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U.S. Environmental Protection Agency
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Attn: Docket No. NHTSA-2018-0067
Docket No. NHTSA-2017-0069
Docket No. EPA-HQ-OAR-2018-0283

Re: Supplemental Public Comment on “The Safer Affordable Fuel-Efficient (‘SAFE’) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks,” 83 Fed. Reg. 42,986 (Aug. 24, 2018) (“Proposed Rule”)

The undersigned organizations respectfully submit this supplemental comment to the above-listed Environmental Protection Agency (“EPA”) and National Highway Traffic Safety Administration (“NHTSA”) dockets for the Proposed Rule, and NHTSA’s docket for the associated Environmental Impact Statement. This comment concerns *The 2019 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975*, EPA-

420-R-20-006 (March 2020) (“2019 Trends Report”).¹ This supplemental comment must be placed in the record and considered in the agencies’ ongoing rulemakings because, among other reasons, the 2019 Trends Report contains information “of central relevance to the rulemaking”² that became available to the public after the close of the public comment period. Moreover, EPA released a statement from Administrator Andrew Wheeler that the report’s content is “top of mind and [will] play a key role in the finalization of [the Proposed Rule] with the U.S. Department of Transportation.”³ The Administrator’s statement confirms that it is “practicable” for both agencies to consider both the 2019 Trends Report and this comment in the rulemaking process.⁴

The 2019 Trends Report demonstrates that the U.S. automotive industry remains in compliance with EPA’s greenhouse gas (GHG) standards and is making steady reductions in greenhouse gas emissions and increases in fuel economy. For model year (MY) 2018, “[a]verage estimated real-world CO₂ tailpipe emissions fell by 4 g/mi to 353 g/mi, while estimated real-world fuel economy increased 0.2 mpg to 25.1 mpg compared to” MY 2017.⁵ These improvements mean that in MY 2018 the industry produced the lowest GHG-emitting and highest fuel economy fleet in U.S. history.⁶ And EPA observes that, “based on production estimates provided to EPA,” the “preliminary average estimated real-world fuel economy of all new model year 2019 vehicles is projected to increase again, to 25.5 mpg with a corresponding decrease in average CO₂ emissions to 346 g/mi.”⁷

Moreover, the improvements in MY 2018 occurred across all vehicle classes, as each of the five vehicle types analyzed (Sedan/Wagon, Car SUV, Truck SUV, Minivan/Van, and Pickup) achieved “record fuel economy and CO₂ emissions levels” – improving by between 7 and 15 g/mi and 0.2 and 1.2 mpg as compared to MY 2017.⁸ Thus the overall fleet’s improvement in greenhouse gas emissions and fuel economy was achieved even though light-duty trucks (which have more lenient GHG emissions and fuel economy targets under the GHG and CAFE standards) made up 52% of the MY 2018 fleet – the highest percentage of trucks on record.⁹ And further improvements in truck SUVs and pickups are expected to drive the majority of the projected MY 2019 fleet-wide GHG reductions and fuel economy gains.¹⁰ The MY 2018

¹ The Trends Report was submitted to the agencies’ dockets on March 11, 2020 by the Natural Resources Defense Council, Docket ID# EPA-HQ-OAR-2018-0283-7654. It is also available online at <https://www.epa.gov/automotive-trends/download-automotive-trends-report>.

² 42 U.S.C. § 7607(d)(4)(B)(i). *See also id.* § 7607(d)(7)(A) (providing that such material forms part of the administrative record for judicial review).

³ *See, e.g.*, EPA News Release, “Agency Releases Annual Automotive Trends Report Showing Marginal Increases in Fuel Economy” (March 2, 2020), available at <https://www.epa.gov/newsreleases/agency-releases-annual-automotive-trends-report-showing-marginal-increases-fuel-economy>.

⁴ *See Proposed Rule*, 83 Fed. Reg. at 43,471 (committing to consider comments received after the close of the comment period “[t]o the extent practicable”).

⁵ Trends Report at 5. To the extent this real-world, tailpipe emissions value does not account for off-cycle or air conditioning credits, actual real-world emissions are significantly lower than 353 g/mi.

⁶ *Id.* at 5, 11.

⁷ *Id.* at 5.

⁸ *Id.* at 16, 33.

⁹ *Id.* at 16.

