Comments of the National Coalition for Advanced Transportation

On NHTSA's Notice of Intent to Prepare an Environmental Impact Statement for Model Year 2022–2025 Corporate Average Fuel Economy Standards

82 Fed. Reg. 34,740

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Introduction and Executive Summary

The National Coalition for Advanced Transportation ("NCAT" or "Coalition") submits these comments in response to the National Highway Traffic Safety Administration's ("NHTSA") Notice of Intent to Prepare an Environmental Impact Statement for Model Year 2022–2025 Corporate Average Fuel Economy Standards, Docket No. NHTSA–2017–0069. 82 Fed. Reg. 34,740 (July 26, 2017) ("Scoping Notice").

NCAT is a coalition of leading companies that support electric vehicle and other advanced transportation technologies and related infrastructure, including through: energy supply, transmission and distribution; vehicle and component design and manufacturing; charging infrastructure, battery and other energy-storage technology design, production and implementation; infrastructure engineering and construction; and the movement of passengers, goods and services; among other activities. Electric and other advanced vehicles and related technologies and infrastructure provide major economic and energy security benefits, and U.S. leadership in this space is critical to our economic health, global competitiveness and environmental quality. NCAT supports government initiatives that provide regulatory, financial and other support for emerging electric and other clean vehicle technologies, as well as related infrastructure, to compete in the marketplace—including but not limited to federal and state vehicle standards. The Coalition recognizes the critical role that States play in adopting and implementing vehicle standards that support advanced technologies, and supports an approach that provides regulatory certainty and stable, long-term signals to guide investment by many different stakeholders.

NCAT's key comments on the Scoping Notice, set forth in detail below, are as follows:

- **MY 2021 Standards:** NCAT strongly urges NHTSA to maintain the currently enforceable model year ("MY") 2021 standards for light-duty vehicles that NHTSA, along with the U.S. Environmental Protection Agency ("EPA"), adopted as part of the National Program for corporate average fuel economy ("CAFE") and greenhouse gas ("GHG") emissions standards.[1] Weakening of the MY 2021 standards cannot be justified under the Energy Policy and Conservation Act ("EPCA")—particularly given the significant advances in vehicle technologies and reduction in costs since the MY 2021 standards were adopted in 2012. Any such weakening would lead to a range of negative consequences, including adverse environmental, energy and economic impacts, creation of regulatory uncertainty for businesses, and undermining the development of NHTSA's MY 2022-2025 standards—which should be NHTSA's priority.

- **"No Action" Alternative:** The National Environmental Policy Act requires that the current EPA and state MY 2022-2025 standards be formally reflected in the "no action" alternative and baseline for NHTSA's analysis of the MY 2022-2025 standard. This includes EPA's GHG standards for those model years adopted under the Clean Air Act, as well as California's and other States' Advanced Clean

[1] EPA & NHTSA, 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62,624 (Oct. 15, 2012).

Cars Program standards (including the Low-Emission Vehicle ("LEV") III GHG standards and Zero-Emission Vehicle ("ZEV") standards). These standards are in effect and represent the status quo ante in relation to which any "action" alternatives should be analyzed.

- **"Action Alternatives" and "Preferred Alternative" Under EPCA:** In defining "action alternatives" for analysis, NHTSA must identify and analyze technology-forcing alternatives that reflect recent advances in technology and substantially exceed the stringency of the augural standards for MY 2022-2025. NHTSA's alternatives for analysis should reflect at least a 7 percent average annual increase in stringency—the "upper bound" level of stringency analyzed in the 2012 rulemaking to adopt the MY 2017-2025 standards. In defining the "preferred alternative" for analysis, NHTSA must focus on EPCA's requirement that the standard truly reflect the "maximum feasible" level of fuel economy, prioritizing EPCA's overarching purpose of energy conservation, and considering EPA's GHG standards and California and other States' GHG and ZEV standards that indicate feasible levels of fuel economy.

- **Analysis of Impacts:** NHTSA must take a "hard look" at the adverse impacts of any decision to adopt standards less stringent than the augural standards for MY 2022-2025, and the corresponding EPA GHG standards and state standards for those years. These include adverse effects on energy conservation, air quality, climate and the economy. In undertaking this analysis, NHTSA must update projections to reflect significant reductions in power sector emissions due to market forces and regulatory policies, which will have the effect of substantially increasing the benefits of advanced technology vehicles.

1. Advanced technology vehicles and related infrastructure are critical to U.S. economic growth, job creation, competitiveness and energy production and security

While the focus of these comments is on the substance of NHTSA's Scoping Notice and the forthcoming environmental review of NHTSA's MY 2022-2025 CAFE standards, NCAT wishes to underscore the perspective of our members, as industry participants, on the overarching benefits of advanced transportation technologies and related infrastructure.

Advanced technology vehicles—including both vehicle and supply equipment manufacturing and development of supporting infrastructure—can help drive large-scale investment, economic growth and job creation across the United States. Federal and state vehicle standards play a critical role in supporting investment and unlocking the vast economic potential in this area. U.S. auto and technology manufacturers have made electric vehicles ("EVs") and other advanced technology vehicles a centerpiece of their business strategies and are backing those strategies with billions of dollars in investments. Substantial growth in jobs relating to the expansion of the EVs and other advanced technology vehicles is expected—including in vehicle manufacturing, charging and other "fueling" infrastructure, and maintenance and repair. In addition, the global market for electric vehicles and supporting technologies is expanding rapidly and projected to grow dramatically in the coming decades—presenting a major market opportunity for U.S. companies.

Large-scale expansion of advanced technology vehicles can substantially increase U.S. energy independence, while capitalizing on domestic energy resources. Transportation electrification supports domestic production of energy from a diverse set of sources that generate electricity, including natural gas, coal, nuclear and renewables. Natural gas- and hydrogen-fueled vehicles similarly capitalize on U.S. energy resources. Shifting transportation energy demand increasingly towards electricity, hydrogen and natural gas will support U.S. production of energy from this diverse and balanced set of fuel sources—increasing U.S. energy production and reducing reliance on imported oil. In addition, because EVs have flexibility when they charge, they can rely on baseload power generation or excess renewable generation rather than drawing electricity from the grid during peak times.

Electric and other advanced technology vehicles save consumers money relative to conventional vehicles—putting more money in the pockets of families and individuals that choose such vehicles. Electricity is much cheaper than gasoline or diesel fuel, and consumer savings on fuel can outweigh the additional upfront costs of EVs. Furthermore, since electricity production in the U.S. relies on a diverse range of fuels, this diversity of fuel sources for EVs can provide consumers with more protection from price fluctuations. In addition, the cost of EVs is dropping rapidly as a result of advances in technology—particularly with regard to batteries. At the same time, manufacturers are offering more types of EVs with increasing range, and charging infrastructure is expanding rapidly, increasing EVs' attractiveness to consumers.

Advanced technology vehicles and supporting infrastructure are key tools for reducing pollution cost-effectively, particularly in areas across the country with severe pollution problems that negatively affect public health and regional and national economies. They are also critical technologies for reducing carbon pollution from the transportation sector. It is imperative that States retain the authority they currently have to require increased use of such vehicles in order to address these issues.

2. Applicable Legal Framework

a. Energy Policy and Conservation Act

Under EPCA, as amended by the Energy Independence and Security Act ("EISA"), NHTSA is required to establish CAFE standards reflecting the "maximum feasible" average fuel economy level for each model year. 49 U.S.C. § 32902(a). In setting "maximum feasible" standards, NHTSA must consider four factors: "technological feasibility, economic practicability, the effect of other motor vehicle standards of the Government on fuel economy, and the need of the United States to conserve energy." 49 U.S.C. § 32902(f). These factors are not independent statutory standards, but rather are "considerations" that inform the identification of maximum feasibility. In applying these considerations, NHTSA must make clear why any consideration that militates for less stringent standards makes more stringent standards infeasible.

Regardless of how NHTSA weights these factors, the agency is prohibited from doing so in a manner at odds with EPCA's overarching purpose—energy conservation. *Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1197-98 (9th Cir. 2008). Courts have held, for example, that "NHTSA may consider consumer demand, but 'it would clearly be impermissible

for NHTSA to rely on consumer demand to such an extent that it ignored the overarching goal of fuel conservation.'" *Id.* at 1205 (quoting *Ctr. for Auto Safety v. NHTSA*, 793 F.2d 1322, 1340 (D.C. Cir. 1986)). Furthermore, as NHTSA recognized during the prior rulemaking for the MY 2017-2021 standards and MY 2022-2025 augural standards, "NHTSA has considered environmental issues, both within the context of EPCA and the National Environmental Policy Act, in making decisions about the setting of standards from the earliest days of the CAFE program." 77 Fed. Reg. at 62,669.

