Zero Emission Vehicle Program Changes

In 1990, California embarked on a plan to reduce vehicle emissions to zero through the gradual introduction of zero emission vehicles (ZEVs). Specifically, the Air Resources Board mandated that at least 2 percent, 5 percent and 10 percent of new car sales be zero-emitting by 1998, 2001 and 2003, respectively.

The ZEV mandate for passenger cars was adjusted in 1996 to eliminate the "ramp up" years but leave in place the 10 percent ZEV requirement for 2003, and in 1998 to allow partial ZEV (PZEV) credits for extremely clean vehicles that were not pure ZEVs. The underlying goal, however, never changed. California remains committed to seeing increasing numbers of ZEVs in the vehicle fleet. The challenge is determining how to reach this goal.

At its September 7 and 8, 2000 meeting, the Board considered the status of the ZEV program. After hearing extensive testimony and public comment, the Board adopted a resolution affirming that the ZEV program is essential to the State's long-term air quality strategy. The Board further resolved that the basic ZEV requirements be retained and implemented. Finally, the Board directed staff to propose modifications to the ZEV mandate to assure a successful and sustainable long-term ZEV market.

Modifications Adopted

In response to the Board's September 8, 2000 directive, staff developed proposed ZEV mandate modifications that were considered at the January 25, 2001 Board meeting. The staff proposal was designed to maintain progress towards commercialization of ZEVs while recognizing constraints due to cost, lead-time, and technical challenges. The proposal, adopted January 25, maintains a core ZEV component and provides incentives for continued technology development, but reduces the number of ZEVs required in the near-term and the total cost of the program to manufacturers. The most significant aspects of the January modifications are to (1) reduce, by a little more than one half in the early years, the number of pure ZEVs needed to comply, (2) allow a further reduction of up to 50 percent in the number of ZEVs if manufacturers produce other types of very clean advanced technology vehicles, (3) reduce the number of vehicles needed in the early years to earn partial ZEV (PZEV) credits, (4) gradually increase the percentage requirement of ZEVs from 10 percent in 2003 up to 16 percent in 2018, and (5) add larger vehicles such as SUVs, mini-vans, and trucks to the base against which the percentage requirements are assessed, beginning in 2007. The specific changes:

? Provide ZEV credits for early introduction: four times the normal number of credits for each ZEV introduced in 2001-2002, and 1.25 times the normal number of credits for each ZEV introduced in 2003-2005.

? Gradually increase the ZEV percentage requirement from 10 percent in 2003-2008 to 16 percent in 2018 (see chart below).

Model Years	Minimum ZEV Requirement
2003 through 2008	10 percent
2009 through 2011	11 percent
2012 through 2014	12 percent
2015 through 2017	14 percent
2018 through subsequent	16 percent

? Begin in 2007 including heavier sport utility vehicles, pickup trucks and vans in the sales figures used to calculate each automakers ’ZEV requirement. This will increase the number of vehicles used to calculate the ZEV requirement from about 1 million to more than 1.7 million. In other words, each manufacturer must sell more ZEVs if they sell more SUVs, heavy pickups and mini-vans.

? Phase in PZEV introduction, with 25 percent of the previously required level in 2003, and 50, 75 and 100 percent of the previous level in 2004, 2005, and 2006, respectively.

? Provide that small neighborhood electric vehicles (NEVs) with limited range and speed, which previously received one ZEV credit now earn 4 in 2001-2002, 1.25 in 2003, .625 for 2004-2005, and .15 thereafter. The use of early credits earned by NEVs is restricted in later years, beginning in 2006.

? Create a new class of advanced technology PZEVs or AT-PZEVs (such as compressed natural gas, hybrid-electric, and methanol fuel cell) that could satisfy up to one half of the pure ZEV requirement. These AT-PZEVs would also have to meet the PZEV standards of SULEV tailpipe emissions, zero evaporative emissions, and a 150,000-mile warranty of emission control equipment. (The current Prius and Insight hybrid electric vehicles do not yet meet all of the requirements needed to earn either PZEV or AT-PZEV credits).

