

**ATTACHMENT A: DETAILS REGARDING THE COMMENTS FROM THE  
ASSOCIATION OF GLOBAL AUTOMAKERS ON THE PROPOSED SAFE VEHICLES  
RULE**

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## I. Overview

The following contains details to support the comments submitted by the Association of Global Automakers (Global Automakers) on the joint Notice of Proposed Rulemaking (NPRM) issued by the National Highway Traffic Safety Administration (NHTSA) and the U.S. Environmental Protection Agency (EPA), entitled “Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks” (SAFE Vehicles NPRM) [83 Fed. Reg. 42986, August 24, 2018]. This NPRM is an important step in maintaining, improving, and strengthening the “One National Program” (ONP) for motor vehicle fuel economy and greenhouse gas (GHG) emissions and for providing a public and transparent process for input on the regulations.

The standards as affirmed by the previous Administration in its waning days clearly needed to be revised. The revisions should provide for continuous improvements, flexible mechanisms for compliance in improving fuel economy and reducing GHG emissions, and the maintenance of ONP for regulating fuel efficiency in the most efficient and effective manner possible.

There are a number of factors that the agencies must fully examine in order to determine both the appropriate stringency of the standards out to model year (MY) 2026 and improvements to other elements of the regulatory program. We do not believe that any of the Alternatives set forth in the NPRM, or the current augural standards, offer an acceptable pathway for meaningful fuel economy improvements and GHG emissions reductions in a unified national program. Rather, a final rule that includes the following elements would establish feasible and reasonable standards, consistent with both the Energy Policy and Conservation Act (EPCA) and the Clean Air Act (CAA), and support a continuation of ONP. These items would also encourage ongoing innovation and investment in the auto industry resulting in safer, more fuel-efficient vehicles that meet consumers’ needs. We therefore request that the final rule address the following three items:

1. **The regulations should provide for meaningful year-over-year fuel economy improvements and GHG emissions reductions through MY 2026 and provide for a continuation of a unified and coordinated ONP with California.** We do not believe that any of the proposed Alternatives would lead to this result, although we agree that the current EPA and NHTSA augural standards are not appropriate and must be adjusted to account for today’s market realities and technology trends. Industry can thrive under a level regulatory playing field that allows for a smart approach to competition and efficiency improvements.
2. **There are a number of ways to address the stringency of the standards. Global Automakers believes that the best policy outcome would provide for a combination of meaningful year-over-year improvements in chassis-based efficiency coupled with a package of programmatic elements. This approach would provide automakers with flexible compliance options to produce a wide range of vehicles meeting their respective customers’ needs, ease manufacturer compliance burdens, and support investments in advanced fuel-saving technologies.** This package should consist of the following items (though the specific parameters

of some of these items would need to be determined in conjunction with the appropriate numeric stringency of the standards):

- Multipliers for advanced-technology vehicles—i.e., battery electric vehicles (BEV), plug-in hybrid electric vehicles (PHEVs) and fuel cell electric vehicles (FCEVs), extended through MY 2026.
  - The values of the multipliers should be fixed at specific levels depending on the stringency of the standard.
  - In order to prevent a dilution of the benefits of the program and prevent a windfall to certain automakers, the impact of these multipliers should be subject to a manufacturer's fleetwide cap on a model year by model year basis; the appropriate level of the cap would depend on the stringency level of the standards.
- Upstream emissions for BEVs, FCEVs, and the electric portion of use from PHEVs should be permanently set to zero grams per mile (0 g/mi).
- Strong HEVs should receive credit amounting to 20 g/mi credit for light-duty trucks (LDT), with no sales threshold minimum and no performance requirement. Agencies should consider a smaller incentive for passenger cars as well.
- A one-time expiration date extension through MY 2026 for GHG credits earned in previous years; the agencies should determine the applicable model years eligible for the extended carry-forward.
- The off-cycle credit cap should be raised to 15 g/mi, in recognition that these important, innovative fuel-saving technologies have an important compliance role, result in real-world GHG emission benefits, and should be encouraged to expand in coming years.
- The off-cycle "pick list" should be updated with the most recent data concerning the values of efficiency benefits from these fuel-saving technologies. Technologies that should be added to the list include, but are not limited, to: advanced A/C compressor, high efficiency alternator, and variable crankcase suction valve compressor.
- There should be no GHG curve adjustments or GHG test procedure adjustments based on any changes to E10 test fuel.
- Improvements should be made to the off-cycle program, including:
  - Blanket approval for applications using specific technologies and calculation and measurement procedures;
  - Allow suppliers to apply for provisional credit at the system or "pre-vehicle" level;
  - Accept the European Union's eco-innovations process;
  - Pre-approve calculations and measurements prior to demonstration; and
  - Provide general regulatory fixes that are critical to improving the efficacy of this program.

- Air conditioning refrigerant leakage and nitrous oxide and methane emissions standards should be included for compliance with the EPA standards for all MYs, even if it means a divergence from the NHTSA standards. This is important to maintaining regulatory flexibility through real GHG emission reductions and would prevent the potential for additional bifurcated, separate programs at the state level.

Global Automakers believes this package of compliance flexibilities is critical to the national program, because it promotes technology investment in the industry (and represents a large portion of industry investment that would otherwise be stranded without these provisions), provides real fuel savings benefits for the consumer and the vehicles, and can also encourage innovation in the industry. Further, it provides manufacturers with a diverse range of compliance options to select the best, most cost effective technology approach for each company's vehicles, thereby also providing support for a diverse range of technologies.

3. **The industry needs a coordinated set of standards between the NHTSA, EPA and California Air Resources Board (CARB) so manufacturers can allocate resources to investment in new and innovative technologies and jobs, instead of efforts to comply with inconsistent standards.** This important policy goal can be achieved without resorting to costly and uncertain litigation to either assert preemption under EPCA or to revoke California's waiver under the CAA. Therefore, Global Automakers emphasizes that maintaining ONP will require CARB's participation, along with EPA and NHTSA, and compromise. Any action that maintains ONP obviates the need to address California's authority under EPCA preemption or the CAA waiver but achieves the same goal of providing regulatory certainty and reducing regulatory overlap.

Global Automakers recommends that the agencies remain committed to the fundamental goal of the ONP – a harmonized set of regulations that improve fuel economy and reduce GHG emissions, that are aligned (but not necessarily 100% equivalent in terms of miles per gallon (mpg) target), are cost-effective, and account for the needs of customers. Fundamental to this goal is a data-driven and objective rulemaking process in which EPA, NHTSA, and CARB are fully engaged.

## II. History and Support of One National Program

### A. History and Evolution of One National Program

The U.S. Department of Transportation's Corporate Average Fuel Economy (CAFE) program was first enacted by Congress in 1975 in response to the Organization of Petroleum Exporting Countries oil embargo.<sup>1</sup> From 1975 until 2010, motor vehicle fuel economy was regulated solely by NHTSA through the Corporate Average Fuel Economy (CAFE) program. In the early 2000's, CARB took action to regulate GHG emissions – a metric virtually synonymous with fuel economy – leading the way for 11 other states and the District of Columbia to also adopt California's GHG regulations. After the Supreme Court's 2007

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<sup>1</sup> Energy Policy and Conservation Act of 1975, Pub. L. No. 94-163, 89 Stat. 871 (1975).

decision in *Massachusetts v. EPA*,<sup>2</sup> EPA moved to regulate GHG emissions from vehicles as well.<sup>3</sup> Because California had set its own emissions standards, the auto industry faced potentially conflicting regulations governing the same aspects of fuel efficiency and GHG emissions reduction under three separate regulated programs.

In 2009, the automobile industry and regulators from EPA, NHTSA and CARB reached a historic agreement to establish the ONP to address motor vehicle fuel economy and GHG emissions in a coordinated and harmonized fashion that allowed for continual improvements while preserving investments made by industry. NHTSA, EPA and CARB worked together with manufacturers and other stakeholders to create ONP as a way to address the concern that different standards at the federal and state levels would waste resources, add unnecessary friction in the system, discourage innovation, and diminish the benefits of all of the standards. As one of the Obama Administration's representatives correctly observed when describing the ONP adopted in 2009:

[T]here was a significant likelihood that the regulators, acting independently, would produce inconsistent standards with different levels of stringency, along with duplicative or confusing compliance programs and incompatible enforcement policies, which could raise the costs to industry, and compromise the potential benefits of the new standards for consumers and the public.<sup>4</sup>

This commitment resulted in joint fuel economy and GHG emission standards promulgated by NHTSA and EPA in 2010, for MY 2012 through 2016.

For its part, CARB amended its GHG emission regulations to include a "deemed-to-comply" provision whereby automakers could be in compliance with its state MY 2012-2016 GHG emission standards by complying with EPA's national GHG regulations.<sup>5</sup> CARB's reason for doing so was premised on a greater level of GHG emission reductions that could be achieved by a national program compared to a state-based program that encompassed only California and 12 other states.

The commitment to the ONP was renewed in 2011 when the agencies proposed standards covering MY 2017 through 2025, which were then finalized in 2012.<sup>6</sup> Again, EPA and NHTSA jointly issued a proposed rule and a final rule, to ensure that their respective standards were aligned with each other. Because NHTSA is statutorily limited to setting standards for no more than five years at a time, it published "augural" standards for MY 2022-2025, targeting what the standards could be if the agencies' technology, cost and market predictions—the basis for setting the standards—proved mostly accurate.

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<sup>2</sup> 549 U.S. 497 (2007).

<sup>3</sup> Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

<sup>4</sup> J. Freeman, The Obama Administration's National Auto Policy: Lessons from the "Car Deal," 35 Harv. Env. Law Review 343, (2011), p. 358.

<sup>5</sup> 13 C.C.R. § 1961.3(c).

<sup>6</sup> 77 Fed. Reg. 62,624 (Oct. 15, 2012).

EPA's standards through MY 2025 were finalized in the regulations, and CARB once again adopted a "deemed-to-comply" provision to allow federal compliance in place of state-based compliance.<sup>7</sup>

The Final Rule also included a Midterm Evaluation, which was fundamental to all parties' commitment and agreement to the standards through MY 2025; the Midterm Evaluation was designed as a check point in the process to reassess assumptions and predictions made more than ten years in the future, and to determine whether adjustments to the standards would be needed.<sup>8</sup> The timing for the Midterm Evaluation was set so that the agencies could incorporate the latest industry and market data, and align any potential EPA regulatory changes with the necessary NHTSA rulemaking process, keeping the agencies once again in close coordination.

In the Draft Technical Assessment Report (Draft TAR), the agencies summarized the benefits of the ONP as follows:

Under the National Program, consumers continue to have a full range of vehicle choices that meet their needs, and, through coordination with the California standards, automakers can build a single fleet of vehicles across the U.S. that satisfies all GHG/CAFE requirements.<sup>9</sup>

This description captures the foundation upon which ONP was built; the realization of this goal will enable manufacturers to maximize economies of scale, deliver efficient vehicles at lower cost and provide environmental benefits across the nation.

Based on statements in the preamble to the 2012 rule, those made by EPA personnel, and on the agency's website, a proposed rule and a proposed determination were expected in the summer of 2017,<sup>10</sup> and a final NHTSA rule and EPA determination were expected no later than April 1, 2018.<sup>11</sup> However, shortly after the 2016 election, the outgoing EPA Administrator determined in January 2017 that the standards should be continued without changes.<sup>12</sup> That decision was rushed, issued only a few

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<sup>7</sup> 13 C.C.R. § 1961.3(c).

<sup>8</sup> Critical to the Midterm Evaluation was the recognition that the MY 2025 standards were a best estimate of future capabilities and that the standards could change, rather than must be affirmed.

<sup>9</sup> U.S. EPA OTAQ, NHTSA and 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. Executive Summary, (2016). p. ES-1.

<sup>10</sup> See <https://www.epa.gov/sites/production/files/2016-10/documents/grundler-sae-naipc-2015-09-17-presentation.pdf> at 24 (indicating that EPA Proposed Determination and NHTSA notice of proposed rulemaking would be released mid-2017 and the final determination made in April 2018).

<sup>11</sup> *Id.* See also 2012 Final Rule, 77 Fed. Reg. at 62,784.

<sup>12</sup> However, the Administrator acknowledges that while the standards may be feasible at the current levels, that:

...several commenters spoke to the need for additional incentives or flexibilities in the out years of the program including incentives that could continue to help promote the market for very advanced technologies, such as electric vehicles. My determination, based on the record before me, is that the 2022-2025 standards...[are] appropriate under section 202 and do not need to be revised. ***This conclusion, however, neither precludes nor prejudices the possibility of a future rulemaking to provide additional incentives for very clean technologies or flexibilities that could***

weeks after receiving thousands of public comments on the proposed determination, and leaving necessary adjustments based on changing market conditions unaddressed. The April 2018 Revised Determination was based on updated data and information and demonstrated that the current MY 2022-2025 standards are no longer appropriate in light of changed market realities, including:

- Changing sales volumes (peak sales of 18.1 million in 2016 to 17 million in 2017);
- Smaller-than-expected fuel efficiency gains in MY 2016 and MY 2017;
- Changes in the car and truck fleet splits (in 2012, the projected car/truck split was 67%/33% for MY 2025, but the current car/truck split has changed significantly to 48.5% cars/51.5% trucks); and
- Lower than expected gasoline prices (in 2012, EIA reference price forecast of \$3.86/gallon for gasoline in 2025 (in 2010 dollars), and now the projected price is \$2.92/gallon (in 2016 dollars)).

Today's new proposed rulemaking offers the opportunity to work on a transparent next step in a coordinated process that considers safety, the need to conserve oil and reduce GHG emissions, and supporting a strong automotive market.

#### B. Strong Support for ONP

Global Automakers supports the ONP to regulate vehicle GHG emissions and fuel economy and strongly wants to see it continued.<sup>13</sup> The ONP represents smart and strong federal policy to provide a consistent and certain path for ongoing improvements and reduces regulatory burden, consistent with this Administration's regulatory program goals. While the ONP has not been perfect in its implementation, today's Administration has an opportunity to get it right. Further, the possibility of three separate regulatory programs, resulting in multiple jurisdictions for compliance, raises concerns that automakers might have to manufacture different versions of vehicles and manage fleets in each jurisdiction to meet the differing standards throughout the country.

While the rationale for ONP remains strong, the promise of it has not been fully met. Under the current regulations, it is possible for a manufacturer's fleet to comply with one set of federal standards but not the other. Further, the standards lack proper alignment, unnecessarily increasing complexity and regulatory burden. Efforts to harmonize the programs under ONP would help lower costs and enable greater environmental benefits than separate state-by-state programs.

There are several challenges in the event of a bifurcated program where NHTSA, EPA and CARB are not aligned, including driving up costs to consumers due to the loss of economies of scale, the excess administrative or transactional costs to comply with two programs, and challenges with vehicle sales

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***assist manufacturers with longer term planning without compromising the effectiveness of the current program.*** The EPA is always open to further dialogue.... ***(emphasis added)***

This text alone suggests that perhaps the standards alone were insufficient through MY 2025. "EPA Administrator's signed Cover Letter to the Final Determination (January 12, 2017)", <https://www.epa.gov/regulations-emissions-vehicles-and-engines/epa-administrators-signed-cover-letter-final>.

<sup>13</sup> From Global Automakers comments to the Midterm Evaluation: "NHTSA and California need to work together to maintain the One National Program as all parties committed to at its inception."



distribution networks (interstate vehicle transfers, for instance). There is also the potential for costly and protracted litigation, which results in the highest level of uncertainty and hardship for industry and likely results in automakers having to meet the highest standard in the interim period while any litigation is ongoing.

It is our hope to reach a solution where California and the federal government agree to a program that avoids protracted litigation and uncertainty. A collaborative and open process with all parties is critical to understanding all of the issues and working towards a managed solution that takes into account safety, fuel efficiency, the consumer and market realities.

### **III. Agencies' Discretion to Set Standards under Their Respective Statutory Criteria**

Global Automakers has consistently requested that the standards be harmonized so that a fleet that complies with one standard complies with the other. In previous comments, we have pointed out ways in which the standards can be better harmonized.<sup>14</sup>

Global Automakers, however, has never advocated that the standards be numerically equivalent. While a grams per mile of carbon dioxide (CO<sub>2</sub>) standard can be converted to a miles per gallon (mpg) equivalent, differences in the authorizing statutes require some adjustments to allow manufacturers to meet both standards simultaneously and efficiently, as well as to allow the agencies to meet the requirements of those statutes.

For example, NHTSA must weigh four EPCA factors to determine the "maximum feasible" fuel economy standards: "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."<sup>15</sup> "Other motor vehicle standards" includes safety regulations, and "economic practicability" includes consumer acceptance. As NHTSA has affirmed, the agency has broad discretion concerning how to weigh these factors:

NHTSA has broad discretion in balancing the above factors in determining the average fuel economy level that the manufacturers can achieve. Congress "specifically delegated the process of setting... fuel economy standards with broad guidelines concerning the factors that the agency must consider." The breadth of those guidelines, the absence of any statutorily prescribed formula for balancing the factors, the fact that the relative weight to be given to the various factors may change from rulemaking to rulemaking as the underlying facts change, and the fact that the factors may often be conflicting with respect to whether they militate toward higher or lower standards give NHTSA discretion to decide what weight to give each of the competing policies and concerns and then determine how to balance them—"as long as NHTSA's balancing does not undermine the

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<sup>14</sup> Global Automakers, Comments on the "Request for Comment on Reconsideration of the Final Determination of the Midterm Evaluation of Greenhouse Gas Emissions Standards for Model Years 2022-2025 Light-Duty Vehicles."

<sup>15</sup> See 49 CFR 531 at 34242-3 (June 17, 2008).

fundamental purpose of the EPCA: Energy conservation,” and as long as that balancing reasonably accommodates “conflicting policies that were committed to the agency’s care by the statute.” Thus, EPCA does not mandate that any particular number be adopted when NHTSA determines the level of CAFE standards.<sup>16</sup>

In contrast, Section 202 of the CAA directs EPA to set standards “applicable to the emission of any air pollutant” from certain motor vehicles “which in [the Administrator’s] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.” Section 202 further requires EPA to provide adequate lead-time for manufacturers to develop and apply the requisite technology, with appropriate consideration to costs of compliance within that period. Safety is also a consideration; Section 202(a)(4) of the CAA prohibits the use of any emission control device, system or design that will cause or contribute to an unreasonable risk to public health, welfare, or safety.<sup>17</sup> Like NHTSA, EPA has considerable discretion concerning the appropriate emission standard for a given pollutant. EPA has stated that:

EPA also has significant discretion in considering a range of stringency. Section 202(a)(2) of the Clean Air Act requires only that the standards “take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.” This language affords EPA considerable discretion in how to weight the critical statutory factors of emission reductions, cost, and lead time.<sup>18</sup>

The U.S. Supreme Court has acknowledged that application of EPCA and the CAA could lead to coordinated but not necessarily identical outcomes. In *Massachusetts v. EPA*, the Court observed that although agencies’ statutory obligations overlap, “there is no reason to think the two agencies cannot both administer their obligations and yet avoid inconsistency.”<sup>19</sup> The Court also noted that “EPA no doubt has significant latitude as to the manner, timing, content, and coordination of its regulations with those of other agencies.”<sup>20</sup>

However, because of differences between EPCA and the CAA, there are limitations on the extent to which the CAFE standards can (and should) be aligned with EPA’s GHG emission standards. For instance, EPA can regulate emissions of GHG other than CO<sub>2</sub> under the CAA—like A/C leakage, methane and nitrous oxide—while NHTSA effectively cannot, because these emissions do not result in vehicle fuel efficiency improvements. Therefore, a straight numerical conversion from a GHG g/mile standard that includes non-CO<sub>2</sub> emissions to mpg does not actually result in standards of equivalent numerical stringency. As we discuss in greater detail below, Global Automakers supports EPA maintaining these

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<sup>16</sup> See 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62,624, 62,670 (Oct. 15, 2012) (quoting *Center for Auto Safety v. NHTSA*, 793 F.2d 1322, 1341 (D.C. Cir. 1986) and *Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1195 (9<sup>th</sup> Cir. 2008).

<sup>17</sup> See 83 Fed. Reg. 42986, 43231 (Aug. 24, 2018); 42 U.S.C. 7521(a)(4)(A).

<sup>18</sup> See Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles -- Phase 2, 81 Fed. Reg. 73,478, 73,910 (Oct. 25, 2016).

<sup>19</sup> *Massachusetts v. EPA*, 127 S.Ct. 1438, 1443 (2007).

<sup>20</sup> *Id.* at 1462.

emissions as part of the ONP even if it results in NHTSA's and EPA's standards diverging numerically. Similarly, while both agencies allow credit trading, there are statutory limits on trading under EPCA, but not under the CAA. This is another area where allowing for differences between the EPA and NHTSA programs could lead to greater efficiencies and ease of compliance for automakers.

The details in our comments below discuss how EPA and NHTSA, in implementing their respective governing statutes, should address the questions of the stringencies of the CAFE and GHG emission regulations and the other programmatic elements that streamline manufacturer compliance and account for emissions benefits of advanced vehicle technologies.

#### **IV. The Final EPA and NHTSA Regulations Should Set Standards that Provide for Meaningful Year-Over-Year Improvements in Fuel Economy and GHG Emissions Reductions**

##### **A. Industry Supports Standards that Increase Over Time and that Are Set at a Level that Meets Customer Needs and Technology Capabilities**

Maintaining a trajectory of increasing standards that provides investment certainty makes the standards more "durable" over the longterm, because it provides certainty for research and development direction, encourages investment in manufacturing, and provides consumers a full spectrum of options.

The current Preferred Alternative in the proposed rule of a 0% per year increase from MY 2020 standards does not create a clear path nor support competitiveness in a global marketplace. In order for the U.S. auto industry to remain competitive and continue to export vehicles to the rest of the world, industry is better served by a reasonable, steady ramp rate that accounts for investments made and the global nature of the market. Steady increases allow for long-term planning and create an environment of security that fosters ongoing investment in vehicle technology and consumer confidence in purchasing newer vehicles. It also provides a level-playing field upon which automakers can compete.

