COMMENTS OF THE

RENEWABLE FUELS ASSOCIATION, NATIONAL CORN GROWERS ASSOCIATION,

NATIONAL FARMERS UNION

IN RESPONSE TO

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION'S PROPOSAL:

CORPORATE AVERAGE FUEL ECONOMY STANDARDS FOR PASSENGER CARS AND LIGHT TRUCKS FOR MODEL YEARS 2027-2032 AND FUEL EFFICIENCY STANDARDS FOR HEAVY-DUTY PICKUP TRUCKS AND VANS FOR MODEL YEARS 2030-2035, RIN 2127-AM55, 88 Fed. Reg. 56,128 (August 17, 2023)

DOCKET NO. NHTSA-2023-0022

The Renewable Fuels Association (RFA), National Corn Growers Association (NCGA) and National Farmers Union (NFU) submits these comments in response to the U.S. National Highway Traffic Safety Administration's (NHTSA's) Proposed Rule "Corporate Average Fuel Economy Standards for Passenger Cars and Light Trucks for Model Years 2027-2032 and Fuel Efficiency Standards for Heavy-Duty Pickup Trucks and Vans for Model Years 2030-2035," 88 Fed. Reg. 56,128 (August 17, 2023). The proposal includes corporate average fuel economy (CAFE) standards for passenger cars (PC) and light-duty trucks (LDT) and fuel efficiency standards for heavy-duty pickup trucks and vans (HDPUV).

Renewable Fuels Association is the leading trade association for America's ethanol industry. Its mission is to advance the development, production, and use of fuel ethanol by strengthening America's ethanol industry and raising awareness about the benefits of renewable fuels.

National Corn Growers Association represents more than 40,000 dues-paying farmers nationwide and more than 300,000 corn growers who contribute to corn checkoff programs in their states. As the producers of home-grown feedstock for low carbon ethanol, corn farmers are part of the solution to improve energy security and cut transportation emissions.

National Farmers Union represents family farmers, fishers, and ranchers across the country, with formally organized divisions in 33 states. NFU has been a strong supporter of biofuels because they create a price-stabilizing mechanism, encourage much-needed reinvestment in our rural communities, contribute significantly to net farm income, significantly reduce GHG emissions from the transportation sector, and provide substantial environmental and health benefits.

RFA, NCGA and NFU is proud of ethanol's contribution to the U.S. economy. In 2022, even as abnormally high inflation rates impacted the U.S. economy, the production of 15.4 billion gallons of ethanol directly employed nearly 79,000 American workers in the manufacturing and agriculture sectors. In addition, the ethanol industry supported 343,000 indirect and induced jobs across all sectors of the economy. Meanwhile, the industry generated $35 billion in household income and contributed $57 billion to the national Gross Domestic Product (GDP) in 2022.[1]

[1] Urbanchuk, J.M. (ABF Economics). "Contribution of the Ethanol Industry to the Economy of the United States in 2022." (February 2023).

Consistent with our mission, RFA, NCGA and NFU supports action by NHTSA to improve our nation's energy security and reduce greenhouse gas (GHG) emissions. As NHTSA determines the appropriate CAFE and fuel efficiency standards, however, it should avoid putting all our eggs in the electrification basket. NHTSA's current proposal greatly missed the intent of the CAFE program. As Congress has acknowledged, solving energy security and air pollution issues related to the transportation sector requires a diversified portfolio of approaches.

I. EXECUTIVE SUMMARY

Given the significant increase in vehicle electrification vehicles incorporated into NHTSA's proposed standards, NHTSA must analyze and consider the increased energy security vulnerabilities raised by critical minerals needed for electric vehicle batteries. The global demand for these minerals is expected to skyrocket, and extraction and processing are often concentrated in relatively few countries, some of which are not allied with the United States. High demand and concentrated supply of essential commodities in non-allied nations should set off energy security alarm bells. The CAFE program's purpose would not be served by trading our foreign oil vulnerability for a foreign critical minerals vulnerability. The Act directs NHTSA to apply the lessons of the Arab oil embargo to evaluate and address emerging issues like critical minerals before they trigger a crisis.

In deciding how far and fast to electrify, NHTSA should recognize that fuel economy improvements are not the only tool Congress provided to improve our energy security. Congress has taken a multi-pronged approach that also relies heavily on renewable fuels as a home-grown way to reduce our dependence on foreign oil, moderate price shocks from market disruptions, and decrease the transportation sector's emissions of greenhouse gases and other air pollutants.

RFA, NCGA and NFU recommend that, before NHTSA finalizes its proposal, NHTSA strengthen its analyses and release them for public comment, along with an explanation of how the new analyses affect its proposal. Specifically, we recommend that:

- NHTSA should analyze the energy security vulnerabilities flowing from the critical minerals needed for the electric vehicles it includes in its analyses. NHTSA should also explain how it factors critical minerals energy security vulnerabilities into its maximum feasibility determinations.
- To comply with the limitation Congress imposed in 49 U.S.C. § 32902(h), NHTSA should re-analyze the passenger car (PC) and light-duty truck (LDT or LT) regulatory alternatives without including battery-operated electric vehicles (BEVs) and then explain how any changed results affect its maximum feasibility determination.
- If NHTSA continues to rely on its proposal analysis at final, NHTSA should set the CAFE standards for passenger cars at the level in the No Action alternative. Neither the proposed standards nor the less stringent regulatory alternative (labeled alternatives PC2LT4 and PC1LT3) are economically feasible for passenger cars given NHTSA's projection that each would have net societal disbenefits of $4 to $5 billion, net personal disbenefits of $5.7 to $5.8 billion, and per vehicle regulatory costs exceeding fuel savings over the life of the vehicle.
- For the fuel efficiency standards for HDPUVs, NHTSA should conduct additional analysis of the proposed standards' technological feasibility. In particular, NHTSA should determine whether it is technologically feasible for manufacturers to produce the number of electric

vehicles that NHTSA assumes in its analysis. NHTSA should also analyze critical mineral supplies and charging station infrastructure to determine whether the standards are technologically feasible.

- NHTSA should work with the Environmental Protection Agency (EPA) to reinstitute incentives for flex-fueled vehicles (FFVs).

If our nation is to reach its energy security goals and net-zero greenhouse gas emissions, we will need more efficient, cleaner cars *and* cleaner, more efficient fuels. The CAFE program's focus on energy security gives NHTSA a unique role in charting the path to attaining these goals.

II. NHTSA MUST CONSIDER ENERGY SECURITY ISSUES RAISED BY INCREASED VEHICLE ELECTRIFICATION

NHTSA's proposal and supporting documentation fail to analyze and consider the national energy security vulnerabilities of dramatically increased demand for critical minerals due to the increased vehicle electrification NHTSA assumes will be used to meet its standards.[2] Given the CAFE program's roots in protecting U.S. energy security, NHTSA should analyze critical mineral energy security issues and factor the results into its maximum feasibility determination. It should exercise its independent judgment about the feasibility of dramatic increases in BEVs before finalizing federal standards that would essentially bake in state Zero Emission Vehicle (ZEV) mandates.[3] Merely "monitoring the availability of critical minerals used in electrified powertrains and whether any shortage of such materials could emerge as an additional energy security concern"[4] is insufficient, just as it would be insufficient to merely monitor the availability of oil.