With respect to considering "technological feasibility," NHTSA has interpreted this factor to include technologies for improving fuel economy that can become available for commercial application in the future in the model year for which the standard is established. *Id.* at 63,015. Therefore, CAFE standards can and should be technology-forcing given the timeframe of this rulemaking several years into the future, in light of EPCA's purpose of energy conservation. *See id.* NHTSA has historically interpreted the "economic practicability" consideration as referring to "whether a standard is one within the financial capability of the industry, but not so stringent as to lead to adverse economic consequences, such as a significant loss of jobs or the unreasonable elimination of consumer choice." *Id.* at 63,016 (internal quotations and citations omitted). NHTSA's Scoping Notice points out that for MY 2021–2030 passenger cars and light trucks the governing statute does not set a specific target fuel economy or require that standards increase ratably over this period. 82 Fed. Reg. at 34,742. However, the absence of an express statutory requirement for ratable increases after MY 2020 in no way affects the statutory requirement that standards be "maximum feasible," reflecting year-on-year improvements in technologies and declining costs of implementation.

b. National Environmental Policy Act

Under the National Environmental Policy Act ("NEPA"), NHTSA is required to consider the environmental impacts of its proposed CAFE standards as well as the impacts of alternative actions. *See* 42 U.S.C. § 4332(2)(C). The agency's NEPA analysis must be detailed, *id.*, and provide a comprehensive "hard look" at the potential environmental impacts, *see, e.g., League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Serv.*, 689 F.3d 1060, 1075 (9th Cir. 2012) ("Taking a 'hard look' includes 'considering all foreseeable direct and indirect impacts. Furthermore, a 'hard look' should involve a discussion of adverse impacts that does not improperly minimize negative side effects.'" *Id.* (citation omitted)).

When determining the "purpose and need" of the action for NEPA analysis, NHTSA must frame the need, and corresponding alternatives, by reference to EPCA's statutory purpose and requirements. The agency "must look hard at the factors relevant to the definition of purpose" and should consider the views of Congress in the agency's statutory authorization, as well as in other congressional directives. *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991). The agency must define its objectives broadly enough to avoid unreasonably narrowing the scope of the action and alternatives for consideration. *See, e.g., League of Wilderness Defenders-Blue Mountains Biodiversity Project*, 689 F.3d at 1069; *Nat'l Parks & Conservation Ass'n v. BLM*, 606 F.3d 1058, 1072 (9th Cir. 2010) (holding that "[a]s a result of this unreasonably narrow purpose and need statement, the BLM necessarily considered an unreasonably narrow range of alternatives") (internal citations omitted).

As described in the NEPA regulations, the section analyzing alternatives relative to the proposed action is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. NHTSA must "[r]igorously explore and objectively evaluate all reasonable alternatives." *See id.* § 1502.14(a). The NEPA regulations provide that the alternatives analysis shall "include the alternative of no action," 40 C.F.R. § 1502.4(d), which provides a baseline for the agency to analyze impacts of the proposed action. The Council on Environmental Quality's ("CEQ") NEPA guidance explains that "where ongoing programs initiated under existing legislation and regulations will continue," even as new regulations are developed, "'no action' is 'no change' from current [requirements] . . . . Therefore, the 'no action' alternative may be thought of in terms of continuing with the present course of action until that action is changed. Consequently, projected impacts of alternative [requirements] would be compared in the EIS to those impacts projected for the existing [requirements]." CEQ, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,027 (Mar. 23, 1981); *see also Am. Rivers v. FERC*, 201 F.3d 1186, 1200-01 (9th Cir. 1999) (for ongoing programs under existing regulations the "no action" alternative is the continuation of the present course of action). An agency's failure to provide a valid no action alternative "casts a shadow over the process as a whole." *Conservation Nw. v. Sherman*, 715 F.3d 1181, 1188 (9th Cir. 2013). As described in further detail below, the appropriate "no action" alternative baseline for the EIS for MY 2022-2025 CAFE standards are EPA's Clean Air Act GHG standards and State standards for these years, which roughly correspond to NHTSA's augural standards.

At this scoping stage of the NEPA process, the agency will determine the significant issues to be analyzed in depth in the environmental impact statement ("EIS"). 40 C.F.R. § 1501.7(a)(2). The Coalition's comments in this letter provide further detail on considerations NHTSA should take into account during the scoping process, as well as the CAFE standard rulemaking process.

c. Administrative Procedure Act

The Administrative Procedure Act ("APA") provides that a reviewing court will set aside an agency action if it is "arbitrary, capricious, an abuse of discretion, other otherwise not in accordance with the law." 5 U.S.C. § 706(2)(A). The arbitrary and capricious standard of review under the APA applies to a court's review of a rulemaking under EPCA. *See, e.g., Ctr. for Biological Diversity*, 538 F.3d at 1193 (citing *Competitive Enter. Inst. v. NHTSA*, 45 F.3d 481, 484 (D.C. Cir. 1995)). Under this standard, "the agency must examine the relevant data and articulate a satisfactory explanation for its action including 'a rational connection between the facts found and the decision made.'" *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (internal citations omitted). Importantly for NHTSA's pending rulemaking, when making a change in policy, the agency must provide a "reasoned analysis." *Id.* at 57. As the Supreme Court has explained, "the agency need not always provide a more detailed justification than what would suffice for a new policy created on a blank slate," but "[s]ometimes it must -- when, for example, its new policy rests upon factual findings that contradict those which underlay its prior policy; or when its prior policy has engendered serious reliance interests that must be taken into account." *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009) ("In such cases it is not that further justification is demanded by the mere fact of policy change; but that a reasoned explanation is needed for disregarding facts and circumstances that underlay or were engendered by the prior policy.") (internal citations

omitted). Courts also apply the APA's arbitrary and capricious standard to review an agency's procedural compliance with NEPA and the adequacy of an EIS. *Nevada v. Dep't of Energy*, 457 F.3d 78, 87 (D.C. Cir. 2006).

3. NHTSA should not reconsider the MY 2021 standards

In its Scoping Notice, NHTSA states that as part of the pending rulemaking for MY 2022-2025, it "may evaluate the MY 2021 standards it finalized in 2012 to ensure they remain 'maximum feasible.'" 82 Fed. Reg. at 34,742. NCAT strongly urges NHTSA not to consider or undertake revision of the MY 2021 standards which have already been promulgated and are currently in force. Revision to the MY 2021 standards is unwarranted, could not be justified under EPCA, would create needless and harmful regulatory uncertainty, and would undermine the effectiveness of the rulemaking process for the MY 2022-2025 standards.

First, NHTSA's previous determination that the MY 2021 standards are the "maximum feasible" for that model year is amply supported by a well-developed record, and there is no basis for concluding that the CAFE standards no longer meet the statutory standard. If anything, more recent information and analysis support making the CAFE standards more stringent, not less. NCAT anticipates addressing these issues in greater depth at later stages of the rulemaking process, but for purposes of responding to NHTSA's Scoping Notice, highlights the following points. (These same points argue in favor of adopting the augural standards, or more stringent standards, for MY 2022-2025.)

- A broad array of expert analyses—including the July 2016 Draft Technical Assessment Report jointly conducted by NHTSA, EPA and the California Air Resources Board ("CARB"), EPA's Mid-Term Evaluation Proposed and Final Determinations and supporting Technical Support Document, and CARB's Midterm Review of its standards and supporting report, as well as studies by independent analysts—have concluded that the current MY 2022-2025 standards are feasible and will be less costly to implement than projected in the analysis supporting the 2012 rulemaking. These same conclusions apply *a fortiori* to the MY 2021 standards. A list of some of the analyses that NHTSA should consider is included in Appendix A to these comments.

