
EFFECTS OF A \$0.25 FEDERAL GAS TAX INCREASE ON U.S. ECONOMY, FUEL USE, FLEET COMPOSITION

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Note: This research note updates a [version](#) released in 2018, to incorporate newer data and assumptions.

Proposals to raise the United States federal fuel user fee (aka gas tax), such as the U.S. Chamber of Commerce's 2018 proposal to raise the fee to \$0.25 per gallon has driven contentious debate over the future of U.S. transportation funding. The Chamber's proposal would have increased the current \$0.18 per gallon gasoline tax five cents per year up to \$0.43 per gallon and the \$0.24 per gallon diesel tax five cents per year up to \$0.49 per gallon.

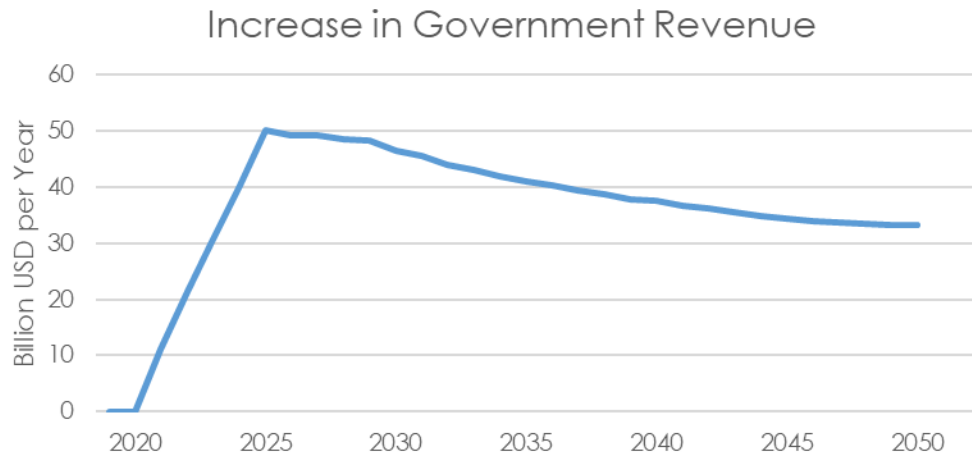
The U.S. gas tax has not been increased since 1993 losing about 45 percent of its value in real terms over that time as inflation has increased. The gas tax could provide much needed federal revenue, but doing so will create new direct consumer costs. Republican members of Congress have been split on the issue, and President Trump was once [quoted](#) as supporting up to a \$0.50-per-gallon hike. Others are split on the issues as well.

To evaluate the potential impacts of a gas tax increase on the U.S. economy, total energy demand, and transportation fleet composition, Energy Innovation ran a variety of simulations using the [Energy Policy Simulator \(EPS\)](#) computer model. The non-partisan open-source and peer-reviewed EPS uses government data to assess the impacts of dozens of energy-related policies on emissions, costs and savings, and fuel consumption.

