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I spent the better part of my career in the automobile industry working on fuel economy and mobile source issues. I helped Ford institute the very first preliminary CAFÉ compliance procedures over forty years ago and later in my career ran the CAFE compliance activity. After retirement I did consulting work for NHTSA and VOLPE helping them address critical issues within the context of the CAFÉ program. I have also consulted with environmental companies that worked “the other side of the aisle”.

Attached to this letter are my comments on Notice of Proposed Rulemaking regarding Proposed Corporate Average Fuel Economy Standards for Model Years 2024-2026 Passenger Cars and Light Trucks.

EPA does not have the authority to circumvent the clear meaning of the statute that prevents anyone other than the Secretary of Transportation from setting standards related to vehicle fuel economy or authorizing California to do so. Further, the proposed rule includes dedicated and dual fueled vehicles contrary to Federal statute and therefore must be withdrawn. In addition, the proposal uses arbitrary and capricious assumptions and will not provide the benefits predicted.

I also address several of the issues raised in the NHTSA proposed rules.

Respectfully Submitted,
Walter M. Kreucher

- Attachments: Response to NPRM: NHTSA-2021-0053; NHTSA-2021-0030; EPA-HQ-OAR-2021-0208; EPA-HQ-OAR-2021-0208; EPA-HQ-OAR-2021-0257

Comment Tracking Number: [ktk-5icy-ul72](#); [ktk-5n2z-rxkd](#)

**Comments on
Proposed Corporate Average Fuel Economy Standards for Model Years 2024-
2026 Passenger Cars and Light Trucks**

Dockets No. NHTSA-2021-0053; NHTSA-2021-0030;
EPA-HQ-OAR-2021-0208; EPA-HQ-OAR-2021-0208; EPA-HQ-OAR-2021-0257

CAFE IS NO LONGER AN EFFECTIVE POLICY TOOL

In all the cases the Agencies evaluated in the notice of proposed rulemaking, the predicted fleet average fuel economy continues to increase by 17 – 22 miles per gallon above the standard (or in the case of CO₂ by 40 to 50 grams per mile below the 2026 standard) without any increase in stringency beyond the 2026 Model Year standards. Thus, we are led to the conclusion that either the assumptions the Agencies makes are wildly optimistic, and thus arbitrary and capricious, OR the need for CAFE standards is obviated by the low cost of technology, high fuel prices, and strong consumer demand for energy efficient vehicles. If the latter is the case, CAFE is no longer an effective policy tool and the statutory standards laid down in EISA are sufficient going forward. If the former is true the rule must be withdrawn in its entirety.

THE EPA BASES ITS CO₂ TAILPIPE STANDARDS ON MARKET PENETRATION OF ZEVS

Both the EPA Greenhouse Gas proposal and the NHTSA CAFE proposal rely on the current market penetration of electric vehicles which both agencies acknowledge are driven by state mandates. Further, as pointed out in the Regulatory Impact Analysis, there will be a de minimus impact on climate as a result of the proposals.

EPA is free to regulate GHGs from fuels, buildings, refineries, powerplants, and a host of point sources. It does not possess the authority to regulate GHGs from automobiles and trucks, an authority granted exclusively to the Department of Transportation. There is simply no reasonable explanation why two Federal Agencies should issue standards that regulate the same thing¹. Carbon dioxide regulation is fuel economy regulation by another name as clearly

¹ ROBERTS, C. J., wrote in his dissenting opinion MASSACHUSETTS ET AL. v. ENVIRONMENTAL PROTECTION AGENCY ET AL “Global warming may be a “crisis,” even “the most pressing environmental problem of our time.” Pet. for Cert. 26, 22. Indeed, it may ultimately affect nearly everyone on the planet in some potentially adverse way, and it may be that governments have done too little to address it. It is not a problem, however, that has escaped the attention of policymakers in the Executive and Legislative Branches of our Government, who continue to consider regulatory, legislative, and treaty-based means of addressing global climate change. Apparently dissatisfied with the pace of progress on this issue in the elected branches, petitioners have come to the courts claiming broad-ranging injury, and attempting to tie that injury to the Government’s alleged failure to comply with a rather narrow statutory provision. I would reject these challenges as nonjusticiable.

acknowledged in the SAFE Rulemaking. This “fundamental and unnecessary complication in the currently-existing regulatory framework” must cease immediately and EPA must abandon its carbon dioxide standard which by the Agencies own admission in the Supplemental Environmental Impact Analysis attached to the proposal **will not impact** global mean temperature, sea levels, or ocean acidity.

