

Union of Concerned Scientists

Science for a healthy planet and safer world

[BLOG] UNION OF CONCERNED SCIENTISTS



5 Things the EPA Gets Wrong as it Re-Evaluates the Fuel Efficiency Standards (and One Thing it Ignores)

JONNA HAMILTON, SR. MANAGER OF GOVERNMENT AFFAIRS | APRIL 4, 2018, 10:32 AM EDT

Like 16

Tweet

SHARE

On Monday April 2nd, the EPA released a “[redetermination](#)” of the incredibly popular and successful car and light truck global warming emissions standards – spoiler alert – EPA said that the standards are not appropriate and need to be weakened. As a reminder, the Obama administration previously completed the mid-term evaluation of the standards and issued a [Final Determination](#) that the standards are appropriate out through 2025. Within a month of taking office,

Administrator Pruitt promised that he would redo the Final Determination and voilà – here it is.

Reading the EPA's redetermination is mind-boggling – it is basically a regurgitation of industry talking points put forward by the Alliance of Automobile Manufacturers (Alliance) and Global Automakers (Global) in the public record.

Some comments that were in opposition to the auto industry talking points were alluded to in the document, but there is no substantive evaluation of any of them. Nothing approaching a robust technical debate of any information is presented in this report – it is simply declarative, substituting the political will of the Administrator to side with industry for the hard, scientific rigor found in the 2017 Final Determination.

Although the redetermination is full of questionable assumptions and strange conclusions, we picked five falsehoods that are core to their reasoning and explain why they're wrong.

Falsehood 1

What they say: Vehicle costs were underestimated in the EPA's original record that was foundational to the first Final Determination.

Why they're wrong: When it comes to technology costs, EPA ignores the [large number of peer-reviewed publications from its own technical staff](#) showing how manufacturers can meet the 2025 standards, even without significant penetration of plug-in electric vehicles or strong hybrids. It takes at face value automaker claims about the level of technologies needed to achieve the standards, without actually [examining the studies cited by the automakers](#) in making those erroneous claims, studies which [in fact contradict the automakers' assertions](#) that significant penetration of advanced technology is necessary. It also ignores the [latest evidence on the vehicle costs](#) needed to meet the rules.

Falsehood 2

What they say: Gas prices have changed since the rule was finalized in 2012.

Why they're wrong: Gas price projections did change between 2012 and 2018. However, when the agency updated their analysis for the mid-term evaluation and did the Final Determination in January 2017, they took that into account. The projected gas prices used in the previous administrations' Proposed and Final Determinations are nearly identical to current gas price projections. Why the current EPA decided to focus on this and say it was a reason to re-evaluate the Final Determination is beyond me.

In one place, the redetermination exclaims that “lifetime fuel savings to consumers can change by almost 200 percent per vehicles based on the assumption on gas prices according to the [2016 Proposed Determination \(Table IV.12\)](#).” This is true. A quick look at the table (below) clearly shows that fuel savings can go from good to great depending on the gas prices expected in 2025, ranging from \$1,439 to \$4,209 over the lifetime of the average vehicle, which is all good news for consumers.

Falsehood 3

What they say: “Consumers’ preferences are not necessarily aligned to meet emission standards and there is uncertainty on this issue that merits further consideration.”

Why they're wrong: They go out of their way to say that consumers don't want fuel efficient vehicles, which is not the data we've seen.

They cite an automaker point that only 5% of 2017 sales of normal gasoline-powered vehicles would meet 2025 standards. I don't know why they would expect today's vehicles to meet standards 8 years out. The whole point of the standards is to make sure that vehicles get more efficient over time.

Auto manufacturers redesign vehicles every five years or so – it is in these product redesigns that they make major changes in the body style, and the efficiency of the engine and other components. In eight years, all vehicles are going through at least one redesign, which is plenty of opportunity to make vehicles more efficient so they meet the standards.

It's worth noting that models of popular vehicles like the [Ford F-150](#) and [Toyota Camry](#) already meet targets well into the future—there is lots of opportunity to improve the efficiency of these vehicles and ample technology to do so, as reams and reams of research ignored by the agency can attest.

In addition, the way the standards work, not every vehicle needs to be exactly in compliance every year because they are based on an *average*. There are flexibilities built into the program that allow manufacturers to bank and borrow credits over time because it is understood that vehicles will be more efficient right after a redesign and may be less efficient than the standards when it's approaching its next redesign.

