

Joe Guzzo

GENERAL MOTORS
Federal Affairs

Various Regulators of Fuel Economy and GHG

NHTSA, EPA and CA/State Programs: Complex Regulatory Regimes

*EPA Federal
GHG*

Mass v EPA

Endangerment

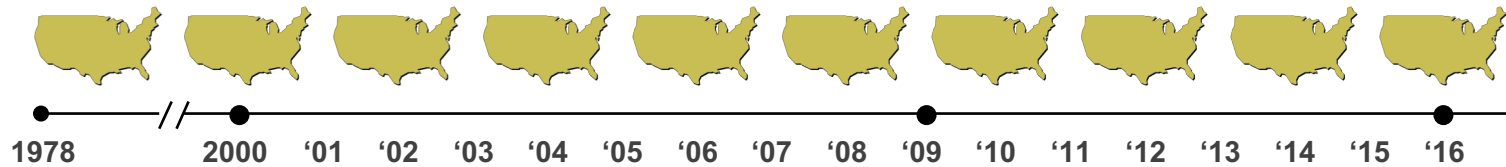


*CA + 13
States GHG
(AB1493)*

AB 1493 Regs



*NHTSA
Federal
CAFE*



• 3 decades of a single national program

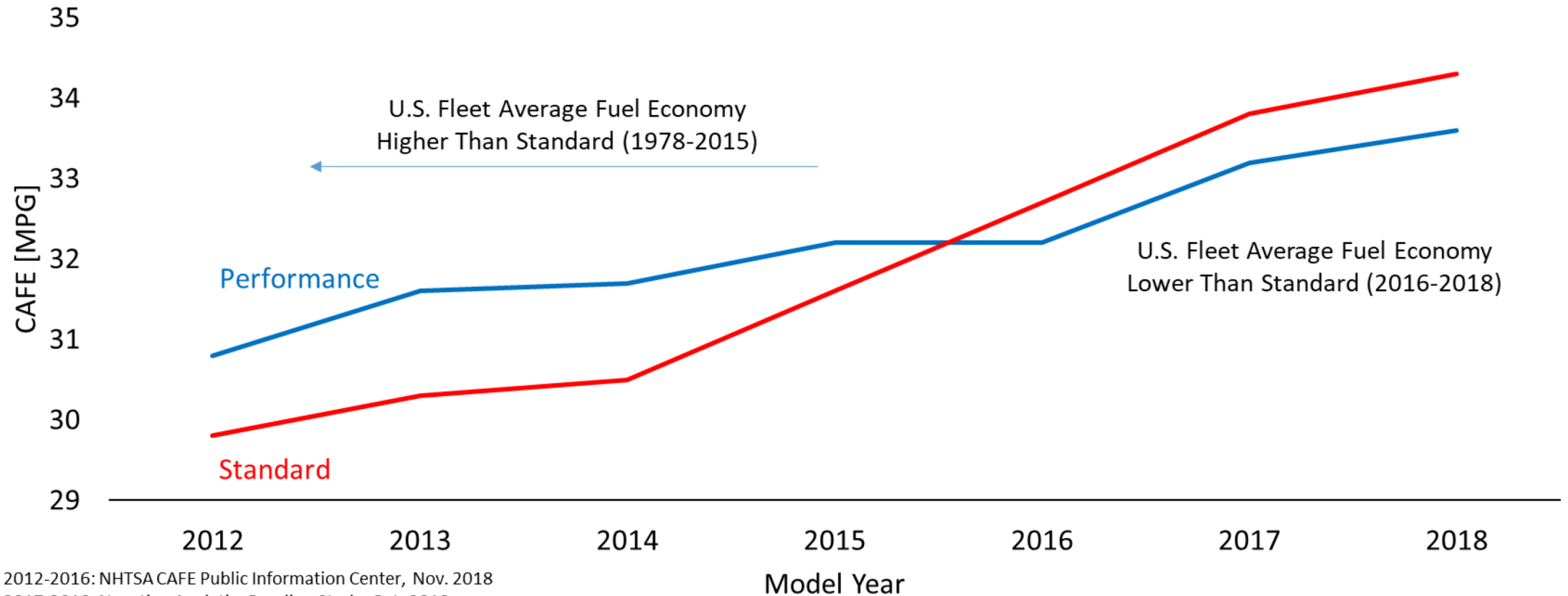
• Programs intended to be harmonized in stringency, but they are not

