

## EPA / NHTSA Notice of Intent, Light-Duty Vehicle Standards for MY 2017–2025

The U.S. EPA and National Highway Traffic Safety Administration (NHTSA) have jointly [issued a Notice of Intent \(NOI\)](#) to develop new greenhouse gas (GHG) emissions and corporate average fuel economy (CAFE) standards for light-duty vehicles in model years 2017 to 2025. The document is online [here](#); a PDF version (*Federal Register*) is [here](#).

The NOI lays out initial scenarios for fleet-wide GHG and fuel economy targets based on 3% and 6% annual reduction rates and assesses the technology pathways and costs associated with the targets. A joint proposed rulemaking is anticipated in September 2011, with a final rule expected by July 2012 .

### Key points

**Stringency and fuel savings.** The agencies analyzed four potential GHG targets, representing annual decreases in GHG levels of 3–6% from the MY 2016 fleet average of 250 g/mi, and their equivalent fuel economy levels. The agencies also estimated total fuel and CO<sub>2</sub>-equivalent reductions. Table 1 summarizes these scenarios.

Table 1. GHG reduction and fuel savings, various scenarios, MY 2025.

Scenario	Level in MY 2025 (gCO <sub>2</sub> /mi)	MPG equivalent	Fuel consumption equivalent (1/100km, NEDC)	Lifetime CO <sub>2</sub> e reduction (MMT)	Lifetime fuel reduction (billion bbl)
3% per year	190	47	5.4	340	0.7
4% per year	173	51	4.9	440	0.9
5% per year	158	56	4.4	520-530	1.1
6% per year	143	62	4	530-590	1.3

Source: Notice of Intent, table 1 and 3.

**Technological pathways and costs.** The NOI considers four technology pathways for meeting the targets in these scenarios. A specific mix of advanced gasoline technologies, mass reduction, hybrids, plug-in hybrids, and electric vehicles defines each pathway. Table 2 provides general definitions; see the ap-

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pendix below for the breakdown of estimated technology penetration for each pathway under each GHG reduction scenario.

Table 2. Technology pathways

<b>A</b>	Industry focuses on HEVs with less reliance on advanced gasoline vehicles and mass reduction, relative to pathway B and C.
<b>B</b>	Greater use of advanced gasoline vehicles and mass reduction.
<b>C</b>	Main focus on advanced gasoline vehicles and mass reduction, and to a lesser extent on HEVs.
<b>D</b>	Focus on PHEV, EV, and HEV technologies; less on advanced gasoline vehicles and mass reduction.

Preliminary estimated per-vehicle cost increases for MY2015 ranged from \$770 to \$3,500 across the range of stringency targets and technology pathways. But the lifetime fuel savings ranged from \$5,930 to \$10,200, resulting in an overall lifetime savings of \$5,000 to \$7,400, for a payback period of 1.4 to 4.2 years (Table 3).

Table 3. Cost-benefit analysis of technology pathways under various potential targets.

Scenario	Technology path	Preliminary per-vehicle cost estimates (US\$)	Payback period (years)	Estimated lifetime fuel saving (US\$)	Net lifetime owner savings (US\$)
3% per year	A	930	1.6	5,930	5,000
	B	850	1.5	5,950	5,100
	C	770	1.4	5,970	5,200
	D	1,050	1.9	5,950	4,900
4% per year	A	1,700	2.5	7,600	5,900
	B	1,500	2.2	7,500	6,000
	C	1,400	1.9	7,600	6,200
	D	1,900	2.9	7,200	5,300
5% per year	A	2,500	3.1	9,000	6,500
	B	2,300	2.8	9,000	6,700
	C	2,100	2.5	9,100	7,000
	D	2,600	3.6	8,100	5,500
6% per year	A	3,500	4.1	9,700	6,200
	B	3,200	3.7	9,800	6,600
	C	2,800	3.1	10,200	7,400
	D	3,400	4.2	9,100	5,700

Source: Notice of Intent, table 2.

**Regulatory structure and compliance.** The agencies plan to continue to index standards to vehicle footprint, but will review the need for separate standards for passenger cars and trucks (as in the MY2012–2016 standards). Continuation of various compliance flexibilities—e.g., credit averaging, banking and trading; special treatment for smaller volume manufacturers; air conditioning system credits; off-cycle credits—will be considered. The EPA will evaluate the benefits of retaining the approach to traditional flexible fuel vehicle credits in the MY2017–2025 rulemaking versus other approaches.