They also show misleading data on the uptake of electric vehicles by consumers. Plug-in electric vehicle sales are increasing every year and as more models are introduced in varying sizes, more consumers will be able to consider them as an option for their lifestyle. Moreover, hybrid sales also grew from 2016 to 2017; conveniently, EPA excluded 2017 because it was a chart lifted from Alliance comments rather than analyzed with any sort of independent rationale.

Lastly, multiple polls have shown that consumers value fuel economy strongly. A [NRDC poll from 2016](#) showed that 95% of Americans agree that “Automakers should continue to improve fuel economy for all vehicle types” and 79% of Americans believe that “The U.S. government should continue to increase fuel efficiency standards and enforce them”. [Consumers Union](#) has also published multiple polls that show that nearly 9 in 10 Americans think that automakers should continue to raise vehicle fuel economy. And a poll released by the American Lung Association last week showed that [after people hear balanced arguments from each side, their support for the standards increases slightly](#). It's like I'm not alone in wanting to spend less money at the gas station.

Falsehood 4

What they say: Consumers will be priced out of the market by these standards.

Why they're wrong: Consumers are the greatest beneficiary of these savings. As noted above, consumers stand to save thousands of dollars in fuel costs over the lifetime of their vehicles. In fact, [consumers that finance their vehicles save money as soon as they drive their new cars off the lot](#), as the marginal cost of the fuel saving technology on their monthly payment is far exceeded by the money they save on fuel every month.

They also say that average new car sales transaction costs have increased as a result of the standards, a point which has been debunked repeatedly. For example, [Consumers Union](#) showed that new car prices have remained relatively flat over the past 20 years with respect to inflation, and used car prices have fallen. Similarly, auto analysts [Alan Baum and Dan Luria](#) showed that transaction prices are on the rise as a direct result of automakers upselling luxury packages to increasingly wealthy consumers. All of this ignores consumers who are [currently saving money](#) due to paying less at the pump, which recent research shows [disproportionately benefits low-income individuals](#), again [a study acknowledged and ignored](#) by Administrator Pruitt.

Falsehood 5

What they say: The growing preference for larger vehicles over cars make it harder to comply with the standards.

Why they're wrong: The popularity of SUVs and light trucks doesn't undermine the standards—it [reinforces the need to maintain their strength](#). Rather than setting a single greenhouse gas emission target for the average vehicle sold by a manufacturer, which is what the original vehicle standards did in the 1970's, the new vehicle standards consider the size and type of the vehicles sold to determine each manufacturer's target. This ensures that all vehicles improve their efficiency, including trucks and SUVs, while giving automakers flexibility in hitting their targets, based on the vehicles they sell. This system means that no particular vehicle model needs to be "in compliance"; some vehicles can achieve greater fuel economy and others less in a given year and the manufacturer's fleet can still be in compliance with the standards.

What's missing from the redetermination?

What they don't say: Weakening the global warming emission standards endangers public health and welfare by contributing to global warming

Missing from the Revised Final Determination is any mention of climate change or its impacts, which endangers Americans now and into the future and is the reason that EPA sets these standards. [Scientists warn that we must significantly reduce emissions of global warming pollutants to avoid the worst effects of climate change, including sea level rise, wildfires, and infectious diseases.](#) As it stands now, [no other federal policy is delivering greater global warming emissions reductions than these vehicle standards.](#) If the EPA completely rolls back the regulations, as some have signaled, that will mean an [additional half billion tons of global warming emissions](#) just from the vehicles sold between 2022-2025. Doing so would make hitting our obligations under the Paris Climate Accord a virtual impossibility, significantly damaging our ability to hold global warming to [2 degrees Celsius](#).

We knew that this day was coming, but the extent to which this redetermination relies solely on industry arguments and ignores the robust analytics that underlie the original Final Determination is confounding. It makes me think about the story that came out around Administrator Pruitt's confirmation, when we learned that [he took a letter written by a Devon energy lobbyist and put it on his OK Attorney General letterhead and submitted it to the Department of Interior.](#)

This redetermination feels like that – like he just read the Alliance and Global comments and used their quotes to rewrite the determination. It's a slap in the face to everyone who cares about data, analytics, scientific integrity, and our climate. We know he's going to propose rolling back the standards in the proposed rule that we expect to see this summer. The question is by how much. We will keep a close eye on this and let you know what he proposes and ask for your help in keeping the standards strong.