A. Critical Minerals Needed for Electric Vehicles Are a National Energy Security Concern

The CAFE program, enacted in 1975 as part of the Energy Policy and Conservation Act (the Act),[5] was one of several programs established to improve national security by increasing energy independence. It was a direct reaction to the Arab oil embargo of 1973-74, which highlighted the economic and geopolitical damage foreign nations could cause the United States by controlling the price and supply of a critical commodity. Not only did the embargo seriously disrupt our economy, [6]

[2] As discussed below, NHTSA's inclusion of BEVs in the PC/LDT analysis violates the statute. If NHTSA fixes this error by taking BEVs out of the PD/LDT analysis, then it would not need to consider critical mineral issues in the PC/LDT maximum feasibility determination.

[3] "State ZEV mandates" refers collectively to the Advanced Clean Car I, Advanced Clean Car II, and Advanced Clean Truck programs adopted by California pursuant to Section 209(b) of the Clean Air Act and adopted by other states pursuant to Section 177 of the Clean Air Act. These programs require that increasing levels of manufacturers' sales in the affected states in each model year be ZEVs (BEVs, plug-in hybrid electric vehicles, or fuel cell electric vehicles). 88 Fed. Reg. at 56,260.

[4] 88 Fed. Reg. at 56,254.

[5] Pub. L. No. 94-163, amended by the 2007 Energy Independence and Security Act (Pub. L. No. 110-140) (collectively "the Act").

[6] "No economic event in a long generation, excluding only wartime upheavals, has so seriously disrupted our economy as the manipulation of oil prices and supplies over the past year. . . . Thus, the oil embargo, together with the huge increase in oil prices that began in the fall of 1973, contributed to the twin economic problems plaguing us in 1974 – namely, high rates of inflation and weakness in production." Statement by Arthur F. Burns, Chairman, Board of Governors of the Federal Reserve System, before the Joint Economic Committee, November

"maybe more importantly, the embargo carried significant geopolitical consequences as well. The enormous transfer of wealth to an emerging group of oil producing nations created a new challenge to U.S. hegemony . . . and put pressure on the Western alliance."[7] In response, the Act was "designed to reduce the vulnerability of the domestic economy to increases in [oil] import prices" and "will decrease dependence upon foreign imports [and] enhance national security."[8]

As our country makes decisions about the pace and extent of increased vehicle electrification, we need to account for the fact that critical minerals pose a vulnerability to our national security very similar to that posed by foreign oil in the 1970s. As the International Energy Agency (IEA) has noted about critical minerals, "High levels of concentration, compounded by complex supply chains, increase the risks that could arise from physical disruption, trade restrictions or other developments in major producing countries."[9]

Electrification of the vehicle fleet changes the energy security issues we face. While increasing electrification reduces our need for petroleum, it dramatically increases our need for critical minerals. Electric vehicles require sophisticated batteries to store and deliver energy to the car, and those batteries require critical minerals. A typical electric car requires six times the mineral inputs of a conventional car.

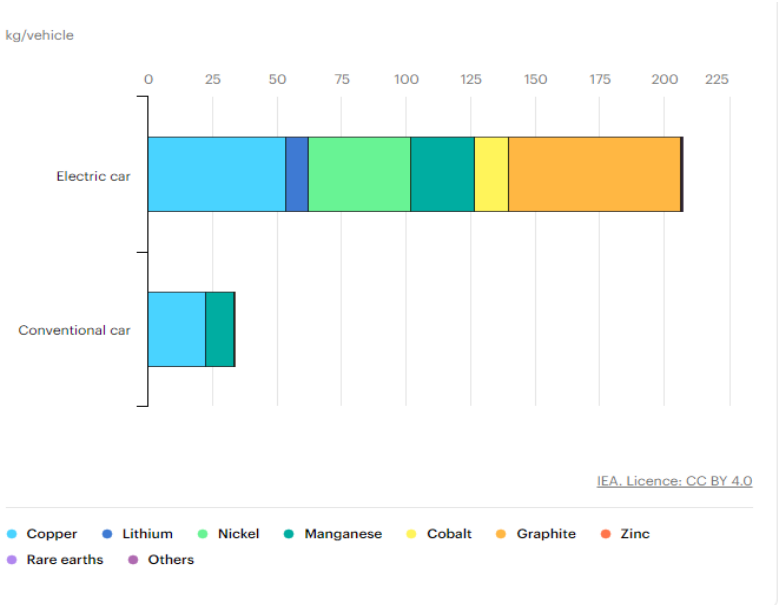
27, 1974. At pp. 2-3. https://fraser.stlouisfed.org/title/statements-speeches-arthur-f-burns-449/oil-prices-international-finance-statement-joint-economic-committee-8021

[7] Verrastro, Frank A., and Guy Caruso, Center for Strategic & International Studies, "Commentary on the Arab Oil Embargo -- 40 Years Later" (October 16, 2013). https://www.csis.org/analysis/arab-oil-embargo-40-years-later

[8] Joint Explanatory Statement of the Committee of Conference, 121 Cong. Rec. (bound) at 41,149 (Dec. 17, 1975), from Senate floor debate.

[9] IEA (2021), *The Role of Critical Minerals in Clean Energy Transitions*, IEA, Paris https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions, License: CC BY 4.0

MINERALS USED IN ELECTRIC CARS COMPARED TO CONVENTIONAL CARS[10]



Critical minerals raise national energy security issues. As the Biden-Harris Administration recently noted, there are several "hard truths" about critical minerals. The first is that the demand for them is growing exponentially.

> [D]emand for hardrock minerals, and critical minerals in particular, is growing at an exponential rate. According to the International Energy Agency, already announced clean energy policies will cause total mineral demand to double by 2040, and in order to meet climate goals by 2040 that demand would double again. Certain minerals would be in even higher demand: meeting climate goals could require 19 times more nickel, 21 times more cobalt, 25 times more graphite, and 42 times more lithium than produced today. Hardrock minerals like copper and gold, which are not classified as "critical" by the U.S. Geological Survey, are also in high demand and subject to intense development pressure.[11]

The second "hard truth" is that foreign nations, particularly China, control much of the extraction and processing of these minerals. As the Biden-Harris Administration said:

> [T]he United States depends heavily on foreign nations—in some cases non-allied nations—to produce and refine many of the minerals that are in high demand and critical to our economic and national security. . . . Mineral supply chains, moreover, are vulnerable to disruption. . . . [and] the U.S. is heavily reliant on Chinese imports for many of these minerals in processed form.[12]

