

Advanced Clean Cars Program

IN THIS SECTION

PRIMARY CONTACT

Advanced Clean Cars

Email cleancars@arb.ca.gov

Phone (916) 322-1731

CATEGORIES

Topics Transportation Electrification, Clean Cars

Division Emissions Certification and Compliance Division

ABOUT

Advanced Clean Cars combines the control of smog-causing (criteria) pollutants and greenhouse gas (GHG) emissions into a single coordinated package of regulations: the Low-Emission Vehicle (LEV) regulation for criteria and GHG emissions and a technology forcing regulation for zero-emission vehicles (ZEV) that contributes to both types of emission reductions.

Advanced Clean Cars I

Advanced Clean Cars I was first adopted by CARB in 2012, including LEV III Criteria, LEV III GHG, and ZEV regulation amendments. The LEV III GHG component was developed in coordination with the United States (U.S.) Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration (NHTSA) for One National Program to harmonize GHG and fuel economy standards.



LEV III Criteria: Reducing Smog-Forming Pollution

Cars today are significantly cleaner than they were just a decade ago, but there are millions of vehicles on California roads now, and those numbers will continue to increase. We are also driving more now than in previous years. In order to address this situation and continue to improve air quality, CARB adopted new emission standards to reduce smog-forming emissions (also known as 'criteria pollutants') beginning with 2015 model year vehicles. Thanks to this regulation, in 2025, cars will emit 75 percent less smog-forming pollution than the average car sold in 2012.

LEV III GHG: Reducing Greenhouse Gas Emissions

California's GHG regulations are projected to reduce greenhouse gas emissions from new vehicles by approximately 40 percent (from 2012 model year vehicles) in 2025. Studies indicate that they are technologically feasible and will save consumers money over the life of the vehicle because lower fuel use accompanies reductions of greenhouse gases. Technologies to achieve the new standards include engine and emission control advancements, wider application of advanced hybrid technology, and greater use of stronger and lighter materials.

Zero Emission Vehicle Regulation: Promoting the Cleanest Cars

The ZEV regulation is designed to achieve the state's long-term emission reduction goals by requiring auto manufacturers to offer for sale specific numbers of the very cleanest cars available. These vehicle technologies include full battery-electric, hydrogen fuel cell, and plug-in hybrid-electric vehicles. Updated estimates using publicly available information show about 8 percent of California new vehicle sales in 2025 will need to be ZEVs and plug-in hybrids to comply with the requirements.

2017 Midterm Review



When the Air Resources Board adopted Advanced Clean Cars in 2012, they committed to conducting a comprehensive midterm review of three elements of the program: 1) the ZEV regulation, 2) the 1 milligram per mile

particulate matter standard, and 3) the light-duty vehicle GHG standards for 2022 and later model years. Staff's review was conducted at the same time as the U.S. EPA and NHTSA midterm evaluation of the light-duty vehicle greenhouse gas standards for 2022 through 2025 model years at the national level. The Air Resources Board concluded the following at its March 2017 hearing:

- Adopted greenhouse gas standards remain appropriate for 2022 through 2025 model years
- Continue with existing technology-forcing zero-emission vehicle requirements to develop the market
- Direct staff to immediately begin rule development for 2026 and subsequent model years
- Continue and expand complementary policies to help support an expanding ZEV market
- The particulate matter standard is feasible but further action is needed to ensure robust control

Advanced Clean Cars II

Following the Board's direction to begin development of standards for model years after 2025, Advanced Clean Cars II is currently in process to establish the next set of LEV and ZEV requirements to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality targets. The main objectives of ACC II are:

1. Maximize criteria and GHG emission reductions through increased stringency and real-world reductions
2. Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use

A rulemaking package is anticipated to be presented to the Board in June 2022.



LEV IV: Reducing Emissions From Combustion Engine Vehicles

Light- and medium-duty vehicles can stay on the road for a long time, making early action critical for maximizing reductions for both greenhouse gases, which contribute to irreversible climate impacts that California is particularly vulnerable to, and harmful pollutants like oxides of nitrogen, which contribute to ozone formation and can cause respiratory illnesses on a local level. Reductions of these emissions are critical and early action will save more lives, result in fewer hospitalizations, and help curb irreversible climate change.

LEV IV will reduce emissions from combustion engine vehicles, potentially for the last time given the rapid pace of electrification. Therefore, for vehicles with combustion engines, the main objectives are to pursue additional requirements that will translate to real-world emission benefits, rather than rules that solely produce good results in a lab environment.

Zero Emission Vehicle Regulation: Accelerating the Electrification of the Fleet

The ZEV regulation is a technology forcing program that requires vehicle manufacturers to produce an increasing number of ZEVs, including battery, fuel cell, and plug-in hybrid electric vehicles. The electrification of light-duty vehicles contributes to both air quality and climate goals. Accelerating this transition will be achieved by setting new rules that will help prepare ZEVs for a wider market of consumers and by implementing ZEV credit requirements that will aggressively increase the ZEV market share beyond 2025.

(800) 242-4450 | helpline@arb.ca.gov
1001 I Street, Sacramento, CA 95814
P.O. Box 2815, Sacramento, CA 95812





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