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Attn: Docket No. NHTSA-2018-0067
Docket No. EPA-HQ-OAR-2018-0283

Re: Supplemental Comment of the International Council on Clean Transportation (ICCT) on the National Highway Traffic Safety Administration's (NHTSA's) and Environmental Protection Agency's (EPA's) Proposed Rule: The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks; in response to Alliance of Automobile Manufacturers Supplemental Comment on May 30, 2019

ICCT respectfully submits this supplemental comment on the Environmental Protection Agency's (EPA) and National Highway Traffic Safety Administration's (NHTSA) Proposed Rule, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, 83 Fed. Reg. 42,986 (Aug. 24, 2018) ("Proposed Rule"). This comment responds to the Alliance of Automobile Manufacturers (AAM) Supplemental Comments (AAM Supplement) on the Proposed Rule,¹ dated May 30, 2019, which address an April 5, 2019 submission by a group of non-governmental organizations (NGOs)² that discussed the recent EPA report, *The 2018 EPA Automotive Trends Report: Greenhouse Gas Emissions*,

¹ Alliance of Automobile Manufacturers Supplemental Comment, May 30, 2019, Docket No. NHTSA-2018-0067-12405; EPA-HQ-OAR-2018-0283-7563.

² Letter from Center for Biological Diversity, Conservation Law Foundation, Environmental Defense Fund, Natural Resources Defense Council, Public Citizen, Inc., Sierra Club, and Union of Concerned Scientists to Deputy Administrator Heidi King (National Highway Traffic Safety Administration) and Administrator Andrew Wheeler (U.S. Environmental Protection Agency), "Re: Supplemental Comments of Public Health, Consumer, and Environmental Organizations on National Highway Traffic Safety Administration's and Environmental Protection Agency's Proposed Rule: The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, 83 Fed. Reg. 42,986 (Aug. 24, 2018)," April 5, 2019 (hereinafter "NGO Comments") at 3. ("Technical feasibility is further documented by EPA's Automotive Trends Report...") Available at Regulations.gov, Docket ID Nos NHTSA-2018-0067-12377 and EPA-HQ-OAR-2018-0283-7452.

Fuel Economy, and Technology since 1975 (“EPA Trends Report”).”³ It was not possible to provide these supplemental comments earlier due to the timing of the EPA Trends Report and that of the AAM Supplement to which these comments respond. ICCT asks that the agencies consider these supplemental comments as they prepare final rules and supporting documentation; they contain material “of central relevance to the rulemaking.”⁴

The referenced NGO April 5th supplemental comment letter (NGO Supplement) notes that the EPA Trends Report “further document[s]” the technical feasibility of the existing greenhouse gas (GHG) emission standards and augural corporate average fuel economy (CAFE) standards (together, the “current standards”), which the Proposed Rule proposes to weaken. The overarching theme of the AAM Supplement is that the current standards are not feasible. As discussed in numerous stakeholder comments (and the agencies’ own technical assessment report from July 2016⁵), this is simply not the case.⁶ Further, AAM’s assertions in their supplemental comment, including about the EPA Trends Report, are taken out of context, irrelevant, and/or simply incorrect. Each of AAM’s assertions – along with the reasons why the assertion is incomplete, misleading, irrelevant, and/or incorrect – is listed below.

Alliance Observations from the EPA 2018 Trends Report

1. *AAM assertion: For a second year in a row, manufacturers (on average) were unable to meet annual greenhouse gas targets*

This assertion fails to present the full picture. First, all the large automakers are in compliance with the GHG standards through the 2017 model year.⁷ AAM’s contention is that the use of overcompliance credits from previous years in order to achieve compliance for model year 2017 demonstrates incapacity or infeasibility. That contention is incorrect. The GHG and CAFE standards are designed to provide compliance flexibilities that allow manufacturers wide discretion regarding when and how to achieve GHG and CAFE targets across their fleet. Thus, for a given model year, a manufacturer may generate credits due to overcompliance, and they can use these credits retroactively for three model years or they can bank them and use them

³ EPA Trends Report. The EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975. EPA-420-R-19-002 March 2019
<https://nepis.epa.gov/Exe/ZyPDF.cgi/P100W5C2.PDF?Dockey=P100W5C2.PDF>

⁴ 42 U.S.C. § 7607(d)(4)(B)(i); *see also id.* § 7607(d)(7)(A) (providing that such material forms part of the administrative record for judicial review); Proposed Rule, 83 Fed. Reg. 42,986, 43,471 (Aug. 24, 2018) (committing to consider late comments “[t]o the extent practicable”).