We also agree with the agencies that the standards as previously codified by EPA and set as augural by NHTSA should be adjusted from their current form. We encourage NHTSA and EPA to look for a new Alternative that provides meaningful year-over-year improvements in fuel economy and GHG emission reductions, is acceptable to the state of California for a national program and provides important and necessary policy support for a broader transition to vehicle electrification. We believe such a solution is not only achievable, but also meets the agencies' statutory requirements for maximum feasible and technical feasibility.

##### **B. Accurate Technical Analysis and Modeling Considerations are Critical to Final Rulemaking**

The agencies must consider numerous factors in the standard setting process, including technical feasibility and lead time. In order to create truly durable standards, the final rule should provide for

meaningful year-over-year increases with appropriate flexibilities that encourage investment in new technology, while also ensuring that consumers can afford to purchase newer vehicles with the latest safety innovations. It is also consistent with meeting the goals of maximum feasibility under EPCA. To accomplish these goals, the agencies should continue to focus on establishing a predictable trajectory for improvements to fuel efficiency and GHG emissions, set at equivalent levels of stringency increases for passenger cars and light-duty trucks. A consistent approach to improved fuel efficiency and GHG emissions reductions creates the market stability that industry needs to ensure long-term investments and product planning timelines. In order to accomplish these goals, the agencies have correctly identified that a consistent approach to using the most up-to-date data and a robust technical analysis is needed.

#### 1. Updated Volpe Modeling Using the Most Up-to-Date Data

This NPRM's use of a single model to evaluate alternative scenarios for both programs provides consistency in the technical analysis, and Global Automakers supports the Volpe model's use as it has proven to be a transparent and user-friendly option in this current analysis. The use of the Volpe model has allowed for a broad range of stakeholders, with varying degrees of technical expertise, to review the data inputs to provide feedback on this proposed rule. The Volpe model's accompanying documentation has historically provided a clear explanation of all sources of input and constraints critical to a transparent modeling process. Other inputs have come from modeling that is used widely by other sources, specifically the Autonomie model, allowing for a robust validation, review and reassessment.

One of the foundational underpinnings of the standards is the agencies' technical modeling. There has been a lot of discussion about the modeling since the Draft TAR, including the way the models work and assumptions inputted into each of the models. Upon request, Global Automakers and our members have worked with the Volpe Center to provide updated and revised assumptions and baseline data to support improved outputs from the Volpe model, and we understand that the Volpe Center has used many of these inputs. However, in evaluating the analysis it has become clear that there is still missing data on some technologies deployed from MY 2015 forward that should be added to the input files to ensure that the Volpe model is using the most complete, up-to-date data.

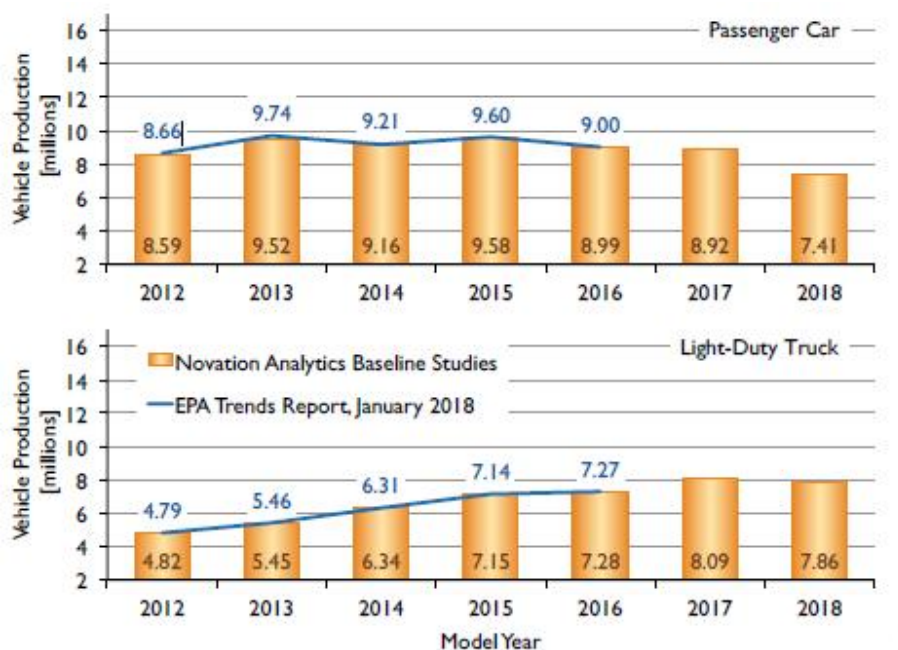
Global Automakers believes that in updating the agencies' modeling, assumptions and data, revised findings would support the conclusion that adjustments to the existing regulations are needed but the question of what those adjustments should be requires a full spectrum of data inputs. This point is supported by our analysis. Adjustments could take numerous forms, including a revision to the stringency levels, the implementation of credit flexibilities or any combination thereof that would continue the path of annual fuel efficiency improvements and GHG emissions reductions.

Global Automakers and the Auto Alliance have received updated study results from a third-party consultant who continues to conduct a longitudinal analysis of fleet performance. This analysis uses data similar to those submitted to the agencies as well as data from publicly available sources. The findings indicate differences from the current considerations in the NPRM regarding passenger car and light-duty

truck production shares and the increasing production shares of various technologies, including advanced technology.

In terms of production share of vehicles, the projected consumer interest in sport utility vehicles (SUVs) has continued in an upward slope. In 2012, the agencies projected a car/truck split of 67%/33% in MY 2025.<sup>21</sup> The split in MY 2015 was 57% cars/43% trucks,<sup>22</sup> and presently this split has moved to 48.5% cars/51.5% trucks.<sup>23</sup> In addition, truck SUV shares continue to increase in popularity, while sales of non-SUV passenger cars are declining. Meanwhile, for MY 2018, light-duty truck volumes are expected to exceed passenger car volumes. This shift may reflect the impact of lower gasoline prices on purchasing decisions and suggests fuel economy may not be an overriding consideration for many buyers.

Figure 1: Vehicle Production Volume



Source: Novation Analytics Model Years 2012-2018 Baseline Studies

Equally important to the share of production are assumptions regarding the implementation of various technologies in vehicles. The closer the model can simulate real-world deployment of the vehicle technologies at the correct volumes the better the agencies are able to suggest the most efficient, cost-effective and safe regulatory frameworks.

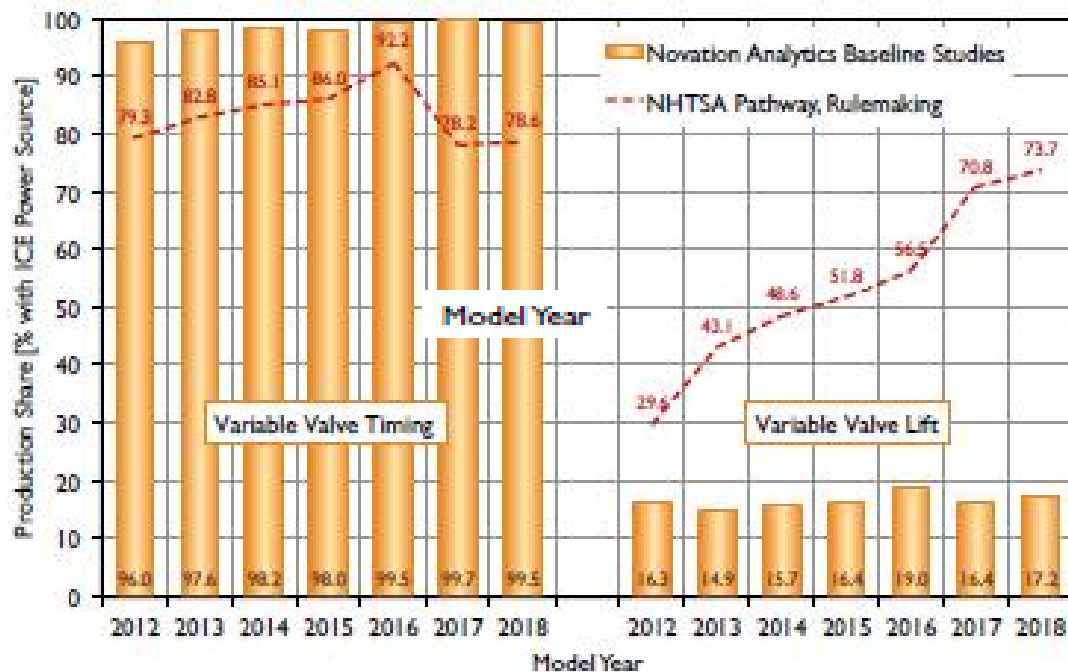
<sup>21</sup> Draft TAR, p. ES-8.

<sup>22</sup> U.S. EPA. 2016 Fuel Economy Trends Report, (2016). p. 4. Note that the per vehicle fuel economy is better year over year even though the car/truck split is not consistent with EPA's projections. *Id.*

<sup>23</sup> Novation Analytics. Model Years 2012 to 2018 Baseline Studies prepared for Alliance of Automobile Manufacturers & Association of Global Automakers. October 8, 2018.

An example of this discrepancy is with the common vehicle technology – variable valve timing & lift – deployment versus projections. Deployment of variable valve timing (VVT) is effectively 100% in the market. This emissions reduction technology implementation continues to outpace the NHTSA projected pathway for technology deployment with implementation occurring more than five years earlier than assumed. On the other hand, variable valve lift (VVL), a performance technology, continues to be deployed at much lower levels from the NHTSA projected pathway. The disparity between actual deployment and implementation assumptions needs to be recalibrated if the most updated data is used in the model. Using the most updated data allows the agencies to address the disparities between projections and actual fleet performance. Eliminating these types of inconsistencies creates an opportunity for the agencies to establish a regulatory path that takes into account those technologies that have proven to provide both fuel efficiency benefits and are accepted by consumers.

Figure 2: Variable Valve Timing Deployment Real-World vs. NHTSA Assumptions



Source: Novation Analytics Model Years 2012-2018 Baseline Studies

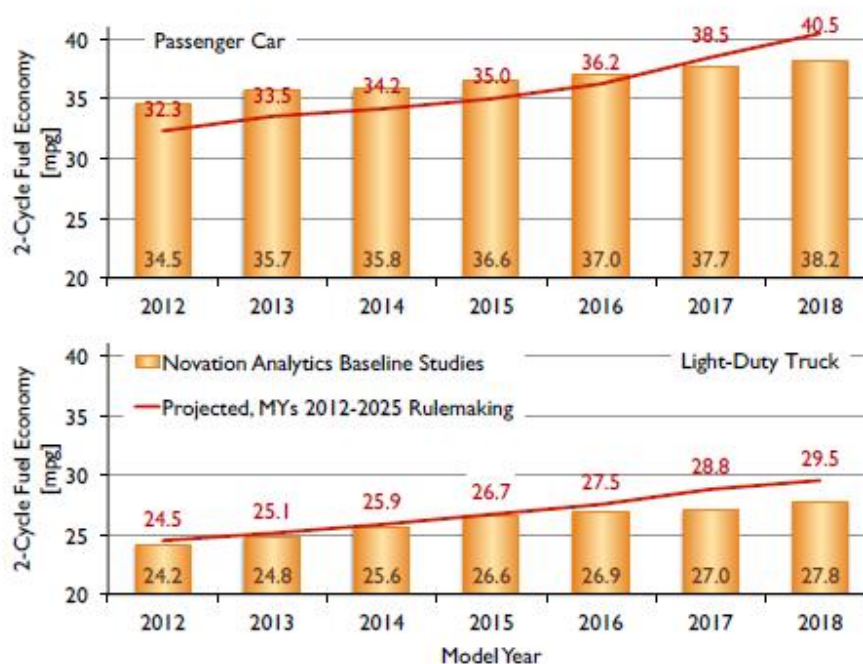
Global Automakers asks that the agencies confirm that the most up-to-date vehicle and fleet information have been fully captured in the input files for the model.

## 2. Fuel Economy Increases and GHG Emissions Reductions are Feasible

The auto industry has been steadily increasing the fuel economy and GHG emissions performance of passenger cars and light trucks since MY 2012. Industry has continued to contract with Novation Analytics to provide an updated fleet baseline analysis following each model year, to compare to the agencies' assumptions, and to serve as an additional verification for data inputs. The most recent

analysis is included in Attachment C(1) of these comments. Novation Analytics' findings show that motor vehicles, both passenger cars and light-duty trucks, are consistently improving year-over-year with the encouragement of government standards.

Figure 3: 2-Cycle Fuel Economy Improvements



Source: Novation Analytics Model Years 2012-2018 Baseline Study

As the figure above indicates, year-over-year improvements in fuel economy and GHG emissions reductions are feasible and achievable, though not at the levels required under the current standards.

In addition, an analysis presented by Greg Pannone of Novation Analytics earlier this year supports the technical feasibility of continuing to increase the stringency of the standards through MY 2026.<sup>24</sup> The presentation, found in Attachment C(2) of these comments, reviews the technical challenges in increasing internal combustion engine (ICE) efficiency and concludes:

Assuming continued investment and application of high efficiency ICE technologies, achievement of the ZEV [zero emission vehicle] mandate, constant non-ZEV hybrid take rates, and plausible reductions of mass, aerodynamic drag, and tire rolling resistance, a non-hybrid ICE-dominated U.S. fleet could plausibly achieve CAFE values of 49 mpg for PC and 35 mpg for LDT by MY 2025.<sup>25</sup>

<sup>24</sup> G. Pannone, Novation Analytics, "What's the Role of ICE Going Forward?", presented to SAE High Efficiency IC Engine Symposium (Detroit April 2018).

<sup>25</sup> *Id.* at slide 18.



Further analysis is necessary, but this presentation provides confirmation that further increases in powertrain-related stringency are technically possible.

### C. A Steady Increase in Standards is Economically Practicable and Supports U.S. Employment

Throughout the Midterm Evaluation, Global Automakers has supported standards with meaningful increases in year-over-year stringency. To accommodate compliance flexibility, we also have urged the agencies to add a variety of compliance tools to the standards.<sup>26,27,28</sup> Just as the agencies have provided a number of options for stakeholders to evaluate, there are numerous combinations of stringency and compliance tools that can be formulated to find an outcome that meets statutory requirements, provides industry with certainty, continues fuel savings for consumers, and maintains ONP.

Steadily increasing standards support the investments that OEMs and suppliers have already made in fuel economy, are consistent with the long lead-times that apply in the auto industry, support the competitiveness of U.S. automotive manufacturers and suppliers, increase employment in the automotive industry, avoid the uncertainty and cost that will result from the prospect of a bifurcated regulatory scheme, and meet consumer expectations.

#### 1. Increasing Standards Supports Employment in the Auto Industry

The NPRM acknowledges that the Preferred Alternative will *reduce* U.S. auto sector labor relative to more stringent Alternatives.<sup>29</sup> This is consistent with a study by researchers at the Indiana University School of Public and Environmental Affairs, which explored the economic impact of fuel economy standards. The “Macroeconomic Study of Federal and State Automotive Regulations”<sup>30</sup> (“2017 IU Study”) looked at vehicle price effects on factors like employment and gross domestic product (GDP); supply chain innovations spurred by the regulations; and consumer fuel savings. The study concluded that “the overall annual impact of the regulatory programs on the national economy is negative in the near-term but positive in the long-term, a pattern that is consistent with theoretical expectations.”<sup>31</sup> The 2017 IU Study found that in the long-term, the higher vehicle prices that the standards will drive will be

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<sup>26</sup> We recognize that the agencies have different statutory authorities and constraints. If one agency includes a flexibility that the other agency cannot under the latter agency’s statutory authority, there may be a difference in numerical stringency of the standards. However, if the agencies then harmonize the standards so that a single fleet can meet both standards, the result will still be a unified national program, preferably with California in agreement with and part of the program.

<sup>27</sup> See Section IV herein, as well as Comments of Global Automakers dated 9/26/16 at D-1; Comments of Global Automakers dated 12/30/2016 at 20; and Comments of Global Automakers dated 10/5/2017 at 3.

<sup>28</sup> Global Automakers and the Auto Alliance. “Petition for Direct Final Rule with Regard to Various Aspects of the Corporate Average Fuel Economy Program and the Greenhouse Gas Program.” June 20, 2016. <https://www.globalautomakers.org/OldSiteContentAssets/bulletin/Joint-Harmonization-Petition-for-GHG-and-CAFE-assets/2017-06-20-joint-alliance-global-harmonization-petition-for-rulemaking-pdf>.

<sup>29</sup> 83 Fed. Reg. at 43436-37.

<sup>30</sup> Carley, S. et al. “Macroeconomic Study of Federal and State Automotive Regulations with Recommendations for Analysts, Regulators, and Legislators.” School of Public and Environmental Affairs, Indiana University. March 2017. (“2017 IU Study”).

<sup>31</sup> 2017 IU Study at 3.



more than offset by increased innovation and employment in the supply chain and consumer fuel savings. The 2017 IU Study estimated that the current fuel-efficiency standards could increase jobs by between 200,000 and 375,000 in the year 2025 and add between \$138 billion to \$240 billion in GDP between 2017 and 2025.<sup>32</sup>

Global Automakers acknowledges that some of the literature, as noted above, predicts negative employment impacts from the current standards in the short term. These employment impacts are significant and the need to mitigate them is why Global Automakers has proposed flexibilities in the standards. Global Automakers believes that if the short-term shocks can be mitigated through flexibilities and adjustments in stringency, a steady year-over-year increase in standards will provide national economic benefits in the long run and enhance the ability of U.S. auto manufacturers to compete globally. Such changes must also be accompanied by continuation of a unified national program, including California and the Section 177 States, to provide the optimal economic outcome associated with this rulemaking.

## 2. Incrementally Increasing Standards Support Existing and Planned Investments

In anticipation of the expected increases in stringency, automakers and their suppliers have invested \$76 billion in facilities, and much of this has been driven by the “enhanced investment to meet globally leading fuel economy and greenhouse gas standards.”<sup>33</sup> Automakers have developed product plans that call for the deployment of these technologies across their fleets.

An abrupt halt in the gradual increase in fuel economy standards would leave automakers and suppliers with stranded costs. Automakers and suppliers may not be able to recoup investments already made in fuel economy technology.<sup>34</sup> Automakers cannot change their product plans quickly; product development cycles in the auto industry are necessarily long because of the massive investments they require. Average vehicle model development cycles now last for 6.7 years.<sup>35</sup> Powertrain programs cycles are even longer – typically ten years, spanning two or more vehicle cycles.<sup>36</sup> These lengthy product development cycles impose costs:

One of the greatest risks an OEM faces for any investment, but particularly for powertrain investment since it is so large and specialized, is having an investment become stranded. That is,

<sup>32</sup> <https://spea.indiana.edu/doc/research/working-groups/auto-report-032017.pdf> (accessed 14 September 2018). While Global Automakers believes that changes are necessary to the current standards, this study is nonetheless useful to show that increases in fuel economy standard stringency can have a long-term positive impact on employment.

<sup>33</sup> Blue Green Alliance. “Driving Investment: How Fuel Efficiency is Rebuilding American Manufacturing.” <https://www.bluegreenalliance.org/resources/driving-investment-how-fuel-efficiency-is-rebuilding-american-manufacturing/>. (January 25, 2018) (accessed 19 October 2018).

<sup>34</sup> “[S]uppliers have already invested to retool facilities and design new products to meet automakers’ steadily increasing fuel efficiency demands.” <https://www.brookings.edu/blog/the-avenue/2018/07/02/why-undermining-fuel-efficiency-standards-would-harm-the-us-auto-industry/> (July 2, 2018) (accessed 14 September 2018).

<sup>35</sup> <https://www.cargroup.org/automotive-product-development-cycles-and-the-need-for-balance-with-the-regulatory-environment/> (September 20, 2017) (accessed 12 September 2018).

<sup>36</sup> *Id.*

if a specific nameplate or vehicle platform fails in the market place or needs to be replaced before its planned life cycle, any engine or transmission program and plant investment that is tied to such a platform is at risk of needing to be absorbed by other vehicle programs or be “stranded” and written off as a loss.<sup>37</sup>

While the agencies’ model shows that lower costs are associated with its Preferred Alternative, the model assumes that companies can respond more quickly than is possible. As discussed in Section IV.C. of these comments, the abrupt cessation of increases in fuel economy requirements will require retooling and learning changes for which the model has not fully accounted. The model also does not account for the changes to labor and material requirements that the agencies’ Preferred Alternative will require. These factors impose significant costs on industry and greatly detract from the cost savings associated with the Preferred Alternative.

Steadily increased standards also provide the industry with a hedge against sudden shifts in consumer demand caused by abrupt changes in gasoline prices. As described elsewhere in the comments, there is a direct connection between consumer demand for high-fuel efficiency vehicles and gasoline prices. For example, between 2004 and 2008, gasoline prices nearly doubled, from \$1.58 per gallon to \$3.26 per gallon.<sup>38</sup> That trend coincided with a dramatic drop in demand for trucks and SUVs,<sup>39</sup> which had catastrophic consequences for the U.S. auto industry and led to the bailouts of General Motors and Chrysler. As one publication explained in late 2008:

The first shot was the dramatic rise in energy prices this past summer. That caused a rapid mix shift in vehicles--and had a major impact on profitability." GM, Ford and Chrysler have relied on SUVs and trucks for the majority of their profits. Those vehicles commanded high sticker prices and by the late nineties made up 50 percent of the U.S. car market. When demand for the big vehicles dropped quickly and customers went for smaller, less expensive, less profitable cars, auto companies had two major issues to deal with: A loss of revenue and a backlog of unwanted trucks.<sup>40</sup>

Given the long lead times in the auto industry, it is impossible to adjust to sudden and unexpected shifts in demand. Steadily increased fuel economy standards can provide a stabilizing hand in the face of yo-yoing gasoline prices and protect manufacturers long-term investments in fuel saving technologies. As

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<sup>37</sup> *Id.*

<sup>38</sup> Samuel R. Avro, “Charting the Dramatic Gas Price Rise of the Last Decade.” Energy Trends Insider. March 14, 2012. Available at <http://www.energytrendsinsider.com/2012/03/14/charting-the-dramatic-gas-price-rise-of-the-last-decade/>; see also Energy Information Administration, Annual Gasoline and Diesel Prices (2007 and 2008), [https://www.eia.gov/dnav/pet/pet\\_pri\\_gnd\\_dcus\\_nus\\_a.htm](https://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_nus_a.htm) (accessed 4 July 2018).