EISA PROHIBITS NHTSA FROM CONSIDERING THE FUEL ECONOMY OF ALTERNATIVE VEHICLES, INCLUDING EVS, WHEN SETTING FUEL ECONOMY STANDARDS, AND EPA’S TAILPIPE CO₂ STANDARDS ARE IMPLICIT FUEL ECONOMY STANDARDS

NHTSA illegally violates the statutory prohibition against considering dedicated alternative fueled vehicles in standard setting by using the convoluted logic that because EPA proposed a rule that would permit (illegally) California to circumvent the statutory provision prohibiting any agency other than the Department of Transportation from regulating new vehicle fuel economy, NHTSA has no choice but to factor in the California rule.

The argument posited goes something like:

- EPA grants California the right to set standards related to fuel economy (an illegal act for which EPA has no authority).
- The State of California mandates electric vehicle production (an illegal act contrary to statute).
- NHTSA then argues because California (illegally) mandates electric vehicles, the Agency grants itself authority to violate the statute (49 U.S.C. 32902) and can consider them in their proposed rulemaking (an illegal act).

As stated in the NPRM, ‘NHTSA has considered and accounted for California’s Zero Emission Vehicle (ZEV) program (and its adoption by a number of other states) in developing the baseline for this proposal, and has accounted for the aforementioned “Framework Agreements” between California and BMW, Ford, Honda, VWA, and Volvo, which are national level GHG standards to which these companies committed for several model year.’²

The Agencies do not have the authority to bypass the statute in any fashion or grant authority to any other regulatory agency to bypass federal statutes.

To establish standing, petitioners must show a causal connection between that specific injury and the lack of new motor vehicle greenhouse gas emission standards, and that the promulgation of such standards would likely redress that injury.

According to one of petitioners’ declarations, domestic motor vehicles contribute about 6 percent of global carbon dioxide emissions and 4 percent of global greenhouse gas emissions. Stdg. App. 232. The amount of global emissions at issue here is smaller still; §202(a)(1) of the Clean Air Act covers only new motor vehicles and new motor vehicle engines, so petitioners’ desired emission standards might reduce only a fraction of 4 percent of global emissions.”

² NHTSA’s NPRM (p. 560 pre-publication)

MARKET PENETRATION OF EVS IS INCREASINGLY DRIVEN BY STATE ZEV MANDATES, WHICH ARE “RELATED TO” FUEL ECONOMY STANDARDS AND, THUS, PREEMPTED UNDER EPCA 32919(A), AS THE SAFE RULE CORRECTLY ARGUES

EPA does not have the authority to grant a waiver to the State of California that effectively circumvents Federal statutes that preclude any Agency other than the Department of Transportation from issuing regulations related to vehicle fuel economy.

The SAFE Rulemaking³ correctly states: “California regulation of tailpipe CO₂ emissions both through its GHG standards and ZEV program, conflicts directly and indirectly with EPCA and the CAFE program. Justice Roberts⁴, in his dissenting opinion in *MASS v EPA* rejects the California arguments that they are permitted to regulate fuel economy. EPCA expressly preempts State standards⁵ related to fuel economy. Tailpipe CO₂ standards, whether in the form of fleet-wide CO₂ limits or in the form of requirements that manufacturers selling vehicles in California sell a certain number of low- and no-tailpipe-CO₂ emissions vehicles as part of their overall sales, are unquestionably related to fuel economy standards (one need look no further than the Agencies inclusion of the California ZEV mandate in the baseline for fuel economy standard setting). Standards that control tailpipe CO₂ emissions are de facto fuel economy standards because CO₂ is a direct and inevitable byproduct of the combustion of carbon-based fuels to make energy, and the vast majority of the energy that powers passenger cars and light trucks comes from carbon-based fuels.”