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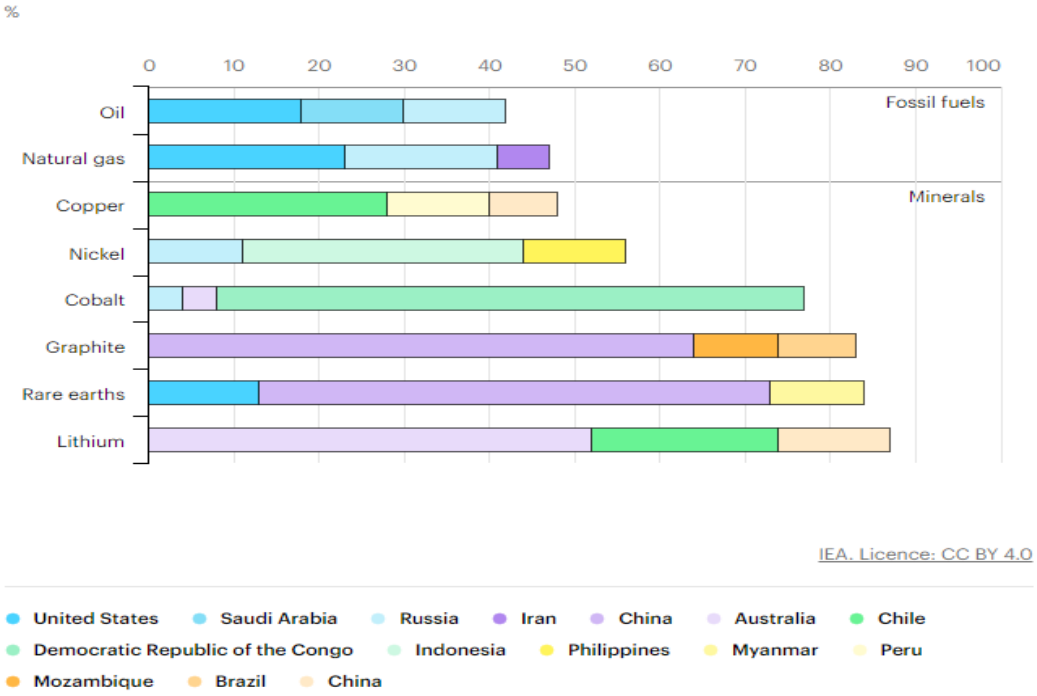
[10] Id.

[11] Biden-Harris Administration's Interagency Working Group on Mining Laws, Regulations, and Permitting, "Final Report: Recommendations to Improve Mining on Public Lands" (September 2023) at 3 (footnotes omitted). https://www.doi.gov/sites/doi.gov/files/mriwg-report-final-508.pdf

[12] *Id.* at 4.

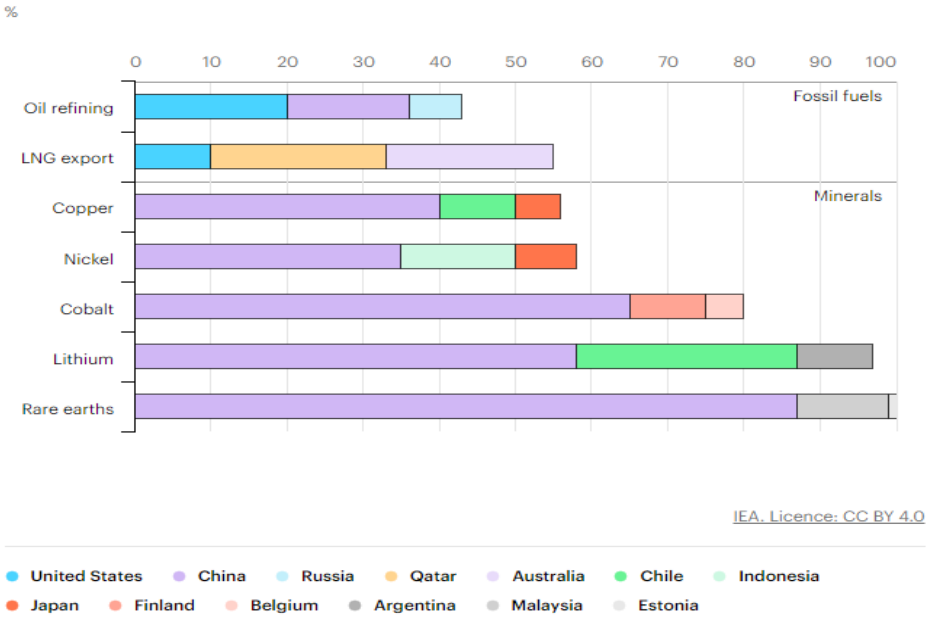
As NHTSA noted in the proposal, batteries "include materials that . . . are sourced from potentially insecure or unstable overseas sites" and "are also highly concentrated in a few countries and therefore face the same market power concerns as petroleum products."[13] According to IEA, the Democratic Republic of the Congo (DRC) and the People's Republic of China were responsible for 70 and 60 percent of the global production of cobalt and rare earth minerals, respectively, in 2019.[14] The level of concentration is even higher for mineral processing operations. In 2019, China's market share of global refining capacity was around 35 percent for nickel, 50 to 70 percent for lithium and cobalt, and nearly 90 percent for rare earth elements.[15] In addition, Chinese companies have made substantial investments in overseas assets in Australia, Chile, the DRC, and Indonesia. The diminished role of the United States in the production and processing of critical minerals, as compared to oil and natural gas, is noteworthy (see tables below).

SHARE OF TOP PRODUCING COUNTRIES IN
EXTRACTION OF SELECTED MINERALS AND FOSSIL FUELS, 2019[16]



[13] 88 Fed. Reg. at 56,254.
[14] IEA (2021).
[15] *Id.*
[16] *Id.*

SHARE OF TOP PRODUCING COUNTRIES IN
TOTAL PROCESSING OF SELECTED MINERALS AND FOSSIL FUELS, 2019[17]



During the COVID-19 pandemic, the semiconductor shortage gave us a taste of the potential damage from a critical minerals embargo. Automakers cut production targets, laid off workers, temporarily halted production, and changed their new vehicle fleet to focus production on the most profitable units.[18] New and used car prices rose, and inventories dropped. The ripple effect extended to the broader economy. For example, the "CPI for used cars and trucks rose by almost 30 percent over the 12 months ending in May 2021 and accounted for about one-third of the overall monthly CPI increase."[19] And that damage occurred without a foreign nation affirmatively trying to hurt us.

NHTSA's energy security analysis should recognize, as Congress has, that we need a multi-pronged approach to address energy security concerns -- CAFE is not our only tool. For almost two decades, this multi-pronged approach has included increased use of renewable fuels. Notably, Congress enacted the Energy Independence and Security Act of 2007 (EISA)[20] to "move the United States toward

[17] *Id.*

[18] "A shortage of semiconductors has slowed auto production and forced temporary closures of numerous assembly plants around the world. According to data from consulting firm Auto Forecast Solutions, North America lost production of 2.3 million vehicles in 2021 due to plant shutdowns." Congressional Research Service, "Semiconductor Shortage Constrains Vehicle Production" (Dec. 13, 2021) at 1. https://crsreports.congress.gov/product/pdf/IF/IF12000; Wall Street Journal, "How Car Makers Collided With a Global Chip Shortage" (Feb. 12, 2021).

[19] Krolikowski, Pawel M., and Kristoph Naggert. 2021. "Semiconductor Shortages and Vehicle Production and Prices." Federal Reserve Bank of Cleveland, Economic Commentary 2021-17. https://doi.org/10.26509/frbc-ec-202117

[20] Pub. L. No. 110-140.

greater energy independence and security [and] to increase the production of clean renewable fuels." In that bill, Title I, "Energy Security Through Improved Vehicle Fuel Economy," amended the CAFE program, and Title II, "Energy Security Through Increased Production of Biofuels," expanded the Renewable Fuel Standard (RFS) program, which was established by the Energy Policy Act of 2005. Congress has also enacted tax credits and grant programs to encourage renewable fuel production, doing so as recently as 2022 in the Inflation Reduction Act.[21]

Renewable fuels improve our energy security because they are largely homegrown. They are produced at over 200 facilities in the U.S., and virtually all of the ethanol the U.S. consumes is produced domestically. Imports contributed to 1 percent or less of U.S. ethanol consumption from 2019 to 2022.[22] The U.S. is a large-scale ethanol exporter, selling almost 10 percent of its annual ethanol production internationally. With ethanol fuel accounting for roughly a third of the annual demand for corn, ethanol contributes significantly to the reliable diversity in demand for U.S. corn necessary to support a consistent and stable overall volume of corn production.

