

**Comments to EPA Science Advisory Board**  
**Therese Langer, PhD**  
**American Council for an Energy-Efficient Economy**  
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The American Council for an Energy-Efficient Economy (ACEEE) has worked on the technical aspects of EPA's greenhouse gas emissions standards for light- and heavy-duty vehicles for over a decade. We have identified many scientific and technical deficiencies in EPA's recent work to roll back these standards, and we find most of the issues raised in the May 18 SAB Work Group (WG) memo to be valid and substantial. Those issues, as well as other serious deficiencies, threaten to further undermine the role of science in EPA policymaking and ultimately erode environmental protection for the people of United States. Our comments are not comprehensive but highlight some specific points of concern and provide additional technical information. All citations are to the May 18 WG memo unless otherwise indicated.

**Final determination on light-duty greenhouse gas standards**

The WG memo posed several questions related to the April 2018 final determination and related materials that we believe are vital to understanding the justification, if any, for revisiting the standards. EPA's response (p. C-5) offers no substantive answers to those questions.

*Vehicle sales and safety impacts*

The WG notes (p. B-26) that EPA cites a figure of 1.3 million fewer vehicles sold as a result of the standards. This figure appears in the comments of the Alliance of Automobile Manufacturers on EPA's reconsideration of the final determination, which in turn reference the Trinity-NERA study (Attachment 6 to the Alliance's comments). However, the Trinity-NERA study's analysis of the sales impacts of the standards is not reasonable. It assumes that the standards' effect on sales is determined entirely by the incremental price of more-efficient vehicles (Trinity-NERA p.19) and thus ignores the fuel savings achieved with added efficiency and the effect of those savings on consumer purchase decisions. We note that this same issue arises in the macroeconomic analysis of the standards in the Indiana University study by Carley et al. (2017) cited in the WG memo (p. B-26). This and other shortcomings of the Indiana University study are addressed in a recent Synapse Energy Economics report.<sup>1</sup> The Synapse report finds increases in vehicle sales as well as positive impacts on macroeconomic indicators including GDP and employment in all years as a result of the standards.

EPA's unsupported suggestions of negative sales impacts of the standards are particularly troubling in view of their link to safety concerns, as reflected in the following "key question" for SAB review identified in the WG memo (p. B-23): "Would requirements for more fuel efficient

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<sup>1</sup> "Cleaner Cars and Job Creation," Synapse Energy Economics, Inc. March 2018. <http://www.synapse-energy.com/project/cleaner-cars-and-job-creation>.

new vehicles lead to longer retention of older less fuel efficient vehicles and, if so, would this significantly affect projected emission reductions and have effects on crash-related safety?" Because fleet turnover is closely tied to vehicle sales, this question highlights the importance of rejecting ill-founded claims of negative sales impacts from the standards.

Agency estimates of the standards' effect on vehicle fatalities also depend on the value they choose for the rebound effect, because an increase in driving due to better fuel economy means increased crash exposure. The WG memo notes that "EPA raised the issue of rebound effect based solely on public comment but did not offer any assessment of this issue" (p. B-26). EPA's assumption of 10% rebound in the past several light-duty regulatory analyses is consistent with the current literature and should not be changed arbitrarily.

### *2015 National Research Council report*

As the WG states, the 2015 National Research Council (NRC) study on light-duty vehicle fuel economy found EPA's technical work for the 2012 rulemaking on MY 2017-2025 standards to be "thorough and of high caliber as a whole" and commented favorably on several of EPA's methods to determine technology costs and benefits (p. B-22). The WG also noted that, contrary to the Administrator's assertion in the April 2018 final determination that electric vehicles sales would be needed to meet the standards, the NRC "indicated that a variety of approaches could be employed to meet the requirements for the 2025 model year" (p. B-19). However, the WG also observes that the NRC study "focused on mid-sized cars and did not account for the rapid growth of the light truck fleet." I was a member of the NRC committee and carried out the same pathway analysis for a full-sized pickup truck after the report was released. The analysis shows that the truck also could meet the 2025 target without electrification, at a cost that was even closer to the agency cost projection than in the case of a mid-sized car (Attachment 1, Pathways to the 2025 CAFE Target for a Standard Pickup). Furthermore, neither the NRC cost estimate nor my pickup estimate reflects cost reductions from the use of the various credits available to manufacturers under the standards.