The current rulemaking attempts to erase the statute 49 U.S. Code § 32919 arguing that it did not possess the authority to issue ‘legislative’ rules. This is completely irrelevant. The plain reading of the statute precludes a state or any agency other than the Department of Transportation from issuing standards related to fuel economy. GHG standards and zero emission vehicle mandates are clearly related to regulating vehicle fuel economy.

“Improving fuel economy means getting the vehicle to go farther on a gallon of gas; a vehicle that goes farther on a gallon of gas produces less CO₂ per unit of distance; therefore, improving fuel economy necessarily reduces tailpipe CO₂ emissions, and reducing CO₂ emissions necessarily improves fuel economy. EPCA therefore necessarily preempts

³ SAFE Rule (83 FR 42999, August 24, 2018)

⁴ California’s request for a waiver is based on a policy difference with the federal government. As ROBERTS, C. J., wrote in his dissenting opinion *MASSACHUSETTS ET AL. v. ENVIRONMENTAL PROTECTION AGENCY ET AL* “Global warming may be a “crisis,” even “the most pressing environmental problem of our time.” Pet. for Cert. 26, 22. Indeed, it may ultimately affect nearly everyone on the planet in some potentially adverse way, and it may be that governments have done too little to address it. It is not a problem, however, that has escaped the attention of policymakers in the Executive and Legislative Branches of our Government, who continue to consider regulatory, legislative, and treaty-based means of addressing global climate change. Apparently dissatisfied with the pace of progress on this issue in the elected branches, petitioners have come to the courts claiming broad-ranging injury, and attempting to tie that injury to the Government’s alleged failure to comply with a rather narrow statutory provision. I would reject these challenges as nonjusticiable.

⁵ 49 U.S.C. § 32919.

California's Advanced Clean Cars program to the extent that it regulates or prohibits tailpipe CO2 emissions⁶.”

The EPCA preemption clearly applies not only to the tailpipe carbon dioxide standards but also to the ZEV mandate incorporated in California's Advanced Clean Cars program.

California is not without policy options in its quest for reducing its carbon footprint. Notwithstanding its inability to regulate vehicle fuel economy, California⁷ has an almost unlimited range of GHG policy tools at its disposal including: regulating State energy production and use, regulating the carbon content of fuel sold in the state, fiscal energy policy, regulating businesses, and upgrading its vast vehicle fleet to any number of alternative fuel powered vehicles or even to bicycles. What California cannot do is regulate fuel economy or its counterpart, tailpipe carbon dioxide.

EXCLUDING ELECTRIFIED DEDICATED AND DUAL FUEL VEHICLES, THE PROPOSED STANDARDS ARE NOT TECHNICALLY FEASIBLE

49 U.S.C. 32902 prohibits consideration of the fuel economy of dedicated and dual fueled alternative fuel vehicle (AFV) models when NHTSA determines what levels of CAFE standards are maximum feasible. Once these vehicles are excluded from consideration, the Agencies own CAFE Model and assumptions demonstrates that the proposed standards ARE NOT technologically feasible.

⁶ See *Geier v. American Honda Motor Co.*, 529 U.S. 861, 883 (2000) (“Congress has delegated to DOT authority to implement the statute; the subject matter is technical; and the relevant history and background are complex and extensive. The agency is likely to have a thorough understanding of its own regulation and its objectives and is ‘uniquely qualified’ to comprehend the likely impact of state requirements.”); *Medtronic, Inc. v. Lohr*, 518 U.S. 470, 496 (1996) (“agency is uniquely qualified to determine whether a particular form of state law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress”) (internal quotation marks omitted)

⁷ The need for separate California tailpipe standards has already reached the point of diminishing returns. The EPA and CARB tailpipe standards for criteria pollutants are essentially the same. The policy objective of reducing the mobile source contribution to California's NAAQS compliance issues has reached the point where other policies (fiscal and otherwise reducing transportation demand) are far more effective.

ELECTRIC VEHICLES ARE MORE COSTLY THAN THE AGENCIES PREDICT

NHTSA claims that the ‘analysis projects continued cost learning over time and shows battery electric vehicles reaching price parity with conventional vehicles in the 2030s for most market segments – after which market adoption of BEVs accelerates – although other estimates show price parity occurring sooner.’⁸ This assumption is arbitrary and capricious.