Even modest volumes of renewable fuels can help moderate oil price impacts of oil market disruptions, according to a 2019 study of 19 historical oil market disruptions by energy economist Dr. Philip K. Verleger, Jr.[23] Verleger found that "when ethanol has been plentiful and the price relatively low, additional ethanol has been blended into the gasoline supply as gasoline prices have increased." Speaking specifically about the expanded availability of E15, a gasoline blend containing 15 percent ethanol, he noted that "permitting E15 to be sold year-round … will give blenders more flexibility going forward. An additional five hundred thousand barrels per day of renewables might be substituted for conventional gasoline if conditions are favorable." Verleger concluded, "Renewable fuels, then, provide a very large measure of protection against the economic impact of future disruptions."

EPA also noted recently that renewable fuels help mitigate oil market disruptions. In announcing a series of waivers allowing unrestricted E15 sales in conventional gasoline areas for the summer of 2023, EPA stated, "This action will provide Americans with relief at the pump from ongoing market supply issues created by Russia's unprovoked war in Ukraine by increasing fuel supply and offering consumers more choices at the pump. The waiver will help protect Americans from fuel supply crises by reducing our reliance on imported fossil fuels, building U.S. energy independence, and supporting American agriculture and manufacturing."[24]

Renewable fuels like ethanol also offer an effective and immediate solution for decarbonizing liquid fuels and internal combustion engine (ICE) vehicles across all segments of the transportation sector. Today's corn starch ethanol already reduces GHG emissions by roughly half, on average, compared to gasoline. According to the Department of Energy's (DOE's) Argonne National Laboratory,

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[21] *See, e.g.,* IRA § 13201 extended tax credits for alternative fuels in 26 U.S.C. §§ 6426(d) and (e) and 6427(e); IRA § 13704 extended the Clean Fuel Production Credit in 26 U.S.C. § 45Z; IRA § 22203 funded grants through the Higher Blend Infrastructure Incentive Program to increase sales and use of higher blends of ethanol and biodiesel.
[22] U.S. Energy Information Administration. (2023). *Petroleum Supply Monthly.* https://www.eia.gov/petroleum/supply/monthly/
[23] Verleger, Philip K. (2019). *The Renewable Fuel Standard Program: Measuring the Impact on Crude Oil and Gasoline Prices.* https://d35t1syewk4d42.cloudfront.net/file/1949/Verleger-RFS-Impact-on-Oil-and-Gasoline.pdf
[24] U.S. Environmental Protection Agency. (2023, April 28). *EPA Issues Emergency Fuel Waiver for E15 Sales.* https://www.epa.gov/newsreleases/epa-issues-emergency-fuel-waiver-e15-sales-0

typical corn ethanol provides 44 percent GHG savings compared to gasoline, even when unverifiable emissions from direct and indirect changes in land cover/land use are included.[25] The California Air Resources Board (CARB) found that, from 2011 to 2021, the use of ethanol from all feedstocks cut GHG emissions from the California transportation sector by 31 million MT CO2e, more than any other fuel used to meet the state's Low Carbon Fuel Standard (LCFS) requirements.[26] With the rapid emergence of new technologies and more efficient practices, even greater GHG reductions are coming to the corn ethanol sector. Analysis by the U.S. Department of Agriculture found that some biorefineries are likely already producing corn starch ethanol that offers a 70% GHG reduction versus gasoline.[27] A landmark 2022 study examined numerous technology pathways for corn ethanol producers to achieve net zero emissions and found that the corn ethanol industry is likely to meet its goals of producing net-zero ethanol, on average, well before 2050.[28]

B. Critical Mineral Energy Security Concerns Are a Significant Relevant Factor that NHTSA Must Consider

In the proposal's evaluation of the statutory factors as applied to the regulatory alternatives under consideration (section V.D. of the proposal), NHTSA does not discuss or factor in increased energy security vulnerabilities flowing from increased electrification. Agency action is unlawful if it does not rest "on a consideration of the relevant factors."[29] If NHTSA assumes that electric vehicles will be used to meet the standards, as it proposed, [30] critical minerals national energy security concerns are a relevant factor in determining the maximum feasible standards for the reasons described above. NHTSA's proposal acknowledges that electric vehicles' reliance on critical minerals poses "emerging energy security considerations" and notes that auto manufacturers "will also become more susceptible to disruptions to critical mineral markets, which may make it harder for them to comply with CAFE standards if their voluntary compliance strategy relies on electrification."[31]

NHTSA's maximum feasibility determination (Section V.D. of the proposal) completely fails to consider the energy security issues posed by electrification even though it assumes that almost a third of the model year (MY) 2032 PC/LDT fleet will be BEVs, up from 5.2 percent in MY 2022, and that 45

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[25] Lee, Uisung, Hoyoung Kwon, May Wu, and Michael Wang. (2021), "Retrospective analysis of the U.S. corn ethanol industry for 20052019: implications for greenhouse gas emission reductions." Biofuels, Bioprod. Bioref., 15: 1318- 1331. https://doi.org/10.1002/bbb.2225

[26] CARB. "Low Carbon Fuel Standard Reporting Tool Quarterly Summaries." Viewed Jan. 20, 2023. https://ww2.arb.ca.gov/resources/documents/low-carbon-fuel-standard-reporting-tool-quarterlysummaries

[27] Lewandrowski, Jan, Jeffrey Rosenfeld, Diana Pape, Tommy Hendrickson, Kirsten Jaglo and Katrin Moffroid (2020). "The greenhouse gas benefits of corn ethanol – assessing recent evidence," Biofuels, 11:3, 361-375, DOI: 10.1080/17597269.2018.1546488. https://www.tandfonline.com/doi/full/10.1080/17597269.2018.1546488

[28] Emery, Isaac. Informed Sustainability Consulting (2022). "Pathways to Net-Zero Ethanol: Scenarios for Ethanol Producers to Achieve Carbon Neutrality by 2050." Prepared for the Renewable Fuels Association. https://d35t1syewk4d42.cloudfront.net/file/2146/Pathways%20to%20Net%20Zero%20Ethanol%20Feb%202022.pdf

[29] *Motor Vehicle Mfrs. Assn. of the United States, Inc. v. State Farm Mut. Automobile Ins. Co.,* 463 U.S. 29, 43 (1983) (internal quotation marks omitted).

[30] As discussed below, although NHTSA proposed to assume that manufacturers will rely on BEVs to meet the PC/LDT CAFE standards, it does so in violation of Section 32902(h) of the Act. That section does not apply to the HDPUV standards.

