

# California Air Resources Board

## 2010 Zero Emission Vehicle Credits

The data below provide greater transparency of compliance with the Zero Emission Vehicle (ZEV) regulation per California Code of Regulations title 17 section 1962.2(l) Public Disclosure.

### Manufacturer Volume Status

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The ZEV Regulation requires large volume and intermediate volume vehicle manufacturers to bring to and operate in California a certain percent of ZEVs (such as battery electric and fuel cell vehicles), clean plug-in hybrids, clean hybrids and clean gasoline vehicles with near-zero tail pipe emissions. The table below lists the 2010 vehicle manufacturers subject to the ZEV requirements.

Large Volume Status		
Chrysler Group	Ford	GM
Honda	Nissan	Toyota

Intermediate Volume Status	
BMW	Hyundai
KIA	Land Rover
Mazda	Mercedes Benz
Subaru	Volkswagen
Volvo	

### Manufacturer Sales in California

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The table below displays the 2010 California vehicle production of large volume and intermediate volume manufacturers. A vehicle manufacturer's 2010 ZEV requirement is based on a percentage of all passenger cars and light-duty trucks (LDT) from 0 to 8,500 pounds (lbs.), delivered for sale in California.

Manufacturer	Passenger Cars and LDT1	LDT2
BMW	30,619	4,045
Chrysler Group	45,581	36,804
Ford	88,450	48,034
FUJI Heavy Industries/Subaru	11,683	6,258
General Motors	58,123	54,950
Honda	140,514	25,514
Hyundai	33,675	3,470
KIA	19,847	2,085
Land Rover	0	4,743
Mazda	27,755	6,242
Mercedes Benz	36,964	12,685
Nissan	68,215	18,074
Toyota	225,378	91,678
Volkswagen	49,211	6,085
Volvo	4,162	1,836
Subtotal	840,177	322,503
Total		1,162,680

\*Production does not include ZEVs; LDT1 = Light Duty Truck 0 to 3,750 lbs., LDT2 = Light Duty Truck 3,751 to 8,500 lbs.

## Manufacturer Credit Balances

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In complying with the ZEV Regulation, manufacturers operate vehicles in California which generate varying credits based on vehicle type. There are also other parties generating credits that do not have ZEV requirements. The table below lists the credit balances as of September 30, 2011 generated since the start of the ZEV Regulation in 1990. The credits are in units of grams per mile Non-Methane Organic Gases (g/mi NMOG).

Manufacturer	ZEV (excludes NEVs)	NEV	TZEV	AT PZEV	PZEV
BMW	106.000	0.000	0.000	0.000	209.547
Chrysler Group	55.611	665.316	0.000	0.000	0.000
Ford	274.687	1,069.090	0.000	596.272	1,135.289
FUJI Heavy Industries/Subaru	0.000	0.000	0.000	0.000	65.662
General Motors	408.156	787.166	0.000	454.352	120.388
Honda	404.105	804.666	0.000	946.318	62.655
Hyundai	31.360	0.000	0.000	0.000	22.378
KIA	22.647	0.000	0.000	0.000	0.000
Land Rover	0.000	0.000	0.000	0.000	10.139
Mazda	0.000	0.000	0.000	0.000	246.998
Mercedes Benz	28.520	193.066	0.000	9.849	6.278
Mitsubishi	1.400	0.000	0.000	0.000	53.432
Nissan	189.321	0.000	0.000	0.000	1,523.912
Tesla	0.000	0.000	0.000	0.000	0.000
Toyota	1,116.293	0.000	7.721	6,723.705	734.941
Volkswagen	35.558	0.000	0.000	17.130	11.929
Volvo	0.000	0.000	0.000	0.000	108.493
Zipcar	0.000	0.000	0.000	0.000	17.083
<b>Total</b>	<b>2,673.657</b>	<b>3,519.305</b>	<b>7.721</b>	<b>8,747.627</b>	<b>4,329.126</b>