The 2021 Model Year⁹ EPA/NHTSA Fuel Economy Guide contains information on twenty-three battery electric vehicles. None of the battery electric vehicles saved the customer money using the methodology employed by the National Highway Traffic Safety Administration and EPA for calculating the cost and benefits¹⁰ of technology. **Based on MSRPs, the average net cost premium for an electric vehicle was \$22,400 MORE than its gasoline counterpart¹¹.**

THE DRIVING RANGE FOR AN ELECTRIC VEHICLE IS LOWER THAN PREDICTED BY THE AGENCIES

The EPA reports the estimated driving range for electric vehicles. These estimates should be viewed with caution as they represent the **maximum driving range** under ideal condition of 72°F **with all accessories including the heater and the air conditioning system in the off position.**

AAA published a study¹² where they tested six electric vehicles at 20° with the heater turned on.

- The range decreased by an average of 42% compared to the range listed in the EPA mileage guide.
- AAA tested the vehicles at 95° with the air conditioning turned on. The range decreased by an average of 39%.
- AAA tested the vehicles under normal acceleration rates and driving speeds. The driving range decreased by an average of 51%.

Further, electric vehicle manufacturers recommend charging their vehicles to only 80% of capacity¹³ to avoid the risk of battery fire. This reduces the driving range even further.

⁸ NHTSA’s NPRM (p. 618 pre-publication)

⁹ As of January 3, 2021

¹⁰ Social costs and benefits in the VOLPE CAFE Model include: Financing, taxes and fees, insurance, relative value lost, refueling time, energy security, the social cost of carbon emissions, crashes, fatalities, congestion, noise, and lost fuel tax revenue.

¹¹ 2021 Advanced Automotive Technology Buying Guide; Walter Kreucher

¹² AAA Electric Vehicle Range Testing, February 2019,
<https://www.aaa.com/AAA/common/AAR/files/AAA-Electric-Vehicle-Range-Testing-Report.pdf>

¹³ <https://www.washingtonpost.com/technology/2021/08/04/tesla-fire/>

THE AGENCIES HAVE CORRUPTED THE INTENT OF CAFE

Based on published EPA information¹⁴, Tesla is credited with a CAFE fuel economy of 763 miles per gallon equivalent for its passenger car fleet in 2019 and 445 miles per gallon equivalent for its light truck fleet. This allows **Tesla to generate OVER \$67 billion in CAFE credits since 2017. Tesla generated more CAFE credits in 2019 than it earned in revenue selling its vehicles.**

One might congratulate Tesla for its benevolence in generating these credits.

HOWEVER, one must take a closer look at what this actually means. The CAFE MPG established by EPA equates to an eye-popping on-road driving range of over 2200 miles. Even the Agency does not believe their own CAFE numbers because they say in their Mileage Guide owners can expect about 330 miles on a full charge (average of all Tesla models for the 2021 model year). AAA, in their 2019 study, says this range is closer to 200 miles on a full charge (165 miles at 80% charge) under typical driving conditions. Thus, the real-world on-road driving range is less than 7% of the range granted Tesla for CAFE purposes.