Like 16

Tweet



SHARE

Posted in: [Global Warming](#), [Vehicles](#) Tags: [EPA](#), [fuel economy](#), [Scientific Integrity](#), [Trump Administration](#)

Support from UCS members make work like this possible. [Will you join us?](#) Help UCS advance independent science for a healthy environment and a safer world.

Show Comments



EPA Rolls Back Fuel Efficiency Standards at the Request of Automakers

DAVE COOKE, SENIOR VEHICLES ANALYST | APRIL 2, 2018, 3:45 PM EDT

Like 47

Tweet



SHARE

In what comes as a surprise to absolutely no one following the current administration, today [EPA Administrator Scott Pruitt issued a redetermination](#) of the appropriateness of the EPA's vehicle regulations through 2025 and found that they should be made less stringent. In doing so, he is [overturning thousands of pages of hard evidence](#), and the consequences will be limiting consumer choice, increasing emissions, and undercutting the economy.

This decision is not based on evidence

Last year, I pointed out the [strong body of evidence](#) supporting the previous administration's determination that the standards are appropriate. The



[BLOG] UNION OF CONCERNED SCIENTISTS

EPA have decided to ignore this evidence and misconstrue how the standards work.

The administrator doesn't seem to understand that lower gas prices [actually underscore the importance of having strong efficiency standards](#), increasing sales of SUVs [don't affect the ability of manufacturers to meet the standards](#), and [these standards are job creators](#), which means putting them on hold is going to COST jobs, not protect them. Sadly, the flimsy document put forth by Administrator Pruitt is just another example of how little this administration cares about facts.

This decision is bad news for the environment

Unfortunately, here's a fact that is unavoidable: [transportation is the leading source of carbon dioxide emissions](#) in the United States. With more vehicles traveling further each day, it's critical to ensure that those vehicles are using less fuel. If the EPA completely rolls back the regulations, [as some have signaled](#), that will mean an additional half billion tons of global warming emissions just from the vehicles sold between 2022-2025. Doing so would make achieving hitting our obligations under the Paris Climate Accord [a virtual impossibility](#), significantly damaging our ability to hold global warming to 2 degrees Celsius.

Of course, burning more oil isn't just bad for the environment—it's bad for national security and terrible for the nation's pocketbook.

This decision is not good for consumers

These standards have been increasing the availability of more fuel-efficient vehicles in every single class of vehicle—[that's how they were designed](#). That means that whether a consumer is looking to buy a small car or a giant pick-up, [they are going to save money](#) the moment they drive off the lot thanks to fuel savings that more than compensate for any costs associated with fuel-saving technologies. This



[BLOG] UNION OF CONCERNED SCIENTISTS

[market](#) for consumers is with strong efficiency standards. The last time we saw a market shift towards SUVs and pick-ups, it happened under flattened vehicle efficiency standards—the result was that new vehicles averaged worse fuel economy and produced more emissions. And that increased fuel use hit American consumers especially hard once gas prices started to rise again.

This decision is bad for business

At the turn of the millennium, manufacturers were selling gas guzzlers at a tremendous clip—but in doing so, they entirely neglected investment in their car fleet. As soon as gas prices began to rise again, [sales of these largest vehicles fell](#), as Americans clamored for more efficient options. And when it came to the Detroit Three, those efficient choices simply weren't there, sales plummeted, and [taxpayers had to bail out the industry](#). The actions the industry has taken to push the administration to weaken these rules is setting us up for a repeat of history.

Moreover, by putting more of consumers' hard-earned dollars into the tank to pay for gas instead of being able to reinject that into the economy, this action will cost jobs. [An independent analysis](#) released this week shows that [the economy is slated to grow](#) by more than \$16 billion, creating 265,000 jobs by 2035, if the standards are held today, a large chunk of which are explicitly created in automotive manufacturing and its supply chain. Suppliers themselves are [well aware of the benefits these rules](#) have provided and the negative consequences of a rollback—unlike automakers, they have also been willing to step out and support strong standards.

This decision relinquishes leadership on climate back to the states



[BLOG] UNION OF CONCERNED SCIENTISTS

maintain those standards. However, because those rules are so similar to the ones currently on the books, they had been willing to accept as compliance with those rules compliance with the federal program.