- NHTSA and EPA—in the analysis accompanying the 2012 rule, the July 2016 Draft Technical Assessment Report, and in EPA's more recent Mid-Term Evaluation—concluded that only limited vehicle electrification would be *required* to meet EPA's MY 2022-2025 standards and the corresponding augural CAFE standards. NCAT supports this conclusion insofar as it reflects the availability of improvements to non-electric technologies that can meet the current and augural standards. However, it is important to recognize that these analyses do not fully reflect the substantial advances in EV technologies and corresponding decreases in costs since the standards were adopted in 2012. The average price of battery packs used in EVs fell 65 percent from 2010-2015, and are continuing to drop.[2] And a recent analysis by the International

[2] McKinsey & Company, "An Integrated Perspective on the Future of Mobility" (Oct. 2016) at 15-16, *available at* https://www.bbhub.io/bnef/sites/4/2016/10/BNEF_McKinsey_The-Future-of-Mobility_11-10-16.pdf.

Council on Clean Transportation ("ICCT") found that, because of rapid developments in battery packs, EV costs will be reduced by $4,300-$5,300 of dollars per vehicle by 2025 compared to EPA and NHTSA estimates in support of the MY 2017-2025 standards.[3] Tesla's recent comments during EPA's Mid-Term Evaluation similarly demonstrate that battery technologies are considerably more advanced and less costly than reflected in the July 2016 Draft Technical Assessment Report.[4] American consumers bought over 115,000 EVs in 2015, more than double the number purchased in 2012 notwithstanding lower gasoline prices. These sales included over 20 EV model types available from 15 different makers.[5] 2016 sales of EVs jumped by 37 percent year over year—to over 159,000 vehicles—and the number of offerings increasing to 30 different models.[6] U.S. manufacturers Tesla and GM have begun delivery of new models—the Model 3 and Bolt, respectively—that offer over 200-mile range in an all-electric vehicle priced at $35,000 or less. Several major global manufacturers have announced plans to dramatically scale up their offerings of electric vehicles in the coming years, including vehicles across a variety of price levels and with substantially increased range. Volkswagen, for example, has stated its intention to introduce two more all-electric vehicles to the U.S., in addition to several others planned for the U.S. market in the next few years.[7] Volvo recently announced that it will incorporate electric technology into *all* its vehicle model offerings by 2019.[8] Projected U.S. sales of EVs vary widely, but virtually all market analysts predict substantial increases in consumer demand. The U.S. Energy Information Administration ("EIA") projects light-duty EV and hydrogen fuel cell vehicle sales will increase to about 1.5 million in 2025.[9] The upshot of all of this is that electric vehicle technologies are increasingly available as an affordable and attractive option—making compliance with MY 2021, as well as MY 2022-2025 standards, even more feasible than was projected in the 2012 rulemaking.

- Available analyses and data provide no indication that achievement of the current MY 2021 standards would be infeasible—technologically or economically, including consideration of all relevant statutory factors. On the contrary, the analyses identified above suggest that more stringent standards would be feasible.

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[3] ICCT, "White Paper, Efficiency Technology and Cost Assessment for U.S. 2025-2030 Light-duty Vehicles" (Mar. 2017) at 15, *available at* http://www.theicct.org/US-2030-technology-cost-assessment.

[4] Tesla, Comments on Draft Technical Assessment Report (Sept. 26, 2016), *available at* https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0827-4173.

[5] U.S. Dep't of Energy, "Revolution…Now: The Future Arrives for Five Clean Energy Technologies – 2016 Update" (September 2016) at 10, *available at* https://energy.gov/sites/prod/files/2016/09/f33/Revolutiona%CC%82%E2%82%ACNow%202016%20Report_2.pdf

[6] R. Rapier, "U.S. Electric Vehicle Sales Soared In 2016" (Feb. 5, 2017), *available at* https://www.forbes.com/sites/rrapier/2017/02/05/u-s-electric-vehicle-sales-soared-in-2016/#5cbf58be217f.

[7] F. Lambert, "VW confirms two new upcoming electric cars for US market: I.D. Lounge and I.D. AEROe" (June 26, 2017), *available at* https://electrek.co/2017/06/26/vw-electric-cars-i-d-lounge-and-i-d-aeroe/.

[8] J. Ewing, "Volvo, Betting on Electric, Moves to Phase Out Conventional Engines," *NY Times* (July 5, 2017), *available at* https://www.nytimes.com/2017/07/05/business/energy-environment/volvo-hybrid-electric-car.html.

[9] U.S. EIA, "Annual Energy Outlook 2017 with projections to 2050" (Jan. 5, 2017) at 97-98, *available at* https://www.eia.gov/outlooks/aeo/pdf/0383(2017).pdf.

- If NHTSA were to propose to revise its prior, record-based determination of maximum feasible standards for MY 2021, the record justification for that change will have to be yet better substantiated than if the agency were writing on a blank slate. *See FCC*, 556 U.S. at 515.

Second, reconsidering the standards would create uncertainty and impose resulting costs on manufacturers and others in industry that are relying on the standards. One of the significant benefits of the 2012 rulemaking was the substantial lead time that it provided, to support long-term planning, research and development and investments in development and commercialization of technologies to meet the standards. NHTSA has never in history revised an already-adopted CAFE standard; this would be an unprecedented and severely damaging step for businesses in the near term. Further, it would create a negative precedent, seriously undermining regulatory certainty and businesses' ability to make investments in reliance on the stability of NHTSA standard-setting going forward. Finally, any change to the MY 2021 standards is virtually certain to be challenged in court, further increasing uncertainty for businesses affected by the standards.

Third, reconsideration of the MY 2021 standards presents the prospect for needless divergence from and conflict with existing state standards. NHTSA has stated repeatedly its support for a "harmonized" national program that does not require manufacturers to meet different standards at the federal and state levels. California has already completed its Midterm Review of its MY 2022-2025 standards—including the LEV III and ZEV standards that have been adopted by a group of States accounting for nearly a third of the U.S. market for new vehicles—and has concluded that these standards remain appropriate and should be maintained.[10] There is no reason to think that California would reconsider its MY 2021 standards, so any revision of federal standards presents the prospect of needless divergence in federal and state standards—creating inefficiencies and adverse consequences for consumers and manufacturers.

Changing the existing MY 2021 standards would be a wasteful expenditure of agency and stakeholder resources. Revision of the standards would of course require a notice and comment rulemaking and clear record-based justification for departure from well-documented prior findings—taking account of the broad array of new record information on improved technologies, reduced costs, increased benefits of the standards, and so on. Changing the MY 2021 standards would require completion of the rulemaking (at least for MY 2021) one year earlier than would otherwise be required (by April 2019, instead of April 2020).[11] Based on past experience with the pace of annual CAFE rulemakings at NHTSA, this would effectively require NHTSA to propose the MY 2021 standards at least a year (if not more) in advance, just months from now. NHTSA would have to undertake the full regime of intensive analysis and consultation required to support such a rulemaking in an extraordinarily expedited time frame—including NEPA analysis, economic analysis required under Executive Order 12866, the

[10] *See* CARB, Resolution 17-3, "Advanced Clean Cars Midterm Review" (Mar. 24, 2017) at 15, *available at* https://www.arb.ca.gov/msprog/acc/mtr/res17-3.pdf; *see also* CARB, "California's Advanced Clean Cars Midterm Review: Summary Report for the Technical Analysis of the Light Duty Vehicle Standards" (Jan. 18, 2017) at ES-3–ES-4, *available at* https://www.arb.ca.gov/msprog/acc/mtr/acc_mtr_finalreport_full.pdf.

[11] 49 U.S.C. § 32902(a) (requiring NHTSA to set CAFE standards at least 18 months before the beginning of each model year).

Endangered Species Act, analysis of small business impacts under the Regulatory Flexibility Act, and consultation with State and local officials under Executive Order 13132, among other requirements. Near-term focus on revising the MY 2021 standards would require NHTSA to rush through analysis and decision making for MY 2021 standards that have major effects on the auto industry and across the economy—increasing the likelihood of mistakes and increasing litigation risk. Diverting scarce analytical and other resources to this rushed effort would negatively impact NHTSA's ability to focus priority on the task before it—timely adoption of the MY 2022-2025 standards. All of this would undermine NHTSA's ability to develop a well-considered, fully-supported decision and stakeholders' ability to effectively participate in and inform this process.