⁵ EPA, NHTSA, and the California Air Resources Board, *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*, EPA-420-D-16-900 (July 2016).

⁶ *See, e.g.*, Comment of the International Council on Clean Transportation, NHTSA-2018-0067-11741, EPA-HQ-OAR-2018-0283-5456; Comment of the Union of Concerned Scientists, NHTSA-2018-0067-12039, EPA-HQ-OAR-2018-0283-5840; Comment of the California Air Resources Board, NHTSA-2018-0067-11873; EPA-HQ-OAR-2018-0283-5054; Comment of Meszler Engineering Services, NHTSA-2018-0067-11723, EPA-HQ-OAR-2018-0283-5838; Comment of the Environmental Defense Fund, NHTSA-2018-0067-12108; EPA-HQ-OAR-2018-0283-5775.

⁷ EPA Trends Report at ES9. “Large” automakers means those with production of more than 150,000 in model year 2017. *Id.*

up to five years into the future. All the large manufacturers ended the 2017 model year with a positive credit balance.⁸

Manufacturers have amassed credits worth billions of dollars and stand to save billions of dollars by delaying technology introduction and using up some of those credits.⁹ And, as AAM suggests, the majority of these credits must be used by MY 2021, or they expire and become worthless – effectively erasing billions of dollars of value from the manufacturers’ balance sheets with nothing to show for it. Against that backdrop, it is completely rational for automakers to defer technology advancement to enable credit usage. And that is exactly what the EPA Trends Report suggests many automakers are doing. In other words, manufacturers are acting exactly as the program anticipated – capitalizing on early over-compliance by utilizing banked credits. Just because manufacturers are pausing technology introduction to save money does not mean that they “were unable to meet annual greenhouse gas targets.”¹⁰ To the contrary, as stated in the NGO Supplement, ample technology remains available to automobile manufacturers for continued improvements¹¹ – and that technology remains feasible, as demonstrated by both EPA’s OMEGA modeling and CAFE compliance modeling. Even NHTSA observed that technological feasibility is not a barrier to achieving the existing and augural MY 2025 standards.¹²

2. *AAM assertion: An increasing number of manufacturers failed to meet annual greenhouse gas targets in MY 2017*

Again, AAM fails to present the full picture. First, as noted above, all the large automakers are in compliance with the GHG standards through the 2017 model year.¹³ AAM acknowledges that only one more manufacturer did not meet its target without use of banked overcompliance credits in 2017 compared with 2016. Further, there was significant shifting among manufacturers who used credits to meet their individual annual targets. BMW and Volvo used banked credits to meet their 2016 targets but met their 2017 targets without use of banked credits, while Hyundai, Mazda, and Nissan-Mitsubishi met their 2016 targets without banked credits, but did use banked overcompliance credits to meet their 2017 targets. FCA, Ford, GM, JLR, Kia, Mercedes, and Toyota used banked credits to meet their targets both years. In addition, based on EPA data, Honda, Subaru, and Tesla overcomplied with their 2016 and 2017 targets without banked credits.¹⁴ Also, Mazda used a very small amount of credits to meet its 2017 target, using up just 129,889 Mg of credits out of its accumulated bank of 10,765,468 Mg

⁸ EPA Trends Report at ES9.

⁹ John German, U.S. fuel economy trends reflect a business strategy, not a technology challenge, posted Friday, 19 January 2018. <https://www.theicct.org/blog/staff/us-fuel-economy-trend-reflects-business-strategy-not-tech-challenge>

¹⁰ In fact, AAM itself admits that automakers have “credit averaging, banking, and trading strategies,” AAM Supplement at 9, confirming that automakers deliberately plan to use credits as part of their compliance strategies. AAM cannot acknowledge that fact on the one hand, and on the other proclaim that use of credits by manufacturers demonstrates infeasibility.