Today's action by Administrator Pruitt completely undermines the promise of a single national program by weakening the federal program. The states understand the technical and economic evidence that shows manufacturers can achieve strong standards in 2025—and they face the [consequences of global warming](#) if they do not. They have therefore signaled that they will no longer follow the federal program. These states make up more than 1/3 of the new vehicle market, ensuring that folks in California and New York are going to have more efficient vehicle choices than those back in Detroit or Pruitt's home state of Oklahoma.

This decision is a disaster of the automakers' making

We've seen lip service given by automakers about not wanting a rollback of the standards, but this is nothing but puffery as they try to distance themselves from an unpopular administration that has given them *exactly what they asked for*. Too-late claims about needing to act on climate change [ring hollow](#) given the industry's continued efforts to undermine the nation's strongest climate policy at every turn—if automakers truly wanted to act on climate, they would support the rules as they stand, not beg the administration to change them.

Inevitably, what this means is that the Administration is angling for a court battle over its technically unjustifiable standards, [creating uncertainty in the process](#). Of course, this is nothing new—the Pruitt administration has found itself at [the center of a number of lawsuits](#) for failing to adequately uphold the mission of the agency to protect public health and the environment.



[BLOG] UNION OF CONCERNED SCIENTISTS

pushing for a new rule as they have, the auto industry can only blame itself for this chaos. And unfortunately, it would be the rest of us that will have to bear the cost, not only by [paying more at the pump](#) but by dealing with the [ensuing impacts on the climate](#) from veering away from the sustainable pathway we need to be on in 2025 and beyond.

The one sliver of hope is that this action is just the first step in the process, which means there is still time to right this wrong. The administration's next step will be to propose what it would set as a replacement for the cost-effective standards now on the books—giving an opportunity for stakeholders and the public writ large to weigh in.

In responding to that proposal, the industry needs to stand up for the science and protect the environment, or they'll remain guilty of using an ideological administration to ignore the facts, costing the public deeply. And you can bet the public will be watching—and hopefully giving the agency and the industry a piece of its mind.

Like 47

Tweet



SHARE

Posted in: [Vehicles](#) Tags: [automaker accountability](#), [clean cars](#), [EPA](#), [fuel economy](#), [mid-term review](#), [vehicle greenhouse gas standards](#)

Support from UCS members make work like this possible. [Will you join us?](#) Help UCS advance independent science for a healthy environment and a safer world.

[Show Comments](#)



[BLOG] UNION OF CONCERNED SCIENTISTS



Latest EPA Automaker Reports Show Compliance with and Success of Standards

DAVE COOKE, SENIOR VEHICLES ANALYST | JANUARY 11, 2018, 3:01 PM EDT

Like 1

Tweet

 SHARE

Today, EPA released its annual reports on new passenger vehicles. One report ([Trends](#)) highlights the historical trend in fuel economy for cars and trucks over time, while the other report ([Compliance](#)) discusses the progress of manufacturers towards meeting global warming emissions regulations now under attack by industry and this administration.

Fuel economy of the fleet has once again improved, from 24.6 mpg in 2015 to 24.7 miles per gallon (mpg) in 2016. Thanks to strong standards, every type of vehicle (car, truck, SUV) has gotten more efficient; however, consumers are choosing to purchase more SUVs, which is acting to diminish the levels of improvement we

need to see to reduce global warming emissions in line with our long-term climate goals.