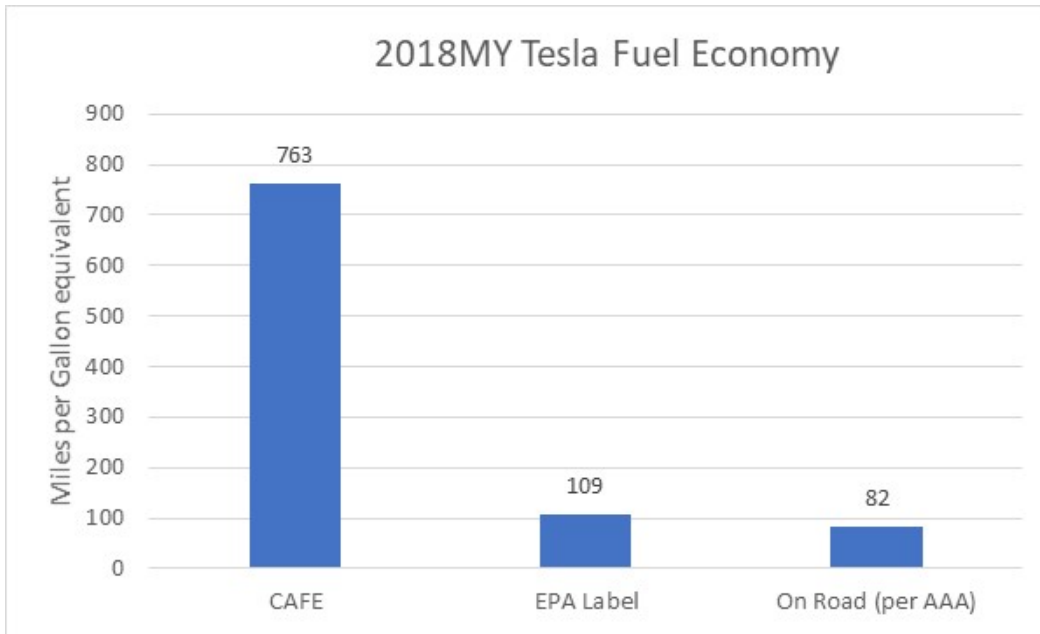
EPA manipulates the CAFE values for electric vehicles by assuming the 0.15¹⁵ petroleum equivalence factor applies to electric vehicles plus the Agency factors in additional credits for air conditioning efficiency and off-cycle operation. The Agency has done this in an arbitrary and capricious manner that is not grounded in reality to promote a costly technology.

It should be noted that the CAFE Model uses a much lower fuel economy for electric vehicles thus artificially increasing the benefits to air quality and other societal benefits by requiring additional electric vehicles.

The Agencies further propose in the rulemaking to modify these generous credits to add a vehicle multiplier for EVs and FCVs. Under the proposal, each vehicle counts as 2.0 for MYs 2022-2024, and 1.75 for MY 2025, subject to a cap on all vehicle multipliers. A clear indication that even they do not think the standards are achievable.

¹⁴ [Manufacturer Projected Fuel Economy Performance Report; October 11, 2019](#)

¹⁵ Fuel economy calculated **assuming** gallon of liquid or gallon equivalent gaseous alt fuel = 0.15 gallons of gasoline for EVs petroleum equivalency factor **plus** air conditioning efficiency and off-cycle credits. The statutory provisions for dedicated alternative fuel vehicles in 49 U.S.C. 32905(a) state that the fuel economy of any dedicated automobile manufactured after MY 1992 shall be measured “based on the fuel content of the alternative fuel used to operate the automobile. A gallon of liquid alternative fuel used to operate a dedicated automobile is deemed to contain 0.15 gallon of fuel.” There are no limits or phase-out for this special fuel economy calculation within the statute. EPA uses this same factor for electricity.



THE PREDICTED FUEL SAVINGS WILL NOT OCCUR NOR WILL THE REDUCTIONS IN EMISSIONS

The Agencies predicts a modest drop in fuel usage and emissions as a result of the proposal. In reality none of this will occur. Because of the 'Tesla-like' CAFE fuel economies EPA arbitrarily assigns to electric vehicles AND the Agency proposed multipliers to EV sales, only a relatively small (less than 10% of what is predicted by the analysis) handful of costly, electric vehicles will be necessary to meet the proposed standards. Mitsubishi will need to produce less than 1000 battery-electric vehicles (BEVs) to meet the 2026 Model Year standard. Many manufacturers will have met these goals in 2021 under the current rules.