¹¹ NGO Supplemental Comments, *supra* note 1, at 3.

¹² 83 Fed. Reg. at 43,216 (describing that the agencies “continue to believe that technological feasibility, per se, is not limiting during this rulemaking time frame”).

¹³ EPA Trends Report at ES9. “Large” automakers means those with production of more than 150,000 in model year 2017. *Id.*

¹⁴ EPA Trends Report at Table 5.11 (p 112) and EPA Greenhouse Gas Emission Standards for Light-Duty Vehicles Model Year 2016 at Table 3-35 (p 68) <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100TGIA.pdf>

earned from 2009-2016. This means Mazda used just 1.2% of its available credits.¹⁵ Overall, there is no trend indicating that manufacturers found it any more difficult to comply with the 2017 targets than the 2016 targets. In fact, that certain automakers used credits in 2016 and then complied without credits in 2017 demonstrates that they are using credits exactly as the agencies envisioned they would—to enable flexible compliance schedules.

3. *AAM assertion: The gap between tailpipe GHG performance and annual targets continues to grow; manufacturers are becoming increasingly reliant on flexibilities to maintain compliance*

Again, this assertion omits critical information. While it is true that the gap between *tailpipe* GHG performance and annual targets grew by 3 g/mi from 2016 to 2017, manufacturers are not required to comply only by reducing tailpipe GHG emissions. There are a number of significant credit provisions in the GHG emission standards program. In fact, AAM in its comments admits that from 2016 to 2017 the industry increased its use of off-cycle credits by 2.0 g/mi, air conditioning credits by 3.6 g/mi, and advanced technology multiplier credits by 2.0 g/mi, for a total of 7.6 g/mi.¹⁶ Per the EPA Trends Report automakers in model year 2017 have chosen to use an average of 13.7 g/mi in air conditioning credits, 2.0 g/mi in advanced technology vehicle credit, and 5.1 g/mi in off-cycle technology credits.¹⁷ These credits provided flexibility for automakers to deploy their tailpipe emission-reduction technologies more slowly while still complying with the standards. For purposes of compliance, it does not matter if the standards are achieved by reducing tailpipe emissions or increasing flexibility credits – both types of GHG reductions are designed into the system. In total, the industry was 4 g/mi closer to their average 2017 targets than they were to their 2016 targets,¹⁸ indicating significant progress towards complying with future targets despite the fact that it could have instead used their accumulated overcompliance credits to comply.

4. *AAM assertion: 92% of the current credit bank cannot be used past MY 2021*

While 92% of banked credits might be unavailable after 2021, this is misleading as this is the basic math of the crediting system where carryforward credits are flexibly available for up to five years. Just as automakers banked credits through MY2016 to use through MY2021, they have the same ability to use the flexibility provisions to bank more credits from MY2017 (and beyond) to use toward MY2022 (and later) compliance. Accordingly, in MY2017, five automakers used these flexibility provisions to generate overcompliance credits, which last until MY2022. Going forward, if an automaker generates credits in MY2018, those will last until 2023; likewise, credits earned in MY2021 will be available through MY2026. This basic rolling 5-year functioning of the carryforward flexibility provisions will always allow a misleading assertion that most of the banked credits will be unavailable 5 years after the most recent compliance year. Such an assertion does not reflect difficulty in complying with future-year standards.

Furthermore, this assertion demonstrates a contradiction in AAM's position and, as discussed above, does not indicate a lack of feasibility. On one hand, AAM suggests the fact that automakers are using credits to achieve their targets demonstrates infeasibility. On the other

¹⁵ EPA Trends Report at Table 5.11 (p 112)

¹⁶ AAM Supplement at 4.

¹⁷ EPA Trends Report, Table 5.5 at page 104.

¹⁸ EPA Trends Report, Table 5.12 at page 112.

hand, AAM acknowledges that those credits will become valueless in just two years if they are not used – demonstrating that a rational economic actor would use them now rather than watch them evaporate. The manufacturers are delaying technology introduction to use up existing credits; they are not using existing credits because they cannot use technology to comply. The fact that most of the credits will be gone by 2021 has no bearing on whether or not cost-effective technology exists to comply with the standards after 2021.