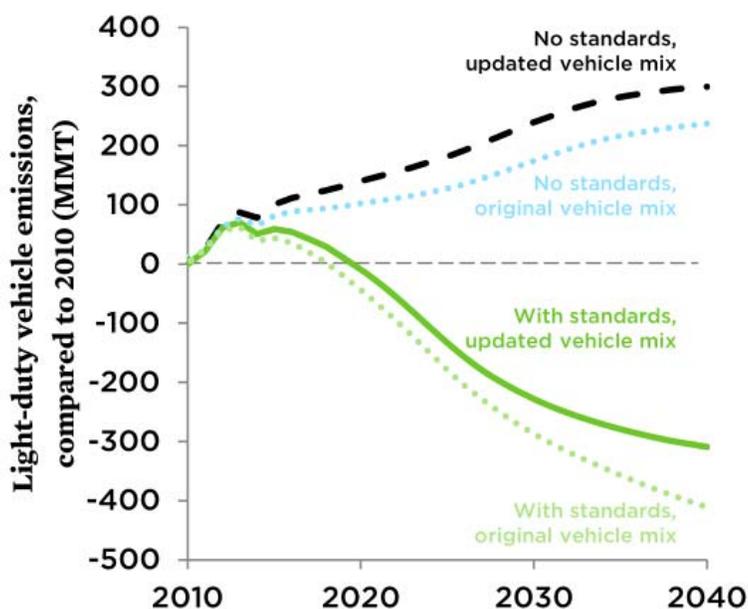
Taken together, the key findings from both reports are clear: 1) every type of vehicle is getting more efficient, driven by strong standards, and that's great news for consumers; 2) despite a meager overall improvement in fuel economy, manufacturers continue to comply with the standards; and 3) there's still a huge opportunity for future fuel economy improvements, as manufacturers continue to bring newly redesigned vehicles to market.

All types of vehicles are getting more efficient

The Trends report shows clearly that the regulations are doing what they were intended to do—every single class of vehicle is getting more efficient, including the fast-growing SUV segment. In fact, every class of vehicles except vans/minivans achieved *record levels of fuel economy* in 2016. This is critical both to provide consumers with fuel-efficient choices no matter what type of vehicle in which they might be interested and to diminish the [negative impacts on the climate](#) resulting from a more truck-centric vehicle mix.

The class of car-based SUVs that are so popular right now (including the Honda CR-V and Nissan Rogue) actually showed the greatest year-over-year improvement. This is not surprising—Ford CEO Jim Hackett

Global warming emissions reductions under light-duty vehicle standards



2010 emissions = 1,341 million metric tons (MMT)

SOURCES: UCS ANALYSIS, BASED ON EIA 2015 AND EPA AND NHTSA 2010, 2012

Increasing sales of SUVs are making it more difficult to achieve our climate goals, but strong standards pushing all vehicle classes to be more efficient continue to be key to reducing our climate impacts.

acknowledged that [fuel economy is one of the major reasons](#) why crossover sales are doing so well.

Some automakers claim that selling more SUVs means consumers don't care about fuel economy, but the numbers tell a different story. Consumers continue to show that fuel economy is important, particularly when it comes to SUVs—the [Consumer Federation of America showed](#) that SUVs which saw a marked improvement in fuel economy (+10% mpg or better) outsold their competitors.

Automakers are complying with the standards

As I've reported [in many years past](#), the industry as a whole has been ahead of the regulatory targets—this means that they have built up a bank of overcompliance credits, which many of them are now drawing upon. Some in the media may seize on this and say that this means the automakers are not complying with the rules—however, that ignores the way the rules work or how vehicles are planned.

Manufacturers are measured on compliance over a 5-year period because that is the typical product cycle of a single vehicle. Once every five years (give or take), a vehicle will undergo a “redesign” where major changes occur—this includes body shape and major crash safety structural elements as well as the size and efficiency of the engines, which set the performance characteristics and, importantly, fuel economy. Once in the middle of a product cycle, a vehicle will receive a “refresh” where they may make cosmetic alterations, maybe make some minor changes to the powertrain (like a new transmission or maybe bringing over an additional engine that's used in another vehicle built on the same platform), but largely the fuel economy and emissions of a vehicle are fairly constant over its five-year lifetime.

Table ES-1. Credit Balances After the 2016 Model Year (Mg)^a
(including credit transfers & trades)^a

Manufacturer	Credits Carried to 2017	Manufacturer	Credits Carried to 2017
Toyota	78,078,963	Mercedes	2,991,505
Honda	36,024,476	Mitsubishi	1,755,470
Nissan	26,682,834	Suzuki*	428,242
Ford	22,084,139	Karma Automotive*	58,852
Hyundai	20,583,544	BYD Motors*	4,824
GM	19,666,700	Tesla	576
Subaru	14,498,843	Volvo	(9,218)
Mazda	9,424,551	Jaguar Land Rover	(1,387,781)
Kia	6,011,635	FCA*	19,227,792
BMW	3,202,342	Volkswagen*	2,438,608
All Manufacturers			261,759,188

All large-volume manufacturers are entering the 2017 compliance year with a massive bank of credits to draw upon to aid with compliance during a lull in product turnover.