Various Regulators of Fuel Economy and GHG

- **2007: *Mass v. EPA* --U.S. Supreme Court holds that GHGs are pollutants under the CAA, which made them eligible to be regulated if EPA later determined that GHG emissions could endanger public health or welfare**
- **2009: EPA issues endangerment finding that GHG emissions endanger public health and that the nationwide fleet of motor vehicles contribute to that threat, clearing the way for EPA to regulate GHG tailpipe emissions**
- **2009: Three environmental agencies adopt GHG and fuel economy regulations: EPA, NHTSA and CARB**

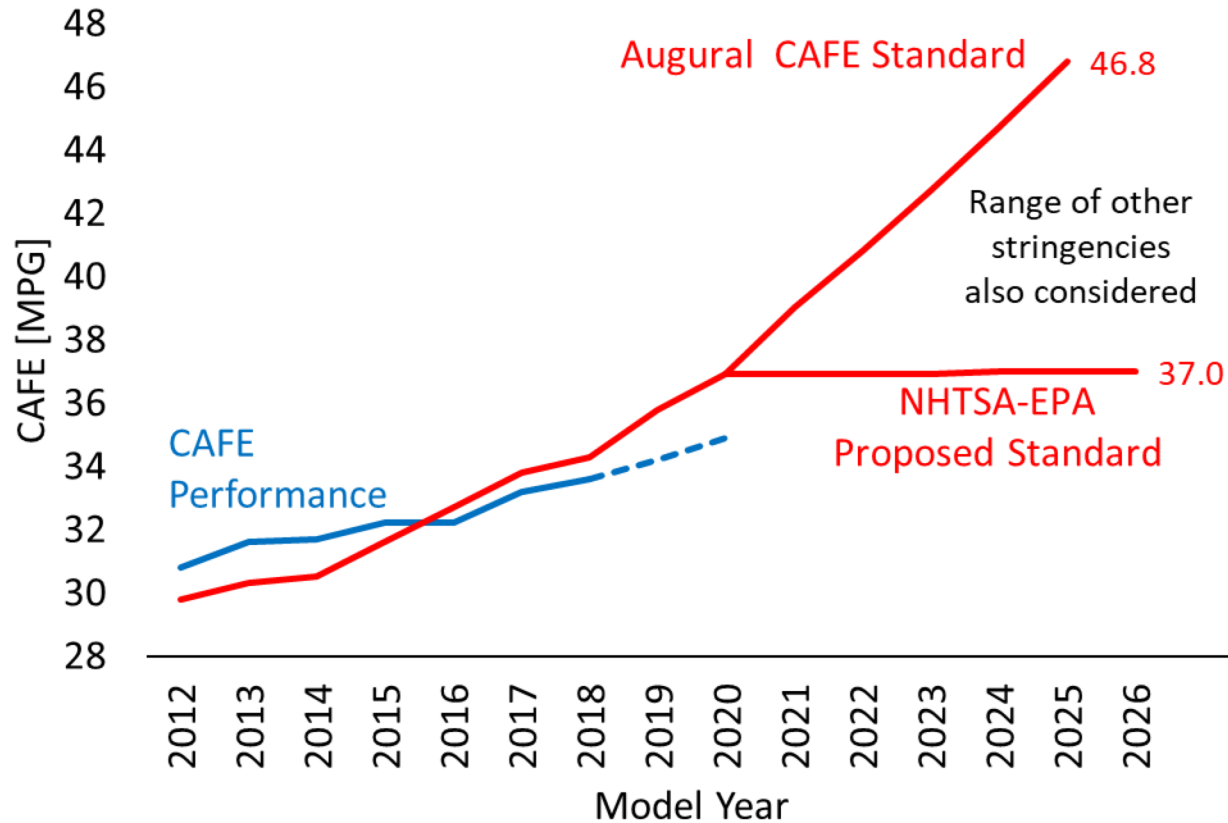


Corporate Average Fuel Economy U.S. Fleet Combined Car and Truck



**Fuel economy standards increased 15% over the past six years (1.7x the rate of fuel economy improvement)
U.S. fleet average fuel economy first fell behind in 2016 and remained so in 2017-2018**