For EVs and PHEVs, the treatment of upstream emissions generated in the production of electricity and other fuel sources in GHG compliance calculations is an important issue; the agencies plan to evaluate GHG-reduction potentials based on commercialization levels of EVs, PHEVs, and FCVs and the outlook for upstream GHG control programs.

### **Next steps**

EPA and NHTSA will issue a supplemental NOI by the end of November. The supplement will describe design elements of the national program and will include updated analysis on GHG/FE standards for 2017-2025. Among the principal goals will be to narrow the range of stringency levels being considered and to reflect new technical data and analysis supplementing the Interim Joint Technical Assessment Report (TAR). Further analysis on safety impact of weight reduction technologies will possibly be discussed in the supplemental NOI, or in the upcoming NPRM.

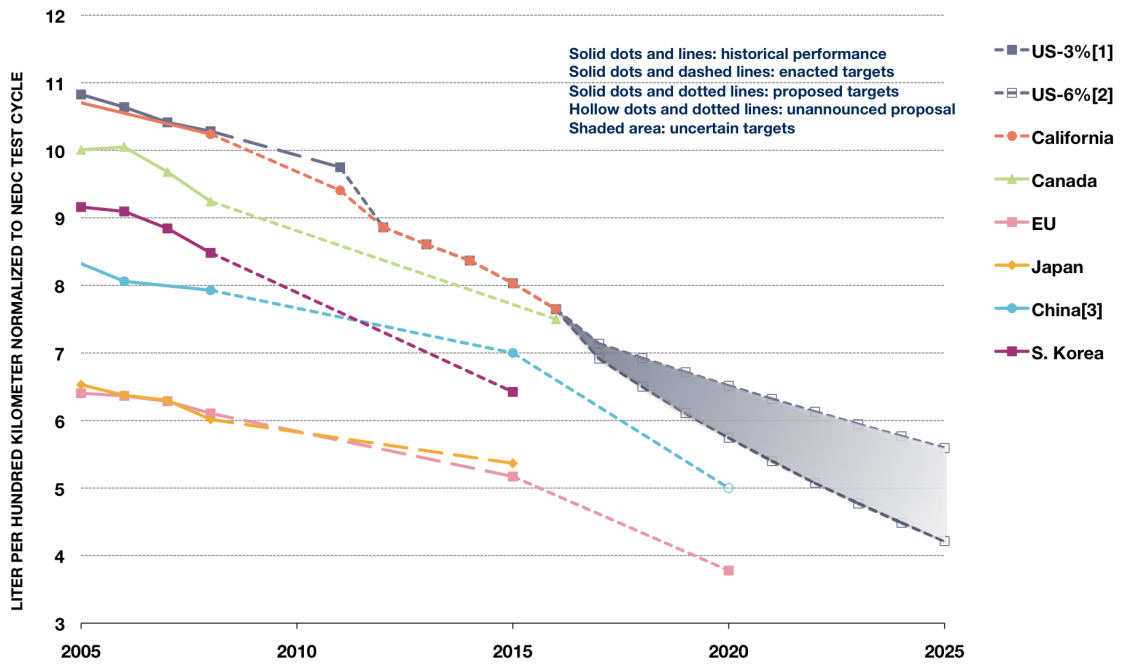
Appendix

Table 4. Technology penetration estimates for MY2025 fleet.

Scenario	Technology pathway	Vehicle technology penetration, percent of fleet				
		Mass reduction <sup>1</sup>	Gasoline & diesel vehicles	HEVs	PHEVs	EVs
3% per year	A	15%	89%	11%	0%	0%
	B	18%	97%	3%	0%	0%
	C	18%	97%	3%	0%	0%
	D	15%	75%	25%	0%	0%
4% per year	A	15%	65%	34%	0%	0%
	B	20%	82%	18%	0%	0%
	C	25%	97%	3%	0%	0%
	D	15%	55%	41%	0%	4%
5% per year	A	15%	35%	65%	0%	1%
	B	20%	56%	43%	0%	1%
	C	25%	74%	25%	0%	0%
	D	15%	41%	49%	0%	10%
6% per year	A	14%	23%	68%	2%	7%
	B	19%	48%	43%	2%	7%
	C	26%	53%	44%	0%	4%
	D	14%	29%	55%	2%	14%

Source: Notice of Intent, table 4.

Figure A. Comparison of U.S. target scenarios with other countries



[1] Based on 3% annual fleet GHG emissions reduction between 2017 and 2025 in the September 30th NOI.  
 [2] Based on 6% annual fleet GHG emissions reduction between 2017 and 2025 in the September 30th NOI.  
 [3] China's target reflects gasoline fleet scenario. If including other fuel types, the target will be lower.

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