<sup>39</sup> Chuck Squatriglia, “Rising Gas Prices Finally Kill the Once-Mighty SUV.” Wired Magazine. June 9, 2008. Available at <https://www.wired.com/2008/06/rising-gas-pric/>; see also B. Vlasic, “As Gas Costs Soar, Buyers Flock to Smaller Cars,” New York Times (May 2, 2008); <https://www.nytimes.com/2008/05/02/business/02auto.html> (accessed 4 July 2018).

<sup>40</sup> Larry Webster, “GM in Crisis—5 Reasons Why America's Largest Car Company Teeters on the Edge.” Popular Mechanics. Nov 17, 2008. The article quotes David Cole, then Chairman of the Center for Automotive Research.

one commentator noted, “strong standards insure automakers against future market loss when gas prices inevitably rise again.”<sup>41</sup>

### 3. Manufacturers Compete in a Global Market

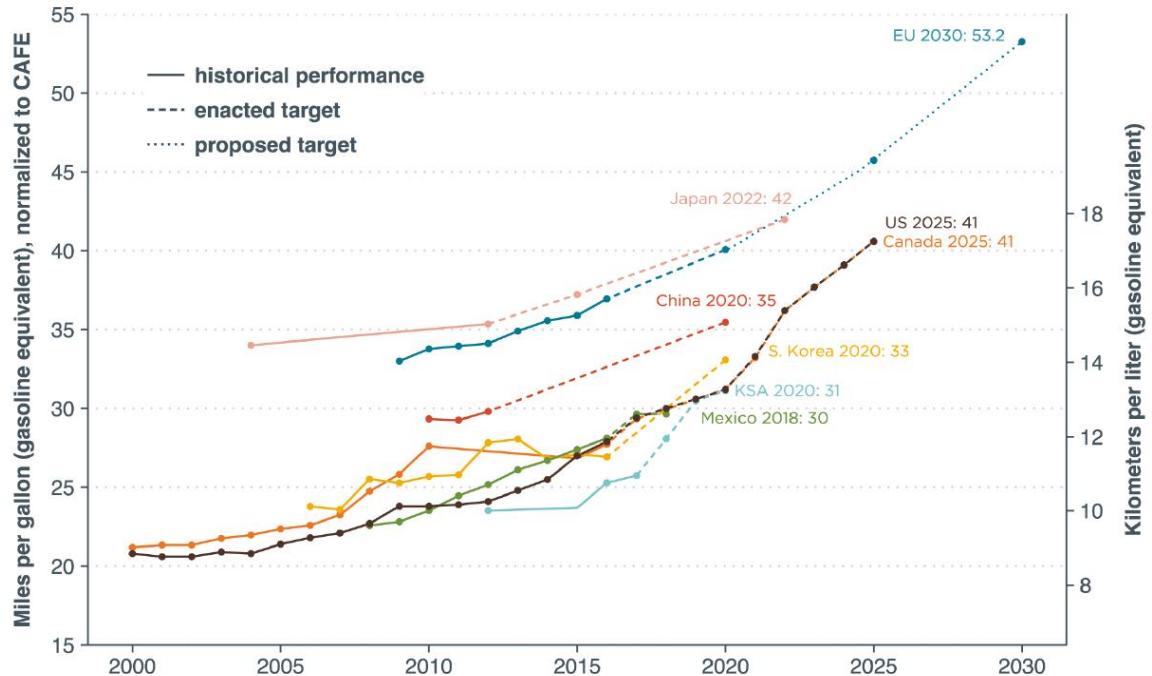
The impact of the risks to manufacturer investments are also impacted by the fact that automakers operate in a global market. It is therefore important that U.S.-based auto manufacturing is poised to meet demand throughout the globe, and thereby support exports. The U.S. auto industry—which consists of 14 companies operating facilities throughout the nation—currently produces 10.9 million cars and trucks in the U.S., 17 percent of which (or 1.9 million units) are exported overseas. Expanding exports will help strengthen the auto manufacturing base in the U.S. and increase employment.

No manufacturers sell only in the U.S. Automakers must therefore consider the fuel economy and GHG standards established around the world when developing their product plans. Illustrated in Figures 4a and 4b below, in most of the rest of the world, these standards will increase in stringency between MY 2020 and MY 2025, and therefore manufacturers will have to manufacture vehicles that will meet those stricter standards. Manufacturers can achieve greater economies of scale in production if U.S. standards are relatively aligned with standards elsewhere in the world.

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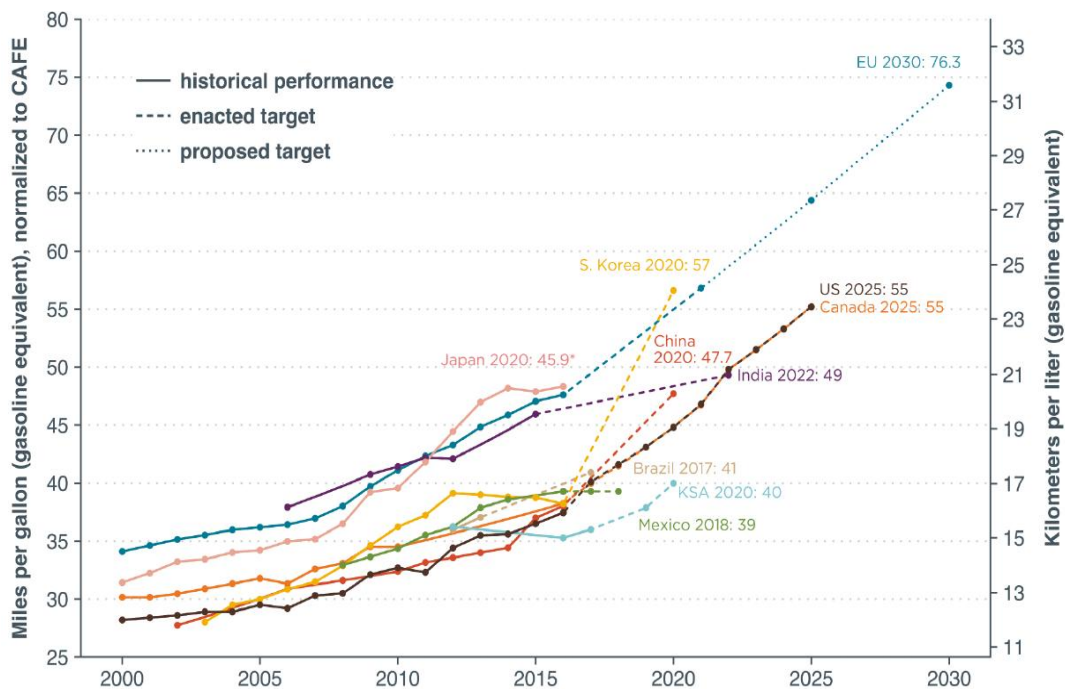
<sup>41</sup> D. Richardson, “Commentary: How Rolling Back Fuel Standards Could Crush America’s Auto Industry,” Fortune Magazine (3/30/2018); <http://fortune.com/2018/03/30/epa-rollback-fuel-emissions-standards-scott-pruitt/>

Figure 4a: Light truck miles per gallon, normalized to CAFE



Source: ICCT, [www.theicct.org/chart-library-passenger-vehicle-fuel-economy](http://www.theicct.org/chart-library-passenger-vehicle-fuel-economy) (April 2018)

Figure 4b: Passenger car miles per gallon, normalized to CAFE



\* Note that Japan has already met its 2020 statutory target as of 2013

Source: ICCT, [www.theicct.org/chart-library-passenger-vehicle-fuel-economy](http://www.theicct.org/chart-library-passenger-vehicle-fuel-economy) (April 2018)

Rough parity between U.S. and foreign fuel economy standards is also needed to maintain and expand the U.S. auto industry's ability to export vehicles. For example, 23 percent of the U.S.'s vehicle exports go to Canada.<sup>42</sup> Canada is currently deciding whether to continue to follow the current standards.<sup>43</sup> If Canada decides to maintain its current standards, automakers that produce vehicles in the U.S. will face the unpalatable choice of losing market share in Canada to more fuel efficient vehicles imported into Canada from Europe or China or incurring extra expense to manufacture to two different standards. In the long term, these trends will make U.S. auto manufacturers less competitive and reduce our vehicle manufacturing capabilities.

The efficiencies flowing from the production of vehicles that can be sold worldwide will enhance the competitiveness of manufacturers producing in this nation. This enhanced competitiveness will create more jobs here and allow manufacturers to produce vehicles for export at their U.S. facilities. Therefore, steadily increasing fuel economy standards will benefit U.S. employees, U.S.-based manufacturing and American consumers.

#### 4. Consumer Acceptance and Economic Practicability Support Increased Standards

Consumer acceptance is an important component of economic practicability. It also has been an important limiting factor in increasing fuel economy, because consumer demand for fuel economy technology has not matched the level of fuel economy that government agencies have required manufacturers to meet. Concerns about consumer acceptance were a major factor in Global Automakers' request for the agencies to reopen the Midterm Evaluation.<sup>44</sup> Global Automakers appreciates that the agencies are investigating the degree of consumer demand for the technology that the current standards will require.

Global Automakers respectfully submits, however, that the agencies' investigation does not justify holding the standards constant from MY 2021 through 2026. Since the ONP came into effect in MY 2009, consumers have become accustomed to year-over-year increases in fuel economy. The agencies' models do not suggest that a radical departure from steady year-over-year increases is warranted based on consumer acceptance concerns. Fuel economy remains a factor in vehicle purchase decisions, though perhaps not a dominant one. Similarly, while we agree that consumers consider a shorter payback period than the agencies' previous analyses have suggested,<sup>45</sup> consumers are willing to pay for improvements that pay off in that time frame; the willingness to pay for better fuel economy is not zero.

<sup>42</sup> <https://www.statista.com/chart/15247/us-imports-exports-cars-canada/> (accessed 9/12/18).

<sup>43</sup> <https://www.canada.ca/en/environment-climate-change/news/2018/08/canada-begins-consultations-on-vehicle-emission-standards.html> (accessed 9/13/18).

<sup>44</sup> Global Automakers Comments on the Request for Comment on Reconsideration of the Final Determination of the Midterm Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022–2025 Light-Duty Vehicles; Request for Comment on Model Year 2021 Greenhouse Gas Emissions Standards" [82 FR 39551, August 21, 2017]. Docket ID: NHTSA-2016-0068.

<sup>45</sup> 83 Fed. Reg. at 43217.

And, as discussed above, providing for steady year-over-year increases in fuel economy helps provide a hedge against rapid shifts in consumer demand caused by sudden changes in fuel prices.

It is true, as the agencies have noted, that automakers who wish to provide better fuel economy can do so even if the standards are flat.<sup>46</sup> However, Global Automakers urges the agencies to take a longer and larger view of fuel economy and GHG regulation and their impact on consumers. For example:

- Flat standards will confuse consumers, who have come to expect year-over-year increases in fuel economy standards and will seek more fuel-efficient vehicles as gasoline prices increase;
- The prospect of a bifurcated program will confuse consumers, who may be faced with the possibility that certain vehicles may become available only in certain states;
- A bifurcated program will increase costs for consumers and could lead to less consumer choice in regions with more stringent regulations;
- Consumers have come to expect that the vehicle fleet eventually will become electrified, based in part on previous regulatory actions and the announced plans of manufacturers;
- Steady year-over-year increases will increase consumer confidence in the certainty and durability of these regulatory programs; and
- Consumers are also members of society. As a society we recognize that CO<sub>2</sub> is a pollutant, but as a consumer, there is a reluctance to pay for this improvement. On the other hand, such cost increases are tolerated “for the good of the whole” while not eagerly embraced.

For these reasons, Global Automakers submits that consumers will accept some level of year-over-year fuel economy increases and GHG reductions. At the very least, consumer acceptance does not demand flat standards, and Global Automakers urges the agencies to work with all stakeholders to develop standards that continue to provide a single regulatory scheme and certainty for consumers.

#### 5. Safety Considerations Do Not Support Freezing the Standards

One of the most significant bases for freezing the CAFE and GHG emission standards after MY 2020 is the notion that the more stringent standards could have a detrimental impact on safety. The agencies point to three distinct elements of their safety conclusions: the “rebound” effect, a vehicle “scrappage” effect, and a vehicle weight effect. The rebound effect is an economic-based principle arguing that reducing the cost of driving through improving vehicle fuel efficiency would cause people to drive more, thereby exposing them to increased risk of being involved in a crash. The scrappage effect is an economic-based principle arguing that higher new vehicle prices resulting from more stringent standards would cause some consumers to defer purchasing new vehicles and keep older (ostensibly less safe) vehicles on the road longer. The weight effect has been considered in several NHTSA CAFE proceedings. Safety analysis has shown the weight discrepancies in two-vehicle crashes (heavier vehicle and lighter vehicle collide) results in greater damage to the lighter vehicle, with the adverse safety effect increasing with the magnitude of the weight discrepancy.

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<sup>46</sup> 83 Fed. Reg. at 43211.

The agencies' proposal with regard to the safety issue raises several ironies and conflicting trends relating to the three safety arguments:

- The concerns regarding adverse safety effects are discussed in the context of long-term trends of *improved* safety, with the expectation that advanced driver assistance systems, such as automatic emergency braking, will achieve even greater improvements through their widespread implementation during the 2021-2026 period. Even under the agency's safety analysis, it is extremely likely that vehicle safety will improve during this period.
- The proposal projects adverse safety impacts as a result of both consumer cost savings (reduced fuel consumption) and consumer cost increases (new vehicle price increases) which occur *simultaneously*. Some netting out of these effects would be appropriate.
- The concerns regarding the safety effects of vehicle weight reduction are considered in the context of an underlying trend in which vehicle weight has steadily *increased*. As the Preliminary Regulatory Impact Assessment (PRIA) notes "[v]ehicle mass continued an historical upward trend across the MYs in the newest databases."<sup>47</sup>
- The concern regarding the safety effect associated with new vehicle price increases is made at a time when the Trump Administration has proposed increased tariffs on new vehicles, which would have a price impact many times greater than that which would result from the increased standards.

We urge the agencies to consider whether these existing trends in the light vehicle market may overwhelm the projected safety impacts of the CAFE and GHG standards. Our comments on the three safety arguments are as follows:

*a. Rebound*

The proposal describes the rebound effect and cites potential safety consequences. Ultimately this factor is not attributed by the agencies to the standards but rather to consumer choice. As stated in the proposal:

...although a safety impact from the rebound effect is calculated, these impacts are considered to be freely chosen rather than imposed by CAFE and imply personal benefits at least equal to the sum of their added costs and safety consequences. The impacts of this nonfatal crash adjustment affect costs and benefits equally. When considering safety impacts actually imposed by CAFE standards, only those from mass changes and vehicle purchase delays are considered.<sup>48</sup>

We agree that the rebound effect should not be attributed to the standards and should not serve as a basis for keeping the standards flat.

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<sup>47</sup> Preliminary Regulatory Impact Analysis (PRIA) at 1349.

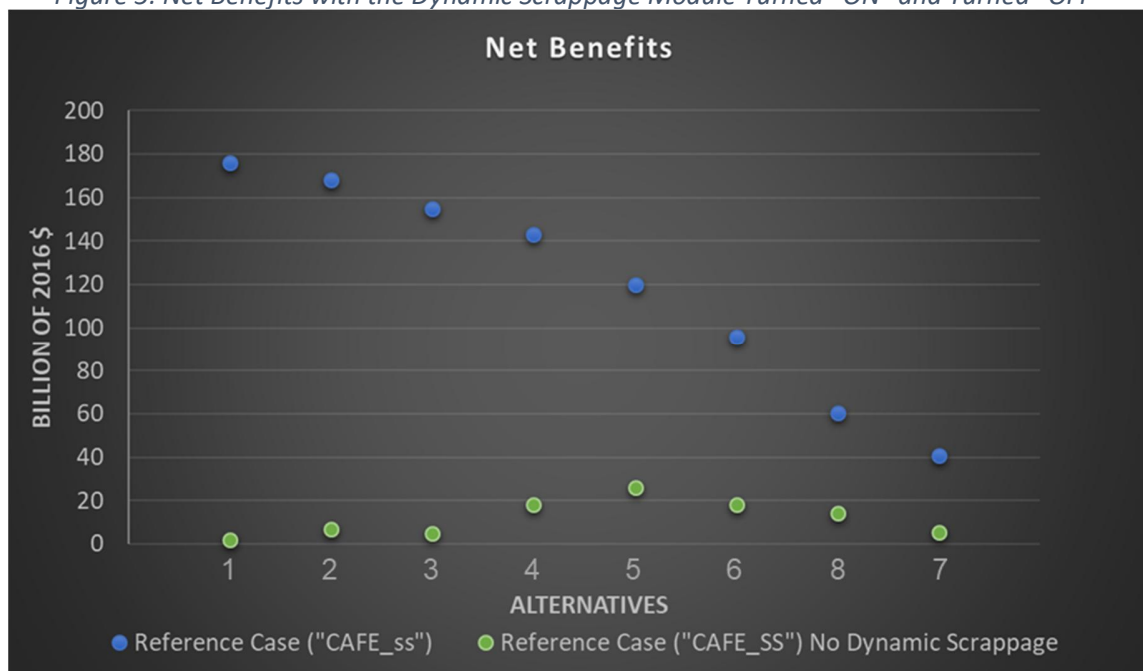
<sup>48</sup> 83 Fed. Reg. 43148.



*b. Scrappage*

The Dynamic Scrappage (DS) module is the newest addition to the Volpe model. It attempts to assess the impact of the various Alternatives on vehicle fatalities and the associated societal cost. In fact, our view of the data shows that the results of the DS module provide the overwhelming majority of the net benefits associated with each of the Alternatives. In assessing the impact of the module, Global Automakers evaluated the net benefits of each of the Alternatives with the DS module turned “ON” and “OFF.” Figure 5 below illustrates the outcomes of these model runs.

*Figure 5: Net Benefits with the Dynamic Scrappage Module Turned “ON” and Turned “OFF”*



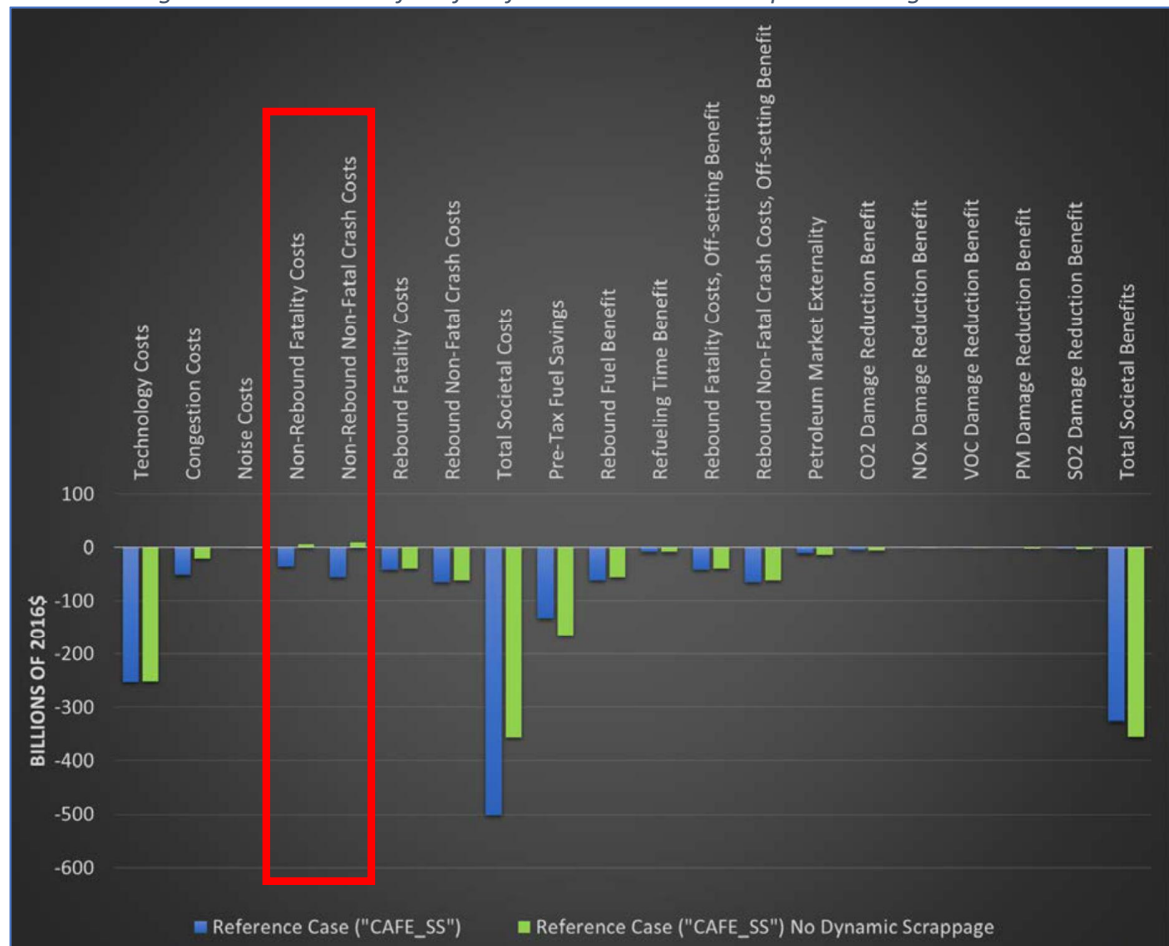
*Source: Global Automakers' Modeling Analysis Run*

As Figure 5 shows, almost all of the net benefits associated with the various Alternatives result directly from use of the DS module.