Corporate Average Fuel Economy, 2018-2026 MY U.S. Fleet Combined Car and Truck



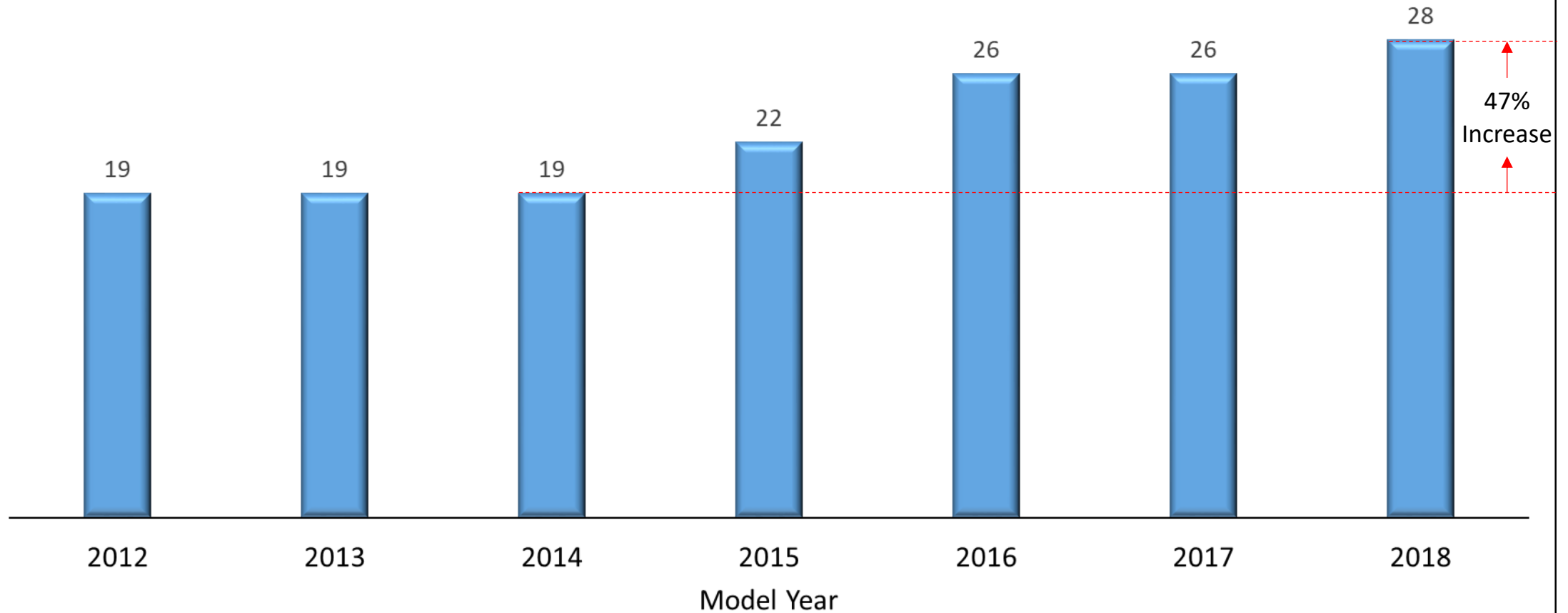
Data sources: CAFE performance from NHTSA CAFE Public Information Center (PIC), Nov. 2018 (2012-2016); Novation Analytics Baseline Study for Auto Alliance and Association of Global Automakers, Oct. 2018 (2017-2018); Auto Alliance calculation from IHS Markit VPAC – Vehicle Performance & Compliance Monitor (2019-2020); see disclaimer. CAFE standards from NHTSA CAFE PIC, Nov. 2018 (2012-2016); Novation Analytics Baseline Study, Oct. 2018 (2017-2018); and CAFE Model outputs for SAFE rulemaking, Aug. 2018 (2019-2026).