New EV Volume Required to Meet Proposed Standards

	2021 First Half EV Sales	2022	2023	2024	2025
Ford	20,288	6,778	7,101	11,706	19,633
GM	12,975	10,799	11,324	17,847	28,823
FCA		8,927	9,277	14,182	22,510
Big 3		26,504	27,702	43,735	70,965
Toyota		-	1,237	6,476	11,976
Honda	742	-	-	1,320	6,754
Hyundai/Kia	12,436	1,258	1,343	2,153	3,508
Nissan	6,206	1,984	2,485	5,652	10,404
VW	11,573	1,910	1,997	3,262	5,364
BMW	4,854	2,504	2,578	3,488	5,127
Mitsubishi		173	199	569	1,085
Mercedes	1,321	1,645	1,732	2,754	4,472
Industry Total		35,978	39,272	69,409	119,653

Honda, Mercedes, and BMW reflect total 2019MY sales (latest available)
Other companies do not break out EV sales separately

ELECTRIC VEHICLE ARE PRONE TO HIGH INTENSITY FIRES¹⁶

“Battery fires can take up to 24 hours to extinguish,” Tesla’s website says in an emergency response guide for the Model S. “Consider allowing the battery to burn while protecting exposures,” Tesla urges firefighters. Further, Tesla has come under scrutiny over concerns it allegedly manipulated battery software in older vehicles to lessen the risk of fire. The company has proposed a settlement over the issue, and Elon Musk tweeted: “If we are wrong, we are wrong. In this case, we were.”

Automakers including General Motors, Audi and Hyundai have recalled electric vehicles over fire risks in recent years and have warned of the associated dangers. Chevrolet last year advised owners not to charge their vehicles overnight or keep their fully charged vehicles in garages. On Friday, August 20th, “GM reiterated that owners of the newly recalled vehicles should park them outside after charging and not leave them charging indoors overnight. General Motors said on Friday it would take a hit of \$1 billion to expand the recall of its Chevrolet Bolt electric vehicles due to the risk of fires from the high-voltage battery pack. The Detroit company also said it would indefinitely halt sales of the EVs due to the issue.”

Hyundai spokesman Michael Stewart said the company announced a recall for its Kona EV in March in order to replace the battery. Stewart said owners were advised to lower the maximum state of charge in their vehicles to 80 percent, and park outside until the state of charge is lowered.

¹⁶ <https://www.washingtonpost.com/technology/2021/08/04/tesla-fire/>

The National Highway Traffic Safety Administration has been investigating Tesla's battery management system since 2019.

EV INFRASTRUCTURE WILL BE EXPENSIVE

The bipartisan infrastructure bill currently moving through Congress includes \$13 billion for EV infrastructure and other incentives to promote the adoption of electric vehicles. House Democrats want to see \$160 billion for EVs in the final budget, a version of this incremental spending is also moving through Congress. This level of infrastructure spending was not included in the NPRM calculations and will completely wipe out any 'benefit' from adoption of the proposed standards. Even these figures are just a down payment as the nation deals with the impact due to the recommendation by vehicle manufacturers advising against overnight charging.

EVEN AFTER ALL THE COSTS AND DISRUPTIONS TO THE SUPPLY CHAIN, THERE WILL BE A DE MINIMIS EFFECT ON CLIMATE CHANGE

The Environmental Impact Statement¹⁷ conducted in association with this rulemaking concludes that implementing the most stringent alternative (Alternative 3) would **decrease global mean temperature by 0.003° C (0.006° F) over the next 100 years**. Implementing the preferred alternative would decrease global mean temperature by 0.002° C (0.003° F). The predicted sea-level rise would decrease by 0.06 centimeters (0.03 inches) under the most stringent alternative. The global precipitation rate would be unaffected and the ocean pH level would change by about 0.0004 under the most stringent alternative.

ALL PROPOSALS AND FINAL RULES RELATED TO FUEL ECONOMY ARE VOID AB INITIO

By statute, only the Secretary of the Department of Transportation can regulate vehicle fuel economy. Once the Secretary issues a rule (or declines to issue more stringent standards), all other proposals and final rules **related to** vehicle fuel economy are void ab initio as the issuing entity does not possess the statutory authority to issue such rules. Such rules include any vehicle greenhouse gas standards and alternative or dual fuel vehicle mandates issued by EPA or any state.

¹⁷ [Supplemental Environmental Impact Statement | CAFE MY 2024-2026](#)

ENVIRONMENTAL JUSTICE

According to the NPRM, ‘the majority of both costs and benefits that occur under the proposed standards accrue to buyers of new cars and trucks, rather than society in general.’ Since only the wealthy can afford to purchase new vehicles, minority communities will be harmed by this rulemaking action. More specifically, only the ultra-wealthy can afford the price premium for costly electric vehicles (even with the tax credits which only the wealthy can use) advocated in the rulemaking.