If NHTSA were to consider changes to the MY 2021 standard, the "no action" alternative for analysis would of course be the existing MY 2021 standards; these standards are currently on the books and reflect the status quo ante—and what will be implemented and enforced in the absence of any rulemaking to change them. For similar reasons to those set forth in greater detail in Section 4 below on the MY 2022-2025 standards, NHTSA would be required to consider a reasonable range of alternatives more stringent than the existing MY 2021 standard, including standards reflecting at least a 7 percent increase in stringency from the MY 2020 standards. That is the level of annual increase in stringency that was analyzed during the MY 2012 rulemaking and that NHTSA identified as representing the potential range of "maximum feasible" standards. The definition of more stringent, reasonable alternatives to the current MY 2021 would also have to reflect the abundant available information regarding improved vehicle technologies and reduced costs discussed above.

4. For MY 2022-2025, impacts of the rulemaking should be analyzed relative to the existing EPA and California GHG and related standards

In the Scoping Notice, NHTSA states that it is considering a "'no action' alternative (also referred to as the 'baseline'), which assumes, for purposes of NEPA analysis, that NHTSA would issue a rule that would continue the current CAFE standards for MY 2021 indefinitely. . . . Given that NHTSA must set new CAFE standards and may not strictly take no action on fuel economy, the agency has determined that, for this rulemaking, the closest analogue to a true 'no action' alternative would be to continue the already existing and enforceable standards indefinitely without further change." 82 Fed. Reg. at 34,742 (footnotes omitted). NHTSA characterizes this as "continuation of the status quo ante." *Id.* at 34,742 n.10.

NCAT disagrees that continuation of the MY 2021 standards—without reference to other requirements that affect fuel economy and are currently in force—is an appropriate or permissible "no action" alternative or baseline for analyzing the impacts of the MY 2022-2025 rulemaking under NEPA. It is critical that NHTSA properly identify the "no action" alternative because it is the baseline against which the real impacts of its rulemaking must be analyzed. As noted above, where there is an existing regulatory requirement in place, the status quo ante is continuation of that program. An agency's failure to provide a valid no action alternative "casts a shadow over the process as a whole." *Conservation Nw.*, 715 F.3d at 1188.

The status quo ante for NHTSA's MY 2022-2025 rulemaking is the continued implementation and enforcement of EPA's nationally applicable Clean Air Act ("CAA") GHG

standards for light-duty vehicles for MY 2022-2025, as well as California's Advanced Clean Cars Program regulations, including both the LEV III GHG standards for MY 2022-2025 as well as the ZEV standards for these model years—both of which have been adopted my multiple other States. EPA granted California a waiver of preemption for these standards under CAA Section 209(b) in 2013.[12] As authorized under CAA Section 177, California's LEV III GHG standards have been adopted by 13 States in total (including California) and the ZEV standards have been adopted by 10 States in total (including California).[13] These States account for roughly 30 percent of the national market for new vehicles. As NHTSA and EPA have previously explained, the final joint EPA-NHTSA rule for MY 2017-2025 vehicles "reflects a carefully coordinated and harmonized approach to implementing [EPCA and the CAA]." 77 Fed. Reg. at 62,624.

While NHTSA issued only "augural" CAFE standards for MY 2022-2025, EPA's CAA standards for those model years have been fully promulgated and are binding. NCAT recognizes that EPA is conducting a Mid-Term Evaluation of those standards and may decide in the future to propose to change them. For purposes of NEPA review, however, NHTSA cannot ignore that these standards are currently in force. To the extent NHTSA anticipates that EPA's current MY 2022-2025 standards will be maintained, it should analyze the real world impacts of its proposed MY 2022-2025 standards in relation to that baseline. However, if NHTSA anticipates that EPA will change the current MY 2022-2025 standards because it intends to diverge from the augural standards and wishes to maintain "harmonized" standards, then NHTSA is obligated under NEPA to analyze the full impacts of that change. The impacts of any such change would be attributable to NHTSA's rulemaking for NEPA purposes.

Similarly, California's LEV III GHG standards and ZEV standards are in force and represent the status quo ante—not only in California but in the other 12 and 9 States that have adopted them, respectively, representing a substantial portion of the U.S. market for new vehicles. California recently concluded its Midterm Review of these standards and concluded that they remain appropriate and it will maintain them.[14] The other states that have adopted California's standards are similarly expected to maintain them in force. NHTSA accordingly should consider continued implementation of these state standards to be part of the "no action" alternative (or baseline) against which it analyzes alternatives. To the extent NHTSA anticipates that adoption of its MY 2022-2025 standards would directly or indirectly impact continued implementation of the current state standards, including through related actions that it or other federal agencies might take, it must fully analyze the resulting impacts under NEPA.

In summary, NCAT takes the position that NEPA requires that the current EPA and state MY 2022-2025 standards be formally reflected in the "no action" alternative for purposes of the EIS analysis. Further, regardless of how the "no action" alternative is defined as a formal matter, there is no question that these EPA and state standards should constitute the analytical baseline

[12] EPA, California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's Advanced Clean Car Program and a Within the Scope Confirmation for California's Zero Emission Vehicle Amendments for 2017 and Earlier Model Years, 78 Fed. Reg. 2112 (Jan. 9, 2013).

[13] CARB, California's Advanced Clean Cars Midterm Review, *supra* note 10, at E-1.

[14] CARB, *supra* note 10.

for assessing the impacts of the rulemaking. They are in force today and any regulatory decision or suite of decisions linked to the NHTSA MY 2022-2025 rulemaking that affects continued implementation of the current standards must be fully analyzed with regard to the impacts of those decisions.

5. In defining "reasonable alternatives" for analysis, NHTSA must identify and analyze technology-forcing alternatives that substantially exceed the stringency of the augural standards for MY 2022-2025

NHTSA states in the scoping notice that it is considering analyzing "'action' alternatives represented by calculating a lower bound and upper bound of reasonable annual fuel economy standards, from MY 2022 forward." 82 Fed. Reg. at 34,742.

In defining a reasonable "lower bound" for analysis, NHTSA must take account of the extensive evidence that NHTSA's augural standards for MY 2022-2025—equivalent to EPA's CAA GHG standards for those model years—are feasible (including economic practicability). In fact, multiple analyses, including from EPA and CARB, have concluded that the standards will be even less costly to achieve than when they were promulgated and that more stringent standards would be feasible. Accordingly, it is difficult to see how NHTSA could justify identifying a "lower bound" for analysis that is less stringent than the augural standards.

In defining a reasonable "upper bound" for analysis, NHTSA should analyze multiple alternatives that exceed the stringency of the augural standards. In the 2012 rulemaking, NHTSA analyzed options including a 7 percent annual increase in fuel economy—though it ultimately settled on augural standards reflecting (on average) an average annual increase of 4.7 to 4.9 percent for MY 2022-2025.[15] In the MY 2022-2025 rulemaking, NHTSA should analyze alternatives at least as stringent as it analyzed in the 2012 rulemaking. As explained above, advanced vehicle and other fuel efficiency technologies have improved and costs have declined considerably since the augural standards were announced in 2012. In the five years since the announcement of the augural standards, there has been a dramatic shift in investment, consumer support, and infrastructure development in favor of EVs and other advanced technology vehicles. Further, as highlighted in Section 6 below, emissions and related public health benefits of transportation electrification continue to increase as electricity generation becomes cleaner, especially in high-growth regions for EVs. Given that NHTSA identified a 7 percent annual increase in stringency as a reasonable upper bound for analysis of "maximum feasible" standards in 2012, changes since that time support analysis of alternatives at least this stringent in the pending rulemaking.

In the Scoping Notice, NHTSA "seeks comments on how it should define and balance the statutory criteria to choose the preferred alternative, given the statutory requirement of setting 'maximum feasible' fuel economy standards." 82 Fed. Reg. at 34,743. NHTSA requests that "[w]hen suggesting an approach, please explain the recommended way to balance EPCA's factors (technological feasibility, economic practicability, the effect of other motor vehicle

[15] *See* NHTSA, Corporate Average Fuel Economy Standards Passenger Cars and Light Trucks Model Years 2017-2025 Final Environmental Impact Statement (July 2012) at S-6–S-7, *available at* https://one.nhtsa.gov/Laws-&-Regulations/CAFE-%E2%80%93-Fuel-Economy/Final-EIS-for-CAFE-Passenger-Cars-and-Light-Trucks,-Model-Years-2012%E2%80%932016 ("2012 EIS").

standards of the Government on fuel economy, and the need of the United States to conserve energy)." *Id.* NCAT anticipates that it will offer more extensive comments on this issue in the rulemaking process. At this stage, NCAT underscores three points.