Furthermore, Global Automakers assessed the costs and benefits of the Preferred Alternative compared with the augural standards under two scenarios: with the DS module “ON” (blue bar) and with the DS module “OFF” (green bar), as shown in Figure 6 below. (Note all results are shown in the negative because this is a comparison against the augural standards, i.e. a negative cost is a benefit in this figure.) Figure 6 shows that the modeled safety (fatality and non-fatal crash) benefits are only apparent if the DS module is turned “ON.” In the case that the DS module is disabled or “OFF,” the non-rebound fatality costs and non-fatal crash costs are higher in Preferred Alternative as compared to the augural standards. Thus Figure 6 also demonstrates the importance of the DS module on driving the results of the cost/benefit analysis.



Figure 6: Costs & Benefits of Preferred Alternative Compared to Augural Standards



Source: Global Automakers' Modeling Analysis Run

Given the undeniable significance of the DS module in the agencies' cost benefit analysis, it is critical that the module be thoroughly assessed for accuracy and reliability. NHTSA's own observations suggest that not all of the "details of this new approach will be immediately intuitive for reviewers accustomed to results that do not include a dynamic sales model or dynamic scrappage model, much less, results that combine the two."<sup>49</sup> This statement demonstrates that additional work is needed in order to fully understand how the model offsets the increased sales "by the somewhat accelerated scrappage that accompanies the estimated decrease in vehicle prices" associated with the Preferred Alternative Preferred Alternative , and whether these modeled results are consistent with reality.<sup>50</sup> Global Automakers technical modeling shows that they are not consistent with reality. The DS module should therefore be removed from the Volpe model at this time for purposes of the final rule.

<sup>49</sup> 83 Fed. Reg. at 43,098.

<sup>50</sup> *Id.*

The theoretical underpinning of the DS module is the notion that as vehicle prices increase, consumers will drop out of the new car market. However, the assessment of vehicle price effects associated with increasing standards is extremely complex. The increase in prices related to the increase in standards is not straight-forward, like a tax (or tariff) increase, without perceived direct benefit to the consumer. Rather, they are investments in improved product. For some consumers, the enhanced features of the new vehicle may more than justify the price increase, such that new vehicle demand actually increases, notwithstanding the price increase. NHTSA has consistently predicted that past standards save consumers money in the long term due to reduced fuel costs that may offset the retail price increase.

Moreover, increasing vehicle prices may not necessarily price consumers entirely out of the new car market. A purchaser may simply decide to save money by buying the same vehicle with a lower trim level. Given that a full range of safety features is migrating throughout the new vehicle market, even lower priced models will have enhanced safety performance. For instance, pursuant to a voluntary agreement entered into by twenty automakers in 2016,<sup>51</sup> automatic emergency braking (AEB) systems are being offered as standard equipment on all substantially new passenger vehicles by 2022.

Setting aside our concerns with the theoretical underpinnings of the DS module, we have also identified some significant concerns with how the module works, including impacts on vehicle miles traveled (VMT) and overall fleet size. For example, Global Automakers' technical analysis found that for the Preferred Alternative, enabling the DS module resulted in a reduction in overall VMT compared to the augural standard, which is not associated with the rebound effect. This unexplained decrease in VMT as compared to the augural standards leads to:

- A large reduction of non-rebound crash costs (fatalities and injuries);
- A large reduction of congestion costs;
- A small increase in pre-tax fuel savings (because less miles are driven) when compared to the DS module being "OFF;" and
- A large increase in net benefits for the Preferred Alternative (attributable to the above reduction in costs and increase in benefits).

We discuss these concerns related to the overall fleet size, VMT, and lack of sensitivity analysis below.

#### *Impact on Fleet Size*

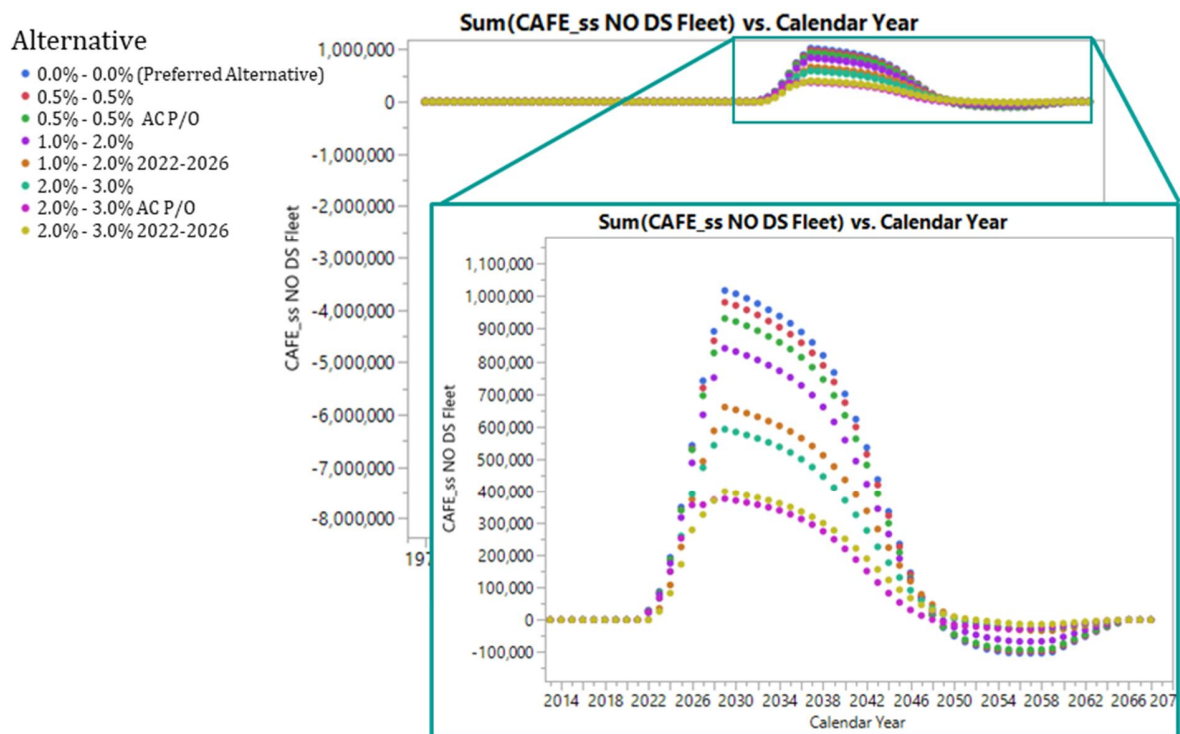
One anomaly concerning the DS module we observed is its impact on fleet size. When the DS module is enabled, it causes dramatic changes in the overall on-road fleet size in each of the eight Alternatives compared with the augural standards, as shown in Figures 7 and 8, below.

When the scrappage model is disabled, this isolates the effect of increased sales of new vehicles without accounting for any impact this may have on the fleet of used vehicles. This is shown in Figure 7, below.

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<sup>51</sup> <https://www.iihs.org/iihs/news/desktopnews/u-s-dot-and-iihs-announce-historic-commitment-of-20-automakers-to-make-automatic-emergency-braking-standard-on-new-vehicles>.

Figure 7: Fleet Difference from Augural Standards by Calendar Year – DS Module OFF

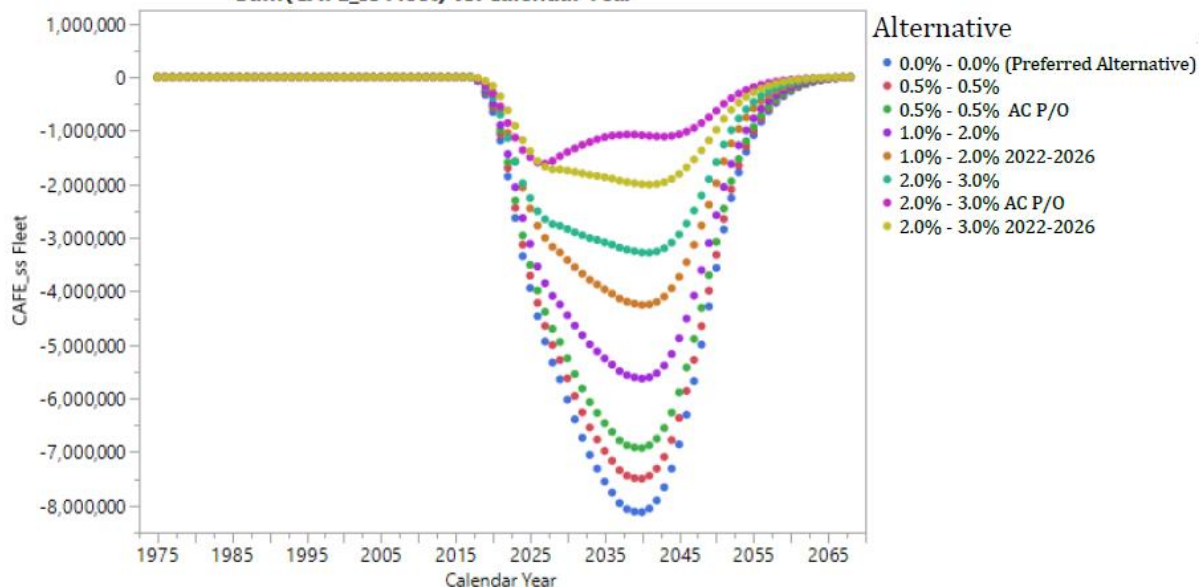


Source: GlobalAutomakers' Modeling Analysis Run

Predictably, the result of running the model with the DS module turned off is that the total on-road fleet increases starting in MY 2022 (the first year impacted by the standards). This is consistent with what one would expect to see in the model to the extent that consumers are more likely to purchase a new vehicle if the price is lower compared to the augural standard, thus increasing the total on-road fleet (again, because we are holding the used car fleet constant).

Figure 8, below, shows that when the DS module is turned "ON," the total on-road fleet contracts significantly for each of the Alternatives when compared to the augural standards, with the most pronounced effect showing for the Preferred Alternatives. This finding is counter-intuitive. While we would expect that the on-road fleet may *shift* from older to newer vehicles as new vehicle prices are decreased under the Preferred Alternative compared to the augural standards, there is no reason to conclude that the total number of vehicles driven by Americans would change to the extent modeled by the DS module.

Figure 8: Fleet Difference from Augural Standards by Calendar Year – DS Module On  
Sum(CAFE\_ss Fleet) vs. Calendar Year

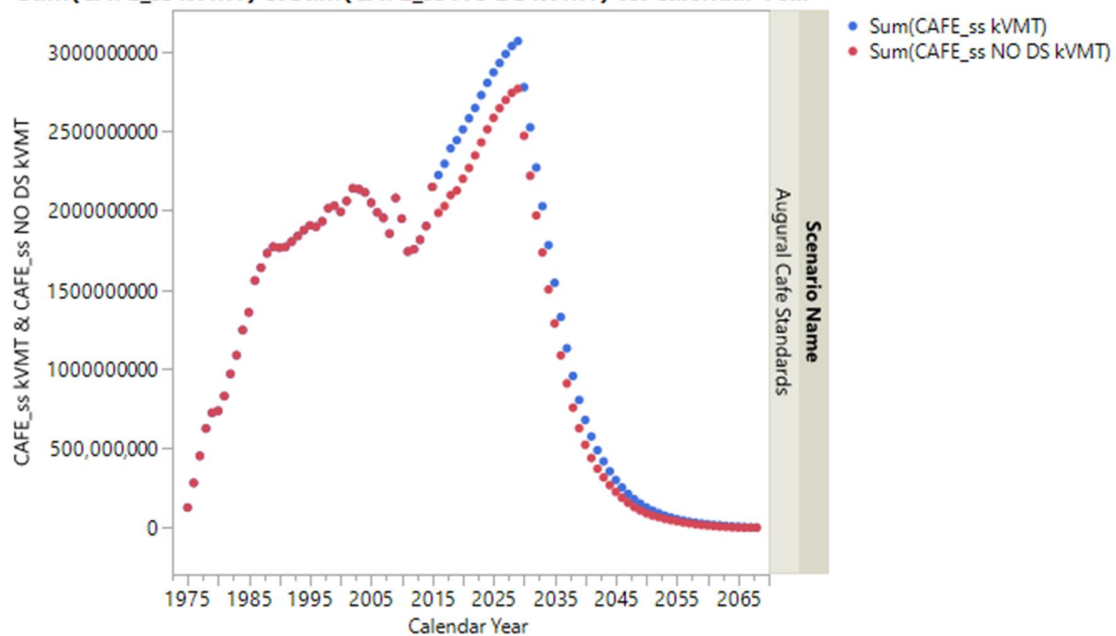


Source: Global Automakers' Modeling Analysis Run

#### Impact on Total VMT Resulting from Scrappage

We notice the same incongruity with respect to the impact of the scrappage model on total combined VMT. Simply turning on the DS module results in an increase in VMT in all the scenarios modeled. We do not understand why this would be, since vehicle scrappage should not have any impact on the total number of miles Americans drive. (Note that scrappage effect on VMT is different from increased VMT caused by the rebound effect, discussed above). By way of example, Figure 9 below shows the VMT impact for the augural standards when DS module is turned "ON" compared to when it is turned "OFF."

Figure 9: VMT Increases in the Augural Standard with Dynamic Scrappage Module On  
Sum(CAFE\_ss kVMT) & Sum(CAFE\_ss NO DS kVMT) vs. Calendar Year

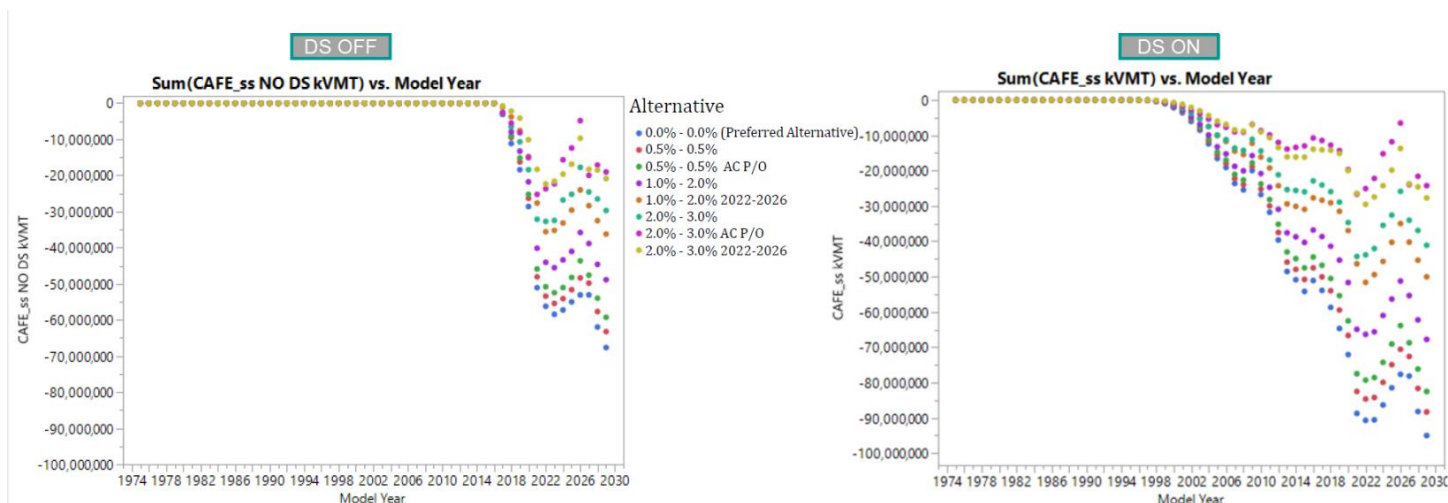


Source: Global Automakers' Modeling Analysis Run

Again, we are unaware of any reason why scrappage would have any impact on the total number of miles driven by Americans in a given year. The two variables should be entirely independent from each other.

Global Automakers also ran the Volpe model with the DS module turned "OFF" and "ON" for each of the Alternatives and compared them to the augural standards. This analysis, illustrated in Figure 10 below, shows that as standards decrease from the augural standards, total VMT decreases as well, with the most pronounced impact in the Preferred Alternative.

Figure 40: VMT Comparison Between DS Module ON and OFF



Source: Global Automakers' Modeling Analysis Run

When the DSM is disabled, the model shows combined VMT dipping beginning in MY 2016, and then increasing. The magnitude in the VMT decrease is more pronounced as stringency decreases, which is principally the result of the rebound effect discussed above. In 2022, the impact of the VMT decrease under the Preferred Alternative is roughly 60 trillion miles.

When the DSM is turned "ON," VMT starts to decrease in MY 1998, and then spikes back up a bit between MY 2022 to 2026. Again, this effect is more pronounced at lower stringency levels. Significantly, however, turning the scrappage model on results in a much larger drop in VMT for the various Alternatives. In 2022, the impact of the VMT decrease under the Preferred Alternative 1 is roughly 90 trillion miles with the DSM "ON."

Just as there is no reason to think that increased scrappage would cause Americans to drive significantly more (as we explain above), there is also no reason to believe that the impact would be any more pronounced from one Alternative to another. Rather, it appears that this significant change in VMT is merely an artifact of some quirk in the DSM that one would not expect to see in the real world.

**Moreover, this unexplainable drop in VMT appears to be the primary driver of the modeled safety benefits of holding the CAFE and GHG emission standards flat.**

#### Lack of Sensitivity Analysis

It appears that the agencies did not recognize these problems with the DS module, because they never conducted a full sensitivity analysis with the DS module turned completely "OFF." Based on our review of the DS module, there are up to 25 separate parameters that can be adjusted. In conducting the sensitivity analyses, NHTSA disabled only two of them—the scrappage price effect and the fleet share and sales response, as shown in Table 1, below. NHTSA did not disable any of the other parameters, and

even more significantly, there is no documentation to suggest that it ran a sensitivity case with the DS module turned completely off.

*Table 1: List of Sensitivity Cases*

|   | Sensitivity Case                        | Description  |
|---|---|--|
| 0 | Reference Case                          | Reference Case   |
| 1 | Consumer Benefit at 50%                 | Assume 50% loss in consumer surplus – equivalent to the assumption that consumers will only value the calculated benefits they receive at 50% of the analysis estimates  |
| 2 | Consumer Benefit at 75%                 | 75% loss in consumer surplus   |
| 3 | Fleet share and Sales Response Disabled | New vehicle sales will remain at levels specified for MY 2016 in the market data input file.   |
| 4 | Disable Scrappage Price Effect          | Keeps average new vehicle prices at MY2016 levels within the scrappage model throughout the model simulation; this disables the effect of slower scrappage when new vehicle prices increase across more stringent scenarios. |
| 5 | Scrappage and Fleet Share Disable       | Disables both the scrappage price effect and the fleet share and sales response  |

*Source: Global Automakers assessment of NHTSA sensitivity cases*

### *c. Weight Effects*

The NPRM also estimates a limited safety impact of between a -0.61 percent for light trucks to 1.2 percent for small cars fatality increase per 100-pound mass reduction attributable to the down-weighting of vehicles in response to more stringent standards.<sup>52</sup> NHTSA’s assessment of the weight-safety issue for the proposal appears to be the same as it has been in recent years:

...societal effects of mass reduction are small, and mass reduction concentrated in larger vehicles is likely to have a beneficial effect on fatalities, while mass reduction concentrated in smaller vehicles is likely to have a detrimental effect on fatalities.<sup>53</sup>

Footprint-based standards were developed to minimize or eliminate safety concerns associated with weight reduction.<sup>54</sup> As NHTSA has stated, “any reasonable combination of mass reductions that held footprint constant in MY 2017-2021 vehicles – concentrated, at least to some extent, in the heavier LTVs and limited in the lighter cars – would likely be approximately safety-neutral; it would not significantly increase fatalities and might well decrease them.”<sup>55</sup> The agency concluded, in its updated analysis for this rulemaking, that “[f]or all light-duty vehicles in the CAFE model, mass changes are estimated to lead

<sup>52</sup> See SAFE Vehicles NPRM Fed. Reg. page 43132.

<sup>53</sup> See PRIA page 1345.

<sup>54</sup> “Footprint-based standards create a disincentive for manufacturers to produce smaller-footprint vehicles.” PRIA page 1332.

<sup>55</sup> See PRIA page 1344.



to a decrease in fatalities over the cumulative lifetime of MY 1977-2029 vehicles in all Alternatives evaluated.”<sup>56</sup> This conclusion is consistent with previous analyses.<sup>57</sup>

Given the small and uncertain weight effect and the fundamental difficulty in assessing anticipated weight reduction strategies – there are very few vehicles that have implemented lightweight material substitution strategies to an extensive degree, complicating analysis of such strategies – we conclude that there is no clear basis for freezing standards levels due to weight reduction concerns.

Finally, Congress has established a policy of promoting enhancements in *all* regulatory areas (safety, emissions, efficiency). In light of advances automakers have made in all of these areas simultaneously, there is no reason to conclude that increasing fuel economy standards would somehow make vehicles less crashworthy. Automakers are committed to making the safest vehicles on the road. As noted above, vehicle safety, fuel economy, and emissions control are all improving rapidly (and together) in recent years and will likely continue in the future. For the above reasons, we do not believe that safety considerations should prevent increases in stringency of CAFE and GHG emissions standards.