5. *AAM assertion: Manufacturer GHG credit banks are not equally distributed among manufacturers and therefore cannot be treated as a single bank of credit*

This comment ignores the way in which the credit system has been working to date (and can continue to work in the future), and it also is not relevant to an assessment of feasibility. The AAM Supplement states, “Although such credits can be (and have been) traded between manufacturers, there is no guarantee that manufacturers with surplus credits will sell them to manufacturers in need of such credits.”¹⁹ But AAM acknowledges that the credit markets are working – some manufacturers have chosen to exceed their targets in the past and accumulate credits, while other manufacturers have already chosen to rely on purchasing credits from other manufacturers instead of installing technology. Both options remain available in the future. And the EPA Trends Report (and the Proposed Rule) demonstrates there is an abundance of cost-effective technology that any manufacturer can choose to install instead of relying on purchasing credits.

6. *AAM assertion: Credits are not intended to provide a permanent compliance solution*

AAM is misleadingly suggesting that overcompliance credit banking is not an intended long-term feature of the standards. Credit banking has been an accepted compliance provision in emission and fuel economy standards for decades. Although other technology-specific credits are explicitly temporary to promote particular technologies in the near term, there is no indication from any regulatory agency that overcompliance credit banking will ever be removed from the standards. As indicated in response to AAM assertion #4, the carryforward provisions allow for overcompliance credits to continue to be useful 5 years beyond when they were created (e.g., banked MY2018 credits can be applied toward 2023 compliance).

The AAM Supplement states, “manufacturers generally need to return to annual target levels or better within a few years as credit banks are depleted or expire.” Technically this is not true. It is possible for manufacturers to deploy a fleet that closely approaches the targets over time, while indefinitely using overcompliance credits from the previous year(s) and/or purchase credits from other automakers that overcomply, to comply with the standards. There is no prohibition on such a practice, and this practice would indeed be a resourceful approach to minimize compliance costs. Alternatively, it is feasible to comply with the standards without such high reliance on credit banks, as several companies continue to demonstrate,²⁰ and as the original

¹⁹ AAM Supplement at 4-5.

²⁰ EPA Trends Report at Table 5.11 (p 112)

Final Determination,²¹ the agencies' previous work,²² and ICCT analysis²³ show. Moreover, the standards also allow for credit carryback – meaning manufacturers may choose to under-comply with a given model year, and then over-comply subsequently to make up any shortfall.

The AAM Supplement also states, “There is additional risk to manufacturers using credit banks in that even faster rates of improvement than are driven by the standards will eventually become necessary to return to compliance with annual targets.”²⁴ But this is not a risk, this is a calculated business strategy within the control of automakers. Automakers can choose to incrementally install technology each year instead of delaying technology introduction to use up existing credits, or they can choose to use up existing credits and install technology at faster rates in the future. The choice as to which path is best is entirely within the control of automakers – which means AAM is arguing that automakers should be rewarded for choosing to delay technology introduction by weakening the future standards in response. The credit provisions were intended to allow manufacturers flexibility in meeting the standards. AAM appears to now attempt to take advantage of those flexibilities offered to the automakers to justify rolling back the standards.

7. AAM assertion: EPA's reporting of credits associated with advanced technology vehicle multipliers is preliminary in nature

AAM suggests that EPA used a preliminary methodology to calculate advanced technology credits earned by manufacturers in MY 2017. But AAM offers no insight into why it thinks this fact is relevant to its suggestions that compliance is infeasible. To the contrary, the 2.0 g/mi of advanced technology vehicle multipliers are not necessary to comply with the standards. As described below, these credits are intended to incentivize game-changing technologies. Even if automakers accrued fewer than 2.0 g/mi of these credits in MY 2017, that fact would not demonstrate that the automakers cannot comply with the standards via traditional technologies.

The primary AAM argument appears to be, “Perhaps more importantly, under current regulations, the advanced technology vehicle multipliers are eliminated after MY 2021.” AAM compares the expiration of the advanced technology credits to removal of the flexible fuel vehicle GHG credits between MY 2015 and MY 2016, suggesting manufacturers will face an “additional headwind” to overcome the removal. AAM is essentially arguing that providing extra advanced technology credits now, with the ability to accumulate credits that can be used in the future, means that future standards must be rolled back. All the supporting text of advanced technology credits indicates they were always intended to be a short-term incentive mechanism. The counter point would be a baseline situation where no advanced technology vehicle multipliers are offered, and no “additional headwind to overcome the removal” is created by offering temporary credits. To the contrary, the temporary credits are a temporary windfall offered by the regulations.