[31] 88 Fed. Reg. at 56,254.

percent of the MY 2038 HD fleet will be BEVs, up from 6 percent in MY 2022.[32] When determining maximum feasibility, the only energy security concerns it factors in relate to traditional concerns with oil prices and supply. NHTSA assumes "that benefits to energy security correlate directly with fuel consumption avoided."[33] This overly simplistic approach fails to acknowledge that fuel consumption avoided through electrification has both positive and negative energy security benefits. As IEA has advised, "Minerals offer a different and distinct set of challenges, but their rising importance in a decarbonizing energy system requires energy policy makers to expand their horizons and consider potential new vulnerabilities. Concerns about price volatility and security of supply do not disappear in an electrified, renewables-rich energy system."[34]

As explained in more detail below in Section V, because NHTSA's maximum feasibility determination relies on BEVs, NHTSA must consider critical mineral energy security issues even when the BEVs are produced due to state ZEV mandates. The Act charges *NHTSA* with determining whether its standards are the maximum feasible, and NHTSA cannot abdicate that responsibility to California or anyone else by deferring to their standard setting process.

To consider the national security issues raised by critical minerals, NHTSA must first analyze them, which it has failed to do. The draft Technical Support Document is insufficient. It acknowledges that NHTSA does not include costs or benefits related to energy security concerns electric vehicles raise.[35] It has a few pages identifying energy security as an issue with electrification, but no analysis. And NHTSA does not even attempt to factor critical minerals into the energy security consideration. Absent a fulsome analysis, NHTSA lacks a basis for considering the energy security concerns posed by critical minerals needed for the vehicles NHTSA assumes will be used to meet its standards.

NHTSA has acknowledged that critical minerals pose national security concerns and that national security concerns are a factor it must consider when setting CAFE standards for PC/LDTs and fuel efficiency standards for HDPUVs. It would be arbitrary and capricious for NHTSA not to analyze and consider critical mineral energy security issues, and it would be a violation of its notice and comment obligations to finalize standards without first allowing public comment on draft analyses and an explanation of how it proposes to weigh the critical minerals energy security concerns when determining the maximum feasible standards.

III. NHTSA MUST REPROPOSE THE PC/LDT CAFE STANDARDS BECAUSE IT IMPERMISSIBLY INCLUDED DEDICATED ELECTRIC VEHICLES IN THE ANALYSIS SUPPORTING ITS MAXIMUM FEASIBILITY DETERMINATION

The Act specifically prohibits NHTSA from considering the fuel economy of dedicated automobiles (including electric vehicles) when determining the maximum feasible average fuel economy for light-duty vehicles. 49 U.S.C. § 32902(h)(1). NHTSA violated this prohibition by including a significant number of BEVs in the analysis supporting its proposed maximum feasible determination. To meet its notice and comment obligations, NHTSA must issue a new or supplemental proposal with an updated discussion of the regulatory alternatives based on an analysis that complies with the statute.

[32] 88 Fed. Reg. at 56,279, Table IV-10, and at 56,355, Table V-21.
[33] 88 Fed. Reg. at 56,352.
[34] IEA (2021).
[35] Draft Technical Support Document at 6-58.

A. NHTSA Considered the Fuel Economy of Dedicated Electric Vehicles in Determining the Maximum Feasible Average Fuel Economy for PC/LDT Vehicles

NHTSA included a significant number of BEVs in the analysis underpinning its maximum feasibility determination for the PC/LDT standards. First, NHTSA's analysis includes BEVs in the No Action alternative (or baseline) and then carries these BEVs through to each of the regulatory scenarios it analyzes. For the passenger car fleet, NHTSA's analysis projects that BEVs will be 32.0 percent of the MY 2027 fleet, increasing to 42.24 percent for MY 2032, a significant increase over the 12.4 percent of the MY 2022 fleet that were BEVs.[36] For the light-duty truck fleet, NHTSA's analysis projects that BEVs will be 17.1 percent of the MY 2027 fleet, increasing to 27.5 percent for MY 2032, a significant increase over the 0.7 percent of the MY 2022 fleet that were BEVs.[37]

BEVs are in the baseline because NHTSA assumes that, even without new CAFE standards for MYs 2027-32, manufacturers would produce BEVs for several reasons, including to comply with state ZEV mandates and with existing CAFE and GHG standards finalized in MY 2026 (continued in perpetuity). In addition, NHTSA's analysis also includes BEVs above the baseline levels for MY 2033 and beyond. While NHTSA constrains its model so that it cannot project that manufacturers will produce additional BEVs (beyond the baseline) due to the CAFE standards in MY 2027 to 2032, it does not constrain its model in that way for MY 2033 and beyond. This allows the model to predict, and NHTSA to base its feasibility determination on, additional BEVs that manufacturers produce in MY 2033 and beyond to comply with the CAFE standards that would be set in this rule (based on the assumption those standards would be continued).

B. The Act Prohibits NHTSA From Including Dedicated Electric Vehicles in the Analysis Supporting the PC/LDT Standards

Including BEVs in the analysis supporting the CAFE standards violates the direction Congress provided on the treatment of BEVs and other dedicated alternative fuel vehicles. The language in 49 U.S.C. § 32902(h)(1) is plain and mandatory. When "carrying out" its obligation to decide the maximum feasible average fuel economy for the PC/LDT fleets, NHTSA "may not consider the fuel economy of dedicated vehicles." "Dedicated vehicle" is defined as "an automobile that operates only on alternative fuel" and "alternative fuel" is defined to include "electricity."[38] Simply put – Congress forbade NHTSA to account for the fuel economy of any electric vehicle, from any model year, for any purpose, when setting average fuel economy standards for light-duty vehicles.

The proposal attempts to get around this Congressional limitation by misinterpreting the 32902(h) prohibition as "preventing NHTSA from setting CAFE standards that effectively require *additional* application of dedicated alternative fueled vehicles in response to those standards" and argues that it does not prevent NHTSA "from being aware of the existence of dedicated alternative fueled vehicles that are already being produced for other reasons besides the CAFE standards."[39] NHTSA's interpretation is inconsistent with the statute, which says NHTSA "may not consider the fuel economy of dedicated vehicles." Full stop. NHTSA's interpretation essentially would add words to the

[36] 88 Fed. Reg. at 56,278, Table IV-5.
[37] 88 Fed. Reg. at 56,278, Table IV-5
[38] 49 U.S.C. § 32901(a)(1)(J) and (8).
[39] 88 Fed. Reg. at 56,319.

Act, as if it read: "may not consider the fuel economy of *additional* dedicated vehicles *produced to comply with the standards for the model years for which the standards are being set.*" In other words, NHTSA's interpretation is that it *may* consider the fuel economy of any BEV not produced due to the CAFE rule in the model years covered by that rule. That simply is not what the statute says.

NHTSA's interpretation is particularly logic-defying as it applies to additional BEVs produced to comply with the CAFE standards for MY 2033 and beyond. As part of NHTSA's consideration of the statutory factors in its maximum feasibility determination, NHTSA's analysis assumed that the MY 2032 standards would stay in place through MY 2050 and that manufacturers would build additional BEVs (above the baseline) to comply with those standards. NHTSA believes this is permissible because it interprets the Act as precluding consideration of additional BEVs to comply with CAFE only in the years for which the standards are being set but allowing consideration of additional BEVs produced to comply with the same CAFE standards in later years.[40] NHTSA's only support for this proposition is that it would "improve the accuracy and realism" of its analysis (as compared to an analysis that did not assume additional BEVs in later years).[41] NHTSA does not explain how the statutory language prohibits the consideration of BEVs produced as a result of the CAFE standards in some years but not others. As shown above, NHTSA must add a lot of words to the statute to get that result.