## V. Flexible Compliance Pathways Need to be Part of the Rulemaking

In addition to addressing the numeric stringencies of the standards, it is critically important that the final rule provide for flexible compliance pathways to assist automakers in achieving those standards in the most efficient manner and in a way that incentivizes investment in advanced emission-reduction technologies. Two broad types of flexibilities are significant in the administration of the standards. The first is allowances for advanced technology vehicles that incentivize technology investment and industry innovation. The second are credits and adjustments that recognize real-world benefits of either fuel-saving technologies that cannot be measured in the 2-cycle test (i.e., the off-cycle program) or early compliance with the standards (i.e., averaging, banking, and trading of various types of credits). Both credits are important to manufacturers and benefit consumers. Both types of flexibilities should be maintained, and in some cases expanded or extended, to better serve the goals of EPCA and the CAA.

### A. Programmatic Elements that Incentivize Investment in Advanced Technologies

The MY 2017-2021 regulations provide important flexibilities that encourage the rollout of advanced technologies. Advanced technologies, such as BEVs, PHEVs, and FCEVs, continue to cost more than gasoline-powered vehicles, but are an important part of industry’s shift to lower carbon transportation. Industry recognizes that funding a shift to electrification is important to maintaining competitive automotive manufacturing and export yet doing so independent of a level-playing field and regulatory signals is nearly impossible if industry is to remain competitive. Additional credits are needed to balance tomorrow’s goals with today’s technology costs. Thus, EPA should: (1) extend the 0 g/mi upstream provision, without limitation, and (2) extend the advanced technology vehicle multipliers through MY 2026. NHTSA should consider including these credits as well to the extent that are not already captured

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<sup>56</sup> See PRIA at 1358.

<sup>57</sup> “None of the estimated effects have 95-percent confidence bounds that exclude zero, and thus are not statistically significant at the 95-percent confidence level.” See PRIA at 1348.



under NHTSA's existing alternative fueled vehicle credits and, like the precedent set by adoption of off-cycle credits, consider including an advanced technology multiplier.

NHTSA and EPA raise several potential objections to incentives for advanced technology, including:

- The possibility that advanced technology credits may distort the market by incentivizing manufacturers to build vehicles for which there is no natural market;
- The possibility that overly-complex credit schemes without sufficient transparency may complicate the ability to understand manufacturers' paths to compliance or create unnecessary costs to track, account for and manage the credits;
- The possibility that advanced technology credits will induce manufacturers to invest in certain government-favored technologies and encourage "rent-seeking" to protect those credits;
- The possibility that advanced technology credits may disadvantage manufacturers by encouraging them to become overly reliant on credits instead of improving vehicles to meet market demand.<sup>58</sup>

The agencies seek comment on how credits may be changed to avoid these negative effects, as well as whether to allow all credits (other than those mandated by statute) to expire.<sup>59</sup>

Global Automakers strongly supports continued incentives for advanced technology vehicles in coordination with reasonable and meaningful year-over-year improvements in fleet stringency. Global Automakers also supports extending the sunset date of those policy incentives from MY 2021 to MY 2026. There is little disagreement that advanced technology vehicles will be needed, both here and abroad, to maintain automakers' competitiveness and meet societal goals for reductions in transportation-related GHG emissions. There is also little disagreement over the fact that as these technologies develop, their costs will come down; however, at present, the costs of vehicle electrification still exceed their gasoline-powered counterparts. These vehicles will need to be part of the future of the vehicle market, and thus manufacturers must build a foundation for these vehicles in the market now. But consumers have been slow to accept these vehicles, in part because most states have done little to provide infrastructure for these vehicles. As a result, these vehicles will struggle to establish a foothold in the market without the temporary support that incentives provide. In the interim, providing credits for these vehicles can help manufacturers use an integrated approach to how they manage their fleet and rollout advanced technologies in a smart and cost-effective manner.

Based on these points of view, the potential objections to incentives for advanced technology vehicles are easily addressed. The concerns that credits for advanced technology vehicles will divert resources into vehicles for which there is no natural demand, encourage "rent-seeking," or encourage manufacturers to become reliant on these credits to the detriment of their rest of their fleets, are not borne out by the evidence. First, the market share of these vehicles is currently very small – less than 1.5

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<sup>58</sup> 83 Fed. Reg. at 43441-442.

<sup>59</sup> *Id.* at 43442.

percent of new vehicle sales – even though these incentives have been in a place for almost a decade.<sup>60</sup> Because the market for advanced vehicles is so small, it is not likely that incentives will distort the much larger market for conventional vehicles in any material way in the next seven years. Similarly, concerns about the administrative complexity and transparency of these credits have not been raised during the several years that they have already been in place. There is thus no reason that the extension of these credits will result in a lack of transparency or administrative complexity.

The slowly-developing market for electric vehicles justifies the extension of the credits in these regulations. Policy incentives supportive of industry's pursuit of electrified vehicle technologies will help bring them to market in greater numbers, more rapidly and at a more reasonable cost. Regulatory incentives, which do not cost the government anything in terms of dollars, are the best means of smoothing that transition. For these reasons, Global Automakers strongly supports extending advanced technology vehicle multipliers until MY 2026.

Automakers recognize that many models of electric-drive vehicles depend on the use of the nation's electric grid to supply capacity to the vehicles. However, consumers do not choose the manner that the grid uses to generate power. The automotive and the utility generation industries are two distinct industries with different market realities and goals. While electric-drive vehicle charging is dependent on the grid, automakers do not have input into the electricity generation choices and therefore should not be responsible for emissions generated by another industry. The 0 g/mile upstream provision is critical to maintaining the autonomy of each of these industries while also promoting a full-range of vehicle options for consumers.

In addition, hybrid vehicles have been in the market for nearly 20 years, but these vehicles continue to face consumer challenges, particularly when gasoline prices are low. The challenges of transitioning hybridization beyond passenger cars has proven to be more complex than initially projected and modeled. In addition, hybridization helps build the industrial manufacturing base for electrification. To further encourage hybridization, EPA should expand its hybrid truck incentives, which is presently in-place for full-size pickup trucks, to all light-duty trucks, without the minimum sales provision, through 2026. The agencies should consider a smaller incentive for passenger cars as well.

Inclusion of advanced technologies credits is important to the GHG and CAFE standards, because they provide support to market signals and help smooth compliance costs. These incentives are the advanced technology vehicle counterpart to the credits offered for technologies that improve efficiency in conventional vehicles in the powertrain and beyond. Like the credits available for conventional vehicles, incentives for advanced technology vehicles encourage manufacturers to innovate and to bring those innovations to market more quickly.

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<sup>60</sup> Pannone, G.; Betz, B.; Reale, M.; and Thomas, J. "Decomposing Fuel Economy and Greenhouse Gas Regulatory Standards in the Energy Conversion Efficiency and Tractive Energy Domain," *SAE International*. March 28, 2017 (Accessed August 11, 2018).

## B. Credit Averaging, Banking and Trading that Facilitate Early Compliance

Earned and banked credits reflect manufacturer investment in technologies to improve fuel economy and reduce GHG emissions beyond the levels specified by the regulatory targets, providing early environmental benefits and additional fuel savings value for customers. Table X-1 of the NPRM outlines the flexibilities currently provided with respect to the use of credits.<sup>61</sup> Global Automakers supports improving these aspects of the National Program, as outlined below.

### 1. Extend GHG Credits

EPA has requested comment on whether to allow credits to be carried forward for longer periods, or to allow credits to never expire.<sup>62</sup> Currently, GHG credits earned in MY 2010-2015 may be carried forward until MY 2021, and other GHG credits are subject to the five-year carry-forward provisions. To be clear, the GHG credits may only be used once; but once earned, they should remain viable until used. The environmental rationale is that an avoided ton of GHG emissions is avoided in perpetuity, and thus the credit associated with that avoided ton should not expire. GHG credits represent real and actual environmental benefits that are not undone at five years. In addition, as EPA has noted, “longer credit life would provide manufacturers with additional flexibility to further integrate banked credits into their product plans, potentially reducing costs.”<sup>63</sup> Thus, a longer credit life for GHG credits is warranted.

Additionally, Global Automakers requests that EPA allow for a one-time expiration date extension through MY 2026 for GHG credits earned in previous years. How far back this carry-forward should reach should be determined by the agencies, considering program stringency, industry’s needs, and impact on programmatic benefits. Unexpired, previously-earned credits represent real and actual fuel savings and GHG reductions and will be important for addressing compliance deficits, as seen in recent MY 2016 and 2017 performance data. Credits provide a rationale for investment and allow automakers an ability to account for the variability of product development cycles inherent in the auto industry. Further, these same credits can help “provide flexibility to account for market conditions that may impact year-over-year compliance.”<sup>64</sup>

### 2. Transfer of EPCA Credits

EPCA caps the amount of credits a manufacturer can transfer each year; for MY 2018 and beyond, that limit is 2.0 mpg per year. Global Automakers has petitioned NHTSA to apply the limit when credits are transferred, not when they are used. In the NPRM, NHTSA proposes the opposite approach, wherein it intends to apply the limit when credits are used rather than when they are transferred.<sup>65</sup> Global Automakers opposes this proposal, because it is inconsistent with EPA’s program, is not statutorily

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<sup>61</sup> 83 Fed. Reg. at 43442.

<sup>62</sup> 83 Fed. Reg. at 43464.

<sup>63</sup> 83 Fed. Reg. at 43464. See also 77 Fed. Reg. at 62798 (Oct. 15, 2012) (noting that carry forward credits “provide flexibility to account for market conditions that may impact year-over-year compliance”).

<sup>64</sup> ICCT. *Light-Duty Vehicle Greenhouse Gas and Fuel Economy Standards*. 2017. Retrieved from: [https://www.theicct.org/sites/default/files/publications/2017-Global-LDV-Standards-Update\\_ICCT-Report\\_23062017\\_vF.pdf](https://www.theicct.org/sites/default/files/publications/2017-Global-LDV-Standards-Update_ICCT-Report_23062017_vF.pdf).

<sup>65</sup> 83 Fed. Reg. at 43452.

required, and is unnecessarily constraining, with little to no additional fuel savings. Global Automakers incorporates the discussion on this issue from its earlier Petition for Direct Final Rule it filed with the Auto Alliance.<sup>66</sup>

### 3. Trading of EPCA Credits

Under EPCA, credits may be traded between manufacturers in unlimited quantities, although traded credits may not be used to meet the domestic passenger car standard. NHTSA seeks comment on whether this trading program should be discontinued, noting the “potential for compliance flexibilities to have unintended consequences.”<sup>67</sup> NHTSA does not point to any specific unintended consequences, but it does state that when credits are traded, “the public is not made aware of inter-automaker trades, nor are shareholders. And even the agencies are not informed of the price of credits.”<sup>68</sup>

For the most part, when a manufacturer uses credits that they have obtained, it is to offset a short-term gap and not as a long-term solution. For some manufacturers, these credits are used during periods when the next steps of research and development are occurring to make gains in fuel efficiency and to create the next generation of vehicles. Without such assistance, it is difficult for companies to remain competitive as they meet today’s obligations while also planning to meet future standards.

Global Automakers recommends continuing the option for manufacturers to trade credits. It lowers costs for manufacturers and consumers and results in real fuel savings across the fleet. Through existing processes, manufacturers report on trades that are made to the agencies, which includes the credits in their banks. The agencies may not be informed of the price of the credits at each trade. The fact that the agencies are not informed of the price of credits for each trade and that this highly sensitive information is held for competitiveness reasons is no justification for discontinuing the program. In private markets, trades and prices often are not made public; this privacy does not mean that the markets operate any less effectively, nor that the public at large does not benefit from the transactions that lower costs for all parties. Nonetheless, the agencies do know which companies are trading credits and where and how the credits are being used, which is the most important aspect of the program.

### C. The Importance of Off-Cycle and Air Conditioner Efficiency Technologies

Off-cycle technologies spur innovation as manufacturers strive to improve the overall efficiency of vehicles, not just the efficiency of the powertrain, and air conditioner efficiency technologies promote additional fuel savings onboard the vehicle when the vehicle operates with the air conditioner on. The off-cycle technology program is intended to encourage use of additional fuel saving technologies with real-world emissions benefits not captured through laboratory testing. Since they provide efficiency improvements for the vehicles, the off-cycle technology credits were considered as part of the EPA’s standards-setting process since MY 2012 and later were recognized by NHTSA as efficiency

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<sup>66</sup> Petition for Direct Final Rule by Alliance of Automobile Manufacturers and Global Automakers to NHTSA and EPA (June 20, 2016) at pp. 13-15.

<sup>67</sup> 83 Fed. Reg. at 43452.

<sup>68</sup> 83 Fed. Reg. at 42998.

improvements in the MY 2012 – 2021 CAFE standards.<sup>69</sup> Manufacturer and supplier resources have been dedicated to developing, testing, and implementing these technologies since ONP started; these are real fuel savings, but also real company investments, that would otherwise be stranded should the agencies significantly alter or remove these credits.

As the agencies have recognized, fuel economy and GHG emissions are determined through regulated, standardized testing procedures (the “2-cycle test”) that do not recognize the savings in fuel consumption that certain technologies generate.<sup>70</sup> As an example, the NPRM notes that because A/C is turned off during 2-cycle testing, the reduction in energy demand that improved A/C technology yields is not captured in the test.<sup>71</sup> For 2017 and beyond, NHTSA has developed regulations to capture such efficiencies in fuel economy values.<sup>72</sup> For its part, EPA began recognizing off-cycle credits in the 2012-2016 MY standards.<sup>73</sup>

At this juncture, however, we note the overall importance of these technologies in helping the industry comply with the standards. For the 2016 MY, the fleet reduced GHG emissions by an average of three g/mile (or about 0.5 mpg) through off-cycle technologies, not including A/C.<sup>74</sup> A/C efficient technologies provided another four g/mile reduction in GHG emissions in 2016.<sup>75</sup> The recognition of off-cycle technologies gives manufacturers a way to obtain a return on investments in technology and thereby reduces the “first mover” disadvantage in new fuel economy technology. They also lower manufacturer – and therefore consumer – costs by allowing manufacturers to choose the most cost-effective means of complying with the standards, while at the same time providing real and actual fuel savings and reductions in GHG emissions.

The agencies note, however, several potential objections to the off-cycle and A/C efficiency programs, including the difficulty in administering the program and the opposition of certain groups to the program on the grounds that many of the technologies are commonplace and not deserving of incentivization.<sup>76</sup> Global Automakers disagrees. Many of the benefits of off-cycle and A/C efficiency technologies are specified in the regulations and therefore are easy to determine; these values can always be reassessed and adjusted if sufficient data demonstrates a gap in the agency-determined values.

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<sup>69</sup> “These credits reflect real world emissions reductions, so they do not raise the levels of the Achieved CO<sub>2</sub> values, but they do allow manufacturers to meet their compliance targets with 2-cycle test CO<sub>2</sub> emissions values higher than otherwise apply.” US EPA. *Regulatory Impact Analysis: Final Rulemaking for 2017-2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards*. at 4-128.

<sup>70</sup> 83 Fed. Reg. at 43454.

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> *Id.*

<sup>74</sup> See *Greenhouse Gas Emission Standards for Light-Duty Vehicles: Manufacturer Performance Report for the 2016 Model Year* (EPA Report 420– R18–002), U.S. EPA (Jan. 2018), at p. 41.

<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100TGIA.pdf>.

<sup>75</sup> 83 Fed. Reg. at 43053.

<sup>76</sup> 83 Fed. Reg. at 43467-469.

Four of the Alternatives offered in the proposal would phase-out the benefits of off-cycle technologies.<sup>77</sup> Global Automakers opposes the phase-out of these provisions for several reasons. First, these technologies provide real-world environmental benefits that should be recognized and accounted. The incentivization of these technologies is consistent with agencies' mandates to conserve fuel and protect public welfare.

Second, manufacturers and suppliers have invested substantial sums to develop these technologies on the reasonable expectation that they would continue to be recognized. The cost of these technologies must be amortized over the life of the vehicle. If the agencies no longer recognize the benefits of these technologies, they will be imposing a loss upon the manufacturers in the form of stranded investments. Global Automakers notes that the agencies suggest that the proposed phase-out of credits will avoid hardship on manufacturers.<sup>78</sup> No analysis is provided to support this finding. In fact, investments in off-cycle technologies are amortized over the life of the vehicle platforms, which can be five to seven years long.<sup>79</sup> A phase-out that begins in three model years (i.e., the beginning of MY 2022) is not long enough to allow manufacturers to fully amortize their investments in these technologies. In contrast, such a phase-out may have the reverse effect of constraining manufacturers' ability to meet the standards.

Third, phasing out these programs will deprive manufacturers of the freedom to use the lowest-cost technologies to meet the standards. As the agencies themselves note, "the modeling shows that phasing out the A/C efficiency and off-cycle programs decreases fuel consumption over the 'no change' scenario but confirms that manufacturers will have to apply costlier technology to meet the standards."<sup>80</sup> This costlier technology would also have to be procured, integrated and validated in a shorter than expected period of time.

Moreover, the off-cycle program should be streamlined, not discarded. While the off-cycle program has been amended, it continues to be unnecessarily restrictive and time-consuming, which slows product investment and implementation. The program also represents an area where EPA and NHTSA have an opportunity to better align, along with CARB, and fix the current system to account for real-world emissions reductions and fuel economy savings in the same capacity, as well as through a timely and efficient process. This will provide manufacturers with more certainty about benefits of off-cycle technologies under consideration, bring technology into the field more quickly, and encourage additional manufacturer and supplier investment in new, innovative fuel saving technologies.

To the extent that off-cycle technologies are validated based on manufacturer petitions under the alternative approval method, Global Automakers favors adding new technologies to this "menu"

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<sup>77</sup> 83 Fed. Reg. at 42990 (Alternatives 3 and 7).

<sup>78</sup> 83 Fed. Reg. at 43468-369.

<sup>79</sup> "Automotive Product Development Cycles and the Need for Balance with the Regulatory Environment," Center for Automotive Research (Sept. 20, 2017); <https://www.cargroup.org/automotive-product-development-cycles-and-the-need-for-balance-with-the-regulatory-environment/>.

<sup>80</sup> 83 Fed. Reg. at 43469; see also 83 Fed. Reg. at 43225 fn. 64.

whenever a manufacturer has demonstrated the value of a new technology, which will further ease the administrative burden of the program. The menu does not complicate the administration of the standards. Global Automakers is willing to work with EPA on ways to streamline the program.

The agencies also note that the program may result in double-counting of the benefits of these technologies because of specific features of the 2-cycle test and the 5-cycle test.<sup>81</sup> To the extent that this is an issue, Global Automakers recommends that the agencies fix this specific issue rather than discard these beneficial programs entirely.

Finally, the fact that certain technologies are widely deployed throughout the industry is not a reason to ignore their real-world benefits. While the off-cycle program may spur innovation, it also is designed to recognize the benefits of technologies that actually reduce fuel consumption and decrease GHG emissions that would not otherwise be counted by the standardized test procedure. Many times, these emissions benefits result in the addition of complementary technologies to support powertrain and chassis improvements and can be cost-effective approaches to managing the overall fuel efficiency of a vehicle. Plus, as further noted below, the program does not yet operate at an efficient enough level to promote innovative technologies earlier application in vehicles, so by default, the program requires a certain level of widespread usage before credits are valued and applied.

Our primary requests to NHTSA and EPA regarding off-cycle technologies are to reduce programmatic and process-related burdens, while still encouraging improvements to fuel economy and GHG emissions reduction *and* maintaining the off-cycle technology program, as well as the A/C efficiency program. Our requests to help streamline and improve the program include the following, and a markup of the current regulations identifying the issues to be addressed is attached as Attachment B.

#### 1. Defining a Time Limit to Address Applications

For the vast majority of comments on regulatory processes, the agencies have defined timelines for public comment and response; this is not the case for applications for off-cycle technology grams per mile requests. Certainty through a timelier response to applications would allow automakers to better plan and would incentivize the use of advanced technology helping deliver greater environmental benefits. While often times manufacturers meet with EPA prior to submitting an application, to discuss methodology and data collected, even once an application is submitted, time delays to process the application exist. For example, four months passed between the receipt of the application from Toyota Motor North America and its public notice for comment.<sup>82</sup> Despite recent activity to clear applications, however, several application requests remain outstanding with no EPA response, and these pending

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<sup>81</sup> *Id.*

<sup>82</sup> Toyota Motor North America's application was submitted on December 7, 2017 (see note 5, above), but this Notice was not published until February 26, 2018.



applications need to be addressed in a timely manner, preferably before the close of the model year, since the credits will be used to determine overall vehicle compliance.<sup>83</sup>

Going forward, Global Automakers recommends that EPA issue Federal Register notices for submitted off-cycle applications under the alternative method within 30 days and issue a final decision within 90 days. In the event that EPA lacks resources to address all the details in applications, the agency could partner with national laboratories, like the National Renewable Energy Laboratory, to conduct reviews, provide input and even help validate requests, if needed. National laboratories understand both the peer review process and the need for science-based, data-driven scrutiny of technology. Their experience and third party nature make the labs clear allies in the analysis process, while reducing the burden of review by EPA staff, and in coordination with CARB and NHTSA, when needed and appropriate.

## 2. Expediting Approval for Applications and Adding to the Pick List

Once off-cycle technologies are approved by EPA for use by specific manufacturers, to the extent additional automaker applications will contain the same request, EPA should evaluate a method to add these technologies and/or the process for determining their credit values to the pick list. We suggest that EPA streamline efforts to avoid reduplication of applications in situations where multiple automakers have submitted petitions for same technology. This addition would greatly streamline EPA's process and the influx of requests for the same technology.

The current process for evaluating applications for off-cycle credit under 40 CFR § 86.1869-12(d) can result in excessive time between notice for public comment in the Federal Register and completion of a final application,<sup>84</sup> and several application requests remain outstanding with no EPA response.<sup>85</sup> Global Automakers has previously commented, in the context of each application for the Denso A/C efficiency technologies, that EPA streamline and standardize the off-cycle application process. This particular technology has been requested for credit approval by six automakers (BMW, FCA, Ford, GM, Hyundai and Toyota), and has thus far been approved for five of the six. EPA now has demonstrated experience with applications for this technology, and this particular example demonstrates that process improvements are needed to speed approval of previously-approved technologies.

