

**Written Testimony of the
Manufacturers of Emission Controls Association
on the California State Motor Vehicle Pollution Control Standards;
Advanced Clean Car Program; Request for Waiver of Preemption**

Docket ID No. EPA-HQ-OAR-2012-0562

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The Manufacturers of Emission Controls Association (MECA), along with the Emissions Control Technology Association (ECTA) and the Advanced Engine Systems Institute (AESI), is pleased to provide written comments in support of the California Air Resources Board's (ARB) request that EPA grant a waiver for ARB's Advanced Clean Car (ACC) program. This comprehensive program that includes future criteria exhaust and evaporative emission standards for light-duty and medium-duty vehicles (LEV III emission standards), post-2016 light-duty greenhouse gas emission standards, and revisions to ARB's Zero Emission Vehicle (ZEV) requirements will reset the bar for state-of-the-art exhaust and evaporative emission controls for light-duty vehicles through 2025.

MECA is a non-profit association of the world's leading manufacturers of emission control technology for mobile sources. Our members have over 40 years of experience and a proven track record in developing and manufacturing emission control technology for a wide variety of on-road and off-road vehicles and equipment, including extensive experience in developing exhaust and evaporative emission controls for gasoline and diesel light-duty vehicles in all world markets. Our industry has played an important role in the emission control success story associated with light-duty vehicles in California, and has continually supported efforts to develop innovative, technology-forcing, emission control programs to deal with California's unique air quality problems.

The experience of our industry over the last 40 years clearly demonstrates the connection between vehicle emission regulation and economic development. Prior to 1970, our industry did not exist. But, with the enactment of the Clean Air Act (CAA) in 1970, our industry has flourished, developing successive generations of technology to meet ever-tightening regulatory standards. Since the introduction of the catalytic converter in 1975, more than 500 million light-duty vehicles have been sold in the U.S. equipped with exhaust and evaporative emission control technologies developed by our industry. This generated an estimated \$250-300 billion in economic activity since 1975. In 2010 alone, our industry generated \$12 billion of economic activity and accounted for 65,000 U.S. jobs, mostly in manufacturing. ARB's Advanced Clean Car program will provide additional support for the continued development of a thriving U.S. industry focused on a wide range of technologies that can reduce vehicle criteria pollutant and greenhouse gas emissions.

MECA provided detailed written comments to ARB in January of this year as part of their proposed rulemaking for the Advanced Clean Car program, which was officially approved by the ARB Board on January 27, 2012. In those comments, MECA agreed with ARB staff's assessment that achieving the proposed LEV III exhaust and evaporative emission standards and associated emission reductions are both technically feasible and cost-effective. This fact is clearly demonstrated by the more than two million SULEV- and PZEV-compliant light-duty vehicles that have been sold in the California market since these near-zero emission, gasoline vehicles were first introduced more than ten years ago. The technology base of advanced three-way catalysts, exhaust hydrocarbon adsorber materials, high cell density substrates, emission system thermal management strategies, secondary air injection systems, advanced carbon canisters, advanced low fuel permeation materials, and air intake hydrocarbon adsorber materials that have already been commercialized for PZEV gasoline vehicle applications can be extended to and further optimized to allow all light-, medium-, and heavy-duty gasoline vehicles to achieve the exhaust and evaporative emission reductions needed by vehicle manufacturers to comply with the LEV III emission limits. In addition, advanced diesel emission control technologies, including diesel particulate filters, lean NO_x adsorber catalysts, and selective catalytic reduction catalysts, will be combined with future, advanced diesel engines to allow light-duty diesel vehicles to achieve the LEV III emission limits.

MECA also urged ARB to include a mid-term, formal review on their proposed 1 mg/mile light-duty vehicle PM standard to ensure that future gasoline vehicles that are introduced into the California market include the best available technologies for minimizing particulate emissions from these vehicles. MECA also supported ARB's changes to their light-duty vehicle on-board diagnostic (OBD) requirements, noting that it is important for ARB to continue to encourage the development of commercial opportunities for particulate sensors for both light-duty and heavy-duty diesel vehicle OBD applications.

MECA also fully supported ARB's post-2016 greenhouse gas emission standards for light-duty vehicles. Implicit in federal and state greenhouse gas emission analyses is the ability of these advanced powertrain options to meet the applicable criteria pollutant emission standards, such as for carbon monoxide (CO), oxides of nitrogen (NO_x), and non-methane organic gases (NMOG). All of these advanced, light-duty powertrain options combined with the appropriately designed and optimized emission control technologies can meet all current and future federal and state criteria emission requirements. In this manner, advanced emission controls for criteria pollutants enable advanced powertrains to also be viable options for reducing greenhouse gas emissions. A range of powertrain technologies, including engine turbochargers, exhaust gas recirculation systems, advanced fuel systems, variable valve actuation technology, advanced transmissions, hybrid powertrain components, and powertrain control modules, that can be applied to both light-duty gasoline and diesel powertrains to help improve overall vehicle efficiencies, also help reduce fuel consumption, both of which can result in lower CO₂ exhaust emissions. In many cases, the application and optimization of advanced emission control technologies on advanced powertrains can be achieved with

minimal impacts on overall fuel consumption. Auto manufacturers will also take advantage of synergies between advanced emission control technologies and advanced powertrains to assist in their efforts to optimize their performance with respect to both criteria pollutant and greenhouse gas emissions.

In summary, there are significant opportunities to reduce both criteria pollutant and greenhouse gas emissions from the transportation sector through the design of fuel efficient powertrains that include advanced exhaust emission controls for meeting even the most stringent criteria pollutant standards that are included in ARB's Advanced Clean Car program. MECA believes that advanced emission control systems have a critically important role in current and future policies that aim to reduce mobile source criteria pollutant and greenhouse gas emissions. These advanced exhaust and evaporative emission control technologies will allow all current and future high-efficiency powertrain options to comply with ARB's LEV III criteria pollutant standards, thus enabling these powertrains to be viable options for complying with existing and proposed ARB and EPA greenhouse gas pollutant standards.

MECA, ECTA, and AESI commend ARB for taking important steps through its Advanced Clean Car program to reduce criteria pollutant and greenhouse gas emissions and to improve fuel economy from light-duty vehicles in California. We ask EPA to grant ARB a waiver for this innovative regulatory program. We also urge EPA to bring forward their Tier 3 light-duty proposal, using ARB's LEV III program as a template, that will establish a national set of exhaust and evaporative emission standards for light-duty vehicles. Our industry is prepared to do its part to deliver cost-effective, advanced emission control technologies to the market.

CONTACT:

Joseph Kubsh
Executive Director
Manufacturers of Emission Controls Association
2020 North 14th Street
Suite 220
Arlington, VA 22201
Phone: (202) 296-4797 x107
E-mail: jkubsh@meca.org