



Emission Facts

The History of Reducing Tailpipe Emissions

1970-1975: The First Standards

In 1970, Congress passes the Clean Air Act, which called for the first tailpipe emissions standards. The pollutants controlled are carbon monoxide (CO), volatile organic compounds (VOC), and oxides of nitrogen (NO_x). The new standards go into effect in 1975 with a NO_x standard for cars and light-duty trucks of 3.1 grams per mile (gpm).

1977-1988: Tightening Standards for the First Time

In 1977, Congress amends the Clean Air Act and tightens emission standards again in two steps. First, between 1977 and 1979, the NO_x standard becomes 2.0 gpm for cars. Then in 1981, the NO_x standard for cars is reduced to 1.0 gpm. Effective in 1979, pursuant to the Clean Air Act requirements, EPA tightens standards for light-duty trucks to 2.3 gpm. Effective in 1988, EPA then sets the first tailpipe standards for heavier trucks at 1.7 gpm and revises the standard for lighter trucks to 1.2 gpm.

1990-1994: Tier 1

In 1990, Congress again amends the Clean Air Act, further tightening emission standards. The NO_x standard is set at 0.6 gpm for cars, effective in 1994. The new standard — called “Tier 1”—is a 40 percent reduction from the 1981 standard. For trucks, the new standard ranges from 0.6 to 1.53 gpm, depending on the weight of the vehicle.

The Clean Air Act Amendments of 1990 also require EPA to assess the air quality need, cost effectiveness, and feasibility of tighter emission standards for the 2004 model year and beyond.

1998: Voluntary Agreement For Cleaner Cars

In 1998, the Clinton Administration with the auto industry and the Northeast states strike an innovative, voluntary agreement to put cleaner cars on the road before they could be mandated under the Clean Air Act. The new cars are called National Low Emission Vehicles (NLEV). The first NLEV cars under the agreement reach consumers in New England in 1999 and will reach the rest of the country in 2001. NLEV cars operate with a NO_x standard of 0.3 gpm, a 50 percent reduction from Tier 1 standards. The NLEV agreement also calls for a 0.5 gpm NO_x standard for lighter trucks only, a 17 percent reduction from Tier 1 requirements for these vehicles.

In 1998, as required by the Clean Air Act Amendments of 1990, EPA issues the Tier 2 Report to Congress. The report contains strong evidence of the need, cost-effectiveness and feasibility for tighter tailpipe emission standards in the future beginning in 2004. Three main factors support EPA's decision:

- 1) currently vehicles make up 30 percent of smog-forming emissions nationally, and because the number of miles driven is increasing (up 127 percent since 1970) they will continue to be a significant contributor to pollution;
- 2) larger vehicles like SUVs, that currently do not meet the same standards as cars, pollute 3-5 times as much and make up 50 percent of the vehicles sold today; and
- 3) the technology to meet tighter standards is available and cost-effective.

In 1998, EPA also determines that sulfur reductions in gasoline are needed to enable the full performance of low emission-control devices.

1999: Tier 2

In 1999, EPA proposes Tier 2 tailpipe emissions standards beginning in 2004—the first time both cars and light-duty trucks are subject to the same national pollution control system. The new standard is 0.07 gpm for NO_x, a 77-86 percent reduction for cars and a 92-95 percent reduc-

tion for trucks beyond the NLEV agreement. EPA also proposes a reduction in average sulfur levels to 30 parts per million (ppm) (maximum of 80 ppm) to achieve the full performance of vehicle emission control technologies.

As part of these new standards, EPA has included several measures to ensure maximum flexibility and cost-effectiveness. These flexibilities include:

- allowing averaging to meet both the car emission and gasoline sulfur standards;
- allowing extra time for larger vehicles between 6000 and 8500 pounds and smaller refiners to meet their respective standards; and
- allowing for a market-based credit trading-and-banking system for both industries to reward those who lead the way in reducing pollution.

Cars

Year	1975	1977	1981	1994	1999	2004-2009
NOx Standard (gpm)	3.1	2.0	1.0	0.6	0.3	0.07
NOx Reduced (from previous standard)		35%	50%	40%	50%	77%

Smaller SUVs, Minivans, and Light Trucks (Less than 6000 lbs)

Year	1975	1979	1988	1994	1999	2004-2009
NOx Standard (gpm)	3.1	2.3	1.2	0.6	0.5	0.07
NOx Reduced (from previous standard)		26%	48%	50%	17%	86%

Larger SUVs, Vans, and Heavier Trucks (Between 6000 and 8500 lbs)

Year	1988	1994	2004-2007	2008-2009
NOx Standard (gpm)	1.7	1.53	0.2	0.07
NOx Reduced (from previous standard)		10%	87%	65% or 95% from 1994 standard

For More Information

Additional documents on emission standards for cars and light trucks are available electronically from the EPA Internet server at:

<http://www.epa.gov/oms/ld-hwy.htm>

Information on the Tier 2 standards is available on the Tier 2 home page at:

<http://www.epa.gov/oms/tr2home.htm>

Document information is also available by writing to:

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