NHTSA Proposed CAFE Standards

- Leave standards at 2020 level and extend to 2026
- Other options also included (numerical stringencies; different flexibilities)
- Change can still happen – this is only a proposal

The proposed standards do not appear sustainable from an environmental / energy perspective

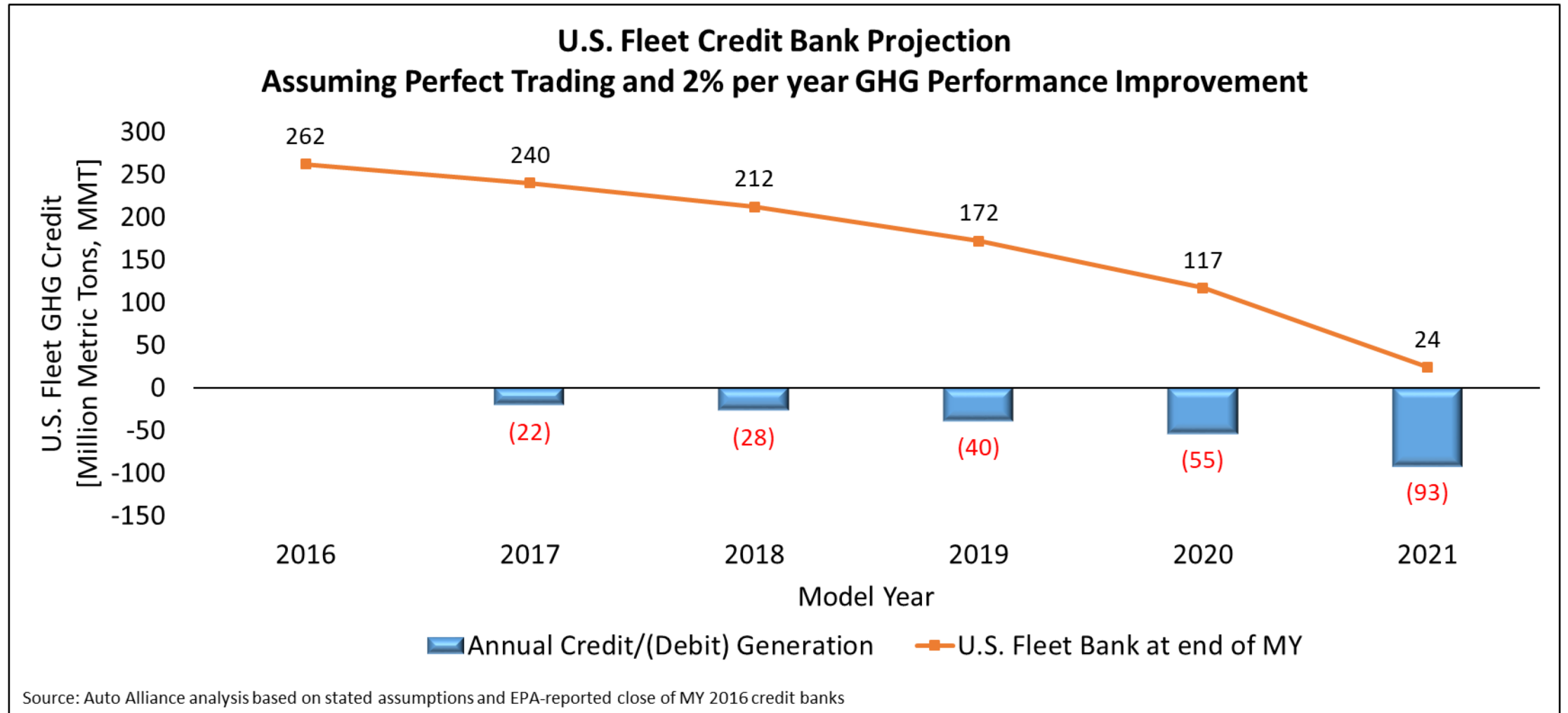
Number of U.S. Manufacturer Fleets with Credit Shortfalls



Data source: National Highway Traffic Safety Administration MY 2011-2018 Industry CAFE Compliance (December 21, 2018)