¹⁰ *Id.*

improvements demonstrate that automakers can improve GHG emissions and fuel economy despite a changing fleet mix.

Further, this fleet-wide progress resulted from improvements made by a wide swath of automakers: 9 of the 14 largest automakers achieved GHG improvements as compared to MY 2017, and one more (Tesla) achieved 0 g/mi in tailpipe emissions across its fleet in both years, so had no room for improvement in tailpipe GHG emissions.¹¹ And 10 of the 14 automakers improved fuel economy – including Tesla, which improved its fuel economy by 15.5 mpg-equivalent (or 15.7%) over MY 2017.¹² That Tesla improved the fuel economy of its electric vehicle fleet dramatically, but without any impact on tailpipe GHG emissions, also demonstrates that tailpipe GHG standards are not inherently “related to” fuel economy. In fact, EPA suggests as much in the 2019 Trends Report itself.¹³

Of course, automakers are not required to achieve compliance with the GHG standards exclusively through tailpipe CO₂ reductions in any given model year – the GHG and CAFE standards are designed to provide compliance flexibilities that allow manufacturers wide discretion regarding when and how to achieve GHG and CAFE targets across their fleets.¹⁴ Thus, for a given model year, a manufacturer may generate credits due to over-compliance, and it can use these credits retroactively for three model years, it can bank them and use them up to five years into the future (or, for credits earned from MY 2010-2016 in EPA’s GHG program, use them through the end of MY 2021), or it can sell them to other manufacturers for use in their compliance strategies.¹⁵ Alternatively, a manufacturer can decide to comply by buying credits from other manufacturers rather than by producing vehicles that meet their regulatory GHG emissions and fuel economy targets. It would be economically counterproductive for the companies to exactly meet their regulatory targets every year in such a system (and even more

¹¹ *Id.* at 13. Volkswagen increased its average 2-cycle GHG emissions by 11 g/mi in MY 2018. *Id.* Without Volkswagen’s significant step backwards, the U.S. fleet would have achieved even larger improvements in GHG emissions and fuel economy. But the increase in Volkswagen’s GHG emissions alone does not demonstrate noncompliance or infeasibility. As EPA described, “Volkswagen is a good example of how changes in the fleet mix can impact overall emissions; while Volkswagen has reduced emissions in both their car and truck fleets since 2012, the broader shift to making fewer cars and more trucks has caused overall fleet emissions to increase.” *Id.* at 81. Thus, even though Volkswagen’s emissions increased, its footprint targets also increased. Moreover, we observe that Volkswagen has committed that by MY 2025 it will “reduce the CO₂ footprint of [its] vehicle fleet by 30 percent across the lifecycle compared to 2015.” See *Press Release: Volkswagen plans 22 million electric vehicles in ten years* (March 12, 2019), available at <https://www.volkswagen-newsroom.com/en/press-releases/volkswagen-plans-22-million-electric-vehicles-in-ten-years-4750>. Thus, Volkswagen’s stated assessment is that significant improvements in GHG emissions are technologically feasible and achievable in the time horizon of EPA’s existing GHG standards through MY 2025. That Volkswagen’s compliance strategy included a dramatic increase in GHG emissions in MY 2018 does not demonstrate that the standards are not feasible for Volkswagen or any other manufacturer to achieve.

¹² 2019 Trends Report at 13. “[Electric vehicles] are rated in terms of miles per gallon-equivalent (mpge), which is the number of miles that an [electric vehicle] travels on an amount of electrical energy equivalent to the energy in a gallon of gasoline. This metric enables a direct comparison of energy efficiency between [electric vehicles] and gasoline vehicles.” *Id.* at 53.

¹³ See *id.* at 6 n.3.

¹⁴ See *id.* at 108 (“tailpipe CO₂ emissions, the flexibilities that [automakers] are eligible to use, and the performance values for [automakers’] car and truck fleets . . . do[] not give a complete picture of the manufacturer’s status under the GHG program, due to the [averaging, banking, and trading]-based design of the overall GHG program.”).