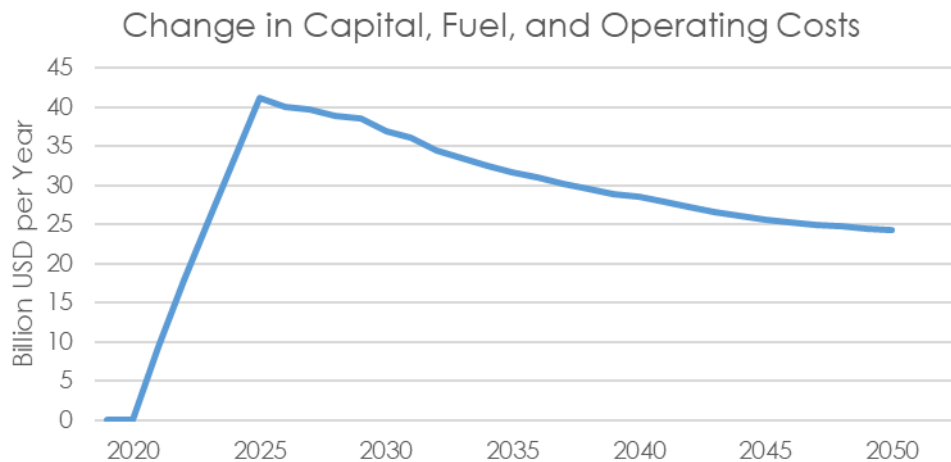
GAS TAX WOULD GENERATE \$1.1 TRILLION IN REVENUE THROUGH 2050

Under the Chamber of Commerce proposal, the tax increase would have phased in at \$0.05 per year until it reaches \$0.25 per gallon. Assuming a similar proposal starting in 2021, the tax increase would create \$50 billion in government revenue per year by 2025, and about \$1.1 trillion through 2050. The Chamber of Commerce [estimated](#) a \$0.25 gas tax would raise \$394 billion over 10 years¹, and our modeling puts this number at roughly the same amount even if implemented today – about \$395 billion.

¹ The Chamber did not specify if its modeling assumes \$0.05/year of \$0.25 at once, nor how it adjusts for inflation or vehicle efficiency gains. Our modeling assumes \$0.05/year and operates in inflation-adjusted currency. We do not adjust for vehicle efficiency gains.

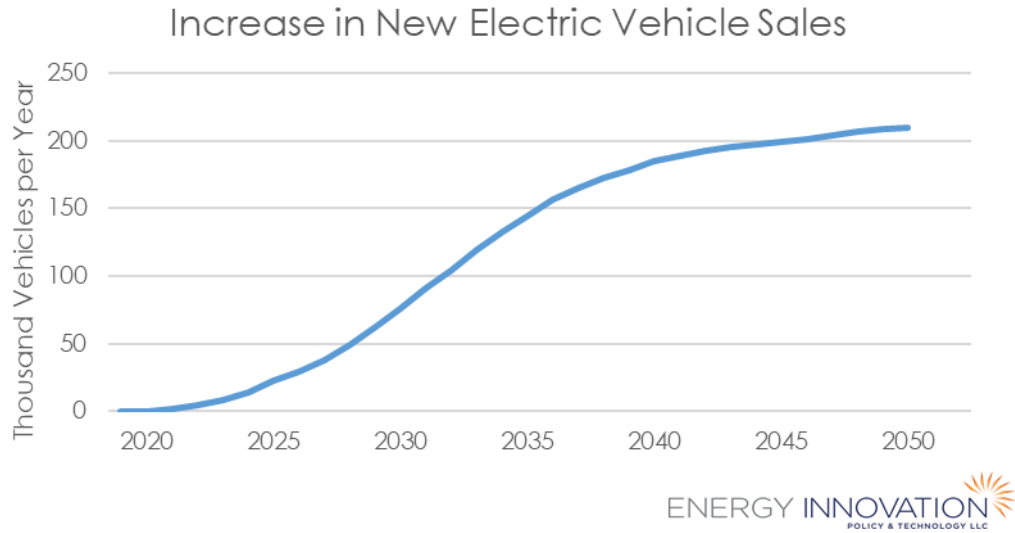


The cost of the gas tax to drivers would grow to about \$40 billion per year by 2025, with annual costs steadily decreasing over time (with rising gas prices in a business-as-usual scenario, drivers naturally drive less and purchase an increasing number of electrified vehicles, so a flat tax has falling revenue in out years). It is worth noting a \$0.25 tax increase is well within the historical variation in gas prices.