First, as discussed above, EPCA requires that NHTSA "consider" the four statutory factors in determining what is the "maximum feasible" fuel economy for each model year. 49 U.S.C. § 32902(f). These four factors do not themselves determine or define the meaning of the term "maximum feasible." Rather, "maximum feasible" means the greatest level of fuel economy that is "feasible"—meaning "capable of being done or carried out."[16] The four factors are relevant considerations only to the extent each affects the maximum level of fuel economy that can be achieved. EPCA does not by its terms prescribe a balancing test; rather, it provides a list of considerations to help inform identification of the overarching statutory requirement that standards be set at the "maximum feasible" level.

Second, in determining what weight to give each of EPCA's four statutory factors, NHTSA's discretion is limited by EPCA's fundamental statutory purpose: energy conservation. *See Ctr. for Biological Diversity*, 538 F.3d at 1205; *Ctr. for Auto Safety*, 793 F.2d at 1340. In identifying its preferred alternative, NHTSA must therefore prioritize conservation of energy, deviating only to the extent that greater efficiency is not "feasible." The importance of energy conservation has increased since EPCA's enactment—given both the United States' vastly increased reliance on imported oil and the increasingly serious problem of global climate change. *See Ctr. for Biological Diversity*, 538 F.3d at 1198-99.

Finally, NCAT notes that EPCA expressly requires NHTSA to consider "the effect of other motor vehicle standards of the Government on fuel economy." 49 U.S.C. § 32902(f). This includes not only EPA motor vehicle emission standards under the CAA (including GHG standards currently in effect), but also state motor vehicle emission standards for which preemption has been waived under CAA Section 209(b). *See, e.g.*, NHTSA, Final Rule: Average Fuel Economy Standards for Light Trucks Model Years 2008-2011, 71 Fed. Reg. 17,566, 17,643 (Apr. 6, 2006) (CARB emission standards discussed in section X.D. entitled "Federal Motor Vehicle Emission Standards"). Accordingly, these "other motor vehicle standards of the Government" include California's and other States' Advanced Clean Cars Program regulations, including LEV III GHG standards and ZEV standards—which have the effect of increasing fuel economy and indicate "feasible" levels of fuel economy. EPCA requires NHTSA to consider these state emission standards in identifying what is the "maximum feasible" fuel economy for these model years—and therefore in defining its preferred alternative for analysis in the EIS.

6. NHTSA must take a "hard look" at adverse impacts of any decision to weaken standards, as well as beneficial impacts of any decision to strengthen standards

NHTSA's Scoping Notice requests comment on significant considerations that merit in-depth analysis in the EIS for the MY 2022-2025 CAFE standards. 82 Fed. Reg. at 34,744. Overall, NCAT urges NHTSA to take a "hard look" at the adverse impacts of any action that weakens, as well as the beneficial impacts of any action that strengthens, the stringency of the

[16] Merriam Webster Dictionary, "Definition of Feasible," https://www.merriam-webster.com/dictionary/feasible (last visited Aug. 18, 2017).

augural MY 2022-2025 standards. If NHTSA decides to propose changes to the MY 2021 CAFE standards, the agency would likewise need to take a "hard look" at the environmental consequences of such a decision in an EIS, and these comments would be applicable to that analysis as well. At this preliminary stage in the NEPA process, NCAT's comments highlight areas for significant consideration in NHTSA's EIS with respect to energy conservation and energy security, climate change, air quality, and economic impacts.

More broadly, in preparing the EIS for the MY 2022-2025 CAFE standards for passenger cars and light trucks, NHTSA must take into account the robust body of existing analyses conducted by NHTSA as well as others agencies and stakeholders. Several examples include NHTSA's EIS and Regulatory Impact Analysis for the MY 2017-2025 standards, the Draft Technical Assessment Report, EPA's Mid-Term Evaluation Proposed and Final Determination and Technical Support Document, the California's Advanced Clean Cars Midterm Review, along with other analyses, as listed in Appendix A. If NHTSA will be proposing changes to the MY 2021 CAFE standards, NHTSA must fully account for existing analyses when assessing the impacts of its proposal in an EIS.

a. Energy conservation and energy security impacts

In the EIS, NHTSA must thoroughly analyze the environmental impacts of fuel economy achieved under the range of CAFE standards NHTSA is considering for MY 2022-2025 passenger cars and light trucks. Energy conservation is the central purpose of EPCA, directing NHTSA to set CAFE standards to reduce fuel consumption, and the "need of the United States to conserve energy" is among the statutory factors NHTSA must consider when setting these standards.[17] As NHTSA recognized in the 2012 EIS for the MY 2017-2025 standards, transportation fuel makes up a large portion of the country's energy consumption and energy imports. As a result, by increasing fuel economy of passenger cars and light trucks, the United States has the potential to achieve significant reductions in imported oil use, thus reducing dependence on foreign oil.[18] In the July 2016 Draft Technical Assessment Report, based on modeling conducted by the agencies, EPA and NHTSA found that "on balance, each gallon of fuel saved as a consequence of the [Light-Duty Vehicle] GHG/fuel economy standards is anticipated to reduce total U.S. imports of petroleum by 0.9 gallons."[19] The importance of increasing fuel economy for purposes of energy conservation and energy security continue to be central to the agency's mission, as well as to its environmental review. In the forthcoming EIS, NHTSA should analyze the benefits of increased fuel economy for standards more stringent than the augural MY 2022-2025 standards and corresponding EPA CAA GHG standards and state standards, and must take a critical look at the negative impacts of any decision to adopt less stringent standards with respect to the amount of fuel conserved and the corresponding energy security implications.

[17] *See* 49 U.S.C. § 32902(f).

[18] NHTSA, 2012 EIS at S-9.

[19] EPA, NHTSA & CARB, Draft Technical Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025 (July 2016) at 10-23, *available at* https://nepis.epa.gov/Exe/ZyPDF.cgi/P100OXEO.PDF?Dockey=P100OXEO.PDF.

In particular, NHTSA should consider how more stringent CAFE standards that promote the use of electricity and natural gas as vehicle fuel would continue to decrease consumption of petroleum and increase reliance on these U.S.-produced fuel sources. Furthermore, electric vehicles are far more energy efficient overall than conventional fuel vehicles. All-electric vehicles are approximately three times more efficient than internal combustion engine-powered vehicles, as most electric vehicles are rated as equivalent to more than 100 miles per gallon in terms of fuel efficiency.[20] In the EIS, NHTSA must fully account for the fuel savings benefits of increased levels of advanced transportation technologies.

NHTSA and EPA have recently analyzed the energy conservation benefits of the augural MY 2022-2025 standards. In the Mid-Term Evaluation Final Determination EPA issued in January 2017, EPA estimated that over the vehicle lifetimes the MY 2022-2025 standards will reduce oil consumption by 1.2 billion barrels.[21] In the July 2016 Draft Technical Assessment Report, NHTSA provided the results of an overall benefit and costs analysis for the implementation of the augural standards for MY 2022-2025 relative to the continuation of the MY 2021 standard over the period through MY 2028. With respect to the fuel savings benefits to new car and truck buyers due to the augural standards, NHTSA found that "[t]his single category of benefits is sufficient to ensure that the Augural Standards result in net benefits, though it is not the only benefit to society that accrues primarily to buyers of new vehicles."[22] NHTSA estimated the pre-tax fuel savings to be a total of $122 billion over the lifetimes of MY 2016-2028 vehicles, which includes $64 billion for light trucks and $56 billion for passenger cars.[23] NHTSA must take a hard look at any CAFE standard proposals that would reduce these substantial energy conservation and energy security benefits from the augural standards for MY 2022-2025 and corresponding EPA GHG standards and state standards.

b. Air quality impacts

NHTSA must thoroughly analyze the impacts of its proposed CAFE standards and alternatives on air quality, including updated projections of electricity generation fuel mix and accounting for the distributional impacts of the adverse effects of air pollutant emissions. In the 2012 EIS air quality impacts analysis for the MY 2017-2025 standards, NHTSA accounted for vehicle tailpipe emissions as well as upstream emissions from the production and distribution of fuels, including from the power plants that generate electricity used to charge electric vehicles. To estimate upstream emissions, NHTSA used the National Energy Modeling System ("NEMS") Annual Energy Outline ("AEO") 2012 Early Release version to project the average electricity generating fuel mix in the U.S. for the reference year 2020 and used the GREET model to estimate upstream emissions over the 2017–2060 timeframe. As NHTSA found it was reasonable to assume the fuel mix for the U.S. electric grid would continue to grow cleaner, the 2012 EIS also accounted for predictions of the change in fuel mix over time using the EIA's

[20] U.S. Dep't of Energy National Renewable Energy Lab, "At A Glance: Electric-Drive Vehicles" (July 2016) at 2, *available at* https://www.afdc.energy.gov/uploads/publication/electric-drive_vehicles.pdf.

