

**Final Rule for Greenhouse Gas (GHG) Emissions and Fuel Efficiency (FE) Standards for
Medium- and Heavy-Duty Engines and Vehicles - Phase 2
September 7, 2017**

Summary

On October 25, 2016, the Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA) published a joint Phase 2 greenhouse gas (GHG) and fuel efficiency (FE) rule for medium- and heavy-duty vehicles. The rule, which phases in between MY 2021 and MY 2027, is expected to increase the costs of the heaviest commercial vehicles and engines produced and sold in the U.S. by as much as \$12,440, and to force unproven technologies into the fleet.

When EPA last forced new technologies onto commercial trucks, it wildly underestimated per vehicle costs and other impacts. Specifically, EPA predicted in 2001 that its new NOx reduction mandates would increase the average price of a heavy-duty truck by \$3,000. A 2012 American Truck Dealers study found that EPA underestimated compliance costs by a factor of 2 to 5 times, resulting in actual average costs exceeding \$21,000 per truck.¹ EPA's 2002, 2007, and 2010 NOx mandates also resulted in significantly higher operating costs and reduced reliability due to increased maintenance and repair. These higher prices and operating costs led to unprecedented truck pre-buys and sales "cliffs" and other market disruptions, causing layoffs, capital constraints for truck and engine manufacturers, suppliers, and dealers, and the departure of numerous businesses from the industry.

At an estimated cost of \$29.3 billion, the massive and complex Phase 2 rule is the most expensive set of mandates ever imposed on the trucking industry. Congress should ensure that the Phase 2 program is technologically feasible and cost effective. Otherwise, while new trucks may become more fuel efficient, truck purchasers may not be able to buy them. Instead, truck customers will choose to keep their existing trucks longer, will rebuild engines and vehicles, or will purchase used trucks that meet their needs. EPA currently plans to revisit the rule's provisions on trailers and glider kits, but not the mandates governing trucks, tractors and engines. ***Oversight of this costly rule could positively impact the truck industry and the economy by saving American jobs across the country, and by ensuring that the benefits of safer, more efficient trucks are realized.***

Phase 2 Commercial Vehicle Cost Increase Summary for MY 2027^{2,3}				
Source: EPA/NHTSA				
Issue	Tractors	Trailers	Vocational Vehicles	Heavy-Duty (HD) Pickups/Vans
Per Vehicle Cost Increase (\$)	\$12,160 to \$12,440	\$1,070 to \$1,110	\$2,660 to \$2,700	\$1,340 to \$1,360
Per Vehicle Cost Increase (%)	12%	4%	3%	3%
Price Before Regulation (\$)	Base Price: \$100,000	Base Price: \$25,000	Base Price: \$100,000	Base Price: \$40,000
New Price After Regulation (\$)	New Price: \$112,440	New Price: \$26,110	New Price: \$102,700	New Price: \$41,360

¹ Plaza-Jennings, *A Look Back at EPA's and Other Impact Projections for Model Year 2004-2010 Heavy-Duty Truck Emissions Standards* (Feb. 2012). NADA Comments to NHTSA/EPA RE: MY 2017-2025 Proposed Standard

² 81 Fed. Reg. 73478, 73482 (Oct. 25, 2016).

³ EPA/NHSTA base price is approximate minimum vehicle price. Dollar values shown are in 2013\$.

Issue	Comment
Cost of Phase 1 Per Unit in MY 2018 ^{4, 5}	Combination Tractors: \$6,683; Vocational: \$406; HD Pickups and Vans: \$1,126
Total Phase 2 Costs	Lifetime Total Cost for MY 2018-2029: \$29.3 billion of 2013 ⁶
Total Costs of Commercial Truck Fuel Economy Rules	Phase 1 Total Costs: \$8.7 billion ^{7, 8} Phase 2 Total Costs: \$29.3 billion Total Costs of Phase 1 and Phase 2: \$38 billion
Increased Maintenance Costs	Lifetime Total Maintenance Costs for MY 2018-2029: \$882 million of 2013. ⁹ <ul style="list-style-type: none"> • “The agencies have estimated increased maintenance costs associated with installation of new technologies.”¹⁰ • “The agencies have estimated increased maintenance costs associated with the installation of lower rolling resistance tires.”¹¹
Average Price Increase for New Truck Customers	“The average price of new commercial vehicles will increase across the board depending on the type of vehicle and specifications.” ¹² (See above chart, which is in addition to Phase 1 costs listed above.)
Increased HD Pick Up Truck or Van Costs	“A new MY 2027 HD pickup truck is estimated to cost roughly \$1,300 more (on average, in 2013\$, and relative to the reference case vehicle) due to the addition of new fuel consumption improving and GHG reducing technology”. ¹³
Number of Truck Fuel Economy Regulators	Three—NHTSA, EPA, California Air Resources Board (Phase 1 waiver granted for California on 12/29/16).
Number of Truck Fuel Economy Regulators Authorized by Congress	One – NHTSA is the sole agency authorized by Congress to regulate truck fuel economy.
Unknown Sales Impact	<ul style="list-style-type: none"> • “If these market failures prevent firms from fully internalizing fuel savings when deciding on vehicle purchases, then pre-buy and delayed purchase could occur.”¹⁴ • “Thus, whether pre-buy or delayed purchase is likely to play a significant role in the truck market depends on the specific behaviors of purchasers in that market. Without additional information about which scenario is more likely to be prevalent, the agencies are not projecting a change in fleet turnover characteristics due to this regulation.”¹⁵
Unknown Impact on Job Loss	“Because we do not have quantitative estimates of the output effect, and only a partial estimate of the substitution effect, we cannot reach a quantitative estimate of the overall employment effects of the final rules on motor vehicle sector employment or even whether the total effect will be positive or negative.” ¹⁶

⁴ EPA/NHTSA, “Regulatory Impact Analysis”, Report No. EPA-420-R-11-901, Table 7-1, p. 7-3, (August 2011).

⁵ Phase 1 costs updated from 2009 \$ to 2013 \$ to be consistent with costs presented in Phase 2 Rule using Personal Consumption Expenditures Price Index: <https://fred.stlouisfed.org/series/PCEPI> .

⁶ EPA/NHTSA, Phase 2 RIA, Table 8-30, p. 8-73.

⁷ 76 Fed. Reg. 57106, 57111 (September 15, 2011).

⁸ See footnote 5.

⁹ EPA/NHTSA, Phase 2 RIA, Table 7-37, p. 7-38.

¹⁰ EPA/NHTSA, “Regulatory Impact Analysis”, Report No. EPA-420-R-16-900 (Phase 2 RIA), Section 7.2.3, p. 7-35 (August 2016).

¹¹ EPA/NHTSA, Phase 2 RIA, 7.1.3, p. 7-14.

¹² 81 Fed. Reg. 73478, 73482.

¹³ EPA/NHTSA, Phase 2 RIA, Section 7.1.4, p. 7-16.

¹⁴ EPA/NHTSA, Phase 2 RIA, Section 8.4.2, p. 8-25.

¹⁵ EPA/NHTSA, Phase 2 RIA, Section 8.4.2, p. 8-26.

¹⁶ EPA/NHTSA, Phase 2 RIA, Section 8.10.2.3, p. 8-87.