GAS TAX WOULD ADD 1.2 MILLION ADDITIONAL ELECTRIC VEHICLES TO U.S. ROADS BY 2050

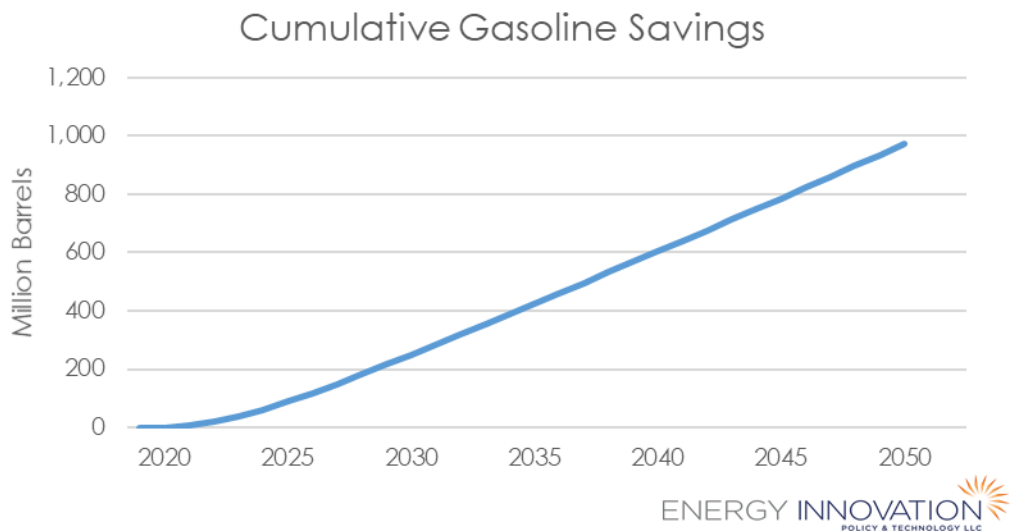
Rising gasoline costs would increase consumer interest in EVs, increasing annual EV sales by about 210,000 per year in 2050, resulting in around 2.5 million additional EVs on the road by 2050.



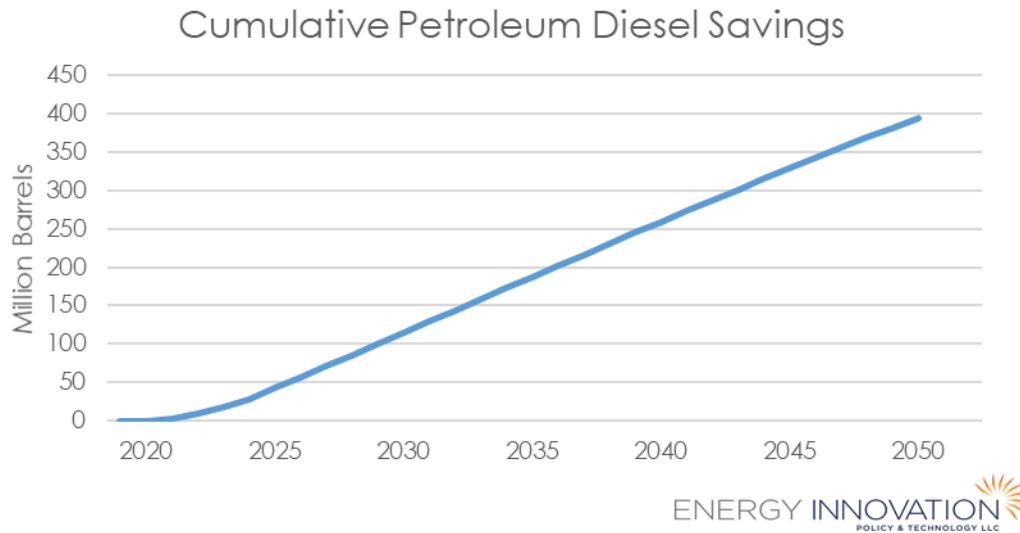
This raises an interesting point: In a high-penetration EV future, a gas tax will face steadily-falling revenue. Policymakers considering a gas tax may also consider how they can raise infrastructure revenue in a future where many cars are EVs.

GAS TAX WOULD REDUCE TOTAL FUEL CONSUMPTION BY MORE THAN 1.3 BILLION BARRELS

Higher costs and increased vehicle electrification would also reduce annual U.S. gasoline and diesel consumption. Annual gasoline consumption would be reduced by between 30 and 38 million barrels with the full \$0.25 tax, saving nearly a billion barrels through 2050.



Annual diesel consumption would be reduced by about 14 million barrels, saving nearly 400 million barrels through 2050.



GAS TAX WOULD EQUAL A NATIONAL CARBON TAX HIGHER THAN ANY EXISTING U.S. PRICING SCHEME

Interestingly, a \$0.25 gas tax is equivalent to a \$29 per ton carbon tax, based on the heat and carbon content of gasoline (this equivalency is slightly different when looking at diesel, dropping the carbon tax down to \$25 per ton). As a general rule of thumb, each dollar of a carbon tax is about the same as \$0.01 increase in the gas price.

That price compares to the California-Quebec cap-and-trade system's record high allowance auction price of \$17.87 per ton (set in [February 2020](#)) and the Regional Greenhouse Gas Initiative cap-and-trade system's record high allowance auction price of \$7.50 per ton (set in [December 2015](#)).