### Description of Credit Balances:

ZEV = Zero Emission Vehicle

NEV = Neighborhood Electric Vehicle

TZEV = Transitional Zero Emission Vehicle (plug-in hybrids)

AT PZEV = Advanced Technology Partial Zero Emission Vehicle (clean hybrids)

PZEV = Partial Zero Emission Vehicle (clean gasoline)

## Manufacturer Transfers

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Manufacturers may transfer credits with other manufacturers. Below are the ZEV credit transfers recorded between October 1, 2010 and September 30, 2011.

Transferor	Vehicle Type	Total Credits
Ford	PZEV	10.596
Tesla	ZEV	22.995
Zip Car	AT PZEV	8.664
Zip Car	PZEV	8.000

Transferee	Vehicle Type	Total Credits
Chrysler Group	ZEV	22.995
Volkswagen	AT PZEV	8.664
Volkswagen	PZEV	8.000
Volvo	PZEV	10.596

## Frequently Asked Questions

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### How many vehicles have been brought to and operated in California as a result of the ZEV Regulation?

These credit balances reflect ZEV regulation compliance through model year 2010, representing a total of over 2 million vehicles including 350 fuel cell vehicles, 5,250 battery electrics, 28,800 NEVs, 380,000 clean hybrids and 1,750,000 clean gasoline vehicles.

**What do these credit balances mean?** All vehicle manufacturers subject to the ZEV Regulation are in compliance through model year 2010. Positive credit balances represent a successful over compliance with the ZEV Regulation. Manufacturers can use these balances to provide flexibility in the timing and production of bringing new clean cars to the market to meet the ZEV requirements in coming years.

### How far into the future do these credit balances cover the manufacturers' ZEV requirement?

Each manufacturer is unique in its strategy of compliance with the ZEV Regulation. It is not possible to predict how and when these credit balances will be spent over the coming years due to the complexity and flexibility of the regulation. There are also various mechanisms in the ZEV Regulation which limit how credits are spent. These balances will be taken into account in future amendments to the regulation.

### Why are credit balances in units of grams/mile Non-Methane Organic Gases (g/mile NMOG)?

When credits are earned they are multiplied by the g/mile NMOG fleet average requirement for the appropriate model year. Please note that in the ZEV Regulation g/mi NMOG is used only as an index (which decreases over time) — it is the "currency" that credits are stored in and does not represent actual values of g/mi NMOG. The intent of this multiplier was to reward early production of vehicles.

### How do you calculate a manufacturer's requirement?

For understanding the calculations involved in the ZEV Regulation, please see the ZEV Tutorial link below.

More Information

- [ZEV Regulation](#)
- [ZEV Tutorial](#)
- [ZEV Credit Archive](#)
- [MAC 2011-02: Zero Emission Vehicle \(ZEV\) Credit Reporting and Tracking System](#)

NMOG table from California Code of Regulations, Title 13, Section 1961(b)(1)(A)

Fleet Average Non-Methane Organic Gas Exhaust Mass Emission Requirements for Light-duty Vehicle Weight Classes  
(50,000 Mile Durability Vehicle Basis)

Model Year	All PCs; LDTs 0-3,750 lbs. LVW	LDTs 3,751 lbs. LVW to 8,500 lbs. GVW
2001	0.070	0.098
2002	0.068	0.095
2003	0.062	0.093
2004	0.053	0.085
2005	0.049	0.076
2006	0.046	0.062
2007	0.043	0.055
2008	0.040	0.050
2009	0.038	0.047
2010+	0.035	0.043

Fleet Average NMOG in units of grams per mile;

PC = Passenger Car, LDT = Light Duty Truck, LVW = Loaded Vehicle Weight, GVW = Gross Vehicle Weight

Contact Us

For more information please contact the Office of Communications at (916) 322-2990 or (800) 242-4450.