

# California Air Resources Board

## 2011 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 2011 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 2011 California vehicle production of large volume and intermediate volume manufacturers. A vehicle manufacturer's 2011 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 & LDT1	LDT2
BMW	71,712	10,168
Chrysler Group	27,087	43,102
Ford	83,236	50,826
FUJI Heavy Industries / Subaru	12,255	10,622
GM	70,946	82,669
Honda	103,245	38,831
Hyundai	48,052	5,403
KIA	25,095	10,010
Land Rover	0	6,422
Mazda	19,276	6,502
Mercedes Benz	39,481	12,109
Nissan	83,575	21,146
Toyota	174,680	96,732
Volkswagen	42,501	9,923
Volvo	3,407	1,623
<b>Subtotal</b>	<b>804,548</b>	<b>406,088</b>
<b>Total</b>		<b>1,210,636</b>

\*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

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, 2012 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
Azure Dynamics	0.000	0.000	0.000	0.000	0.000
BMW	158.395	0.000	0.000	0.000	198.368
Chrysler Group	14.499	490.803	0.000	0.000	0.000
CODA	0.945	0.000	0.000	0.000	0.000
Ford	215.835	999.337	0.000	573.352	846.755
FUJI Heavy Industries / Subaru	0.000	0.000	0.000	0.000	95.338
GM	314.956	632.012	44.164	494.530	0.000
Honda	295.821	804.666	152.774	645.148	0.000
Hyundai	31.360	0.000	0.000	0.000	46.686
Jaguar Land Rover	7.941	0.000	0.000	0.000	0.000
KIA	0.000	0.000	0.000	0.000	7.788
Mazda	0.000	0.000	0.000	0.000	260.133
Mercedes Benz	73.758	193.066	0.000	12.600	16.159
Mitsubishi	1.750	0.000	0.000	0.000	51.395
Nissan	660.056	0.000	0.000	0.000	1,507.047
Polaris	0.000	0.000	0.000	0.000	0.000
Tesla	0.000	0.000	0.000	0.000	0.000
Think	0.000	0.000	0.000	0.000	0.000
Toyota	900.939	0.000	7.721	7,403.891	478.238
Volkswagen	0.000	0.000	0.000	7.144	8.126
Volvo	0.000	0.000	0.000	0.000	106.129
Wheego	0.219	0.000	0.000	0.000	0.000
Zipcar	0.000	0.000	0.000	21.438	17.083
<b>Total</b>	<b>2,676.473</b>	<b>3,119.884</b>	<b>204.658</b>	<b>9,158.104</b>	<b>3,639.247</b>

\*The manufacturer credit balances table excludes all inactive manufacturers with zero credit balances.

### 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, 2011 and September 30, 2012.

Transferor	Vehicle Type	Total Credits
Azure Dynamics	ZEV	3.959
CODA	ZEV	5.215
Ford	PZEV	0.084
Honda	AT PZEV	162.505
Mitsubishi	ZEV	6.913
Mitsubishi	PZEV	28.000
Polaris	ZEV	1.019
Tesla	ZEV	31.605
Think	ZEV	5.827
	<b>Total</b>	<b>245.127</b>
Transferee	Vehicle Type	Total Credits
Chrysler Group	ZEV	1.019
Ford	ZEV	3.959
GM	ZEV	12.128
GM	AT PZEV	162.505
Honda	ZEV	37.432
Volkswagen	PZEV	28.000
Volvo	PZEV	0.084
	<b>Total</b>	<b>245.127</b>

## 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 2011, representing a total of over 2.5 million vehicles including approximately 370 fuel cell vehicles, 10,000 battery electrics, 28,900 NEVs, 450,000 clean hybrids, and 2 million clean gasoline vehicles.

**What do these credit balances mean?** All vehicle manufacturers subject to the ZEV Regulation are in compliance through model year 2011. 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.