²¹ EPA Final Determination on the Appropriateness of the Model Year 2022-2025 Light-duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (PDF)(33 pp, 560 K, January 2017, EPA-420-R-17-001).

²² EPA, NHTSA, and the California Air Resources Board, *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*, EPA-420-D-16-900 (July 2016).

²³ ICCT 2017. Efficiency technology and cost assessment for U.S. 2025–2030 light-duty vehicles <https://www.theicct.org/publications/US-2030-technology-cost-assessment>

²⁴ AAM Supplement at 5.

AAM appears to be trying to use temporary technology crediting provisions, which they successfully argued in favor of in the original rulemaking as an incentive for their new technologies, as an argument that standards are getting more difficult. The opposite is true, these technology crediting provisions have only helped automaker compliance.

8. *AAM assertion: EPA discontinued reporting of current vehicle compliance levels relative to future standards*

Again, this simply is not relevant to the feasibility of the existing standards. As noted elsewhere in this comment, numerous stakeholders have made clear that the existing standards are feasible.²⁵ Moreover, AAM's assertion that few MY 2018 cars meet the MY 2025 standards misses the point – indeed, if many MY 2018 cars could meet the MY 2025 standards without any further improvement, that fact alone would suggest the standards are too relaxed, and will not actually drive any improvement in fuel economy or GHG emissions.

Response to NGO Comments Assertions Regarding Technology Availability and Deployment

9. *AAM assertion: The NGO Comments do not consider the effects of combining technologies and their application to specific vehicles*

This is not accurate. Of course, as stated in the AAM Supplement, some technologies are mutually exclusive. This does not change the fact that few of the available technologies have been widely used across the fleet. AAM is also correct that “there are diminishing returns associated with applying more technology to address the same loss mechanisms.”²⁶ But it is stated in a way that implies that the NGO Supplement did not account for the diminishing returns. And the last sentence in this section states, “All of these examples demonstrate the technical fallacy of assuming that all available technologies can or should be installed on all vehicles as is implied by the NGO Comments.” NGOs have not made any such assumptions. The NGOs – and others who have commented on the feasibility of the standards – have consistently used results from EPA or NHTSA technology models, which attempt to rigorously account for synergies between technologies²⁷ and avoid applying incompatible technologies.²⁸

²⁵ See, e.g., Comment of the International Council on Clean Transportation, NHTSA-2018-0067-11741, EPA-HQ-OAR-2018-0283-5456; Comment of the Union of Concerned Scientists, NHTSA-2018-0067-12039, EPA-HQ-OAR-2018-0283-5840; Comment of the California Air Resources Board, NHTSA-2018-0067-11873; EPA-HQ-OAR-2018-0283-5054; Comment of Meszler Engineering Services, NHTSA-2018-0067-11723, EPA-HQ-OAR-2018-0283-5838; Comment of the Environmental Defense Fund, NHTSA-2018-0067-12108; EPA-HQ-OAR-2018-0283-5775.

²⁶ AAM Supplement at 7.

²⁷ An ICCT technical report demonstrated the accuracy of the EPA modeling on the 2018 Camry. John German “How things work: OMEGA modeling case study based on the 2018 Toyota Camry” February 21, 2018 (“ICCT Study”), Docket Nos. NHTSA-2018-0067-12388, NHTSA-2017-0069-0705.

²⁸ See, e.g., Comment of the International Council on Clean Transportation, NHTSA-2018-0067-11741, EPA-HQ-OAR-2018-0283-5456; Comment of the Union of Concerned Scientists, NHTSA-2018-0067-12039, EPA-HQ-OAR-2018-0283-5840; Comment of the California Air Resources Board, NHTSA-2018-0067-11873; EPA-HQ-OAR-2018-0283-5054; Comment of Meszler Engineering Services, NHTSA-2018-0067-11723, EPA-HQ-OAR-2018-0283-5838; Comment of the Environmental Defense Fund, NHTSA-2018-0067-12108; EPA-HQ-OAR-2018-0283-5775. Note that many of these comments identify problems with the CAFE model, including errors in the methodology of applying technologies.