NHTSA clearly does not agree with Congress's policy choice to exclude the fuel economy of BEVs from consideration in setting CAFE standards, arguing that it does not make sense to exclude vehicles that will be produced from consideration. While that is NHTSA's perspective, that clearly was not Congress's. Otherwise, there would be no reason for Congress to impose the limitation. Imposing the analytical limitation was Congress's choice to make, and NHTSA must honor it. It is irrelevant that OMB Circular A-4 directs agencies to use a baseline that represents the world in the absence of further regulatory action – Office of Management and Budget circulars do not trump statutes.

Additionally, even if the Act did not prohibit NHTSA from considering any BEVs, NHTSA cannot include the state ZEV mandates in the baseline because they are preempted by federal law. First, the Act expressly prohibits States from adopting or enforcing "a law or regulation related to fuel economy standards or average fuel economy standards."[42] State ZEV mandates "relate to" fuel-economy standards because a rule that limits greenhouse gas emissions is "effectively identical to a rule that limits fuel consumption." *Delta Constr. Co. v. EPA*, 783 F.3d 1291, 1294 (D.C. Cir. 2015). Second, the RFS impliedly preempts state ZEV mandates because those mandates conflict with Congress's policy decision to promote energy independence and security through the production of clean renewable fuels. At a minimum, it would be arbitrary and capricious for NHTSA to fail to analyze the legality of state ZEV mandates it relies upon. Agencies must consider important aspects of the problem they address, including potential legal issues. *See Little Sisters of the Poor Saints Peter & Paul Home v. Pennsylvania,*140 S. Ct. 2367, 2383-84 (2020).

[40] 88 Fed. Reg. at 56,202.
[41] 88 Fed. Reg. at 56,202.
[42] 49 U.S.C. § 32919(a).

C. NHTSA Cannot Finalize the Proposed CAFE Standards Without a Supplemental Proposal Based on an Analysis that Does Not Include Dedicated Electric Vehicles

To meet the Act's requirements, NHTSA must redo its analysis in accordance with the statutory limitation not to consider BEVs. To meet its notice and comment obligations, it must release for public comment that analysis and its proposed consideration of the relevant factors based on that analysis.

NHTSA's current proposal and supporting documentation do not provide the analysis necessary to set standards in compliance with the statute. NHTSA cannot rely on its primary analysis because it includes large numbers of BEVs, both in the baseline for all model years and above the baseline in MY 2033 and beyond. NHTSA also cannot rely on the sensitivity analyses it referenced to test whether a different statutory interpretation would change its maximum feasibility determination[43] because those analyses violate Section 32902(h). Citing past objections to its interpretation of 32902(h), NHTSA looked to sensitivity runs that prevented the model from projecting that manufacturers would produce additional BEVs to meet the CAFE standards in certain years other than MYs 2027 – 2032. After a cursory review of factors relevant to setting the CAFE standards, NHTSA proposed to conclude that the results of even the "most extreme" of these three would not change NHTSA's maximum feasibility determination.[44] Although these sensitivity runs appear to correct part of the problem by no longer including additional BEVs produced *above* the baseline, they still do not comport with the statute because they include BEVs *in* the baseline in the same way as the primary analysis.

Tellingly, even though NHTSA noted that stakeholders have previously objected to the inclusion of BEVs in the analysis as a violation of Section 32902(h), NTHSA did not release a "no BEV" sensitivity analysis. *All* of the approximately 70 sensitivity cases NHTSA analyzed include BEVs. The lowest percentage of BEVs was in the No ZEV mandate[45] scenario (which assumes no state ZEV mandates), and even that included 18.8 percent BEVs in the MY 2032 fleet. Accordingly, although the proposal separately "tests" whether its maximum feasibility determination would be changed if it did not include state ZEV mandates in the baseline or if it did not include additional BEVs after MY 2032, it does not test whether the combination of the two scenarios would justify its proposed standards, much less a scenario that does not include BEVs at all.

NHTSA's failure to follow the statutory prohibition on considering BEVs significantly affects the factors it must consider in its maximum feasibility determination. The No ZEV mandate sensitivity analysis demonstrates the significant changes in analytical results that flow from a significant change in the number of ZEVs. The No ZEV mandate had 18.8 percent BEVs in MY 2032 compared to 32.2 percent BEVs in the Regulatory Case. In the No ZEV mandate sensitivity analysis, the total social cost is projected to be $90.7 billion – a 55 percent increase compared to the Regulatory Case, more than a 50 percent increase compared to 60 of the other 69 sensitivity cases, and the highest by far of any sensitivity analysis.[46] The total social benefits also are projected to increase – but only by about 45 percent

[43] *See,* 88 Fed. Reg. at 56,319-20.
[44] 88 Fed. Reg. at 56,319-20.
[45] NHTSA calls this sensitivity case the "No ZEV" case. This shorthand is somewhat misleading. Although this case excludes modeling of state ZEV programs (88 Fed. Reg. at 56,302, Table IV-28), it includes BEVs (and, therefore, ZEVs) in the baseline.
[46] Table 9-2, PRIA at 9-9 to 9-11.

compared to the Regulatory Case.[47] The No ZEV mandate regulatory cost of $1,894 per vehicle is more than twice that of the proposed Regulatory Case (and 59 other sensitivity cases). In the No ZEV mandate case, the regulatory cost exceeds the fuel savings per vehicle, in contrast to the Regulatory Case, which projected that fuel savings would exceed regulatory costs by $110.[48]

As NHTSA notes, sensitivity analyses are to identify "two critical pieces of information: *how big of an influence* does each parameter exert on the analysis, and *how sensitive are the model results* to that assumption?"[49] The No ZEV mandate sensitivity analyses demonstrate that the BEV baseline assumptions significantly influence the analysis and that the model results are sensitive to that assumption.

If NHTSA followed the statutory direction to take BEVs out of the analysis (i.e., did not include BEVs in the baseline or additional BEVs above the baseline in later years), there are significant doubts about whether NHTSA could still find that the proposed CAFE standards would be economically practicable. An analysis without BEVs would need to rely on extensive application of other advanced technologies to meet the standards. And, in proposing to reject more stringent alternatives, NHTSA has already opined that "regulatory alternatives that can only be achieved by the extensive application of advanced technologies besides BEVs . . . may not be economically practicable in the MY 2027-2032 timeframe and may thus be beyond maximum feasible."[50]

Even if NHTSA were to conduct a new analysis with no BEVs and to decide to finalize the proposed standards (or any of the other action alternatives), it could not do so without releasing for public comment both the analysis and an explanation of how the analysis affected its consideration of the relevant factors in its maximum feasibility determination. Given that the sensitivity analysis shows significant changes between the No ZEV mandate and Regulatory cases, there would likely be even greater changes in an analysis that assumed no BEVs at all. The public deserves an opportunity to review and comment on a legally permissible analysis and NHTSA's proposed weighing of the relevant factors based on it.