¹⁵ See *id.*

counterproductive to meet regulatory targets with each vehicle), rather than to maximize cost-effectiveness through averaging over-compliance and under-compliance. And, as a whole, manufacturers ended MY 2018 with 252 teragrams of credits – which, if applied entirely to MY 2018, would have been equivalent to a fleetwide GHG reduction of about 74 g/mi.¹⁶

Despite having this significant bank of credits to draw upon, the overall fleet improved tailpipe emissions to, on average, 1 g/mi above the standards in MY 2018¹⁷ – meaning the industry chose to apply less than 2% of its total credit balance toward MY 2018 compliance.¹⁸ And the industry accelerated its rate of improvement as compared to prior years – 2-cycle tailpipe emissions, off-cycle credits, and air conditioning credits (all of which reflect reductions in real-world emissions) together improved by 2.1 g/mi in MY 2016, 5.9 g/mi in MY 2017, and 8 g/mi in MY 2018.¹⁹ Moreover, “[a]ll manufacturers, except one, ended the 2018 model year with a positive credit balance and are thus in compliance with model year 2018 and all previous years of the GHG program.”²⁰ The manufacturers achieved this result even though the stringency of the standards increased significantly from the prior year: the effective combined car and truck standard decreased by 6 g/mi from 2017 to 2018, and the truck standard decreased by 9 g/mi – considerably more than the 1 g/mi tightening of that standard from model year 2016 to model year 2017.²¹

Finally, the 2019 Trends Report again demonstrates that abundant technologies remain available that can and will feasibly improve fuel economy and GHG emissions if more extensively adopted across the fleet, as demonstrated by both OMEGA and CAFE compliance modeling.²²

In sum, the 2019 Trends Report demonstrates that the U.S. fleet of cars and light-duty trucks has continued to improve in GHG emissions and fuel economy performance, that the fleet has continued to comply with the GHG and CAFE standards through MY 2018, and that ample opportunity exists for the fleet to further improve and achieve the existing GHG and augural CAFE standards through MY 2025. These facts demonstrate that relaxing the future standards

¹⁶ *Id.* at 122.

¹⁷ *Id.* at 112. These calculations assume that EPA will finalize its rulemaking proposal to correct “the equation through which the number of earned [advanced technology vehicle] multiplier credits is calculated” in the regulations. *Id.* at 84. Nevertheless, as EPA observes, “a true picture of compliance is not possible without representing the impacts of the multipliers.” *Id.* For purposes of compliance, it does not matter if the standards are achieved by reducing tailpipe emissions of internal combustion vehicles or by selling advanced, low- or zero-emitting vehicles (which earn extra compliance credits) – the standards are designed to facilitate both types of GHG reduction pathways.

¹⁸ *Id.* at 122.

¹⁹ *Id.* at 105 Table 5.6. This increase is even more dramatic for light-duty trucks, which improved by 5.3 g/mi in MY 2016, 9.4 g/mi in MY 2017, and 13.4 g/mi in MY 2018. *Id.* at 107 Table 5.10.

²⁰ Jaguar Land Rover, the sole manufacturer carrying a deficit into the 2019 model year, may still readily achieve MY 2018 compliance by either producing future vehicles that exceed the standards and carrying back overcompliance credits, or by purchasing credits from other manufacturers. *Id.* at 121-22. Thus, Jaguar Land Rover is not out of compliance with the standards. Moreover, Jaguar Land Rover is among the smallest-volume manufacturers in the 2019 Trends Report, and is thus subject to the alternative standards applicable to “medium volume manufacturers.” *Id.* at 79-80. Thus, Jaguar Land Rover’s performance is not informative in determining large manufacturers’ abilities to meet the GHG and CAFE standards.

²¹ *Id.* at 79.

²² *See, e.g., id.* at 38 Fig. 4.2.

would be arbitrary and capricious and unlawful. EPA and NHTSA should withdraw the Proposed Rule.

Respectfully submitted,

Center for Biological Diversity
Environment America
Environmental Defense Fund
Natural Resources Defense Council
Public Citizen, Inc.
Sierra Club
Union of Concerned Scientists

An official website of the United States government.



News Releases from Headquarters

Agency Releases Annual Automotive Trends Report Showing Marginal Increases in Fuel Economy

03/02/2020

Contact Information:

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WASHINGTON (March 2, 2020) – Today, the U.S. Environmental Protection Agency (EPA) released its annual *Automotive Trends Report*, which provides the public with a single source of information about new light-duty vehicle greenhouse gas (GHG) emissions, fuel economy, technology data, and auto manufacturers' performance in light of the agency's GHG emissions standards.