That abundant technology remains available, and that those technologies can and will provide incremental improvements in fuel economy and GHG emissions if more extensively adopted across the fleet, demonstrates that the automakers can achieve significantly better fuel economy and GHG emissions than they did in MY 2017.

10. *AAM assertion: The NGO Comments fail to consider that the Agencies' modeling assumes the availability of technologies that were not already in use in the baseline fleet*

Again, this is not correct. The AAM Supplement accurately characterizes the NGO position that that the EPA Trends Report demonstrates an ample level of technology to meet the current GHG and augural CAFE standards remains yet-to-be deployed.²⁹ The AAM Supplement also accurately states, "As the Agencies are aware, there are multiple considerations in the feasibility of a future standard beyond a simplistic assessment of technology availability."³⁰ However, AAM has somehow twisted this to claim that both statements cannot be true. Based on their comments submitted to the record so far, it is clear that the NGOs understand that both statements are accurate and are not mutually exclusive. In fact, as mentioned in our response to AAM assertion 9, above, the NGOs have consistently used agency models that attempt to account for not just synergies and incompatibility between technologies, but also the amount of technology in the baseline fleet.

11. *AAM assertion: Technology deployment does not necessarily equate to feasibility of a standard*

The AAM claim is innacurate and also fails to present the full picture. The AAM Supplement statement that "many factors play into reaching standards beyond just technology deployment" is accurate. But to substantiate this, AAM simply asserts that BMW and Mercedes have applied certain technologies yet remain behind their compliance targets.³¹

AAM ignores important factors in its discussion of technology on BMW and Mercedes vehicles. AAM argues that because BMW and Mercedes have similar average CO₂ emissions compared with other manufacturers despite having applied certain technologies to large portions of their fleets, this means deploying more technology does not necessarily mean more stringent standards are feasible. Not only is this flawed on its face, but it ignores that BMW and Mercedes have chosen to sell premium vehicles with more performance, bigger engines, and additional features that add weight. As a result, they must use additional technology to increase features and performance without impacting fuel economy.

²⁹ AAM Supplement at 7.

³⁰ *Id.* at 8.

³¹ AAM Supplement at 8-9.

In fact, Mercedes and BMW have regularly been technology-deployment leaders³² – but they tend to direct their technologies toward performance, aiming at a niche segment of luxury consumers. That they have used technologies with the potential to improve fuel economy and reduce GHG emissions, but directed that potential elsewhere, is simply part of their business model and the cost of their choosing to focus on premium vehicles.

Finally, because of BMW and Mercedes' focus on performance and luxury, they have routinely chosen to pay CAFE fines over the last 30 years rather than choosing to comply by meeting their CAFE targets directly. The BMW and Mercedes cases are not standard benchmarks for industry's ability to comply with the standards.³³ While the GHG standards, unlike the CAFE standards, do not allow manufacturers to pay modest fines in lieu of compliance, both BMW and Mercedes purchased large amounts of GHG credits from other manufacturers in 2017.³⁴ In the GHG standards, both BMW and Mercedes have chosen to purchase credits from other companies³⁵ and are ultimately in compliance with the standards.³⁶ So rather than show the relative difficulty of standards, the BMW and Mercedes cases show the flexibility of the current standard structure to allow those two automakers to continue to decide to deploy higher levels of technology for performance as they choose.

In fact, the AAM Supplement has missed the point. The higher levels of technology already employed by BMW and Mercedes conclusively demonstrates that it is quite feasible for other manufacturers to add more technology to their vehicles as well due to the technologies' attractiveness to consumers and ability to deliver efficiency and performance benefits. Just because the other manufacturers have chosen to use less technology to reduce costs and use up older credits does not mean that they cannot do as much as BMW and Mercedes.

12. AAM assertion: Other sources indicate a likelihood that, despite the availability of non-electrified technologies, additional powertrain electrification will be required

As AAM admits, this is a simple repetition of arguments from AAM's Comments on the Proposed Rule.³⁷ NGOs and other commenters have already demonstrated that this argument is unfounded and incorrect.³⁸ There is no new information in this section and it does not respond to the NGO Supplement in any way.