IV. NHTSA SHOULD SET THE PASSENGER CAR CAFE STANDARDS AT THE LEVEL IN THE NO ACTION SCENARIO

NHTSA specifically requested comment on the full range of standards encompassed between the No Action alternative and alternative PC6LT8 for MYs 2027-2032 Passenger Cars, including combinations of standards not explicitly identified in the proposal.[51] Although NHTSA needs to redo its analysis (as explained above), if it were to act based on its proposed analysis, NHTSA should promulgate CAFE standards for passenger cars that are equivalent to those in the No Action alternative because the PC1LT3 and PC2LT4 standards are not economically practicable for passenger cars.

As NHTSA acknowledges, its "obligation is to set maximum feasible standards separately for each fleet [i.e., the passenger car fleet and the light-duty truck fleet], based on [its] assessment of each

[47] *Id.*
[48] Table 9-3, PRIA at 9-12 to 9-15.
[49] 88 Fed. Reg. at 56,301.
[50] 88 Fed. Reg. at 56,331.
[51] 88 Fed. Reg. at 56,134.

fleet's circumstances as seen through the lens of the four statutory factors that NHTSA must consider."[52] In other words, because NHTSA can set standards for passenger cars separately, it needs to consider the relevant factors for them separately when determining maximum feasibility. For the alternatives under consideration in this proposal, the projected effects for the combined PC/LDT fleet mask the effects for passenger cars. For example, for the combined PC/LDT fleet, NHTSA projected positive net societal benefits for all alternatives.[53] However, as shown in the table below, for the passenger car fleet alone, NHTSA projects that *all* of the alternatives would have net societal *disbenefits.*

In the proposal, NHTSA's weighing of the statutory factors focuses on why the two most stringent standards are too stringent to be the maximum feasible. It does not explain why the PC2LDT4 or PC1LT3 alternatives are not beyond the maximum feasible standard for passenger cars.

In particular, NHTSA has not explained why the PC1LT3 or PC2LT4 regulatory alternatives would be economically practicable for passenger cars (as opposed to light-duty trucks). For the passenger car fleet, NHTSA projects that each of these alternatives would have net societal disbenefits of approximately $5 billion, net private disbenefits of almost $6 billion, and per-vehicle price increases two to four times greater than fuel savings, as shown in the table.[54] Each of these are factors that NHTSA views as significant, and all indicate that these standards are not economically practicable and, thus, are beyond maximum feasibility. Yet, although the proposal notes that costs exceed benefits for the passenger car fleet, it does not explain how NHTSA is weighing these and other factors to conclude that PC2LT4 is the maximum feasible passenger car standard. On the contrary, NHTSA's discussion of its general principles supports a finding that PC1LT3 and PC2LT4 are too stringent. For example, in explaining that NHTSA does not rely solely on net benefit maximization, NHTSA "recognizes that the need of the U.S. to conserve energy weighs importantly in the overall balancing of factors, and thus believes that it is reasonable to at least consider choosing the regulatory alternative that produces the largest reduction in fuel consumption, *while still remaining net beneficial*."[55] The PC1LT and PC2LT4 fuel savings are not high (1 to 2 billion gallons for the lifetime of vehicles through 2032),[56] nor are the standards net beneficial. Based on its proposed analysis, NHTSA should reject the regulatory alternatives for passenger cars and continue the CAFE standard for them in the No Action alternative.

[52] 88 Fed. Reg. at 56,311.
[53] Tables 170-174, PRIA App. I at 1-170 to 174.
[54] Tables 170 – 173, PRIA App. I at 1-170 to 1-173; 88 Fed. Reg. at 56,340, Table V-6.
[55] 88 Fed. Reg. at 56,343 (emphasis added).
[56] Tables 170-171, PRIA App. I at 1-170 to 1-171.

PASSENGER CAR FLEET BENEFITS AND COSTS

	PC1LT3	PC2LT4	PC3LT5	PC6LT8
	Average MY 2032 Vehicle – Incremental to Baseline			
Per Vehicle Price Increase ($)	419	654	1,205	3,080
Lifetime Fuel Cost (per vehicle), 3 percent DR ($)	-153	-302	-529	-1,426
Lifetime Fuel Cost (per vehicle), 7 percent DR ($)	-119	-236	-415	-1,120
Net Per Vehicle Cost (Price Increase Minus Lifetime Fuel Cost. 3 percent DR) ($)	266	352	676	1,654
Net Per Vehicle Cost (Price Increase Minus Lifetime Fuel Cost. 3 percent DR) ($)	300	418	790	1,960
	Lifetime of Vehicles Through 2032 – Incremental to Baseline			
Total Net Societal Benefits, 3 percent DR ($b)	-4.7	-5.1	-11.7	-10.9
Total Net Societal Benefits, 7 percent DR ($b)	-4.1	-4.5	-8.9	-9.7
Net Incremental Private Benefits, 3 percent DR ($b)	-5.7	-5.8	-8.7	-7.6

V. NHTSA FAILED TO CONSIDER SEVERAL RELEVANT FACTORS IN PROPOSING HDPUV FUEL EFFICIENCY STANDARDS

Unlike the PC/LDT standards, Congress allowed NHTSA to consider BEVs when determining maximum feasibility for HDPUVs fuel efficiency standards. However, NHTSA has not adequately analyzed and considered several relevant factors arising from its assumption that manufacturers will rely on BEVs to comply with NHTSA's standards. Before taking final action on the proposal, NHTSA must release for public comment an analysis of these issues and an explanation of how they factor into the HDPUV maximum feasibility determination.

NHTSA arbitrarily failed to consider relevant factors because its maximum feasibility determination looks only at the differences between the proposed standards and the baseline. While

comparing regulatory alternatives to a projected future baseline is customary, it does not tell the whole story. This is particularly true here, where even the projected future baseline (the No Action alternative) includes rapid technological and infrastructure changes compared to current circumstances. NHTSA's HDPUV No Action alternative (the baseline) projects that BEVs will increase from 6 percent of the MY 2022 fleet to 31 percent in MY 2030 and 45 percent in MY 2038. That represents a massive transformation of the HDPUV fleet, particularly when paired with projected concurrent changes in the PC/LDT fleet. Given that, it would be arbitrary and capricious for NHTSA to determine whether its standards are feasible and appropriate without determining whether the baseline projection is feasible and appropriate given current circumstances.

NHTSA does not exactly give a ringing endorsement to the feasibility of the baseline ZEV rates. NHTSA notes that the baseline electrification penetration rates are "high" and opines that they "*may potentially* be feasible in this time frame."[57] After reviewing projected technology penetration rates for individual manufacturers, NHTSA notes that it "cannot conclude that technological feasibility is necessarily a barrier to choosing any of [the] regulatory alternatives considered in this proposal." NHTSA appears to be flipping the burden of proof Congress set when it enacted Section 32902(k)(2), which requires NHTSA to find that the standards are technologically feasible.

NHTSA must consider two components of technological feasibility that NHTSA has not needed to analyze before: critical mineral supply and charging infrastructure. Technological feasibility is "whether a particular method of improving fuel economy can be available for commercial application in the MY for which a standard is being established."[58] Commercial application of electrification is undoubtedly dependent on the availability of critical minerals for batteries, yet NHTSA does not explain why it believes there will be sufficient supply. Consumer demand, and thus commercial application, of BEVs is also dependent on the availability of charging stations, which NHTSA does not address in its proposal. A retail transportation fuel market based on electricity (instead of liquid fuel) does not yet exist and there are impediments to developing one, including an electricity market structure that was not designed for – and is thus incompatible with – the retail fuel market. NHTSA fails to explore whether these impediments can be overcome in a timeframe consistent with the BEV penetration rate in the baseline.