The pick list has always served as a conservative starting point for off-cycle technology credit values and provides a simple and easy path for achieving credits. Many technologies in recent years have been applied for, and approved, by several manufactures citing robust scientific evidence for these values. Following approval of new credit values for technologies, EPA and NHTSA should add these new credit

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<sup>83</sup> EPA. "Compliance Information for Light-Duty Greenhouse Gas (GHG) Standards." Retrieved from <https://www.epa.gov/vehicle-and-engine-certification/compliance-information-light-duty-greenhouse-gas-ghg-standards>. (Accessed March 22, 2018).

<sup>84</sup> Toyota Motor North America's application was submitted on December 7, 2017 (see note 5, above), but this Notice was not published until February 26, 2018.

<sup>85</sup> EPA. "Compliance Information for Light-Duty Greenhouse Gas (GHG) Standards." Retrieved from <https://www.epa.gov/vehicle-and-engine-certification/compliance-information-light-duty-greenhouse-gas-ghg-standards>. (Accessed August 22, 2018).



values to the pick list, to encourage additional implementation of the technology by more manufacturers and to allow for an equal playing field across industry. Examples of recent technologies that could be added to the pick list include, for example, but are not limited to: advanced A/C compressor, high efficiency alternator, and variable crankcase suction valve compressor.

This request is not intended to force EPA's and NHTSA's hands to add every technology to the pick list. Indeed, some additional parameters may need to be included, like agreement that the value added to the table may be a conservative estimate, that the equation to determine a credit would likely still require some manufacturer or supplier generated data to substantiate the credit claim, or that some threshold for applications for alternative technology values could be established to signal that a technology is widely used prior to adding it to the pick-list. In the end, however, this process improvement could greatly increase efficiency of the off-cycle technology program and would promote innovation and fuel savings throughout the program. It would also provide additional certainty to manufacturers, who have included off-cycle technologies in vehicles as part of their strategy for improving efficiency, and ideally provide this certainty in advance of a model year.

It may also be appropriate to reevaluate and/or adjust existing credit values in the table, since many automakers have applied for higher values than the table has offered, demonstrating that the original values appear to be overly conservative. In the event that any values are adjusted, they must be done so prospectively only.

### 3. Establishing a Supplier Process to Apply for Off-Cycle Credits

The fuel economy and GHG emission regulations have not only encouraged significant manufacturer investment in the past years but have also encouraged and supported a renewed investment in technology development by automotive suppliers. Suppliers are innovating at an unprecedented pace and have devoted many resources to the development of more efficient, fuel saving technologies in recent years, including many off-cycle technologies; but a chicken and egg scenario remains.

Suppliers develop technologies and work with manufacturers to incorporate them. The manufacturer then has to take a "bet" on buying the technology, running it through testing, and ultimately submitting, and waiting, for EPA approval before there is any guarantee of receiving credit for use of the technology.

A better way to encourage faster rollout of new and innovative technologies would be to allow suppliers to request, from the outset, a grams per mile values for their off-cycle technologies. Suppliers could submit an initial application for pre-approval by EPA, determining an appropriate and conservative provisional off-cycle technology credit value. The resulting quantification would provide automakers a minimum guarantee of off-cycle credit once the technology is incorporated onto vehicles. This would help reduce process-related uncertainty and encourage earlier adoption of societally beneficial technologies.

Global Automakers is supportive of the proposed concept as developed by the Motor Equipment Manufacturers Association (MEMA). This proposed concept would provide a clear process to analyze the

benefit of new technologies and how they might best be tested and incorporated into the off-cycle technology program.<sup>86</sup>

#### 4. Streamlining the Data or Testing Requirement Process

Some of the data required to accompany the alternative approach applications for off-cycle technology is extensive, burdensome, and often poorly defined. The agency should explore ways to streamline the data collection and/or testing process. One possible approach would be to provide a defined template of requirements, information to be shared, and a standardized process for data review. In the certification space, this is done on an annual basis with a collaboration between EPA and industry. These process improvements would reduce burden on both industry and EPA.

#### 5. Eliminate the 10 g/mi Fleet Cap

As more technology receives off-cycle credit values, this arbitrary cap will restrict innovation. EPA should lift the cap now in anticipation of increased use of technologies, like start-stop, LED headlamps, and even advanced safety technologies that may provide real-world emission and fuel saving benefits. Global Automakers supports full elimination of the cap but could also support raising the cap to 15 g/mi.

#### 6. Eliminate Regulatory Language that Prevents Off-Cycle Technology Credits for Advanced Safety Technologies

Current EPA regulations prevent the ability to apply for off-cycle technology credits for advanced safety technologies.<sup>87</sup> Many of these technologies have real and measurable emissions benefits, resulting from improved flow of traffic, less idling and reduced congestion resulting from fewer crashes. The current EPA rule prohibits manufacturers from obtaining off-cycle credits for installing such technologies in passenger vehicles.

EPA has the opportunity to revise the regulation to explicitly authorize off-cycle credit petitions for advanced safety technologies, such as connected vehicle technologies, that can demonstrate emission reduction benefits. The process of providing a methodology and data to support emissions benefits and fuel economy savings is well established in the industry and with the agencies. Additionally, these technologies continue to prove wider industry use and increased consumer adoption of the technologies. The agencies can seize the opportunity to assist the market leadership in this country by offering a path forward to gain benefits for investing in technology that has both safety and environmental benefits. At a minimum, the regulatory text needs to be struck, to allow all parties an opportunity to consider whether these technologies are appropriate under the GHG program. Adding such a credit value would encourage manufacturers to implement this technology, accelerating both real-world emission reductions and safer roadways.

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<sup>86</sup> Motor Equipment Manufacturer Association Comments to this Notice of Proposed Rulemaking.

<sup>87</sup> 40 CFR 86.1869-12.

#### D. The Importance of Maintaining Non-CO<sub>2</sub> Emissions in the EPA Program

EPA has also requested comment on whether to phase out regulation of non-CO<sub>2</sub> greenhouse gases, such as methane, nitrous oxide and A/C leakage and refrigerants.<sup>88</sup> EPA proposes to do so in MY 2021. EPA believes that the inclusion of these compounds in the current standards creates disharmony between the NHTSA and EPA standards.

Global Automakers does not consider the regulation of non-CO<sub>2</sub> GHGs to be a source of disharmony between the regulatory regimes of NHTSA and EPA. As noted earlier, the regulations can be consistent even if they are not identical, and Global Automakers prefers a small numerical divergence in EPA's and NHTSA's standards if it provides for a consistent and certain federal policy, rather than resulting in a separate patchwork of fragmented state regulations.

A/C refrigerant and leakage credits are important, because while they do not directly impact the efficiency of the vehicle, with respect to EPA's program, they provide real and additional GHG reductions by reducing refrigerant leakage and encouraging a transition to lower global warming potential refrigerants. In the context of the GHG program, this approach is smart and cost-effective, because it does not require these changes, but instead works with the overall package of flexibilities to provide an additional compliance path for reducing overall vehicle GHG emissions, according to the best strategy for the vehicles and the customers that buy each vehicle.

We also support continuation of EPA's A/C leakage credits, because they result in real world GHG emissions reductions, are complementary to EPA's program, and are better managed through a timely, coordinated federal policy. Global Automakers does not support the proposal for implementing a separate regulatory program to address A/C leakage for several reasons. First, if EPA separately regulated these aspects of the program, it greatly limits the ability to select the most cost-effective approach for technology improvements and result in a costlier, separate set of regulations that actually relate to the overall GHG standards. A/C leakage and refrigerants are part of the overall vehicle system, and since they result in real GHG emission reductions when controlled, they should be controlled as part of the overall strategy and technology plan specific to each vehicle.

Second, it takes agency resources and time to promulgate separate and new regulations, and this would result in a gap in controlling these elements, while also leaving the floor open for states to take separate action in this area. In the time it takes to promulgate these rules, states may take separate action to regulate, or even ban, refrigerants. This would result in a patchwork approach to regulating GHG emissions, less integration in technologies to achieve separate sets of standards, and a potentially more stringent compliance scenario since trade-offs could not be made for the most cost-effective approaches. Global Automakers much prefers a coordinated, systematic approach to A/C leakage and refrigerant, that allows for a smart, cost-effective approach to technology improvements on a per vehicle basis to having to manage separate state standards, or even refrigerant bans, that attempt to fill the gap in federal policy. Further, there is the potential that EPA's CAA authority may not be as directly

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<sup>88</sup> 83 Fed. Reg. at 42988.

applicable if A/C leakage is controlled separately, or even by another branch of the agency. It is unclear to what extent federal CAA authorities would apply if states took separate action in these areas; there are several states that may consider taking action if EPA does not take it, and this would be problematic without the ability for federal oversight. On the other hand, if these provisions remain part of the overall vehicle GHG regulations, EPA maintains clear CAA waiver authority for any separate action to regulate these aspects.

Third, the proposed phase-out could harm manufacturers economically. Our manufacturers have already invested capital and know-how to develop technology to meet the current regulations. The proposed phase-out also creates another risk that manufacturers will have stranded capital in technologies that are not fully amortized. While EPA states that it will impose separate regulations for MY 2021 and beyond, that is less than three years ahead. Phasing out these standards creates uncertainty for manufacturers, who may find themselves subject to different regulatory standards for these compounds in the future depending on the outcome of the rulemaking for the new regulations.

Continuing the availability of A/C leakage credits is critical to enabling EPA to meet its legal mandate to drive more efficient vehicles, while allowing support for market competitiveness in the face of other global actors.

Finally, EPA also asked whether, if it continues to regulate these compounds, the regulatory requirements should be modified. At this point, Global Automakers recommends that they remain in place per the existing program but continues to support that the N<sub>2</sub>O testing is not necessary.<sup>89</sup>

#### E. Treatment of E10 Test Fuel for GHG Testing

In 2013, EPA finalized the Tier 3 light-duty vehicle emissions regulations, which require the use of 10% ethanol (“E10”) test fuel for fuel economy testing by MY 2020; however, EPA still has not issued the

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<sup>89</sup> In Global Automakers’ May 15, 2017 comments to EPA on the “Evaluation of Existing Regulations” [82 FR 17793, April 13, 2017], we note:

Over the years, manufacturers have worked with EPA to address concerns with available technology to test for N<sub>2</sub>O. Manufacturers have also raised concerns with test-to-test variability and the cost of such technologies. At one point in time, EPA did agree to delay the test requirements as a result. These concerns, however, have not been addressed, and testing remains a significant burden with little to no benefit to the environment or impact on meeting the GHG standards.

Therefore, Global Automakers strongly recommends reducing the need for N<sub>2</sub>O testing or eliminating these test requirements in their entirety. It should be sufficient to allow manufacturers to attest to compliance with the N<sub>2</sub>O capped standards based upon good engineering judgement, development testing, and correlation to NO<sub>x</sub> emissions. EPA could, however, maintain the option to request testing to be performed for new technologies, only, which could have unknown impacts on N<sub>2</sub>O emissions.

The elimination or significant reduction of these testing requirements for N<sub>2</sub>O may exceed \$600,000 per year in savings per manufacturer.

regulatory changes necessary to enable such testing. This delay has eroded the expected lead time for this changeover, cast doubt on the feasibility of the MY 2020 deadline, unnecessarily increased testing burdens, and created considerable uncertainty in manufacturers' product development and compliance planning processes. Global Automakers reiterates our previous requests that the agencies use today's rulemaking to issue guidance to continue use of the current E0 test fuel until EPA and industry can finalize the necessary test procedure adjustment regulation.

The provisions of 40 C.F.R. § 600.117 were put in the Tier 3 rule as a stopgap measure until EPA could incorporate the necessary changes to allow E10 testing for fuel economy and GHG via new rulemaking. EPA did not intend for a lack of new updated regulations to create the current situation where the MY 2020 regulations do not permit testing on either fuel (E0 or E10) for fuel economy and GHG reporting.

In recent discussions with EPA, industry has proposed several ways to address the yet-to-be issued regulations, ranging from the issuance of a test procedure adjustment concurrent with the Tier 3 final rule back in 2013 to, more recently, the issuance of a standalone, limited-scope rulemaking to postpone the MY 2020 deadline for the test fuel changeover. Since there are no provisions in the existing regulations to test on E0 or E10 starting in MY 2020, industry requested that EPA issue an extension of the Tier 2 E0 testing provisions in 40 C.F.R. § 600.117 past its current expiration date at the end of MY 2019. Industry has also urged EPA to address test procedure adjustments in coordination with the next rulemaking action – the current SAFE NPRM would provide such a forum to do this. In addition, industry has requested that EPA issue a guidance letter that would have the effect of assuring no adverse action against industry in the absence of updated testing regulations.

Measuring and accounting for CO<sub>2</sub> in a consistent manner is critical for consistency and equity in regulatory treatment regardless of the test fuel used. The measurement methods, which have been used for many years for ethanol containing fuels, have correctly accounted for upstream GHG emissions and have set a precedent for how CO<sub>2</sub> from new ethanol fuels should be measured. EPA should therefore seek to maintain consistency and should strive to avoid adopting arbitrary and inconsistent approaches based solely on the amount of ethanol in the fuel.

The approach that EPA followed in implementing the measurement of CO<sub>2</sub> emissions from E85 flexible fuel vehicles (FFVs) establish a precedent to follow for how CO<sub>2</sub> emissions should be measured from other ethanol fuels. The CO<sub>2</sub> emissions from E85 FFVs tested on E85 are reported as direct measurements from the tailpipe of CO<sub>2</sub> g/mile, without any adjustments.<sup>90</sup> For E85 FFVs, EPA correctly avoided double counting the benefits of ethanol-derived CO<sub>2</sub>. Had EPA increased the measured tailpipe CO<sub>2</sub> to debit the fuel for its improved CO<sub>2</sub> performance, this would have constituted a double counting

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<sup>90</sup> See EPA Guidance CD-14-18, [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=33581&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=33581&flag=1): "...FFV emissions will be based on measured CO<sub>2</sub> results from emissions testing on the fuels on which the vehicle operates." November 12, 2014. And, see GHG and CAFE Final Rule, 75 Fed Reg 25433. "...EPA believes the appropriate approach is to ensure that FFV emissions are based on demonstrated emissions performance." May 7, 2010.

of the benefits. EPA would have been then obligated to revise CO<sub>2</sub> credits elsewhere, such as for ethanol producers.

The 2012 GHG Final Rule established procedures for measuring emissions from FFVs that are operated on both E10 and E85. In essence, automakers must measure tailpipe GHG emissions on both gasoline and E85, and weight these two tailpipe results by a “utility” factor that reflects the percentage of time FFVs are fueled with E85; there is no adjustment factor applied to the E85 results for FFVs. The GHG Final Rule cites a methodology to allow for FFVs to receive credits for their real-world emissions 2012 benefits:

This methodology established a default value where ethanol FFVs are assumed to be operated 100 percent of the time on gasoline, but allows manufacturers to use a relative E85 and gasoline vehicle emissions performance weighting based either on national average E85 and gasoline sales data, or manufacturer-specific data showing the percentage of miles that are driven on E85 vis-a-vis gasoline for that manufacturer’s ethanol FFVs. *Since tailpipe GHG emissions from FFVs operated on E85 are typically slightly lower than those from gasoline operation, this methodology provides an opportunity for ethanol FFVs to earn GHG emissions credits, particularly if E85 use grows in the future.*<sup>91</sup> (Emphasis added)

Thus, the adoption of a CO<sub>2</sub> adjustment factor for vehicles tested using other ethanol-containing fuels, such as Tier 3 E10 fuel, would therefore be inconsistent with the treatment of CO<sub>2</sub> emissions from FFVs. In contrast, for estimating tailpipe emissions from 2020 and later MY vehicles certified to GHG standards utilizing Tier 3 E10 fuel, EPA may be planning to count the CO<sub>2</sub> from combusting ethanol.

A number of commenters on the 2012 GHG final rule thought that compliance with the tailpipe GHG standards should include upstream or lifecycle benefits of biofuels. EPA’s response to these comments is shown below.

Several commenters pointed out that cellulose-based ethanol and other renewable fuels have the potential to yield large lifecycle GHG emissions benefits due to the CO<sub>2</sub> uptake during plant growth, and recommended that such fuels be given credits, or have compliance measured, to reflect the upstream GHG emissions benefits. The use of biofuels with lower lifecycle GHG emissions is already required under the Renewable Fuel Standard (RFS) program, which is designed to achieve GHG emissions benefits through the required use of renewable transportation fuels that have better lifecycle GHG emissions performance than the gasoline or diesel fuel that they displace. EPA has already quantified the GHG emissions benefits associated with the RFS program. Therefore, as noted above, providing an additional incentive in the MYs 2017-2025 GHG program, which is focused on emissions from the vehicle and not lifecycle emissions, would not achieve any greater use of renewable fuels than is already required under the RFS program, and thus would not achieve any greater emissions reductions from the use of such fuel. Thus, providing an additional incentive, or using lifecycle emissions for compliance, would reduce the need to take other actions and thereby reduce the emissions benefits of the MYs 2017-2025 light-duty vehicle

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<sup>91</sup> EPA and NHTSA. *2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards; Final Rule*, 77 Fed. Reg. 199. October 15, 2012.

GHG emissions program given that renewable fuel use is already required by and accounted for under the RFS program.<sup>92</sup>

The commenters here are generally stating that upstream benefits of biofuels should be incorporated into the tailpipe GHG standards and that ethanol-derived tailpipe CO<sub>2</sub> should be counted as zero to be consistent with the RFS.<sup>93</sup> EPA is aware of this request from industry and appears to agree stating that these upstream “would reduce the need to take other actions and thereby reduce the emissions benefits of the MYs 2017-2025 light duty vehicle GHG emissions program.”<sup>94</sup> EPA knew that its GHG standards were based on emission testing of vehicles using E0, and that it was intending to transition to an E10 certification fuel. EPA was therefore concerned that if it counted ethanol CO<sub>2</sub> as zero as in the RFS, that the relative stringency of its regulations would be reduced. Any CO<sub>2</sub> emissions benefit from the use of ethanol in gasoline is included in the RFS, but not passed on to the automotive manufacturers.

To avoid double counting the benefits of ethanol-derived CO<sub>2</sub>, and to make its treatment of ethanol derived CO<sub>2</sub> consistent between the RFS and GHG, and also Tier 3, rules, EPA should not count the CO<sub>2</sub> derived from ethanol at all. It should only count the CO<sub>2</sub> derived from gasoline in comparing vehicle emissions to the standards, for both baseline and control cases. Thus, when tailpipe emission standards are reduced, all the benefits will be only from gasoline. This would make the vehicle regulation consistent with the RFS regulation and avoid double-counting reductions in ethanol-derived CO<sub>2</sub>.

As EPA and NHTSA evaluate and arrive at a SAFE Final Rule, the agencies should determine if there is a need to explicitly take into account any stringency adjustment for the Tier 3 change to E10 test fuels for fuel economy testing. The agencies should undertake this determination within the SAFE Vehicles Rule, because considerations that could affect stringency should not be considered as separate issues but should be handled together through a comprehensive evaluation. Performing this evaluation within the SAFE Vehicles Rule reduces the need for additional rulemakings in accordance with Presidential Executive Order 13777 and is the most logical and efficient approach to evaluating the necessity for stringency adjustments.

There are other important issues in addition to the R-factor that EPA should address in regulations pertaining to the E10 test adjustments. First, the regulations will need include an adequate phase-in period for the new requirements. A significant testing burden for manufacturers would be created if the new regulations do not adequately provide for reasonable carry-over and sequencing of tests. While industry is appreciative of EPA staff’s acknowledgement of the need for a phase-in as it works to promulgate the new test procedures, industry requests that EPA allow for an extended carry-over period because of the delay that has occurred in releasing guidance or regulations for industry.

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<sup>92</sup> 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards: EPA Response to Comments, EPA-420-R-12-017, August 2012, page 6-135.

<sup>93</sup> There is some precedent for this concept in existing regulations for estimating fuel economy from FFVs. The use of the 0.15 adjustment factor to estimate fuel economy of FFVs operating on E85, (sometimes called the petroleum displacement factor), is analogous to not counting ethanol derived CO<sub>2</sub> for estimating tailpipe CO<sub>2</sub>.

<sup>94</sup> EPA. Response to Comments: Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation



Second, industry requested that EPA provide manufacturers with an updated method for calculating the Net Heating Value (NHV) and Carbon Weight Fraction (CWF) of Federal Tier 3 Emissions Gasoline. EPA has recognized in previous guidance letters that corrections to the NHV and CWF methods published in the CFR are required.<sup>95,96</sup> We ask that EPA apply updates to the methods from letter CD-95-09 and adopt the use of modified ASTM International (ASTM) Test Methods D3338 and D3343 for fuels containing ethanol rather than MTBE in the forthcoming NPRM. Again, industry is appreciative of EPA staff's acknowledgement of the need for adopting the use of these modified methods.

## VI. Additional Issues for Comment

### A. Standardized Template for Reporting

NHTSA is proposing to adopt a standardized template for reporting all required data for pre-model year (PMY), mid-model year (MMY), and supplemental CAFE reports. Standardization of the report template and the process can help provide transparency on what is reported to the agencies and at what time.

Further streamlining the report by making the PMY and MMY reports the same would allow many manufacturers to continue the process of submitting PMY reports and then updating the MMY reports with the same type of information. This would further simplify reporting and reduce burden for the agencies as staff would be able to refer to a single, consistent document template for all reporting requirements. An addition to this procedure would be to add a final model year (FMY) report that could be an update to the MMY report. This would further clarify the reporting and would allow both NHTSA and EPA to use similar end-of-model year reporting metrics.

