

Stringent CAFE standards extension leads to billions in savings

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The Environmental Protection Agency's recent reaffirmation of national fuel economy standards will likely result in large reductions of future emissions and fuel consumed—even if the future vehicle mix does not change, say University of Michigan researchers.

"While there is no reason to believe that modifications to the applicable CAFE standards would directly impact consumer purchasing habits in any meaningful way, it is possible that more stringent standards would also indirectly influence purchasing trends," said Michael Sivak of the U-M Transportation Research Institute.

Sivak and colleague Brandon Schoettle say that pressure on manufacturers to produce and sell more high fuel-efficient vehicles could result in increase in marketing efforts of cars, especially small ones, and more resources devoted to developing and refining the technology needed for better fuel economy, regardless of vehicle type.

"Consequently, it is likely that the more stringent CAFE standards will counteract, at least in part, the recent trend of increasing market share of [light trucks](#) relative to cars," Sivak said. "In turn, given that light trucks tend to have poorer [fuel economy](#) than cars, proportionally more cars among new vehicles would indirectly reduce total fuel consumption by the new-vehicle fleet."

The researchers examined this indirect pathway toward lower fuel consumption by analyzing the change in the amount of fuel consumed

for different ratios of cars to trucks in the production mix for each model year 2022 through 2025.

A 1-percent increase in light trucks (pickups, SUVs, minivans) would result in more than 20 million gallons of extra fuel consumed for model year 2022 and 17-19 million extra gallons for each of the other model years. Likewise, a 1 percent decrease in light trucks would result in corresponding declines for these model years.

Sivak and Schoettle also considered several scenarios that could result if the production mix of new vehicles were to change from the model year 2015 mix of 57 percent cars and 43 percent light trucks.

If the ratio roughly reversed to 60 percent light trucks and 40 percent cars, additional fuel consumed would be 354 million gallons the first year and 3.3 billion gallons in the first four years—a 6-percent increase.

If light trucks comprised 70 percent of the new vehicle fleet, it would result in an extra 558 million gallons of [fuel](#) the first year and 5.2 billion gallons in the first four years (a 10-percent increase).

More information: Midterm Evaluation of the Future Fuel-Economy Standards, New Vehicle Mix, and Fuel Consumed:

[www.umich.edu/~umtriswt/PDF/SW ... Abstract_English.pdf](http://www.umich.edu/~umtriswt/PDF/SW...Abstract_English.pdf)

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