“Today's auto trends report provides insights into consumer choice and current market trends. Once again we see marginal improvements in fuel economy, but they are yet a far cry from the unfeasible Obama Administration's standards,” **said EPA Administrator Andrew Wheeler.** “These concerns are top of mind and play a key role in the finalization of our Safe Affordable Fuel Efficient Vehicles Rule with the U.S. Department of Transportation, which when finalized will reduce the cost of new vehicles and protect consumer choice.”

The report finds that Model Year (MY) 2018 vehicle fuel economy was 25.1 miles per gallon, slightly higher than the 24.9 miles per gallon MY 2017. Since MY 2004, when the fleet averaged 19.3 mpg, fuel economy and CO2 emissions have improved in twelve out of fourteen years.

The report also assesses compliance performance for individual automakers, and for the U.S. fleet as a whole, with the greenhouse gas emissions standards for light-duty vehicles. Once again, only 3 large manufacturers complied with MY 2018 standards based on the technology levels of their vehicles alone. When accounting for credits however, the report shows all large manufacturers are in compliance. Most large manufacturers used banked credits, along with technology improvements, to maintain compliance in MY 2018.

The report highlights the large consumer shift towards sport utility vehicles (SUV). SUVs continue to gain market share – reaching record high 46 percent market share in MY 2019.

To read the full Automotive Trends Report, please visit: <https://www.epa.gov/automotive-trends>

Background

This annual report is part of the EPA's commitment to providing the public with transparent information about new light-duty vehicle GHG emissions, fuel economy, technology data, and auto manufacturers' performance in meeting the agency's GHG emissions standards. This report includes content previously published in two separate reports, the Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends Report, and the GHG Manufacturer Performance Report. These reports have now been combined to provide a more comprehensive analysis.

EPA has collected data on every new light-duty vehicle model sold in the United States since 1975. Data is collected to support several national programs, including EPA criteria pollutant and GHG standards, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) Corporate Average Fuel Economy (CAFE) standards, and vehicle Fuel Economy and Environment labels.

LAST UPDATED ON MARCH 3, 2020

Media information

NO. 66/2019

Volkswagen plans 22 million electric vehicles in ten years

- **Almost 70 new electric models by 2028 – instead of the 50 previously planned**
- **Comprehensive decarbonization program for the Volkswagen Group signed off**
- **Volkswagen Group targeting fully CO₂-neutral balance by 2050**
- **Diess: “Volkswagen will change radically. We are taking on responsibility with regard to the key trends of the future – particularly in connection with climate protection.”**

Wolfsburg, March 12, 2019 – The Volkswagen Group is forging ahead with the fundamental change of system in individual mobility and systematically aligning with electric drives. The Group is planning to launch almost 70 new electric models in the next ten years – instead of the 50 previously planned. As a result, the projected number of vehicles to be built on the Group’s electric platforms in the next decade will increase from 15 million to 22 million. Expanding e-mobility is an important building block on the road to a CO₂-neutral balance. Volkswagen has signed off a comprehensive decarbonization program aimed at achieving a fully CO₂-neutral balance in all areas from fleet to production to administration by 2050. Volkswagen is thus fully committed to the Paris climate targets.

Dr. Herbert Diess, CEO of Volkswagen AG, said: “Volkswagen is taking on responsibility with regard to the key trends of the future – particularly in connection with climate protection. The targets of the Paris Agreement are our yardstick. We will be systematically aligning production and other stages in the value chain to CO₂ neutrality in the coming years. That is how we will be making our contribution towards limiting global warming. Volkswagen is seeking to provide individual mobility for millions of people for years to come – individual mobility that is safer, cleaner and fully connected. In order to shoulder the investments needed for the electric offensive we must make further improvements in efficiency and performance in all areas.”

The Volkswagen Group has set milestones in all areas to be achieved in the coming years on the road to complete decarbonization by 2050. The measures follow three principles: first, effective and sustainable CO₂ reduction. Second, switch to renewable energy sources for power supply. Third, compensate for remaining emissions that cannot be avoided. In order to improve the CO₂ balance of vehicles throughout their lifecycle, for example, Volkswagen has already made a start

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on the supply chain. A detailed roadmap is currently being drawn up. There is particularly significant potential as regards steel and aluminum supplies.