NHTSA has taken the suggestion of streamlining reporting requirements for end-of-model year one step further, by suggesting that reporting include additional data elements related to credit trading. In theory, Global Automakers and our members agree that a standardized template with credit trading information is appropriate, and there is already a template in use for these types of reporting requirements that could be integrated into the end of model year report.<sup>97</sup> The use of this template is well established and can be implemented across agencies with very little lag time in learning. Industry

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<sup>95</sup> EPA recognized that the methods contained in 40 CFR 600.113 are not applicable to Phase II test fuel and other oxygenated fuels. U.S. Environmental Protection Agency. "1994-16: Protocol for MPG Calculations for Vehicles Tested on Phase II Gasoline." August 5, 1994. Retrieved from: [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=14096&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14096&flag=1).

<sup>96</sup> EPA provided in this guidance revised NHV and CWF calculations based on ASTM D3338 and D3343 for MTBE containing fuels. This provides a precedent for revising the fuel economy equations for Net Heating Value and Carbon Weight of Fuel. U.S. Environmental Protection Agency. "MPG Calculations for Certification Vehicles Tested on California Phase 2 Gasoline." June 1, 1995. Retrieved from: [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=14107&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14107&flag=1)

<sup>97</sup> EPA template for averaging, banking and trading of credits. Available at: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-control-air-pollution-motor-vehicles-tier-3#additional-resources>. (accessed September 14, 2018).

would suggest combining the two templates (EPA’s AB&T and the PMY template) to streamline reporting and reduce burden. It is not, however, clear that credit transaction prices should be reported. There is no real value to the agencies knowing this information, and since this is confidential business information (CBI) status, this information could not be shared publicly at any time.

#### B. Application of Fuel Savings Adjustment Factors to Credits Carried Forward or Back Beginning in MY 2021

Global Automakers stands by the arguments made in its harmonization petition.<sup>98</sup> Global Automakers does not believe that the adjustment will result in a windfall of credits to manufacturers or disadvantage manufacturers. Instead, it ensures that credits have a consistent value over time.

#### C. Vehicle Miles Traveled Estimate Alignment for Both Agencies

NHTSA has proposed to deny Global Automakers’ request for retroactive adjustment of the VMT estimates of fuel savings.<sup>99</sup> We, however, stand by our request made in the June 2016 harmonization petition.<sup>100</sup> Specifically, we request that NHTSA reconsider its position with regards to the VMT estimate used in the adjustment factor. For the previous MYs 2012-2016, NHTSA had estimated VMT separately by MY and added an additional estimate for MY 2011 in 2012. VMT needs to be better estimated, because there is a potential to undervalue fuel savings per credit if estimates of VMT are off from actual usage.

Estimating VMT remains complex – taking into account various factors such as fuel price, consumer use of vehicles and fleet turnover – conditions that are wholly external to vehicle manufacturers. It is for this reason that harmonizing VMT estimates for all model years of ONP is particularly important to maintaining consistency in manufacturers’ compliance planning in light of market conditions and for aligning the agencies approaches in modeling the final standards. Credit flexibilities are critical to providing the support that ensures companies can meet the requirements of both programs with the same fleet of vehicles. It is for this reason that industry has requested that NHTSA apply the EPA VMT estimates to MYs 2011-2016.

#### D. Looking Beyond 2025

Much of the world, California, and automakers are already looking ahead to 2030, 2035 and beyond as part of ongoing efforts to lower carbon in the transportation sector and ultimately increase electrification of the light-duty fleet. Vehicle electrification is not happening in isolation; announcements

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<sup>98</sup> Global Automakers and the Auto Alliance. “Petition for Direct Final Rule with Regard to Various Aspects of the Corporate Average Fuel Economy Program and the Greenhouse Gas Program.” June 20, 2016.

<https://www.globalautomakers.org/OldSiteContentAssets/bulletin/Joint-Harmonization-Petition-for-GHG-and-CAFE-assets/2017-06-20-joint-alliance-global-harmonization-petition-for-rulemaking-pdf>.

<sup>99</sup> 83 Fed. Reg. at 43453.

<sup>100</sup> Global Automakers and the Auto Alliance. “Petition for Direct Final Rule with Regard to Various Aspects of the Corporate Average Fuel Economy Program and the Greenhouse Gas Program.” June 20, 2016.

<https://www.globalautomakers.org/OldSiteContentAssets/bulletin/Joint-Harmonization-Petition-for-GHG-and-CAFE-assets/2017-06-20-joint-alliance-global-harmonization-petition-for-rulemaking-pdf>.

and implementation of technologies that will lead to connected and automated vehicles continue to come out of traditional and non-traditional industry players as well. In addition, ride sharing models and alternative transportation options will influence the underlying nature of the automotive business. Taken as a whole, these trends will likely provide a more efficient and safer future fleet of vehicles, and the need to invest in these technologies should not be ignored.

Global Automakers believes that this NPRM needs to consider how to support a transition toward decarbonization levels necessary to meet our mid-century climate goals. The “post-2025” regulatory direction is critical, because these efforts require significant changes in customer behavior, infrastructure, and the overall automobile market. These changes will also require billions of dollars of investment, which must come from profitable vehicles, as well as protect against the inevitable possibility of technology obsolescence and stranded investment.

It is critical to begin to adopt a long-range view for where industry trends are headed. The agencies can, and should, weigh these competing priorities and consider how to properly balance all aspects of the regulation through MY 2026. The Midterm Evaluation revealed that the world has greatly changed from 2012 to 2016, and we do not imagine that the rate of change will slow in the coming years. It for this reason that we do not advocate promulgating final standards past MY 2026 unless that framework comes with an opportunity for thoughtful mid-course correction along the way.

Rather, we support developing aspirational goals out to MY 2030, and a future rulemaking consistent with those goals. These aspirational goals would include a clear outline of the responsibilities of different stakeholders to meet those goals. For instance, more stringent fuel economy standards in 2030 would necessarily assume a certain market penetration of electric vehicles (EVs). This, in turn, would depend on federal and state efforts to support the technology, such as infrastructure investment. The later promulgation of the aspirational standards would depend in part on whether states have made the necessary investments in electric charging and hydrogen refueling infrastructure.

## **VII. Asserting EPCA Preemption is not the Best Way to Preserve One National Program**

In the NPRM, NHTSA proposes to find that state regulations of motor vehicle GHG emissions and of Zero Emission Vehicles (ZEVs) are both expressly and impliedly preempted under EPCA in order to ensure that automakers will be required to comply with a single set of nationwide standards for fuel economy and GHG emissions performance.<sup>101</sup> While Global Automakers agrees with this important policy goal to coordinate national standards, we do not believe that federal preemption is the best means for achieving it. Enforcing EPCA’s preemption provision or obtaining a court order that California’s GHG emission program conflicts with NHTSA’s administration of the CAFE program would require years of uncertain litigation. Instead, we support a continuation of ONP with California, which would also result in automakers complying with a single, unified set of fuel economy and GHG emission standards.

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<sup>101</sup> 49 U.S.C. § 32901, et seq.

As NHTSA points out in the NPRM, EPCA includes an express preemption provision stating:

When an average fuel economy standard prescribed under this chapter is in effect, a State or a political subdivision of a State may not adopt or enforce a law or regulation related to fuel economy standards or average fuel economy standards for automobiles covered by an average fuel economy standard under this chapter.<sup>102</sup>

GHG regulations are expressly preempted, NHTSA asserts, because “GHG emissions, and particularly CO<sub>2</sub> emissions, are mathematically linked to fuel economy; therefore, regulations limiting tailpipe CO<sub>2</sub> emissions are directly related to fuel economy.”<sup>103</sup> More specifically, NHTSA states: “Standards that control tailpipe CO<sub>2</sub> emissions are de facto fuel economy standards because CO<sub>2</sub> is a direct and inevitable byproduct of the combustion of carbon-based fuels to make energy, and the vast majority of the energy that powers passenger cars and light trucks comes from carbon-based fuels.”<sup>104</sup>

NHTSA’s position on this question is long-standing and consistent. Back in 2005, NHTSA articulated its position that a “state law that seeks to reduce motor vehicle carbon dioxide emissions is both expressly and impliedly preempted” under EPCA.<sup>105</sup> NHTSA concluded that “[s]ince the way to reduce carbon dioxide emissions is to improve fuel economy, a state regulation seeking to reduce those emissions is a ‘regulation related to fuel economy standards or average fuel economy standards.’”<sup>106</sup> NHTSA reaffirmed and expanded on this view in the final light truck standards promulgated the following year:

In mandating federal fuel economy standards under EPCA, Congress has expressly preempted any state laws or regulations relating to fuel economy standards. A State requirement limiting CO<sub>2</sub> emissions is such a law or regulation because it has the direct effect of regulating fuel consumption. CO<sub>2</sub> emissions are directly linked to fuel consumption because CO<sub>2</sub> is the ultimate end product of burning gasoline... It is therefore NHTSA’s conclusion that such regulation is expressly preempted.<sup>107</sup>

Despite this consistent view on the part of NHTSA and the technical discussion to support its conclusion that state GHG regulations are “related to fuel economy standard,” asserting EPCA preemption is not without litigation risk. As the agency notes in the NPRM, two district courts have found that California’s GHG emission standards are not preempted under EPCA if California obtains a CAA Section 209(b) waiver from EPA.<sup>108</sup> We note, however, that the *Green Mountain* case was on appeal and that the case

<sup>102</sup> 49 U.S.C. § 32919(a) (quoted at 83 Fed. Reg. at 43,233).

<sup>103</sup> 83 Fed. Reg. at 43,234.

<sup>104</sup> *Id.* at 42,999.

<sup>105</sup> See Average Fuel Economy Standards for Light Trucks; Model Years 2008–2011, Notice of Proposed Rulemaking, 70 Fed. Reg. 51,414, 51,457 (Aug. 30, 2005).

<sup>106</sup> *Id.*

<sup>107</sup> See Average Fuel Economy Standards for Light Trucks Model Years 2008–2011, 71 Fed. Reg. 17,566, 17,654 (April 6, 2006).

<sup>108</sup> *Green Mountain Chrysler v. Crombie*, 508 F.Supp.2d 295 (D. Vt. 2007); *Central Valley Chrysler-Jeep, Inc. v. Goldstene*, 529 F. Supp. 2d 1151 (E.D. Cal. 2007).

had been fully briefed and argued to the Second Circuit when the agreement for the first National Program was reached. As part of that agreement, the industry dismissed the appeal of that case as well as the appeal of *Central Valley Chrysler-Jeep*. Consequently, no appellate court has passed on the novel theories adopted by the district courts concerning why the California regulations are not preempted under EPCA. Reaching a final legal determination on this question will take years of costly litigation.

Moreover, as NHTSA discussed in the NPRM, California is considering regulatory amendments to its GHG program to revoke its deemed-to-comply provision, which would effectively break the state from the ONP.<sup>109</sup> Should California finalize this rule (and we have explained to the state why it should not) at the same time NHTSA pursues EPCA preemption, that would lead to a prolonged period of uncertainty during which companies may take a conservative approach and assume that they will need to comply with both the federal standards and California's.<sup>110</sup> This would be incredibly inefficient and drive up compliance costs but would be the inevitable result from pursuing this strategy.

Another by-product of preemption, out of NHTSA's control, is that in addition to CO<sub>2</sub>, there are other non-CO<sub>2</sub> sources of GHG emissions that left unregulated or separated from a federal policy, could very likely result in separate state action to control, limit, or even ban sources. This type of state-level control would be the worst situation for manufacturers, resulting in a patchwork of requirements and overly stringent control and command regulations.

Instead of going down this path, we urge NHTSA to engage with California and reach an outcome akin to the first and second agreements for ONP, where California agrees to be part of the final national program. We believe this can be accomplished through the promulgation of aggressive but achievable federal fuel economy and GHG emission standards through MY 2026 with California maintaining its deemed-to-comply provision. This would yield that same result as asserting preemption—*i.e.*, a single, unified national program with 50-state compliance. Moreover, it would provide automakers with increased certainty and keep separate state actions at bay.<sup>111</sup> Automakers would not need to comply with separate California standards while litigation is pending.

With respect to EPCA preemption of ZEV regulations, NHTSA is correct that it has never before articulated a view that such regulations are expressly or impliedly preempted under EPCA. In the NPRM, NHTSA states that state ZEV regulations are expressly preempted under EPCA, because they “directly

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<sup>109</sup> See 83 Fed. Reg. at 43,233 n.495.

<sup>110</sup> This period of uncertainty may also lead to other states adopting and following California's regulations, a trend that has already started with the state of Colorado looking to finalize its first set of Section 177 California rules in November 2018.

<sup>111</sup> NHTSA states that after the finalization of the national program, the agency “erroneously saw this as obviating consideration of EPCA preemption.” 83 Fed. Reg. at 43,233. We disagree. While California's adoption of its deemed-to-comply provision would not impact the express preemption analysis, it does address the issue of conflict preemption. California's agreement to the National Program furthers one of the important policies EPCA is designed to protect—*i.e.*, “a national fuel economy standard.” *Id.*

relate to fuel economy,”<sup>112</sup> and are impliedly preempted, because they are “entirely at odds with critical factors that Congress required NHTSA to consider in establishing fuel economy standards.”<sup>113</sup> However, for the same reasons we discuss above, we do not believe that asserting EPCA preemption of California’s ZEV mandate is the best path forward to achieve ONP. While it is true that the ZEV mandate requires automakers to utilize the most expensive technology to reduce fuel consumption, and address criteria pollutant emissions, there may be other ways to both increase the electrification of the light-duty fleet—a goal which Global Automakers unreservedly supports—and ensure that doing so does not conflict with the policy aims of EPCA.

## **VIII. Global Automakers Does Not Support the Revocation of California’s Waiver for its Existing Regulatory Programs While “Deemed to Comply” Remains in Place**

EPA states in the NPRM that it is proposing to withdraw the January 9, 2013 waiver of preemption for California’s Advanced Clean Car (ACC) program, ZEV mandate, and GHG standards that are applicable to new model year (MY) 2021 through 2025. EPA is offering three bases for this proposal: (1) under Section 209(b)(1)(B) of the CAA, global climate change is not a “compelling and extraordinary condition” in California so as to justify its own emission standards,<sup>114</sup> (b) even if climate change were a “compelling and extraordinary condition,” California does not “need” its regulations to address it, and (3) under 209(b)(1)(C), the standards are inconsistent with Section 202(a) of the CAA.<sup>115</sup> We address the GHG and ZEV waivers separately, below.

### **A. GHG Waiver**

Initially, we view EPA’s proposal to withdraw the 2013 waiver as essentially a proposal to reconsider its earlier decision to grant the waiver. While an agency always retains the authority to reconsider its prior decisions, it usually does so in the context of the rulemaking docket in which the underlying decision was made, and not as an ancillary action in a completely separate rulemaking.

In any event, Global Automakers is concerned that EPA taking this action to reconsider the earlier California waiver would lead to years of litigation and uncertainty. And just as with EPCA preemption, as noted above, in the face of this uncertainty, automakers would be faced with the decision as to whether to comply with the separate, more stringent California regulations until this issue is ultimately resolved by the courts. This situation creates additional uncertainty as states, like Colorado that is already in the

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<sup>112</sup> According to NHTSA, the ZEV Mandate is related to fuel economy standards because “the only feasible means to eliminate tailpipe CO<sub>2</sub> emissions is by eliminating the use of petroleum fuel (i.e., electric or fuel cell propulsion), and because the purpose of the ZEV program is to affect fuel economy.” 83 Fed. Reg. at 43,238.

<sup>113</sup> 83 Fed. Reg. at 43,238.

<sup>114</sup> Section 209(b)(1)(B) provides that EPA shall deny the waiver if it finds that California “does not need such State standards to meet compelling and extraordinary conditions.” 42 U.S.C. § 7543(b)(1)(B).

<sup>115</sup> Section 209(b)(1)(C) provides that EPA shall deny the waiver if it finds that California’s “standards and accompanying enforcement procedures are not consistent with section 202(a) of [the Clean Air Act].” *Id.* § 7543(b)(1)(C).

process of adopting California regulations, look to adopt California's standards, thereby increasing the market share reach of the California GHG program.

For instance, we agree with EPA that California's entitlement to a Section 209(b) waiver for its GHG emission regulations will turn in large part on the agency's interpretation and application of Section 209(b)(1)(B). That provision states that EPA shall deny the waiver if the agency finds that California "does not need such State standards to meet compelling and extraordinary conditions" in the state.<sup>116</sup>

As EPA points out, the agency has articulated differing interpretations of this provision. Historically, EPA has interpreted it to mean that California needs to have its own separate new motor vehicle program in the aggregate to meet compelling and extraordinary conditions in California, and not whether the state needs the specific standards under consideration. In 2008, in contrast, when EPA first considered whether state GHG emission regulations meet the requirements for a Section 209(b) waiver, EPA determined that the better reading of Section 209(b)(1)(B) would be to consider whether California "need[s]" the standards at issue "to meet compelling and extraordinary conditions," and the agency denied the waiver on these grounds. Then, when EPA reconsidered that denial in 2009, the agency reverted back to its traditional interpretation and granted the waiver.

No court has addressed this question, let alone determine whether the language of Section 209(b) is ambiguous or susceptible to either of the competing interpretations.<sup>117</sup> Therefore, should EPA withdraw the California waiver, the automotive industry would be faced with years of uncertainty.

For this reason, Global Automakers does not support the withdrawal of the waiver for the *current* California GHG emission standards, because they include a "deemed-to-comply" provision. Those regulations include a deemed-to-comply provision, which states as follows:

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<sup>116</sup> 42 U.S.C. § 7543(b)(1)(B).

<sup>117</sup> We question whether, under well-settled canons of statutory interpretation, Section 209(b)(1)(B) can be read as referring to California's emission standards in the aggregate. There is a "natural presumption that identical words used in different parts of the same act are intended to have the same meaning." *Env'tl. Def. v. Duke Energy Corp.*, 549 U.S. 561, 574 (2007). The term "such state standard" is used in both 209(b)(1)(B) and (C), and it should be read consistently as between the two. Section 209(b)(1)(C) states that EPA shall deny the waiver if it finds that "such State standards and accompanying enforcement procedures are not consistent with section 202(a) of this part [42 USCS § 7521(a)]." It would make no sense to construe the term "such state standards" subsection (C) to mean the California program in the aggregate, and EPA has always construed Section 209(b)(1)(C) as referring to the standards before EPA for the waiver. For example, in EPA's 2009 decision to grant a waiver for California's GHG emission program, the agency assessed "whether CARB's GHG standards are consistent with section 202(a), including lead time." 74 Fed. Reg. at 32,777. In fact, EPA has in the past denied a waiver on the ground that the specific standards before the agency were not consistent with Section 202(a) because they failed to provide sufficient lead-time. See California State Motor Vehicle Pollution Control Standards, 43 Fed. Reg. 998, 1001 (Jan. 5, 1978) (in assessing certain aspects of California's motorcycle emissions program, finding "that section 1958(f), as now drafted, is inconsistent with section 202(a) of the Act" and therefore "deny[ing] California's request for a waiver of preemption for that section"). It follows, then, that the term "such state standards" must also refer to the specific standards before the EPA waiver with respect to the "compelling and extraordinary" prong in subsection (B).



For the 2017 through 2025 model years, a manufacturer may elect to demonstrate compliance with this section 1961.3 by demonstrating compliance with the 2017 through 2025 MY National greenhouse gas program, [provided certain procedural prerequisites are met].<sup>118</sup>

As long as California maintains this national compliance option, there is no need for EPA to reconsider the waiver. EPA should defer any decision on the waiver until such time as California formally revokes the deemed-to-comply provision. In that case, the amended California GHG regulation would be materially different from the one that EPA waived in 2013, and EPA could either revoke the 2013 waiver (on the basis that California has materially altered its waived-standards) or declare that the amended regulations are not enforceable until California seeks and obtains a waiver. Then, when California seeks an EPA waiver for the amended GHG standards—which the state would need to do<sup>119</sup>—EPA could determine whether the amended regulations meet the standard for a waiver under Section 209(b) of the CAA.

In the interim, Global Automakers reiterates our request that the federal agencies work with California to develop an outcome akin to the existing ONP. A single, unified national program is far preferred to the uncertainty of litigation surrounding California’s waiver.

#### B. ZEV Waiver

EPA is also proposing to withdraw the waiver for California’s ZEV mandate on the same grounds as its proposed withdrawal of the GHG waiver. In our view, however, the ZEV waiver should be treated differently from the GHG waiver. California has a long history of addressing criteria pollutants and local smog problem through its ZEV program. Courts have consistently held that California’s ZEV mandate is a motor vehicle emission standard that is subject to CAA preemption.<sup>120</sup> California has obtained several

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<sup>118</sup> 13 C.C.R. § 1961.3(c).

<sup>119</sup> We note that an action by California to revoke the deemed-to-comply provision would not qualify for a “within the scope” determination by EPA. Rather, they would be subject to a full analysis under Clean Air Act Section 209(b) because the result would be a much more stringent California program than was otherwise intended. Where a CARB regulatory amendment is “geared toward increasing the underlying stringency of the program,” or “add[s] a new pollutant or other emission standard,” then that “would require full waiver consideration” under the standard set forth in Section 209(b). See *In the Matter of California State Motor Vehicle Pollution Control Standards; Amendments to California Zero Emission Vehicle (ZEV) Regulation; 2003-2008 Model Years Within the Scope Request; 2007 and Subsequent Model Years Waiver Request*, Decision Document, at 20 (December 21, 2006). Removing or altering the deemed-to-comply provision is “geared toward increasing the underlying stringency of the program” because: (a) having to comply with a California-specific GHG program is more stringent—and would require greater fleet-wide GHG reductions in California—than the California regulation with the “deemed to comply” provision, and (b) California’s GHG emissions regulations do not include some of the programmatic elements that the federal program has, which provide manufacturers with alternate compliance pathways and regulatory tools, thus easing the regulatory burden.