[21] EPA, EPA, Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (Jan. 2017) at 6, *available at* https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100QQ91.pdf.

[22] EPA, NHTSA & CARB, Draft Technical Assessment Report at 13-102.

[23] *Id.*

AEO 2011.[24] When NHTSA evaluates air quality impacts in the EIS for the MY 2022-2025 standards, the agency must update its modeling tools to take into account recent regulatory developments and data that has become available since that time. For instance, NHTSA's air quality modeling for the 2012 EIS did not include projections reflecting the Cross-State Air Pollution Rule, Mercury and Air Toxics Standards, or carbon pollution standards for power plants.[25] In addition, several States have updated regulatory regimes further reducing emissions from electric power generation. Vehicle standards are also an integral part of National Ambient Air Quality Standards attainment under the CAA, as transportation has increasingly played a substantial role in total emissions of criteria pollutants.

In its air quality analysis in the EIS, NHTSA must take a "hard look" at the health effects and geographic distribution of these impacts resulting from any reduction in stringency of the MY 2022-2025 standards. The extent to which more passenger cars and light trucks use electricity or natural gas for fuel in the future will shape the spatial distribution of air quality impacts from these forms of transportation. In general, increased use of electric vehicles shifts the location of air emissions away from the roads on which the vehicles travel to locations of power generation and distribution.[26] As EPA has recently explained, many scientific studies have shown that people who live, work, or attend school near major roads appear to be more at risk of adverse short- and long-term health effects, such as asthma. Children are particularly vulnerable to the health problems caused by air pollution from vehicle emissions, and there are nearly 17,000 schools in the U.S. that are located within about 820 feet of a heavily traveled road.[27] As an example, a recent medical study found traffic-related pollutants around primary schools are associated with increased risk of allergic diseases.[28] Furthermore, NHTSA's rulemaking is subject to Executive Order 13045, "Protection of Children From Environmental Health Risks and Safety Risks,"[29] since it is an economically significant rulemaking concerning an environmental health and safety risk that may disproportionately affect children.[30] NHTSA must consider these important air quality impacts in its EIS.

c. Climate impacts

In the Scoping Notice, NHTSA invites comments on the scope of its analysis of climate change impacts, indicating that the agency "anticipates uncertainty in estimating the potential environmental impacts related to climate change." 82 Fed. Reg. at 34,744. As stated in the notice, NHTSA plans to account for this uncertainty by evaluating a range of potential global temperature changes that may result from changes in fuel and energy consumption and GHG

[24] NHTSA, 2012 EIS at 2-28–2-35.

[25] *Id.* at 2-33–2-34.

[26] *See id.* at 6-20.

[27] EPA, "Best Practices for Reducing Near-Road Pollution Exposure at Schools" (Nov. 2015) at 2, *available at* https://www.epa.gov/sites/production/files/2015-10/documents/ochp_2015_near_road_pollution_booklet_v16_508.pdf.

[28] H. Kim et al., "Near-Road Exposure and Impact of Air Pollution on Allergic Diseases in Elementary School Children: A Cross-Sectional Study," *Yonsei Med J* 2016 May; 57(3):698-713, at 708, *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4800361/pdf/ymj-57-698.pdf.

[29] 62 Fed. Reg. 19,885 (Apr. 23, 1997), *available at* https://www.gpo.gov/fdsys/pkg/FR-1997-04-23/pdf/97-10695.pdf.

[30] *See* 77 Fed. Reg. at 62,960.

emissions from new CAFE standards. *Id.* In response, NCAT points NHTSA to the large body of scientific studies addressing these issues and to the extensive analysis that NHTSA, EPA, and other agencies have already conducted. In EPA's Mid-Term Evaluation Proposed Determination, EPA presented an overview of climate change science in recent, peer-reviewed sources, which NHTSA should consider.[31] NHTSA's NEPA analysis supporting the augural MY 2022-2025 standards addressed uncertainty, and addressed a range of climate change impacts. NHTSA should build upon the approach the agency took in its 2012 EIS for the MY 2017-2025 standards in order to take a "hard look" at direct, indirect, and cumulative climate change impacts as a result of its CAFE rulemaking proposal and a reasonable range of alternatives. As NHTSA's Scoping Notice and NHTSA's 2012 EIS acknowledge, these impacts range well beyond global temperature impacts due to the incremental changes in the CAFE standards but also include sea-level rise, changes in precipitation, as well as consideration of the cumulative climate change impacts especially into the future. Analysis of the cumulative impacts is particularly important as "[a]ny given rule setting a CAFE standard might have an 'individually minor' effect on the environment, but these rules are 'collectively significant actions taking place over a period of time.'" *Ctr. for Biological Diversity*, 538 F.3d at 1217.

Given the large volume of scientific analyses already available, the potential for uncertainty of impacts does not absolve NHTSA of its obligation to fully consider impacts. In the Mid-Term Evaluation Final Determination, EPA recently projected that "the MY2022-2025 standards will reduce GHG emissions annually by more than 230 million metric tons (MMT) by 2050, and nearly 540 MMT over the lifetime of MY2022-2025 vehicles."[32] EPA determined that "[t]hese projected GHG reductions associated with the MY2022-2025 standards are significant compared to total light-duty vehicle GHG emissions of 1,100 MMT in 2014."[33] NHTSA notes in the Scoping Notice that it plans to address the monetized climate change benefits analysis in its Regulatory Impact Statement, which it will incorporate by reference into the EIS. 82 Fed. Reg. at 34,744. The agency must fully address benefits of changes in fuel use due to the proposed CAFE standards, giving appropriate weight to the benefits of reductions in GHG emissions. NHTSA "cannot put a thumb on the scale by undervaluing the benefits and overvaluing the costs of more stringent standards." *Ctr. for Biological Diversity*, 538 F.3d at 1198. The agency must take into account credible values to monetize the benefits of GHG emissions reductions, and not just point to the range of values as being extremely wide. *See id.* at 1200-01.

d. Economic impacts

As NHTSA considers the economic impacts of its proposal and alternatives on consumers and the automotive industry, the agency should also consider the economic benefits of more stringent CAFE standards that encourage growth in the use of advanced transportation technologies and infrastructure. As discussed above, transportation electrification and other advanced technology vehicles can spur large-scale investment, economic growth and job creation

[31] EPA, Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (Nov. 2016) at 11-19, *available at* https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100Q3DO.pdf.

[32] EPA, Mid-Term Evaluation Final Determination at 24.

[33] *Id.*

in the U.S. For example, a recent U.S. Department of Energy report stated that the development and production of EVs is contributing to the economy as "the United States is the largest market for automotive lithium-ion batteries and lithium ion battery manufacturing has added about $400 million in value to the nation's economy in 2014."[34]

Substantial growth in jobs relating to the expansion of EVs and other advanced technology vehicles is expected in the areas of heavy-duty vehicle manufacturing, EV-charging and other "fueling" infrastructure, and maintenance and repair. New information continues to emerge in this important area. For example, the BlueGreen Alliance recently released an updated report concluding that "[m]ore than 1,200 U.S. factories and engineering facilities in 48 states—and 288,000 American workers—are building technology that improves fuel economy for today's innovative vehicles."[35] CARB's Midterm Review report presents a summary of recent studies addressing the net job growth stimulated by further development of zero-emissions vehicles and plug-in electric vehicles.[36] Furthermore, the global market for electric and other advanced technology vehicles and supporting technologies is growing rapidly,[37] presenting a major market opportunity for American companies. As advanced transportation growth is spurred globally, support for EV and other advanced vehicle technologies in the U.S. will play a critical role in positioning U.S. companies to compete in this rapidly expanding global market. NHTSA must fully consider the economic impacts of any change to the MY 2021 standards or MY 2022-2025 augural standards, and the corresponding EPA GHG standards and state standards for those years.

Conclusion

The National Coalition for Advanced Transportation appreciates the opportunity to submit these comments in response to NHTSA's July 26, 2017 Scoping Notice, and looks forward to providing further input in the future.