The 2025 target is to reduce the CO₂ footprint of the vehicle fleet by 30 percent across the lifecycle compared to 2015. Volkswagen is therefore electrifying the vehicle portfolio, with investment in this area alone amounting to more than €30 billion by 2023. The share of electric vehicles in the Group fleet is to rise to at least 40 percent by 2030. The first of the new-generation electric vehicles go into production this year: the AUDI e-tron^{1*} will be followed by the Porsche Taycan^{2*}. Reservations for each of these models already total 20,000 units. And electric vehicles will be brought into the mainstream with the ramp up of the Volkswagen ID. Other models in this first wave will be the ID. CROZZ^{2*}, the SEAT el-born^{2*}, the ŠKODA Vision E^{2*}, the ID. BUZZ^{2*}, and the ID. VIZZION^{2*}.

In order to support the electric offensive, LG Chem, SKI, CATL and Samsung were selected as strategic battery cell suppliers. In view of the constantly increasing demand, Volkswagen is also taking a close look at possible participation in battery cell manufacturing facilities in Europe. Looking further ahead, solid-state batteries also have great potential. The goal is to enable an industrial level of production with this technology together with our partner QuantumScape.

At the same time, CO₂ emissions at all plants are to be cut 50 percent by 2025 compared with 2010. The conversion of the power station in Wolfsburg from coal to gas will reduce CO₂ emissions by 1.5 million tonnes annually from 2023 onwards. Audi's production activities at the Brussels site, for example, are already completely CO₂-neutral. The Zwickau plant will not only be the lead factory for the Modular Electric Drive Toolkit (MEB); the ID. built there will be delivered to customers with a CO₂-neutral balance.

The MEB lies at the heart of Volkswagen's electric offensive. The cost of e-mobility can be significantly lowered through partnerships to enable the widest possible spread of the MEB and the associated economies of scale. That makes individual mobility affordable and usable for the mainstream in the future as well. One example of such a partnership is the planned cooperation with Aachen-based e.GO Mobile AG recently announced at the Geneva International Motor Show.

To boost e-mobility further, we will be installing 400 fast-charging stations along Europe's major roads and highways by 2020 in collaboration with industry partners in IONITY. 100 of these will be located in Germany. That means there will be a station every 120 kilometers. Elli (Electric Life), Volkswagen's new subsidiary, will also offer wallboxes for charging at home, using green power – initially in Germany. In addition, there will be 3,500 charging points on employee car parks at all plants with further charging opportunities at dealerships.

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^{1*} AUDI e-tron1: Combined electric power consumption in kWh/100 km*: 26.2 – 22.6 (WLTP);
24.6 – 23.7 (NEDC) CO₂ emissions combined in g/km: 0.

*Figures depending on the chosen equipment level.

^{2*} Porsche Taycan, ŠKODA Vision E, ID. Crozz, ID. Buzz, ID. Vizzion: near-series design studies.

This text together with images and further material is available from:

www.volkswagen-newsroom.com



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About the Volkswagen Group:

The Volkswagen Group, with its headquarters in Wolfsburg, is one of the world's leading automobile manufacturers and the largest carmaker in Europe. The Group comprises twelve brands from seven European countries: Volkswagen Passenger Cars, Audi, SEAT, ŠKODA, Bentley, Bugatti, Lamborghini, Porsche, Ducati, Volkswagen Commercial Vehicles, Scania and MAN. The passenger car portfolio ranges from small cars all the way to luxury-class vehicles. Ducati offers motorcycles. In the light and heavy commercial vehicles sector, the products include ranges from pick-ups, buses and heavy trucks. Every weekday, 664,496 employees around the globe produce on average 44,567 vehicles, are involved in vehicle-related services or work in other areas of business. The Volkswagen Group sells its vehicles in 153 countries.

In 2018, the total number of vehicles supplied to customers by the Group globally was 10,831 million (2017: 10,741 million). The passenger car global market share was 12.3 per cent. In Western Europe 22.0 per cent of all new passenger cars come from the Volkswagen Group. Group sales revenue in 2018 totalled €235.8 billion (2017: €231 billion). Earnings after tax in 2017 amounted to €17.1 billion (2017: €11.6 billion).