The number of non-compliant fleets was constant in 2012-2014
The number of non-compliant fleets has increased 47% between MY 2014 and MY 2018

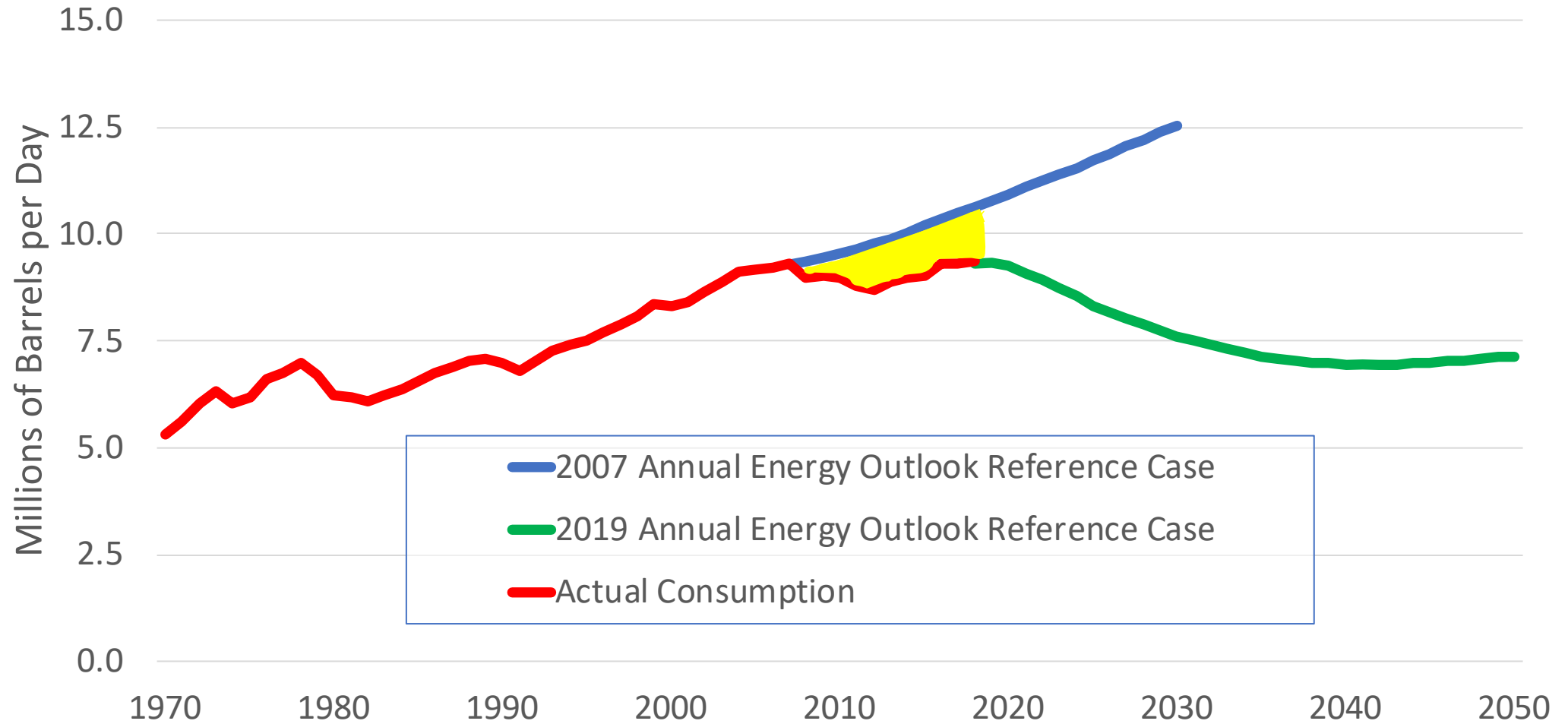
GHG Credit Bank Depletion



U.S. fleet GHG credit bank depletion is projected by MY 2021
Individual manufacturers likely to deplete credit banks sooner

US Gasoline Demand Forecasts and Actual Use

Energy Information Agency



US Renewable Ethanol Forecasts and Actual Use

Energy Information Agency

