

FUEL-EFFICIENCY RULES ARE ALREADY RAISING COSTS IN DETROIT

Electric cars are a sideshow. The real story is Ford's big bet on aluminum and other expensive design changes

By

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Detroit

At the dawn of 2014 the federal government has exited General Motors and Chrysler. Both companies have repaid their auto-bailout loans and Fiat is purchasing Chrysler outright. But federal carbon limits imposed on the auto industry in the depths of the Great Recession—when it was powerless to resist—will haunt manufacturers for years to come. The re-election of Barack Obama has cemented EPA fuel-efficiency regulations requiring that, by 2025, auto makers' products average 54.5 miles per gallon.

On the floor of the 2014 Detroit Auto Show, which is open to the public until Jan. 26, there is ample evidence that the regulations are starting to bite. Detroit temperatures have hovered in the single digits after hitting a record low, minus-14 degrees, in the first week of January—temperatures consistent with a planet that hasn't warmed in more than a decade. Yet the gods of global warming must be satisfied, and the sacrifices to the EPA's climate ideology come with a big price.

While auto makers are once again parading cars and trucks their customers want to own, company strategies are nevertheless being driven by government fuel-economy rules. Behind the glitzy displays, gorgeous vehicle introductions and relief that vehicle sales are almost back to 2007 prerecession levels, there is worry about the costs the fuel-efficiency rules impose. Take the radical, expensive redesign of the Ford F150 pickup, America's best-selling vehicle. The F150 is the talk of the show because it is the first truck—and the first large-volume vehicle—to have its body made entirely of aluminum to save weight and reduce fuel consumption.

The driving force behind Ford's decision was the EPA standards that will force full-size trucks to get upward of 30 mpg in 10 years—up from 20 today. Ford had already made significant gains in efficiency by redesigning its power trains to add less-thirsty turbo V-6s to its lineup, but the step to aluminum is an indication that the EPA rules will require much more than squeezing engines. The switch to costlier, lighter aluminum means a massive capital investment that involves the retooling of factories and the remaking of Ford's material supply stream as it shifts away from steel sheet for body panels. Ford won't disclose the investment, but it runs into the billions. Ford sells 700,000 F150 trucks a year, so industry experts say it could overnight become the second-biggest aluminum customer outside of the U.S. military. The change brings significant risk to a truck class where buyers put a premium on durability and toughness. While Ford is confident that its aluminum alloy will match steel for strength, its move is also a gamble given the higher cost of aluminum to repair and the subsequent insurance cost to customers.

What is the hardest thing about launching a new car today?

"The new government regulations—whether it be fuel economy, safety or whatever—are very difficult and pose a significant challenge to the development of any new vehicle," Ford Mustang engineer Dave Pericak tells Car & Driver. The mighty muscle car will offer a turbocharged four-cylinder engine for the first time in a bow to federal regulations.

Ford's strategy is not to criticize the regulations, calculating that they are here to stay and it's a marketing nightmare to fight government and media campaigns for better fuel efficiency. So

Ford is trying to turn the rules to its advantage, playing to its marketing strengths in selling vehicles like the Mustang and the best-selling F150 as the most innovative products in their segment. The F150, for example, will be 700 pounds lighter, 3-4 mpg more efficient, and therefore save customers—especially companies with truck fleets—millions in fuel costs. Aluminum's costs are significantly higher than steel, and Ford won't disclose how much the changeover will erode its profit margins. Those F150 margins are significant, with each truck sale adding \$10,000 to the company's bottom line. In the highly competitive truck segment, however, Ford will likely swallow those costs to maintain a competitive sticker price and hope that increased sales will bring more cash.

GM, by contrast, is banking on a different path that it thinks is less disruptive and less costly. Less costly is a relative term, of course. The company plans to introduce an entirely new vehicle for the midsize truck segment that Detroit auto makers had abandoned. GM hopes that the sales gains of the Chevy Colorado and GMC Canyon will mitigate the costs of regulatory compliance—and fill its coffers so it can invest in any changes necessary (an aluminum body perhaps?) to keep the steel-skinned, full-size Chevy Silverado compliant with EPA rules. Chrysler, meanwhile, has invested heavily in nine-speed transmissions and diesel engines. Its RAM pickup diesel competes against the Ford F150 and gets an impressive 25 mpg. One of Ford's Great Recession advantages, reports Karl Henkel of the Detroit News, is that by avoiding bankruptcy it could invest in aluminum. GM insiders say the government penalties of not meeting the regulations are too steep not to make new product investments.

Bob Lutz, former product guru of General Motors, once predicted that the 54.5-by-2025 EPA regulations would cost consumers an additional \$5,000 per vehicle—essentially the cost of making every car a hybrid. Auto makers have spent billions on Washington lobbyists, as well as engineering research and development, to help carve loopholes in the EPA rules.

Significantly, auto makers receive mpg credits for producing so-called zero-emission vehicles—that is, coal-burning electric cars. Barack Obama once predicted that there would be one million EVs on the road by 2015 in the quixotic hope that if auto makers just built electrics, buyers would come. This year's show is confirmation that battery-powered vehicles are a niche vehicle—like sports cars—not a mainstream choice. With a 3% market share, hybrids and EVs, like sports cars, are pricey, with Cadillac and Tesla showing new offerings beginning at \$70,000 while is marketing its new i-Series of electric cars at anywhere from \$40,000 to \$105,000. These cars will be costly to taxpayers as well, as each of their well-heeled buyers will get a \$7,500 government tax credit.