The CAFE Model estimates that between \$800 million and \$1 billion will be spent on tax credits given to the wealthy for the purchase of electric vehicles.

NHTSA DOES NOT HAVE THE AUTHORITY TO ADD ELECTRIFICATION AS AN ATTRIBUTE IN REGULATING VEHICLE FUEL ECONOMY

NHTSA seeks comment on the choice of footprint as the attribute on which the proposed standards are based, and particularly seeks comment on ... including approaches for considering vehicle electrification in ways that would further a zero emissions fleet.

NHTSA is precluded by statute from including vehicle electrification as an attribute on which to base fuel economy standards. Adding such an attribute violates the plain meaning of the statute precluding the Agency from including alternative and dual fuel vehicle fuel economy in standard setting.

THESE RULES LIMIT VEHICLE CHOICES TO THE DETRIMENT OF CONSUMERS LIKE MYSELF

I lease two cars annually from Ford Motor Company, where I worked for over three decades and from which I retired in 2004. One of these two cars is for me and the other is for my wife. My current vehicle is a Ford Bronco Sport, a mid-sized SUV. I have tried two different plug-in hybrids in the past and find that there is limited trunk space for luggage; in fact, their trunks could not even hold a single set of golf clubs.

My wife drives a Ford Edge. She needs a larger vehicle with a high seat to comfortably allow her ninety-nine-year-old father to get in and out of the vehicle, since she is the primary driver for her father to his doctors’ offices for his medical needs.

In recent years, stringent CAFE standards have restricted our vehicle choices and increased their prices. I used to lease Ford Fusions, which are mid-sized sedans. I actually prefer such sedans to SUVs. Most of the Ford Fusions I drove were equipped with conventional engines. However, in later years the Fusion became available only as a hybrid car. I stopped leasing these vehicles due to their higher price and limited trunk space.

Back in 2017, the Ford Fusion hybrid sedan listed for \$25,295(MSRP), in 2018 the price went up to \$26,245, by 2019 the price was \$27,555 and in 2020 the price was \$28,000.

NHTSA acknowledges that new vehicle prices for Ford will increase by over \$3000 per year due to the proposed rule. In my opinion, the major factor in Ford's decision to stop manufacturing Fusions with conventional engines was the need to comply with stringent CAFE standards.

The Bronco Sport that I lease retails for a base price of \$27,215. The base price for the least expensive electric vehicle Ford offers, the Mustang Mach E is \$42,895, a price premium of \$15,700. The fuel savings over the life of the vehicle will not pay back this price premium using the methodology employed in the proposed rule even after factoring in all the social benefits the Agency claims will occur. Gasoline prices would have to increase above \$6.33 per gallon in order to reach the breakeven point for the electric vehicle.

Similarly, if my wife were to switch from her Ford Edge with a base MSRP of \$32,750 to a Mustang Mach E, it would cost her money over the life of the vehicle. Gasoline prices would have to increase above \$4.63 per gallon before the electric vehicle would breakeven.

FURTHER, the proposed rule acknowledges there will be NO MEASURABLE BENEFIT TO CLIMATE CHANGE due to the proposed changes. One wonders why the Agency is pushing this costly agenda. It is an arbitrary and capricious decision with no factual underpinning.

Recently, Ford announced the discontinuation of sedans and all passenger cars beginning in 2021 (except for the Mustang). If there was stability in the CAFE standards at a more lenient standards, this situation might be alleviated somewhat. Moreover, it is likely that our car-buying choices would be even broader, and car prices would be even lower, if the agencies adopted standards that were even more lenient than what they chose in the proposed rule. This would be the case, for example, if the agencies adopted minimum statutory standards.

I based these conclusions on two grounds: a) my extensive experience as a CAFE compliance officer for Ford Motor Company and as an environmental consultant; and b) the agencies' own statements in the Proposed Rule and its accompanying documents.