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[34] U.S. Dep't of Energy, *supra* note 5, at 10.

[35] BlueGreen Alliance & NRDC, "Supplying Ingenuity II: U.S. Suppliers of Key Clean Fuel-Efficient Technologies" (May 2017) at 3, *available at* https://www.bluegreenalliance.org/resources/supplying-ingenuity-ii-u-s-suppliers-of-key-clean-fuel-efficient-vehicle-technologies/.

[36] CARB, California's Advanced Clean Cars Midterm Review, *supra* note 10, at B-121–B-125.

[37] *See, e.g.*, International Energy Agency, "Global EV Outlook 2017 Two Million and Counting" (2017) at 5, *available at* https://www.iea.org/publications/freepublications/publication/GlobalEVOutlook2017.pdf.

Appendix A: Selected Analyses that NHTSA Should Consider in MY 2022-2025 EIS and CAFE Standards Rulemaking

Document	Key Points for Consideration Include:
EPA, Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (Jan. 2017).[1]	• "[T]he record clearly establishes that, in light of technologies available today and improvements we project will occur between now and MY2022-2025, it will be practical and feasible for automakers to meet the MY2022-2025 standards at reasonable cost that will achieve the significant GHG emissions reduction goals of the program, while delivering significant reductions in oil consumption and associated fuel savings for consumers, significant benefits to public health and welfare, and without having material adverse impact on the industry, safety, or consumers." (page 29) • EPA's "analysis demonstrates that compliance can be achieved through a number of different technology pathways reflecting predominantly the application of technologies already in commercial production." (page 4) • "The Administrator's Final Determination is that the MY2022-2025 standards remain appropriate. In light of the pace of progress in reducing GHG emissions since the MY2022-2025 standards were adopted, the success of automakers in achieving the standards to date while vehicle sales are strong, the projected costs of the standards, the impact of the standards on reducing emissions and fuel costs for consumers, and the other factors identified in 40 CFR 86.1818-12(h), the Administrator concludes that the record does not support a conclusion that the MY2022-2025 standards should be revised to make them less stringent." (page 8) • The EPA Administrator "recognizes that the current record, including the current state of technology and the pace of technology development and implementation, could support a decision to adopt more stringent standards for MY2022-2025. . . . The EPA found in 2012 that the projected standards were feasible at reasonable cost, and the current record shows that the standards are feasible at even less cost and that there are more available technologies (particularly advanced gasoline technologies) than projected in 2012, and that the benefits outweigh the costs by nearly $100 billion." (page 30)
EPA, NHTSA & CARB, Draft Technical Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025 (July 2016).[2]	• Through independent analyses, NHTSA and EPA reached the following conclusions: o "A wider range of technologies exist for manufacturers to use to meet the MY2022-2025 standards, and at costs that are similar or lower, than those projected in the 2012 rule;" o "Advanced gasoline vehicle technologies will continue to be the predominant technologies, with modest levels of strong hybridization and very low levels of full electrification (plug-in vehicles) needed to meet the standards;" o "The car/truck mix reflects updated consumer trends that are informed by a range of factors including economic growth, gasoline prices, and other macro-economic trends. However, as the standards were

[1] https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100QQ91.pdf

[2] https://nepis.epa.gov/Exe/ZyPDF.cgi/P100OXEO.PDF?Dockey=P100OXEO.PDF

Document	Key Points for Consideration Include:
	designed to yield improvements across the light duty vehicle fleet, irrespective of consumer choice, updated trends are fully accommodated by the footprint-based standards." (page ES-2) • "Based on the agencies' draft assessments, the reduced operating costs from fuel savings over time are expected to far exceed the increase in up-front vehicle costs, which should mitigate any potential adverse effects on vehicle sales and affordability." (page ES-4) • "For the EPA GHG analysis, total industry-wide costs of meeting the MY2022-2025 GHG standards are estimated at $34 to $38 billion. Societal monetized benefits of the MY2022-2025 standards (exclusive of fuel savings to consumers) range from $40 to $41 billion. Consumer pre-tax fuel savings are estimated to be $89 billion over the lifetime of vehicles meeting the MY2022-2025 standards. Net benefits (inclusive of fuel savings) are estimated at $90 to $94 billion." (page ES-11) • "NHTSA's primary analysis shows that compared to the No Action alternative, the augural CAFE standards could entail additional costs totaling $87 billion during MYs 2016-2028 (reasons for this span of MYs are discussed above), and a sensitivity case using ICM shows total costs of $79 billion. The primary analysis shows benefits totaling $175 billion, and the ICM sensitivity case shows $178 billion. Consumer fuel savings are estimated to be $67 billion to $122 billion over the lifetime of vehicles meeting the MY2022-2025 standards. Thus, net benefits (inclusive of fuel savings) could total $88 billion based on the primary analysis and $99 billion for the ICM sensitivity case." (page ES-12) • "The primary benefit of CAFE standards accrue as a result of avoided fuel expenditures by new car and truck buyers. This single category of benefits is sufficient to ensure that the Augural Standards result in net benefits, though it is not the only benefit to society that accrues primarily to buyers of new vehicles." (page 13-102) • "[T]he auto industry, on average, is over-complying with the first several years of the National Program." (page ES-2)
CARB, California's Advanced Clean Cars Midterm Review: Summary Report for the Technical Analysis of the Light Duty Vehicle Standards & Appendixes (Jan. 18, 2017).[3]	• "Consistent with the draft 2016 TAR and Final Determination, updated analysis confirmed that the technology is available to readily meet, if not exceed, the current 2022 through 2025 model year national GHG emission standards at the same or lower cost than originally projected when the standards were adopted in 2012, predominantly with advanced gasoline engines and transmissions." (page ES-61) • "The analysis in the 2016 TAR and updated in U.S. EPA's Proposed Determination confirmed that the 2022 through 2025 model year GHG standards can be met predominantly with lower cost technology improvements than were originally projected in the 2012 rulemaking. The updated costs and technology mix projections confirm there are more cost-effective technology options than originally thought and result in a slightly lower overall estimated cost to comply. Furthermore, not all GHG reducing technologies that manufacturers are already

[3] https://www.arb.ca.gov/msprog/acc/mtr/acc_mtr_finalreport_full.pdf

Document	Key Points for Consideration Include:
	planning for production were included in the 2016 TAR leaving additional technology paths for manufacturers to use for compliance." (pages ES-21–ES-22) • Advancements in technology since 2012 include developments in GHG emissions control technology, particulate matter and criteria pollutant emission control technology, and ZEV technology (*see* pages ES-2–ES-3)
EPA, Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation[4] & Technical Support Document[5] (Nov. 2016).	• "The Standards Are Feasible. In our technical assessment of the technologies available to meet the MY2022-2025 GHG standards, we present a range of feasible, cost-effective compliance pathways to meet the MY2022-2025 standards." (Proposed Determination, page ES-3) • "EPA's Proposed Determination assessment provides projections for the MY2022-2025 standards for several key metrics . . . . As in the Draft TAR, we project that the MY2022-2025 standards can be met largely through advances in gasoline vehicle technologies, such as improvements in engines, transmissions, light-weighting, aerodynamics, and accessories." (Proposed Determination at page ES-3) • Section II. Assessment of Technology Costs, Effectiveness, and Lead Time (Proposed Determination) • Chapter 2: Technology Costs, Effectiveness, and Lead Time Assessment (Technical Support Document)
EPA, Greenhouse Gas Emission Standards for Light-Duty Vehicles, Manufacturer Performance Report for the 2015 Model Year (Nov. 2016).[6]	• "Overall industry performance in model year 2015 was 7 g/mi better than required by the 2015 GHG emissions standard. This marks the fourth consecutive model year of industry outperforming the standards by a sizeable margin." (page iii) • "Most large manufacturers achieved fleet GHG compliance values equal to or lower than required by their unique 2015 standard." (page iv) • "The majority of manufacturers, representing more than 99 percent of 2015 model year U.S. sales, have reported compliance with the standards for the 2012-2015 model years." (page v)
NHTSA, Corporate Average Fuel Economy Standards Passenger Cars and Light Trucks Model Years 2017-2025 Final Environmental Impact Statement (July 2012).[7] NHTSA, Final Regulatory Impact	• In general, NHTSA should consider analysis in the 2012 EIS and Regulatory Impact Analysis that pertains to the MY 2022-2025 standards as the agency prepares the update and expand upon this analysis based on new information.