This means that manufacturers need to use a credit bank to compensate for the fact that a vehicle largely doesn't improve much over the course of its lifetime—a vehicle will typically earn credits early on for overcompliance when the technology is new, and that overcompliance can then be used to compensate for any shortfalls that occur as the vehicle “ages” before its next major update.

From 2009 to 2014, manufacturers turned over new vehicles at an accelerated pace in the first few years of the regulation to introduce some new technologies, but that has declined now for 2015 through 2017. This will correct itself for 2018 through 2020, when again these older vehicles are all redesigned.

Today, [the fleet is older than usual](#), so while in a couple years there will be a large opportunity to add new technologies, the Compliance report shows manufacturers are dipping into their credit banks today *as planned* to compensate for the age of the vehicles. And because of the early turnover in the first few years of the regulations, the industry was well-prepared by banking hundreds of millions of tons of credits, more than enough to help ensure compliance for years to come.

Manufacturers are investing in efficiency at different rates

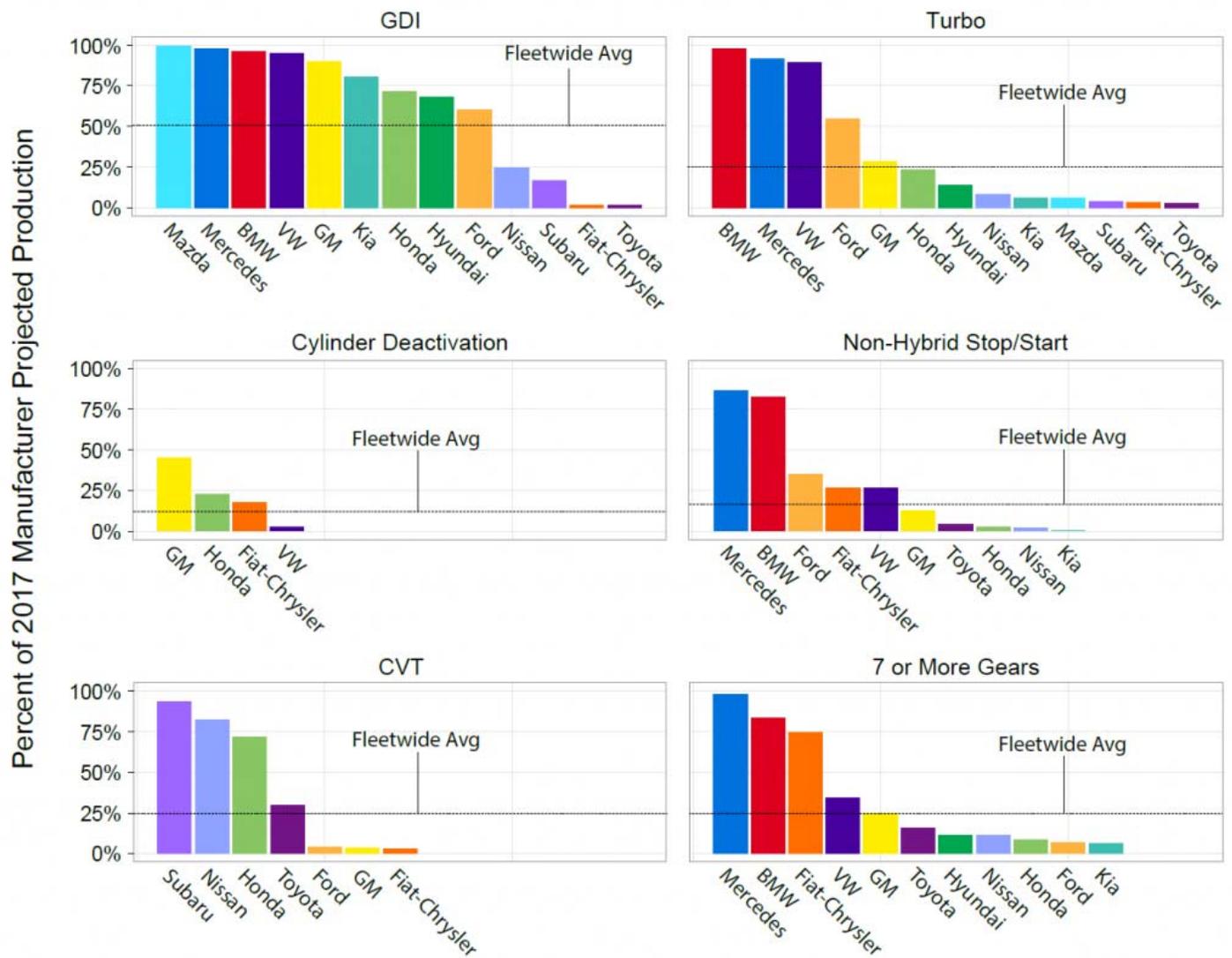
Consumers are some of the biggest beneficiaries from these rules, having saved [well over \\$50 BILLION](#) since new standards went into effect thanks to rules designed to make every vehicle type more efficient over time. And that will be [even more important](#) as these more efficient options make their way to the secondary market. But not all manufacturers are investing equally in providing their consumers more efficient choices.