<sup>120</sup> See, e.g., *Engine Mfrs. Ass’n v. S. Coast Air Quality Mgmt. Dist.*, 541 U.S. 246 (2004) (holding that air quality management district requirements that fleet owners purchase a certain number of ZEVs is subject to Clean Air Act preemption); *American Auto. Mfrs. Ass’n v. Massachusetts Dep’t of Env’tl. Protection*, 163 F.3d 74 (1st Cir. 1998) (finding that state zero emission vehicle mandates are presumptively preempted by the Clean Air Act); *American*

waivers for its ZEV regulations dating back to 1993 before the development of its GHG emission program.<sup>121</sup>

Although the ZEV mandate presents significant compliance challenges in California, Global Automakers does not believe that those challenges are so insurmountable as to invalidate its waiver under Section 209 of the CAA, at least as to the implementation of ZEV in California. California's market is in many respects unique in its adoption of electric-drive vehicles, and in the overall vehicle market that makes it more susceptible to EV adoption. For instance, the car-truck split in California is 47%/53% (as compared to 33%/67% nationwide) and the all-wheel drive (AWD) and two-wheel drive (2WD) split in California is 27%/73% (as compared to 45%/55% nationwide) (See Table 2 on page A-59 below). Moreover, California has made unparalleled investments of hundreds of millions of dollars in consumer incentives, infrastructure and consumer awareness programs. As a result, the percent of new EV sales in California for the first half of 2018 was over six percent, while the nationwide average still hovers at 1.5 percent (with half of those sales attributable to California).<sup>122</sup>

However, for reasons we have articulated in a still-pending motion for reconsideration, which is referenced in the NPRM,<sup>123</sup> EPA needs to assess ZEV feasibility in Section 177 States. EPA has previously taken the position that it is without authority to do so, but we view that as reading Section 209(b) too narrowly. Given the fact that states adopting a California emission standard under CAA Section 177 must take the California standards as they are, EPA can and should determine whether the ZEV mandate is feasible in those states. In the next section of these comments, we discuss how EPA and NHTSA should consider ways of addressing ZEVs in the context of a national program, which would go a long way to alleviating compliance problems in the Northeast states. If that is not possible, and in the event that EPA determines that the ZEV mandate is simply not feasible in the Northeast states, then the agency should take appropriate action on the waiver.

## IX. The Federal Agencies Should Maintain One National Program Through a Negotiated Outcome with California

Rather than assert EPCA preemption or reconsider California's Clean Air Act waiver, EPA and NHTSA should maintain One National Program through a negotiated outcome with California. This would provide automakers with the long-term certainty they need to produce vehicles for a single national market. Global Automakers believes that the elements of a final rule discussed above—ensuring meaningful year-over-year improvements to fuel economy and GHG emissions performance combined with flexibilities that encourage investments in fuel-saving technologies—could form the framework for such a negotiated outcome.

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*Auto. Mfrs. Ass'n v. Cahill*, 152 F.3d 196 (2d Cir. 1998) (holding that ZEV mandates adopted by the State of New York were preempted by the Clean Air Act).

<sup>121</sup> See California State Motor Vehicle Pollution Control Standards; Waiver of Federal Preemption, 58 Fed. Reg. 4166 (Jan. 13, 1993).

<sup>122</sup> Source: IHS Global Vehicle Registration Data for January through June 2018.

<sup>123</sup> See 83 Fed. Reg. at 43,242 n.562.

#### A. A Bifurcated System Makes Fleet Management More Difficult

It is critical that the agencies consider the economic impact of a bifurcated system—i.e., having one standard in roughly 60% of the country and a stricter standard in at least 40% of the country.<sup>124</sup> This would mean that automakers would have fewer vehicles in each fleet over which they can amortize fuel economy technology. For example, fewer engine platforms are needed if standards are roughly similar, as this article discusses when considering the effects of a federal standard less stringent than a California standard:

For example, making the product innovations required to meet increasingly stringent standards in the California-led market may require investing in engineers to redesign products using lighter-weight materials; a bifurcated standard would mean these firms would have many fewer vehicles over which to amortize these fixed costs. Similarly, U.S. firms could compete with suppliers from abroad in the stagnant portion of the market by automating processes, but again would have many fewer vehicles over which to spread costs. Thus, scale economies in fuel-efficient technologies would benefit overseas suppliers, particularly those competing in European and Asian markets with more stringent standards and higher fuel prices.<sup>125</sup>

As discussed above, a unified national program that includes California and that allows for nationwide compliance is the most efficient framework for automakers. EPA and NHTSA should therefore continue their engagement with California and seek a compromise solution that achieves the policy goals of all three agencies.

#### B. The Federal Agencies Should Consider How to Address ZEV Requirements in the Context of a National Program

In addition to finding a nationwide solution to fuel economy and GHG emission regulations, we encourage EPA and NHTSA to all address electric vehicles in the context of the national program. California's ZEV mandate is a significant obstacle to harmonization, because it forces automakers to use one of the most expensive technologies – electric-drive technology – at a greater rate than would be required to meet the GHG regulations alone.<sup>126</sup> In addition, it has been particularly challenging to ramp up sales of electric vehicles in the northeastern ZEV states, which are far behind California in developing infrastructure, offering incentives, and otherwise developing their electric vehicle markets despite some increased efforts over that past couple of years.

Automakers are now offering over 40 models of electric vehicles, which include plug-in electric and fuel cell electric vehicles, and are estimated, based on automakers' public announcements, to more than

<sup>124</sup> 83 Fed. Reg. at 43208-209.

<sup>125</sup> <https://www.brookings.edu/blog/the-avenue/2018/07/02/why-undermining-fuel-efficiency-standards-would-harm-the-us-auto-industry/>. July 2, 2018. (accessed 14 September 2018).

<sup>126</sup> Customer acceptance remains one of the biggest barriers, and studies have shown that incentives, infrastructure and consumer education programs are all needed to address this concern.

double offerings in the next five years.<sup>127</sup> Automaker investment in this technology will continue to increase – estimated on the order of \$100 billion by 2025; this investment should be encouraged in the U.S. and not lost to other countries. Automakers’ progress related to electrification also represents significant investment in product development, marketing and advertising, dealer and service training, working with states and other stakeholders to build infrastructure, and looking for new and creative ways to increase consumer education. Further, in the past year, automakers jointly launched a consumer awareness campaign with several northeastern states, “Drive Change. Drive Electric.,” aimed at increasing customer awareness about the many benefits these vehicles offer to help address overarching concerns with customer acceptance of electric vehicles in the northeastern states.

Automakers are not only offering a wider selection of electric vehicles, but in a wider range of prices as well. Due to manufacturer and federal incentives, and some state incentives, electric vehicles are more affordable than ever. Automakers are discounting electric-drive vehicles in an effort to enhance sales.<sup>128</sup> Leases on electric-drive vehicles can start at just \$149/month.<sup>129</sup> Although studies have cited the ability of electric vehicles to reach cost parity with gasoline-fueled vehicles by 2025, there are still many unknowns regarding price, as well as customer acceptance and infrastructure development that can be partially managed through incentives and smart federal policies that promote innovation.<sup>130</sup>

As more electric vehicles come to market, increased efforts are needed to support the market—*e.g.*, offering vehicle incentives and ensuring funding for incentives, growing charging infrastructure, building out hydrogen refueling infrastructure, and addressing ongoing barriers (*e.g.*, restrictions on hydrogen vehicles on bridges and in tunnels). This is especially true in states that mandate sales of electric vehicles and have committed to supporting growth of this market.

States where these vehicles are succeeding the most have a confluence of programs that are building up electric chargers and hydrogen refueling stations, providing vehicle incentives, working to increase customer awareness, devoting state and agency resources to help create the right market conditions, have necessary legislative and gubernatorial support for funding, and more.

For instance, California has taken a significant step in this regard with Governor Brown’s Executive Order B-48-18, which increases funding for California’s Clean Vehicle Rebate Project and building out the infrastructure for electric charging and hydrogen refueling stations. It is thus no surprise that California

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<sup>127</sup> As of September 2018, three of the electric vehicles offered for sale are fuel cell electric vehicles (FCEVs). FCEVs are reliant on the availability of hydrogen refueling stations in order to meet customers’ daily driving needs. As a result, to date, FCEVs have been almost solely available in California, a state that is committing annual funding to growing refueling infrastructure. We encourage all ZEV states to commit funding to building hydrogen refueling stations, and further, we commend states, like Pennsylvania, who are offering potential grants for hydrogen refueling stations using funds from the VW Appendix D settlements.

<sup>128</sup> <https://www.bloomberg.com/news/articles/2018-05-14/how-to-lease-a-50-000-bmw-for-less-than-a-subway-pass>.

<sup>129</sup> <https://www.carsdirect.com/deals-articles/best-green-car-deals>.

<sup>130</sup> <https://www.bloomberg.com/news/articles/2018-03-22/electric-cars-may-be-cheaper-than-gas-guzzlers-in-seven-years>.

has led the market for all electric vehicles, including plug-in hybrid, battery and fuel cell electric vehicles, through hundreds of millions of dollars of state investment in consumer purchase incentives; electric charging and hydrogen refueling infrastructure; state policy development and market-building mechanisms; addressing codes, standards and permitting; agency implementation and planning resources; and tireless efforts to find new ways to encourage consumers to go electric. This investment has paid off, resulting in California's new electric vehicle market share exceeding six percent, when the rest of the nation's new electric vehicles sales barely exceed one percent.

Yet there are significant differences between the California vehicle market and that in other states that impact consumer acceptance of ZEVs. For example, California's new vehicle market remains car dominant, when the rest of the nation is moving to trucks; has a lower amount of AWD vehicles; and has the highest percent of electric vehicles compared to Section 177 States, as shown in Table 2.

*Table 2: Comparison of New Vehicle Sales in California, Section 177, and the United States*

| Jurisdiction               | New Electric-Drive Vehicle Market Share <sup>131</sup> | Percent Sales of AWD v. 2WD Vehicles (%) | Percent of New Car v. Truck Sales (%) |
|----------------------------|--|--|---------------------------------------|
| <b>California</b>          | <b>10.2%</b>   | <b>27/73</b>                             | <b>47/53</b>                          |
| <b>Western S177 States</b> | <b>6.0%</b>  | <b>68/32</b>                             | <b>30/70</b>                          |
| Colorado                   | 3.7%   | 75/25                                    | 26/74                                 |
| Oregon                     | 6.3%   | 65/35                                    | 30/70                                 |
| Washington                 | 8.1%   | 64/36                                    | 34/66                                 |
| <b>Eastern S177 States</b> | <b>2.7%</b>  | <b>67/33</b>                             | <b>31/69</b>                          |
| Connecticut                | 3.2%   | 74/26                                    | 33/67                                 |
| District of Columbia       | 6.3%   | 49/51                                    | 47/53                                 |
| Delaware                   | 2.9%   | 55/45                                    | 34/66                                 |
| Massachusetts              | 3.5%   | 21/29                                    | 31/69                                 |
| Maryland                   | 3.6%   | 51/49                                    | 37/63                                 |
| Maine                      | 3.1%   | 78/22                                    | 22/78                                 |
| New Jersey                 | 2.2%   | 64/36                                    | 36/64                                 |
| New York                   | 2.6%   | 71/29                                    | 29/71                                 |
| Pennsylvania               | 2.3%   | 68/32                                    | 30/70                                 |
| Rhode Island               | 2.4%   | 68/32                                    | 22/67                                 |
| Vermont                    | 3.8%   | 80/20                                    | 23/77                                 |
| <b>All 50 States</b>       | <b>3.4%</b>  | <b>45/55</b>                             | <b>33/67</b>                          |

Source: IHS Global Vehicle Registration Data for January through June 2018.

Thus, since the ZEV mandate is designed for California's market and market conditions, this can be problematic for other states that must adopt the mandate in whole under Section 177 of the CAA, regardless of whether the mandate is appropriate or feasible for that particular state's vehicle market.<sup>132</sup>

<sup>131</sup> "Electric-drive vehicles" includes hybrid electric, plug-in electric, and fuel cell electric vehicles.

<sup>132</sup> Similarly, Global Automakers has concerns about whether California's GHG standards, which are designed for California's conditions are feasible and/or can be implemented without additional amendments to account for a

There are likely better ways to address the mandate and bring some certainty to automakers that the U.S. as a whole wants to be a technology leader. Some ways to do this may include:

- The CAFE and GHG regulations should provide advanced vehicle technology multipliers and 0 g/mile upstream emissions, without limit, for battery electric, plug-in hybrid, and fuel cell electric vehicles. These incentives are important market signals and regulatory mechanisms to encourage investment in this higher cost technology, as we explain in other sections of this document. They also allow manufacturers to earn credits for placing electric vehicles in markets best suited to these vehicles.
- There should be a process whereby California and EPA, along with states, evaluate the feasibility of the ZEV mandate in the other ZEV states, and if challenges are identified, work to implement a California regulation with sufficient flexibility for the mandate's implementation in the other states.
- There may be additional policies, under the construct of a national agreement, that can help temper the constraints of the mandate. This may include finding ways to continue or expand pooling, i.e. creating a single pool of all ZEV states, or ensuring that the impact of the mandate does not grow beyond the approximately 30 percent of the new vehicle market that is currently covered by the ZEV mandate.

It is our hope that there is a robust dialogue between the federal and state agencies about the best ways to address the industry's shift to electrification under the umbrella of a unified national program.

## **X. Small Volume Manufacturers**

The proposal does not address changes to the NHTSA or EPA regulations regarding exemptions from standards for small volume manufacturers (SVMs). However, the current mechanisms for processing SVM exemptions are not effectively functioning, and fundamental revisions are needed. The agencies have numerous pending petitions from SVMs, several of them for multiple years in the past. In the final rule establishing MY 2017-2025 standards, EPA stated that it "expects" that rulemakings on SVM standards would "take about 12 months," but this estimate has proven to be overly optimistic.<sup>133</sup> No new changes in vehicle design or performance are, of course, now possible to meet standards for past model years. However, these open petitions create contingent liabilities in the accounting systems of the SVMs, creating unjustified harm to the companies.

The unique situations facing SVMs under the CAFE and GHG programs are, we believe, well understood by the agencies:

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variety of fleet mixes, product plans, and customer preferences amongst states following California's regulations. See <https://www.arb.ca.gov/lists/com-attach/29-leviii18-Wz5RLwRxB3oEXVU2.pdf>.

<sup>133</sup> 77 Fed. Reg. 62791, October 15, 2012.

- The ability of SVMs to meet the generally-applicable GHG and CAFE standards is restricted due to their relatively long product redesign cycles, limited resources, and narrow product lines in relation to the larger manufacturers.
- Moreover, the market for the vehicles produced by the SVMs is keyed to luxury and high-performance attributes, which do not generally align well with high levels of fuel efficiency and low carbon emissions.
- Given the small number of vehicles involved and traditionally small number of miles traveled each year by these vehicles, the total energy and emissions effects associated with the SVM fleet are negligibly small.

By contrast, the staff resource and administrative burdens associated with the SVM process, for both the agencies and the SVMs, are disproportionately large. Analytic processes followed by full rulemaking proceedings are potentially required for each exemption petition. We are sympathetic to the situations facing NHTSA and EPA in dealing with SVM standards. When considering the range of responsibilities assigned by Congress to the agencies, it is understandable that processing SVM petitions would be assigned a lower priority. Nevertheless, the backlog of pending petitions creates significant financial burdens for the SVMs, as noted above. A more effective approach for responding to petitions in a timely manner is necessary.

In petitioning for standard exemptions and alternative standards, SVMs must navigate separate administrative processes at NHTSA<sup>134</sup> and EPA.<sup>135</sup> We are now faced with the prospect of a third process in the state of California, as a result of the recent “deemed to comply” rulemaking.<sup>136</sup> Having three separate government agencies undertaking essentially the same regulatory task, with overlapping requirements results in administrative waste, potentially conflicting results, and negligible resulting environmental benefits; three separate processes would be a completely irrational outcome for small businesses.

Shortly after Congress established the CAFE program in 1975, it directed DOT to reduce administrative burdens associated with SVM petitions. The Conference Report on this legislation states:

In addition, the conferees agreed to require the Secretary to review the exemption and standard setting procedure to further reduce administrative burdens and to notify the Congress of his findings...The conferees emphasize that in establishing alternate fuel economy standards, the Secretary of Transportation may establish a single standard for the duration of the exemption.<sup>137</sup>

Thus, Congress was aware of the burdens associated with small businesses under the SVM process and directed DOT to address the matter. The guidance and authority provided by Congress regarding CAFE should be applicable to GHG standards as well, given the closely related elements of the programs.

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<sup>134</sup> 49 CFR Part 525.

<sup>135</sup> 40 CFR 86.1818-12(g).

<sup>136</sup> See <https://www.arb.ca.gov/regact/2018/leviii2018/leviii2018.htm>.

<sup>137</sup> House of Representatives report No. 96-1402, 96<sup>th</sup> Cong. 2d Sess., September 25, 1980.



Further reduction in burdens for the agencies would be to harmonize the definition for SVMs between EPA and NHTSA. The two agencies define the fleet of vehicles differently based upon sales; however, only the EPA subjects these volumes to the US:

(g) Alternative fleet average standards for manufacturers with limited U.S. sales.

...the terms "sales" and "sold" as used in this paragraph (g) shall mean vehicles produced for U.S. sale, where "U.S." means the states and territories of the United States. [...] To be eligible for alternative standards established under this paragraph (g), the manufacturer's average sales for the three most recent consecutive model years must remain below 5,000 [...]<sup>138</sup>

This definition identifies the sales of the vehicles that are intended for the US market only and not, as NHTSA stipulates, a manufacturing level for the globe.<sup>139</sup> This distinction is critical because vehicles for the US market are specially designed to meet our stringent vehicle safety standards. This means that SVMs must consider the unique nature of the US market when considering selling a vehicle. EPA sets its determination of SVM by a sales figure.

The method of defining a SVM through sales seems justified as vehicle sales translate to actual vehicles on the road. Just because a vehicle is made in a model it does not require that it be sold or used during that same model year. In considering vehicles' impact on the dynamics of the fleet from a safety and environmental perspective it is important to consider the actual vehicles on the road. Using the EPA definition considers these actual vehicles on the road in this country and allows for the definition of SVM to be related to local annual sales. Global Automakers and our members would ask that the agencies use this rulemaking to harmonize the SVM definition using the sales metric.

Global Automakers and its SVM members would like to work with NHTSA and EPA, as well as California, to rationalize the SVM standard-setting process. We recommend that the agencies pursue this rationalization process in two steps. First, the agencies should undertake a "clean-up" proceeding to address past and current model year petitions, for which alternative standards can have no effect on vehicle designs. Second, we urge the agencies to harmonize their processes for the future, to enable a single application by SVMs for both agencies, culminating in the issuance of harmonized standards issued by each agency in advance of the applicable model years (i.e., standards of equivalent stringency, enabling manufacturers to meet both agencies' requirements with a single compliance plan), and ultimately "deemed-to-comply" by California. In other words, we are urging a process similar to the National Program for the larger manufacturers. This undertaking would be consistent with Trump Administration regulatory reform efforts and would provide much needed long-term reductions in administrative burden for the agencies, as well as the SVMs, with no associated impact on fuel efficiency

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<sup>138</sup> U.S. EPA. 40 CFR §86.1818-12 *Greenhouse gas emission standards for light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles*.

<sup>139</sup> NHTSA. 49 CFR §525.5. States that any manufacturer that manufactures 10,000 or more passenger vehicles from the second model year affected forward is ineligible for an exemption.

improvements. The harmonized standards should take full advantage of statutory authority allowing a single standard and proceeding to cover multiple SVMs and multiple model years.

## **XI. Conclusion**

In conclusion, we appreciate that the agencies have taken the time to review the regulation and that they are continuing to work, through a transparent rulemaking process, to determine a path to address ongoing fuel efficiency improvements. As we have expressed in these comments, Global Automakers and our members believe that the optimal outcome in a final rulemaking would yield meaningful increases each year and feasible standards that encourage ongoing innovation and investment in the auto industry, result in ongoing environmental benefits, and support a continuation of One National Program with California.

The agencies, through this process should continue the work necessary to engage all stakeholders to achieve these important objectives. Doing so will help keep the U.S. auto industry competitive in a worldwide market that is transitioning to lower-carbon transportation, continue investment in the U.S. auto manufacturing sector, and help the auto industry thrive under a level regulatory playing field that allows for a smart approach to competition and efficiency improvements.

Further, the regulations should provide automakers options for cost-effective compliance management and allow them to determine the best approaches to comply given diverse product mixes. These include credits for early compliance, which help smooth compliance over multiple years and recognize efforts to invest early in fuel-saving technologies; credits for advanced technologies to encourage investment in more expensive technologies now in advance of future regulatory needs; real world emissions recognition of off-cycle technologies and A/C efficiency improvements; and inclusion of non-CO<sub>2</sub> GHG emissions under EPA's program to provide a consistent and flexible national policy for GHG improvements, rather than resulting in separate state actions. The programmatic tools and flexibilities should be retained, improved, and strengthened; this is a chance for the agencies to make policies designed under the previous rulemaking work more efficiently and as intended. These measures provide cost-effective options for achieving the fuel efficiency targets, encouraging the country's leadership when it comes to advanced technologies, and supporting efforts to provide a "common sense" approach to making the most fuel-efficient fleet.

Finally, working with California to ensure the continuation of "One National Program" is a key element that harmonizes separate federal and state regulatory programs and allows manufacturers to comply by producing a single fleet of vehicles. Any situation where there is disharmonization between the programs would create a patchwork of unworkable standards that would skew vehicle sales and production and have a detrimental effect on industry and consumers. It would also result in a high level of uncertainty, during which protracted and costly litigation would occur. The industry needs a coordinated set of standards between the NHTSA, EPA and CARB so manufacturers can allocate their resources to new and innovative technologies, instead of efforts to comply with inconsistent standards with mixed policy signals.



Global Automakers appreciates being able to provide detailed input on the proposed SAFE Vehicle NPRM in recognition that there are a number of factors the agencies must fully examine to determine the appropriate stringency of the standards out through MY 2026. We remain available to agencies to answer any questions and provide additional information.