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pwc Analyst Note >

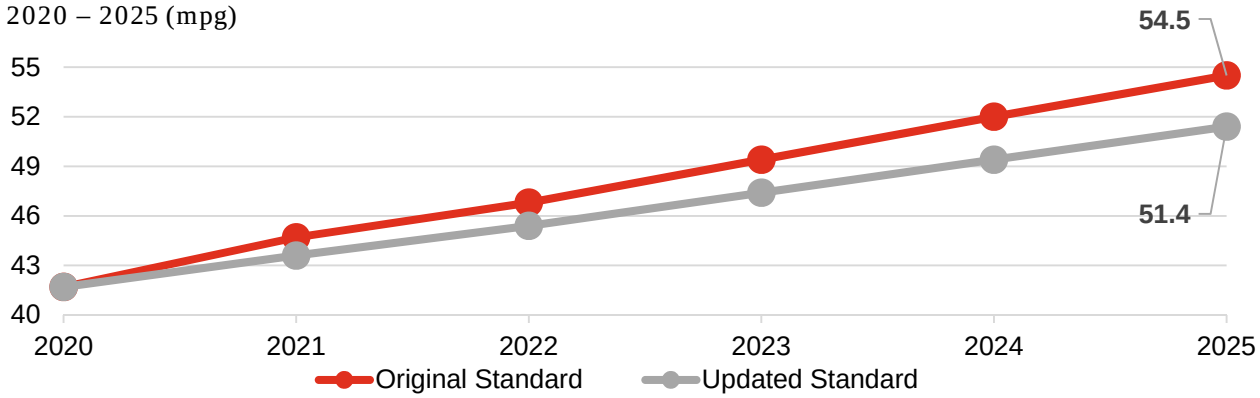
US: Emissions update

CAFE, CARB, and the current cacophony of regulations

In the midst of a new administration, much has been speculated about how changing regulations will affect the automotive industry. While there are several areas that will likely leave an impact, a shift in fuel economy and emissions standards will have a direct and immediate impact on automotive technology. Here's a look at where we stand today.

US: CAFE Combined Fleet MPG Targets

2020 – 2025 (mpg)



Source: EPA, NHTSA

CAFE vs. CARB

It's not surprising that the US has seen a fair amount of emissions related news in recent months given the new presidential administration, but to date, no significant changes have actually taken place. While there have been headlines suggesting that Corporate Average Fuel Economy (CAFE) standards have been rolled back, only the mid-point review for the 2022 to 2025 fuel economy goals has been reopened. And to be fair, this review period was closed prior to the original end date of April 2018, before automakers were able to fully weigh in on the matter, so reopening the review is news, but not necessarily noteworthy – at least, not yet.

With the review reopened, automakers now have more time to plead their case and lobby for either a pull-back of fleet average targets, or an extension of the target date – or potentially both. With an administration that is perceived to be more sympathetic and likely to pull back, automakers may be doubling down on their efforts for relief. Further complicating matters, the California Air Resources Board (CARB) recently finalized its own vehicle emissions standards through 2025. The state has been able to enact its own emissions rules through a waiver from the EPA in the Clean Air Act of 1967, and has effectively been the standard bearer in vehicle emissions. Twelve other states have elected to follow CARB's mandates, setting up an interesting clash between federal and CARB standards, since adhering to two sets of standards could be more cumbersome.

Buyer behaviors and burdens

Automakers have long maintained that the stated fuel economy goals of 54.5 miles per gallon by 2025 will be costly and onerous. More importantly, the long-term shift of consumer preference toward light trucks, crossovers and SUVs underscores the disparity between actual product mix and what would be necessary to reach the current targets for 2025. When the initial 2025 guidance was

introduced in 2011, regulators within the EPA were assuming a 67% passenger car - 33% light truck fleet mix. Over six years later, the inverse is true, with an estimated 60% light truck - 40% passenger car split in 2016 new vehicle sales. At the same time, sales of alternatively-propelled vehicles (hybrid, electric, hydrogen fuel cell, etc.) have yet to reach mass penetration, hovering at an estimated 2.8% in 2016*. Market share for alternatively propelled vehicles has declined for three consecutive years, though the Autofacts forecast calls for a steady uptick starting in 2020 and beyond, from ~3.3% in 2017 to 11.5% by 2023, still remaining below the 1.5 million mark. As automakers offer more fuel-efficient vehicles, the consumer base appears to be unmoved. Absent external coercive measures like product mix limitations or an increase in gas prices, buyer behaviors may be the most difficult hurdle – one that OEMs likely can't influence on their own.