The Trends report shows that in terms of overall fuel efficiency, Mazda is at the head of the pack. While some of this is related to its somewhat car-heavy fleet, it continues to focus on improving its conventional gas-powered engines, and deploying these engines broadly across all vehicles. And they aren't resting on their laurels, either, having announced [the next generation of their engines](#), bringing diesel-like efficiency to a gas-powered engine.

Unfortunately, Toyota continues to fall behind the rest of the pack, seeing absolutely no improvement in fuel economy compared to last year, which fell short of the year prior—in 2013, Toyota had the 3rd most efficient fleet; for 2016, they have now dropped to 9th, ahead of only Mercedes and the Detroit Three. While many associate Toyota with efficiency thanks to its Prius family of hybrids, this fall from grace is because Toyota has not made similar investments to improve its trucks and SUVs. In fact, its Tundra pick-up and 4Runner SUV have been using the same engines since 2010 and 2009, respectively, with the 4Runner one of just three vehicles being sold today still using an outdated 5-speed automatic transmission!

The Compliance report makes clear that no major manufacturer is in danger of falling out of compliance (as I noted at the start), even if some of them are relying more heavily upon their credit bank. But manufacturers like Hyundai and Honda are much better positioned than most not just because they have such a massive bank of credits, but because they have continued to deploy steady improvements across its entire fleet instead of banking on a single green “halo” vehicle like the Toyota Prius.

Manufacturer Adoption of Emerging Technologies for MY 2017



Manufacturers have a wide range of technologies available to reduce fuel use and emissions, but many “off the shelf” technologies have still not been widely deployed.

The technology assessments in the Trends report indicate clearly that while manufacturers are making progress introducing and improving technologies for conventional vehicles, they have on the whole **been slow at deploying those technologies across the fleet**. This is why we continue to emphasize the ability for manufacturers to continue to comply with the regulations well into the future with continued advancement of conventional gasoline-powered vehicles.

Leaders show industry’s capabilities, while laggards exemplify industry’s past

Last month, [we released a report](#) documenting the auto industry's well-established history of fighting automotive regulations. For better and worse, today's Trends and Compliance reports encapsulate both where the industry *could* be headed and the historical pull towards resisting that change.

The indicators I've laid out above all show that the standards are achievable and important for both consumers and the climate. Every class of vehicles is getting more efficient, and many in the industry continue to invest in that progress, driven by these standards. And, because SUVs and trucks represent a growing share of the market, these standards remain as important as ever to ensure continued fleetwide efficiency improvements—the fleet mix shift acts as a drag on achieving our climate goals, so weakening the standards could set us backwards, as occurred in the 1990s.

At the same time, [manufacturers are trying to seize upon misinformation](#) about how the standards work and their ability to comply to weaken the rules. It's critical that they stop this nonsense so we can continue the progress already set forth.

The Trends and Compliance reports released today indicate that automakers are well on a path to comply with regulations that will nearly double the efficiency of the passenger vehicle fleet by 2025—so instead of fighting it, let's focus on *achieving* it and then figuring out what lies beyond so we can continue to meet our climate goals.



Posted in: [Vehicles](#) Tags: [CAFE standards](#), [clean cars](#), [EPA](#), [fuel economy](#), [fuel economy standards](#), [vehicle greenhouse gas standards](#)

Support from UCS members make work like this possible. [Will you join us?](#) Help UCS advance independent science for a healthy environment and a safer world.

[Show Comments](#)