My three decades of work for Ford encompassed all aspects of managing corporate compliance and planning concerning CAFE. This ranged from analyzing the economic and marketing aspects of planned and anticipated CAFE standards, to dealing with the impacts of fuel prices on both a short-term and long-term basis. Similarly, as an environmental consultant since leaving Ford, I have advised clients on a range of CAFE-related matters. My clients included NHTSA, VOLPE, and Environmental Defense.

In addition, since 2018 I have authored and published an annual Advanced Automotive Technology Buying Guide—a detailed examination of the costs and benefits of battery-powered cars, plug-in and non-plug-in hybrids, and diesel-powered vehicles that are available to consumers. In the 2021 model year, the average cost premium (including fuel cost and the social benefits) of an electric vehicle was \$22,400 above the cost of its gasoline counterpart. The average cost premium for a plug-in hybrid electric vehicle was \$16,200. The average cost premium for a hybrid electric vehicle was \$5000. Only seventy-two percent of the hybrid vehicles meet their 2021 model year fuel economy target and only sixty-two percent

meet their 2025 model year fuel economy target. Customers are rational. The price of gasoline would have to exceed \$10 per gallon for the average electric vehicle sold in the 2021 Model Year to save the customer money.

Based on my professional experience, CAFE standards have a major impact on the automotive choices available to consumers and on the purchase prices of various models. This impact is especially strong when fuel prices are relatively low, because low-priced gasoline forces many carmakers to adjust prices and model availability so that new-car purchases produce a sales mix that complies with CAFE. This impact, in turn, has downstream effects on the prices of used cars as well. The impact is greatest on larger vehicles, which consumers generally prefer when fuel prices are either low or are anticipated to drop in the near future. The preference is due to the greater utility, safety and other advantages that consumers see in such vehicles.

These conclusions are amply supported in the Proposed Rule itself. In describing the benefits of the Rule, NPRM concedes that, 'the majority of both costs and benefits that occur under the proposed standards accrue to buyers of new cars and trucks, rather than society in general.' More importantly, the proposed rule notes that per-vehicle costs would be lower if more lenient standards had been chosen: "alternatives lower in stringency than the final standards would save consumers more ... while alternatives more stringent than final standards would save consumers less"

For the foregoing reasons, it is my expert opinion it is doubtful that any benefit will flow to consumers, even purchasers of new vehicles, from the Proposed Rule. My conclusions regarding CAFE's impact on vehicle choices and vehicle prices apply both to my own car leasing situation and all other individuals.

A TEXTBOOK EXAMPLE OF ARBITRARY AND CAPRICIOUS RULEMAKING

Neither EPA nor NHTSA offers any new science that would compel a change in the stringency of the CAFE standards or greenhouse gas standards, especially one under 'unusually condensed' timing.

There have been no new studies since the prior rulemaking. No evidence is presented on technological breakthroughs in support of the proposals. The only thing that changed are the Administrators of the agencies.

Political ideology is not science. The will of the Administrators is not a reason for changing a rule. Instituting a rule change (or withdrawing a previous rule) because of political ideology is the definition of arbitrary and capricious rulemaking.

What will come out of the rule?

- Billions of dollars wasted.
- EPA's own analysis predicts CO₂ emissions per vehicle will decrease WITHOUT any new regulation by 40 to 50 grams per mile.
- NHTSA predicts fuel economy will INCREASE WITHOUT any new regulation by 17 to 22 miles per gallon.
- The Agencies acknowledge there will be ZERO measurable effect on temperature over the next 100 years.
- The Agencies acknowledge there will be ZERO measurable effect on sea level over the next 100 years.
- The Agencies acknowledge there will be ZERO measurable effect on ocean acidity over the next 100 years.
- Billions of dollars will be lost in fuel tax revenues not collected.
- Thousands of traffic fatalities will needlessly occur.
- Vehicle prices will increase by \$3000 PER YEAR.
- Vehicle choices will be limited.
- Billions of dollars will be wasted on infrastructure that was not factored into the analysis.
- Billions of dollars (\$42 billion in the latest proposal) will be wasted on tax breaks so the wealthy can purchase electric vehicles (also not factored into the analysis).