³² EPA Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2017. EPA-420-R-18-001, January 2018. <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100TGDW.pdf> at Figure 4.1 (p 47)

³³ CAFE Public Information Center. BMW paid CAFE fines every year from 1987 to 2006. Mercedes paid CAFE fines from 1985 to 1998, DaimlerChrysler paid fines in 1999, 2000, 2004, 2005, 2006, and 2007, and Daimler paid fines from 2008 to 2011. https://one.nhtsa.gov/cafe_pic/CAFE_PIC_Fines_LIVE.html.

³⁴ EPA Trends Report, Figure 5.17 at page 117. BMW purchased 4,000,000 Mg of credits in 2017 and Mercedes 6,227,713. Only one manufacturer, FCA, purchased more credits in 2017.

³⁵ EPA Trends Report, Table 5.11 at page 112.

³⁶ EPA Trends Report, Table 5.17 at page 117.

³⁷ AAM Supplement at 9.

³⁸ See, e.g., Comment of the International Council on Clean Transportation, NHTSA-2018-0067-11741, EPA-HQ-OAR-2018-0283-5456; Comment of the Union of Concerned Scientists, NHTSA-2018-0067-12039, EPA-HQ-OAR-2018-0283-5840; Comment of the California Air Resources Board, NHTSA-2018-0067-11873; EPA-HQ-OAR-2018-0283-5054; Comment of Meszler Engineering Services, NHTSA-2018-0067-11723, EPA-HQ-OAR-2018-0283-5838; Comment of the Environmental Defense Fund, NHTSA-2018-0067-12108; EPA-HQ-OAR-2018-0283-5775.

Additional Analysis and Comments from the Alliance

13. *AAM assertion: Median MY 2018 vehicles would require approximately 39% improvement to meet MY 2025 targets even assuming maximum application of air conditioning and off-cycle technology improvements*

This statement and the underlying analysis are deeply flawed and misleading. AAM argues that the median MY 2018 car requires a 39% emissions improvement to meet its MY 2025 GHG targets, and a 37% fuel economy improvement to meet its MY 2025 CAFE target.³⁹ AAM states that it arrived at this conclusion by: 1) obtaining a database of vehicles, classifications, and footprints for MY 2018 vehicles from Novation Analytics; 2) removing electrified vehicles from that database; 3) adding 10 g/mi off-cycle credits and “maximum” AC credits to each model type; and 4) creating a histogram of improvements necessary for each remaining model type to comply with its MY 2025 target.⁴⁰

But AAM’s “analysis” fails at providing the necessary transparency to support such claims. AAM did not submit to the docket (or make otherwise available) the database it purportedly received from Novation Analytics and used to perform its analysis. Nor has AAM submitted or otherwise made available any documentation memorializing the steps it took to filter and alter the spreadsheet as it undertook its analysis in steps two, three, and four. Without access to this basic information underlying its purported analysis, it is impossible for the agencies or the public to consider, analyze, critique, or comment on the substance of that analysis. In other words, AAM has shielded its methodology from scrutiny, and instead simply asked the agencies to take its assessment of what it says at face value. But doing so would be unjustifiable and arbitrary.

Moreover, even the scarce details provided in the AAM supplement demonstrate that its analysis is fundamentally flawed. In particular, measuring the *median model type* improperly inflates the apparent compliance task in two ways. First, using the median⁴¹ instead of the mean, or average, ignores the fact that the standards only require that automakers meet a fleet-wide *average*. Thus, the fact that half of the cars in the fleet would have to improve substantially to meet their individualized targets sheds zero light on the work left to do to actually achieve compliance. As an example, if the standards required an average of 110 g/mi CO₂, and the fleet consisted of three cars that emitted 150 g/mi CO₂ and two cars that emitted 50 g/mi CO₂, the median car would emit 150 g/mi, and thus need to improve by 40 g/mi to meet the target – but the fleet-wide *average* would be 110 g/mi, demonstrating that the fleet *is already in compliance with the standards*. This example demonstrates that the median value is completely irrelevant to evaluating the compliance task ahead.