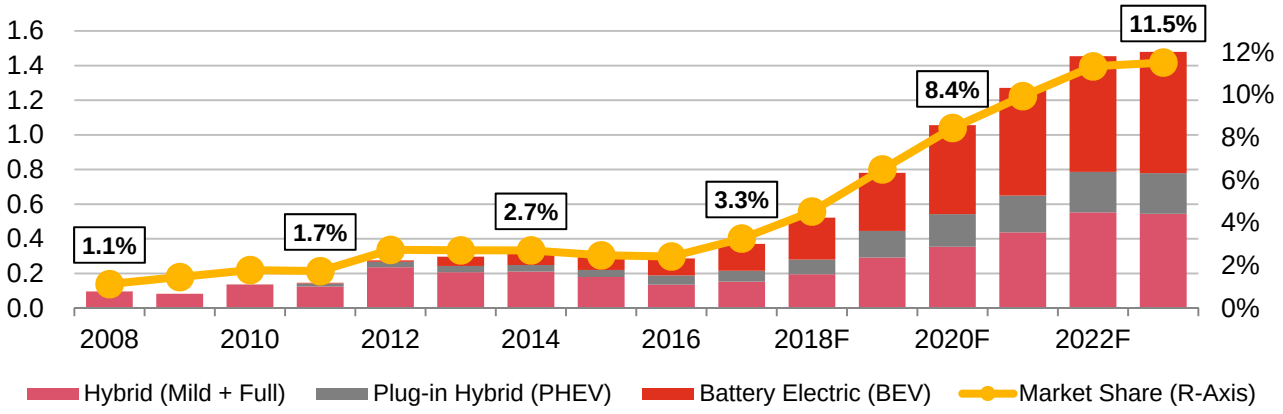
What's next?

Where does this leave the emissions landscape in the US? It is unlikely that automakers will halt investments in alternative propulsion technologies. The long-term strategy for higher fuel efficiency and lower emissions may be delayed, but will remain at the forefront. Regardless of consumer appetite, or lack thereof, brands need to have alternative offerings for a complete portfolio. The primary questions that are now pending the reopened review are the extent to which these investments will be made, and on what time table. Even if federal mandates for CAFE are scaled back but CARB regulations remain, the outlook isn't expected to change. However, if the CARB waiver is ultimately revoked in conjunction with easing emissions and fuel economy requirements, automakers may find themselves able to pull back on the alternative propulsion investment and divert their focus and attention to the myriad of other areas of focus. Needless to say, industry stakeholders will be awaiting the results of the review with bated breath.

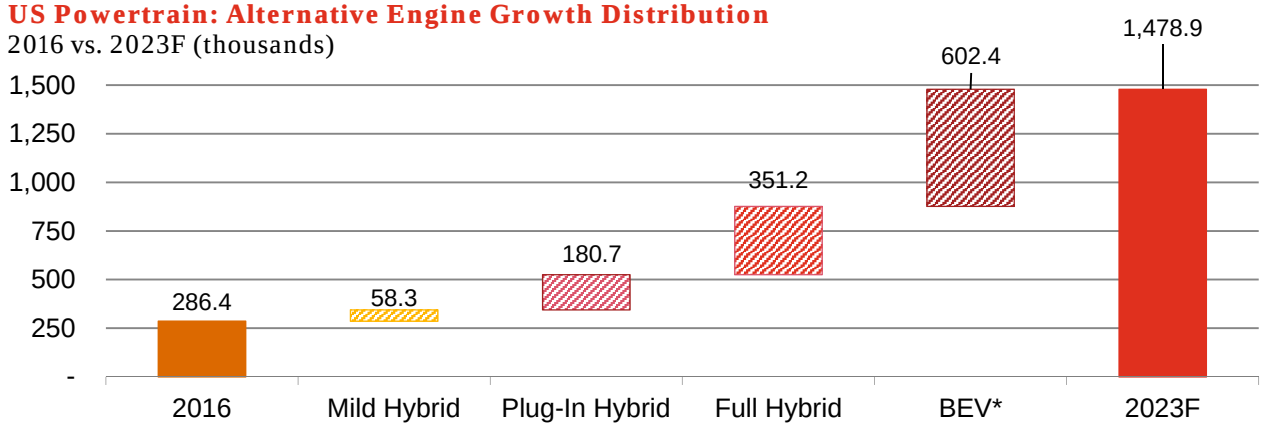
To continue this conversation and find additional information on PwC's automotive capabilities, please visit pwc.com/auto.

*Estimate based on available OEM data; select OEMs do not provide breakouts of alternative vehicle sales

US: Alternative Fuel Powertrain Consumption
2008 – 2023F (millions)



US Powertrain: Alternative Engine Growth Distribution
2016 vs. 2023F (thousands)



Source: Autofacts 2017 Q2 Forecast Release * BEV = Battery Electric Vehicle

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