Gold Fuel Cell Vehicles	250	5,357	25,000
<i>Or</i> Gold City EVs	0	15,000	50,000
Silver+	30,000	58,333	83,000
Silver	107,000	95,000	153,000
Bronze	700,000	1,260,000	1,260,000

*Includes probable credit use

ZEV Program Future Efforts

- Move commercially viable vehicles to other vehicle programs (Pavley, LEV III)
 - Hybrids, clean gasoline vehicles
- Re-vamp ZEV Program to concentrate on accelerating introduction of pre-commercial ZEV and ZEV enabling technologies

ZEV 2.0 Timeline

- Sept. 21 & 22: ZEV Symposium
- Sept. 23: Infrastructure Public Meeting
- Nov. 10: White Paper with attachments released (Technical Support Document, 2050 GHG Analysis, Infrastructure, Complementary Policies)
- Dec. 10: Informational Item to Board
- 2010: Public workshops on modifications
- Q3 - Q4 2010: Regulatory modifications to Board

Additional Information

ARB's Zero Emission Vehicle Program

[http://www.arb.ca.gov/msprog/zevprog/
zevprog.htm](http://www.arb.ca.gov/msprog/zevprog/zevprog.htm)