[4] https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100Q3DO.pdf

[5] https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100Q3L4.pdf

[6] https://www.epa.gov/sites/production/files/2016-11/documents/420r16014.pdf

[7] https://one.nhtsa.gov/Laws-&-Regulations/CAFE-—-Fuel-Economy/Environmental-Impact-Statement-for-CAFE-Standards,-2017–2025

Document	Key Points for Consideration Include:
Analysis Corporate Average Fuel Economy for MY 2017-MY 2025 Passenger Cars and Light Trucks (Aug. 2012).[8]	
EPA, Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2016 (Nov. 2016).[9]	• "Nine of the twelve manufacturers shown below increased fuel economy and decreased CO_2 emissions from MY 2014 to MY 2015, the last two years for which we have final data." (page ES7) • "Technological innovation is a major driving force in the industry. The industry overall has adopted several technologies quickly in recent years, however individual manufacturers are clearly utilizing different technologies to achieve CO2 emissions, fuel economy, and performance goals." (page ES8) • "Manufacturers are producing many vehicles today that can meet or exceed future CO2 emissions targets." (page ES10)
National Research Council, National Academy of Science, Cost, Effectiveness and the Deployment of Fuel Economy Technologies for Light-Duty Vehicles (2015).[10]	• "The committee's most likely estimates of fuel consumption reduction effectiveness are comparable to NHTSA's estimates for many of the technologies defined by NHTSA. . . . Table 8A.1 also lists the effectiveness estimates of other technologies not considered by EPA and NHTSA that may be available either by the 2025 MY or later, extending to the 2030 MY. The technologies that might be available by the 2025 MY could provide additional reductions in fuel consumption or, possibly, alternative approaches at lower cost." (page 264) • "Although current penetration is low, the use of electrification is likely to increase. In the opinion of the committee, the penetration of strong HEVs, PHEVs, and BEVs by MY 2025 will be larger than the respective 5%, 0% and 2% that the Agencies included in their compliance demonstration path. California Zero Emissions Vehicle mandates may require a higher penetration of the PEVs than included in the Agencies' compliance demonstration path." (page 11) • "There have been continual improvements in vehicle technology over time, enabling improvements in many vehicle attributes at relatively low cost. . . . Fuel economy and GHG regulations themselves are likely to create additional incentives for innovation to reduce cost and enhance effectiveness of fuel savings approaches, beyond what would have occurred in their absence, in both known and unanticipated new technologies." (page 332)
ICCT, White Paper, Efficiency Technology and Cost Assessment for	• "Conventional vehicles could dominate in the near term. Emerging technologies are expanding the internal combustion vehicle efficiency frontier. Our analysis indicates 8%–10% greater efficiency improvement is

[8] https://one.nhtsa.gov/Laws-&-Regulations/CAFE-–-Fuel-Economy

[9] https://www.epa.gov/fueleconomy/download-co2-and-fuel-economy-trends-report-1975-2016

[10] https://www.nap.edu/catalog/21744/cost-effectiveness-and-deployment-of-fuel-economy-technologies-for-light-duty-vehicles

Document	Key Points for Consideration Include:
U.S. 2025-2030 Light-duty Vehicles (March 2017).[11]	available and cost effective for vehicles by 2025, compared to the latest U.S. regulatory analysis. Continually improving technologies such as cylinder deactivation, high compression Atkinson cycle engines, lightweighting, and mild hybridization will allow internal combustion to dominate automakers' strategies to comply with adopted 2025 standards." (page iv) • "Previous costs of compliance have been greatly overestimated. Technology costs continue to decrease, proving that previous estimates, including those made by the federal regulatory agencies, have been too conservative. State-of-the-art engineering studies and emerging supplier technology developments indicate that costs for lightweighting, direct injection, and cooled exhaust gas recirculation will be reduced by hundreds of dollars, and electric vehicle costs will drop by thousands of dollars per vehicle by 2025. Including these latest efficiency developments, compliance costs for the adopted 2025 standards will be 34%–40% lower than projected in the latest U.S. midterm evaluation regulatory analysis." (page iv) • "Progress can continue at the same rate out to 2030. Standards that get progressively more stringent, at 4%–6% lower fuel use per mile annually from 2025 to 2030, can be achieved cost-effectively. Such standards would result in modest, gradual vehicle price increases through 2030, and with two to three times greater consumer fuel savings than costs. Such 2030 standards could be achieved mostly with advanced combustion technology, while also initiating the wider launch of plug-in electric vehicles to 13%–23% of the new vehicle fleet. Such standards would shift the new vehicle fleet from 26 miles per gallon in 2016 up to 42–46 miles per gallon by 2030." (page iv) • "Technology cost reduction among emerging technologies is indicating that previous government regulatory cost estimates have been too conservative. . . . Based primarily on rapid developments in battery packs, electric vehicle costs will be reduced by thousands of dollars per vehicle by 2025 compared to regulatory estimates. Including these latest technology developments and updated technology cost inputs, compliance costs for the U.S. 2025 standards will be 34%–40% lower than estimated in the latest regulatory agency analysis." (page 20)
ICCT, "Consumer Benefits of Increased Efficiency in 2025-2030 Light-duty Vehicles in the U.S." (June 2017).[12]	• "Under the adopted standards, buyers of model year 2025 vehicles will fully recoup their investment in the 3rd year of ownership for a cash purchase. Those who finance their vehicles will see a net positive cash flow starting immediately. Moreover, the standards will net consumers thousands of dollars over the lifetime of the vehicle. Under reference fuel prices in future years, the consumer benefits would be more than 3 times the costs of the standards. These findings are robust to changes in market conditions: fuel savings are 2.4 times the costs if fuel prices stay low for the next several decades." (page 10) • "Consumers directly benefit from the 2025 standards with thousands of dollars in fuel savings per vehicle. These consumer savings alone justify the efficiency standards. If the public benefits of the standards for energy security,

[11] http://www.theicct.org/US-2030-technology-cost-assessment

[12] http://www.theicct.org/sites/default/files/publications/US-LDV-Efficiency-Consumer-Benefits_ICCT_Briefing_21062017_vF.pdf

Document	Key Points for Consideration Include:
	climate change mitigation, and air quality were also included, the efficiency standards would make for an even bigger public policy win. Continuing these vehicle efficiency improvements to 2030 will continue to provide consumer benefits that exceed the costs—by a factor of 2 to 3 times under reference fuel prices, and a range of 1.4 to 4.4 times under low and high fuel prices, respectively. For a typical car loan, each of these 2030 standards would result in off-the-lot savings." (page 11) • "High consumer benefits are available across vehicle types, from cars to light trucks. The size-indexed standards ensure that all vehicle types see more high-efficiency vehicle options over time and allow the fleet to naturally shift with gasoline prices and broader economic trends. The average new car fuel economy label would increase from 35 mpg in 2021 to 41 mpg in 2025 under the adopted standards, and to 52 mpg in 2030 assuming improvements of 5%/year—each of these steps would save consumers $2,300–$2,600 in fuel costs over the lifetime of the vehicle. For trucks, the average fuel economy would increase from 25 mpg in 2021, to 30 mpg in 2025, to 38 mpg in 2030—similarly, each step would save consumers $3,900–$4,000 in fuel costs per vehicle." (page 11)
T. Cackette and R. Rykowski, "Technical Assessment of CO_2 Emission Reductions for Passenger Vehicles in the Post-2025 Timeframe" (February 2017).[13]	• "The 2016 TAR and EPA [Final Determination ("FD")] make a clear case that sufficient technologies exist to meet the 2025 CO2 standard, at a reasonable cost. The expected underutilization of some of the currently available technologies in 2025 provides support that there is room for achieving additional reductions in 2026 and beyond." (page 31) • "Compliance with the current CO_2 standard through 2025 can be accomplished largely by improving the efficiency of the gasoline fueled vehicle drive train and changes to the vehicle structure to lower weight and reduce aerodynamic drag, as demonstrated in the TAR and FD. The TAR and FD also indicate only a few percent of alternative technology vehicles, namely plug-in electric vehicles, will need to be used by vehicle manufacturers as a method of compliance through 2025. As discussed in Section V of this report, more stringent CO2 emission standards for 2026 and beyond would result in greater use of zero or near-zero emission vehicles." (page 31)

[13] https://www.arb.ca.gov/lispub/comm/bccomdisp.php?listname=accmidterm2017&comment_num=39&virt_num=37