Moreover, apart from erroneously measuring the median rather than the mean, AAM ignores that the fleet-wide average standard is based on *vehicles manufactured*, not model types offered.⁴² Thus, any analysis of remaining compliance tasks must be based on a *sales-weighted*

³⁹ AAM Supplement at 10 & Figure 3.

⁴⁰ *Id.*

⁴¹ The median is the “middle” value in a dataset. For example, in the set of numbers 1, 3, 4, 7, 8, the median is 4.

⁴² See 77 Fed. Reg. at 62648 (describing that a manufacturers compliance target is calculated “based on the mix and volumes of the models manufactured for sale by the manufacturer”).

average, not a simplistic “model-type-offered” average. By failing to sales-weight its calculations, AAM’s methodology would assign as much weight to a hypothetical high-emission, low-fuel economy model that sells 100 units as it does to a low-emissions, high-fuel economy vehicle that sells millions of units. Because the method gives equal weight to high performance model types, which are almost all low volume, as it does to high volume mainstream vehicles, it is completely irrelevant to determining the compliance task remaining.

Compounding its errors, AAM’s decision to remove plug-in and battery electric vehicles is not defensible. Removing those vehicles again artificially ignores that the standards only require that automakers meet a fleet-wide average target (as the AAM Supplement itself acknowledges⁴³), and thus automakers can and will use plug-in and battery electric vehicles to raise that fleet-wide average. Moreover (and again), although the agency’s prior analyses confirm that the standards are feasible without significant electrification, these vehicles currently exist in the fleet, AAM has itself stated that automakers may choose to invest in electrified vehicles as they are seen as “long-term transportation technology solutions,” and also a means of achieving global compliance goals,⁴⁴ and of course automakers may make some investments with an eye toward facilitating compliance with fleet-average emissions standards. Removing those vehicles from the analysis effectively allows suggests that automakers’ own choices to direct investment toward advanced technologies somehow weighs in favor of rolling back the standards. Furthermore, considering the plug-in electric vehicle share of new light-duty vehicles in the U.S. reached 2.1% in 2018⁴⁵ (already higher than the agencies projected for 2025 in their regulatory compliance analysis), electric vehicles are clearly part of most consumers’ and automakers’ technology choices far more than implied by AAM and the agencies. The removal or limiting of electric vehicles from any future-year compliance assessment is untenable.

AAM also limits off-cycle credits to 10 g CO₂/mi. But the 10 g CO₂/mi cap applies only to “menu” off-cycle credits. Automakers can and most likely will exceed that level by using off-menu credits, as demonstrated by ICCT’s report, which projected that actual credits by 2025 would likely be 15-25 g CO₂/mi.⁴⁶ Available data from EPA indicates the credit use is on the rise, up to 5.1 g/mi in 2017,⁴⁷ already well above what the agencies projected in their 2025 compliance projections. Artificially limiting off-cycle credits to 10 g CO₂/mi again falsely limits automaker compliance flexibility and erroneously increases the industry’s difficulty in meeting the 2025 requirements. By unreasonably constraining the off-cycle credit use, the AAM Supplement grossly overstates the task needed to comply with the current standards.

Conclusion

In summary, the AAM Supplement comments are incomplete, misleading, irrelevant, and/or incorrect. As such, they are without merit and any reliance on them would be arbitrary.

⁴³ See AAM Supplement at 10 (describing need to ensure fleet meets its target “on average”).

⁴⁴ See Alliance of Automobile Manufacturers Supplemental Comment, April 19, 2019, Docket No. NHTSA-2018-0067-12385; EPA-HQ-OAR-2018-0283-7455, at 15 n.49.

⁴⁵ ICCT 2019. The surge of electric vehicles in United States cities. <https://www.theicct.org/publications/surge-EVs-US-cities-2019>

⁴⁶ ICCT 2019. How will off-cycle credits impact U.S. 2025 efficiency standards? <https://www.theicct.org/publications/US-2025-off-cycle> and ICCT supplemental comment NHTSA-2018-0067-12414, EPA-HQ-OAR-2018-0283-7565 <https://www.regulations.gov/document?D=NHTSA-2018-0067-12414>

⁴⁷ EPA Trends Report, Table 5.5 at page 104.