The WG also correctly notes that "the NRC found that the EPA did not take full account of the range of technology options available to manufacturers that would enable compliance with the standards" (p. C-6). The conservativeness of the EPA technology assessment has been confirmed by lower cost or higher effectiveness values for several technologies considered by EPA, and also by the appearance of additional efficiency technologies in the market within the past three years. (See e.g. Attachment 2, ACEEE's comments on EPA's reconsideration of the final determination.)

### *Stability of regulatory requirements*

The WG notes (p. B-26) that while EPA acknowledges the importance of regulatory certainty and lead time, it is reopening standards that would take effect within a few model years. EPA's claim in the April 2018 final determination that "industry cannot effectively plan for compliance with the current MY 2022-2025 GHG standards until it knows the outcome of the upcoming

NHTSA rulemaking for MY 2022-2025 CAFE standards” is disingenuous, given that NHTSA’s augural standards have been place since 2012. In contrast to the April 2018 final determination, the initial final determination of January 2017 showed deference to the need for regulatory certainty and lead time:

In [the administrator’s] view, the current record, including the current state of technology and the pace of technology development and implementation, could support a proposal, and potentially an ultimate decision, to adopt more stringent standards for MY2022-2025. However, she also recognizes that regulatory certainty and consequent stability is important, and that it is important not to disrupt the industry’s long-term planning.

Indeed, ACEEE’s investigation of agency models used for the Draft Technical Assessment Report (TAR) analysis showed that the current MY 2022-2025 standards are well below the level that achieves maximum net benefit. These results are documented in Attachment 3, Addendum to ACEEE comments on Draft TAR.

#### *Upcoming NPRM*

As discussed in ACEEE’s comments on EPA’s reconsideration of the final determination (Attachment 2), EPA’s work for the Draft TAR in 2015 was much more complete and sound than that of NHTSA, and EPA staff expertise and tools in the technical areas relevant to this program are generally much stronger. Consequently it is especially important that the SAB insist that any analysis supporting the upcoming proposal be reviewed according to standards set for EPA scientific and technical work, whether that analysis is supplied by EPA or by NHTSA.

ACEEE and others plan to look in detail at the agencies’ modeling for the proposal, including both vehicle simulation and compliance modeling. It is our understanding that agency models have undergone substantial changes from the versions made available to the public when the Draft TAR was issued. In March, the Natural Resources Defense Council and other groups requested the updated models and related information from EPA and NHTSA but have received no information on the models from either agency to date. The SAB should support the robust review of the NPRM by requesting that EPA ensure all relevant models and model-related information are made publicly available in a timely fashion and that the comment period for the NPRM is long enough to allow for thorough review of the modeling, as well as other aspects of the proposal.

#### **Repeal of glider standards**

Many public comments on the proposed repeal of heavy-duty standards for gliders have rightly focused on the unacceptable increases in criteria pollution emissions and implications for human health. The increases in energy consumption and greenhouse gas emissions are also substantial, however. Glider sales increased dramatically in 2015 to 10,000 vehicles, or 5% of all

tractor sales, and there is a potential for further increases if gliders become an established way for manufacturers of tractors and engines to circumvent current emissions requirements. If glider standards are repealed, these vehicles will also skirt any responsibility to comply with the Phase 1 and 2 fuel efficiency and greenhouse gas standards and thus will not need to adopt efficiency technologies for any part of the vehicle. Consequently, whatever the percentage of tractor sales represented by gliders, that same percentage of fuel savings from the Phase 1 and 2 heavy-duty standards will be in jeopardy as a result of the repeal. For example, at 5% of tractor sales, gliders would result in additional fuel consumption of up to 21,000 barrels of oil per day in 2035. (See Attachment 4, ACEEE comments on proposed glider repeal.)

## **Conclusion**

Given the extreme deficiencies in EPA's work in support of the April 2018 final determination and the proposed glider repeal, as well as the major consequences that would follow from these EPA actions, we believe it is essential that the SAB review both actions as recommended by the WG. Moreover, when EPA proposes a light-duty vehicle greenhouse gas emissions rule and/or finalize the glider standards repeal, the SAB should review the analysis offered in support of those rules as well.

In the case of the light-duty rule in particular, the SAB review should include any analysis completed or referenced by NHTSA upon which the EPA proposal relies, directly or indirectly. It would be unacceptable for EPA to circumvent its standards for science by outsourcing analysis to another agency, which not only has statutory responsibilities different from EPA's but also may have different norms and requirements for the treatment of scientific and technical analysis.