NHTSA's assumption that manufacturers will meet state ZEV mandates does not relieve it of the obligation to analyze and consider these feasibility issues. Congress charged NHTSA, not the California Air Resources Board, with determining the maximum feasible standards. NHTSA must decide whether its own standards are feasible, which it cannot do without determining whether the state ZEV mandates in the baseline are feasible. Setting standards based on the assumption that manufacturers will meet state ZEV mandates essentially creates an independent legal obligation for the technology changes assumed necessary to meet the state ZEV mandates. Auto manufacturers will not be relieved of their obligation to meet NHTSA's standards if the state ZEV mandates change or states implement them in ways that effectively decrease their stringency.[59] The mere existence of state standards is not a magic

[57] 88 Fed. Reg. at 56,356 (emphasis added).
[58] 88 Fed. Reg. at 56,320.
[59] Changes in state standards are not unheard of. California has a long history of changing its ZEV mandate. In 1990, CARB adopted its first ZEV mandate, which called for 10 percent of new vehicles sold in California in 2003 to be powered by BEVs, plug-in hybrids, or hydrogen fuel cell technology. CARB has repeatedly delayed, watered-

wand that transforms infeasible state standards into feasible federal standards. An assumption that the state ZEV mandates will be met is arbitrary and capricious if the lack of critical mineral supply or charging infrastructure makes those programs technologically infeasible. NHTSA needs to analyze and consider those issues.[60] NHTSA must determine whether its standards are feasible compared to current circumstances.

Additionally, as part of its responsibility to determine whether standards are "appropriate," NHTSA must analyze and consider energy security concerns arising from BEVs' reliance on critical minerals, as discussed above.

VI. NHTSA SHOULD WORK WITH EPA TO REINSTITUTE INCENTIVES FOR FLEX-FUELED VEHICLES

NHTSA should work with EPA to change the fuel economy calculations to provide incentives for ethanol flex-fueled vehicles (FFVs) that can run on E85. Historically, the fuel economy calculations for FFVs divided the fuel economy when the vehicle was operated on E85 by 0.15 and gave FFVs credit for operating on E85 half of the time. NHTSA and EPA changed this in 2012 when they issued the combined greenhouse gas emissions and CAFE standards rule for MY2017 and later LDVs and decided to phase out the incentives for FFVs.[61] EPA reasoned:

> Although the great majority of ethanol FFVs currently use gasoline, EPA believes that automakers will continue to produce ethanol FFVs, as more consumers begin to fuel

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down and modified its standards for a variety of reasons. Car and Driver, "California Dreams of an EV-Only Future" (Nov. 25, 2020) https://www.caranddriver.com/features/a34773958/california-ev-only-future/. Even if there are no further delays in California's programs, some of the states that adopted the standards could opt out. In 2023, Governor Youngkin attempted to repeal Virginia's adoption of the California car program but could not get the legislation through the Democratic Senate. ABC News, "Virginia Senate Panel Rejects Youngkin-backed Effort to Repeal Adoption of California's Clean Car Standards," (Jan. 17, 2023) https://www.wric.com/news/politics/capitol-connection/virginia-senate-panel-rejects-youngkin-backed-effort-to-repeal-adoption-of-californias-clean-car-standards/. And he might try again if the Republicans gain control of the Virginia Senate. Similarly, states have also opted out of the Regional Greenhouse Gas Initiative (RGGI), an interstate program to reduce greenhouse gas emissions from power plants, usually as a result of changes in political leadership in the state. New Jersey, a founding member of RGGI, opted out of the program in 2011 under Governor Christie (R) and opted back in under Governor Murphy (D) in 2018; Virginia opted into RGGI in 2020 under Governor Northam (D) and opted out three years later under Governor Youngkin (R).

[60] If NHTSA does not take BEVs out of its PC/LDT analysis as required by Section 32902(h), then, for the same reasons discussed in this section, it must analyze and consider the technological feasibility of state ZEV mandates included in the baseline, the effect of critical mineral supplies and charging infrastructure on feasibility, and critical minerals energy security concerns. This obligation is unchanged by the requirement that NHTSA's feasibility determination for PC/LDT standards consider the "effect of other motor vehicle standards of the Government on fuel economy." The plain language reading of "standards of the Government" does not includes state ZEV mandates because "the Government" is singular not plural. NHTSA does not propose to treat state ZEV mandates as "standards of the Government." Even if "standards of the Government" were to include state ZEV mandates, it would not require that NHTSA unquestioningly assume that the state standards would be met or include them in the No Action alternative. NHTSA could consider state standards by analyzing whether they would make it more difficult for auto manufacturers to meet the CAFE standards under consideration, which is how NHTSA has considered this factor for Government safety standards. See 88 Fed. Reg. at 56,315.

[61] "Final Rule: 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards," Joint EPA/NHTSA Rule, 77 Fed. Reg. 62,624 (Oct. 15, 2012).

> their ethanol FFVs with E85 fuel. Given the long history of federal incentives for ethanol FFVs, and the fact that ethanol FFVs can achieve small GHG emissions credits after the GHG emissions incentives expire, the Agency believes that there is no need to provide additional incentives for ethanol FFVs in this rulemaking.[62]

The last decade has not borne out EPA's rationale for stopping incentives for FFVs. After a highwater mark in 2014, when manufacturers offered 90 FFV models, only 17 FFV models were offered in 2021.[63]

> Whereas E85 stations and ethanol consumption have continued to increase in the United States, the number of FFV models available has steadily declined since 2014 (Figure 5). *The decrease in FFV models can be attributed to the change in Corporate Average Fuel Economy credits, removing the incentive for original equipment manufacturers to produce FFVs*. The loss of production credits and longer vehicle lifespans have resulted in a decrease in FFV model availability.[64]

This dramatic decline in FFV availability is troubling and represents a step backwards on energy security. Whether FFVs *currently* run on gasoline or E85, building up the portion of the fleet capable of running on E85 gives the country an additional option to address potential future oil or critical mineral crises in a way that can protect our national security and reduce greenhouse gas emissions. Given vehicles' long useful life, EPA and NHTSA should not wait for a crisis to incentivize FFVs. It will be too late to act if they are suddenly needed to address a crisis. Instead, the country should plan ahead and build fuel diversity into the system now. This is particularly smart for FFVs as "biofuels-capable vehicles are typically no more expensive than conventional vehicles."[65]

NHTSA should work with EPA to propose changes to the fuel economy calculations for FFVs that incentivize FFVs and give manufacturers credit for building up a more resilient vehicle and fuel infrastructure.

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[62] 77 Fed. Reg. at 62,824.

[63] Brown, Abby, Haley Erickson, and Emily White (2023) "E85 Fueling Infrastructure Trends: A Decade in Review." Golden, CO: National Renewable Energy Laboratory. NREL/TP-5400-83610. Figure 5. https://www.nrel.gov/docs/fy23osti/83610.pdf

[64] Brown (2023) at p. 5 (emphasis added).

[65] 77 Fed. Reg. at 62,823.