? Modify the credits earned by ZEVs for extended range, reducing the minimum range for extra credits from 100 or more miles to 50 or more miles, increasing up to 10 credits for 275 miles. Also allow extra credits for vehicles that can refuel or charge to a 60-mile range in less than 10 minutes.

? Provide so-called in-service credits for ZEVs and zero-emission VMT vehicles that remain on the road in California for more than three years, with a battery/fuel cell stack warranty in effect (to encourage manufacturers to provide extended battery and fuel cell stack warranties and keep ZEVs on the road.)

? Allow ZEV credits to automakers for vehicles place in approved demonstration programs, even if not “delivered for sale”. This rewards participation in demonstration programs such as the California Fuel Cell Partnership.

? Provide additional credit for vehicles placed in “transportation systems”, which reduce emissions, energy use and congestion by limiting the use of shared cars and transit ridership.

? Require vehicle placement in order to earn multiple credits – no multiple credits if manufacturer “delivers for sale”, but does not place with individual consumers, businesses, government agencies or other organizations.

? Provide certainty regarding the sales volume number used to determine the ZEV obligation by using a three-year average of prior sales (for example, 1997-1999) to determine automaker ZEV requirements.

? Provide an added credit multiplier based on the vehicle's energy efficiency, and provide additional credit for vehicles that use “advanced ZEV components”.

Effect of Changes

Manufacturers can meet the pure ZEV portion of their requirement using “full function” electric vehicles, City EVs, neighborhood electric vehicles (NEVs), or hydrogen fuel cell vehicles. Since these different types of vehicles earn different amounts of credit, and credits vary based on what calendar year ZEVs are brought to market, the number of vehicles a manufacturer must produce will vary with compliance strategy. The changes to the regulation increase the number of credits earned for each vehicle in the early years. The credits, however, decrease over time with the new regulation, under some compliance options, ultimately requiring more ZEVs than were required under the old regulation.

Estimated Number of 2003 Vehicles

The chart below shows the number of vehicles that would be required in 2003 under the January 25th changes, given various scenarios.

		New Regulation without AT option	New Regulation with AT option
ZEVs	If 100% full function EVs	9,300	4,650
	If 100% City EV	23,500	11,750
	If 100% NEV	30,900	15,450
PZEVs		94,500	94,500
AT PZEVs		0	10,700

Program Cost

The January revisions will result in significant savings to manufacturers, particularly in the early years of the program. The amount of savings depends on the manufacturers' compliance strategies. The estimated savings in 2003 would range from about $130 million (comparing the old program to the new one if all manufacturers relied totally on NEVs to satisfy their ZEV requirement) to about $400 million (comparing the old program to the new program if all manufacturers relied totally on full-function EVs to satisfy their ZEV requirement). The annual savings will decrease in future years as the number of PZEVs required under the new program catches up to the number required under the old one, and as the number of ZEVs required begins increasing in 2007.

Incentives

With the modifications adopted by the Board on January 25, 2001 automakers are given further incentives to bring more ZEVs to consumers prior to the mandated year of 2003. With this in mind, ARB is setting up a program to distribute up to $38 million in incentive funds for consumers who buy or lease ZEVs. (There is $20 million in the governor's 2001-02 budget for ZEV incentives, with an additional $18 million already in place for incentives). The incentive programs will provide grants to help consumers defray the cost of some types of ZEVs. Grants of up to $9,000 over three years are available for ZEVs leased prior to 2003, and grants of up to $5,000 would be available thereafter.

Where can I get more information?

Please contact the ARB toll-free at (800) END-SMOG/(800) 363-7664 (California only) or (800) 272-4572. For information on the ARB's ZEV Program, visit www.arb.ca.gov or www.ZEVinfo.com. You may obtain this document in an alternative format by contacting ARB's Americans with Disabilities Act Coordinator at (916) 322-4505 (voice); (916) 324-9531 (TDD, Sacramento only); or (800) 700-8326 (TDD, outside Sacramento).

FFEV* + City Scenarios

*full function electric vehicles