Attachment 1

David J. Friedman's Response to Questions for the Record dated August 29, 2019

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U.S. Environmental Protection Agency EPA Docket Center Mail Code 28221T 1200 Pennsylvania Ave, NW Washington, D.C. 20460 Docket No. EPA-HQ-OAR-2018-0283	U.S. Department of Transportation Docket Management Facility, M-30 West Building, Ground Floor, Rm. W12-140, 1200 New Jersey Avenue, SE Washington, D.C. 20590 Docket No. NHTSA-2018-0067

Attention: Docket ID Nos. EPA-HQ-OAR-2018-0283, NHTSA-2018-0067, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks; Proposed Rule

Joint Summary Comments of Environmental, Advocacy, and Science Organizations

The Center for Biological Diversity, Earthjustice, Environmental Defense Fund, Environmental Law & Policy Center, Natural Resources Defense Council, Public Citizen, Inc., Safe Climate Campaign, Sierra Club, Southern Environmental Law Center, and Union of Concerned Scientists hereby submit these summary comments on EPA's and NHTSA's Proposed Rulemaking Regarding the Greenhouse Gas Emissions and Fuel Efficiency Standards for Light-Duty Vehicles, Model Year 2021-2026, 83 Fed. Reg. 42,986 (Aug. 24, 2018). These summary comments highlight overarching technical and legal flaws across the proposed rulemaking. The organizations above will also submit additional joint and separate comments to these dockets on other subjects relating to the proposed rulemaking.

I. Introduction

The proposed rules are unlawful and should not be finalized.

The National Highway Traffic Safety Administration (NHTSA) has a legal duty to set maximum feasible fuel economy standards for new motor vehicles. NHTSA previously determined that it was feasible for vehicle manufacturers to meet steadily-increasing average fuel economy standards. The Environmental Protection Agency (EPA) has a legal duty to set emission standards that mitigate dangerous air pollution from new motor vehicles. EPA previously determined that steadily-improving greenhouse gas emission standards were feasible and necessary to protect the public health and welfare. A vast amount of evidence supported those reasoned determinations.

The proposed SAFE Vehicles Rule, 83 Fed. Reg. 42986 ("NPRM"), radically departs from the agencies' prior determinations. Directly contrary to its prior analysis, NHTSA now asserts that it is not feasible for manufacturers to make *any* improvement in average fuel economy for any of six future model years (MY2021-MY2026). EPA now asserts that full consideration of the public health and welfare warrants rolling back emission standards for each of those years.

The agencies suggest this about-face is compelled by "new information" and "new analysis." NPRM at 42990. Relevant, high-quality new data should inform rulemaking. But an agency's ultimate duty is to base decisions on the best information available. The agencies fail to do so. The agencies' technical analysis is also not "new" in the sense of being "updated," but is rather "novel and untested." As explained below, this novel technical analysis is fundamentally flawed and its results conflict with the best available evidence. Because the agencies explicitly base the proposed rule on this flawed analysis, the rule is arbitrary. The agencies also fail to provide a plausible reasoned justification for reversing their own prior determinations.

Perhaps cognizant of the overwhelming evidentiary basis supporting the augural and existing standards, the agencies market the rollback as necessary to save lives: They brand it the "SAFE" rule and assert that it will prevent thousands of fatalities. This is nonsense. The projected fatalities are artifacts of the agencies' flawed technical analysis. The current standards do not make real-world vehicles less safe or real-world driving more dangerous.

Under governing law, record evidence dictates, at a minimum, that NHTSA set standards consistent with its augural standards and that EPA maintain existing standards. Given the new evidence added to the record up through the comment period, the agencies should also evaluate further strengthening standards.

In the face of dire climate change realities, the agencies' proposal to gut existing standards with no serious consideration of alternative protective measures is irrational and capricious. EPA's decision is doubly so, as it is taken in reliance on flawed and untested analysis driven by another agency, NHTSA. EPA disregards its own well-developed models and methodologies, abdicating its unique legal responsibility to set protective emission standards. Having failed to carry out its own duty to protect public health and welfare, EPA then reaches out unlawfully to try and prevent California and other states from protecting their own residents. All of these unlawful actions are taken in arbitrary haste, with the agencies proposing to finalize far-reaching standards without affording the public a meaningful opportunity to review and comment.

The most egregious flaws with the agencies' proposal are summarized below. Because NHTSA and EPA have "wholly independent" statutory obligations, *Massachusetts v. EPA*, 459 U.S. 497, 532 (2007), this comment addresses those obligations separately. However, because EPA relies on analysis conceived and executed by NHTSA, the many errors with NHTSA's technical analysis equally vitiate EPA's decision-making.

II. NHTSA's Proposed Standards Are Not the "Maximum Feasible" Standards

Congress has given clear direction to NHTSA. By law, NHTSA is required to set fuel economy standards at the "maximum feasible" level for each model year. 49 U.S.C. § 32902(a). NHTSA has determined that it is not feasible for manufacturers to achieve any increase in average fuel economy levels over six future model years (2021-2026). That determination is facially implausible: manufacturers have publicly stated their intention and capability to continue to increase the fuel economy of their fleets.[1] The agencies' own analysis also predicts that average fuel economy levels will increase in the absence of standards, NPRM at 43179, demonstrating that increased average fuel economy levels are feasible. It is irrational for NHTSA to determine that the maximum feasible fuel economy level is lower than the level that it concludes will be achieved by market forces. Additionally, Congress intended that fuel economy standards would be technology forcing, achieving more than what market forces alone would achieve. *See Ctr. for Auto Safety v. NHTSA*, 793 F.2d 1322, 1339 (D.C. Cir. 1986). The record indicates—and NHTSA has previously determined—that it is feasible for manufacturers to achieve average fuel economy levels above the default market level. NHTSA's decision to set fuel economy standards below market level is unsupportable.[2]

In determining maximum feasible fuel economy levels, the Energy Policy and Conservation Act (EPCA) requires NHTSA to consider "technological feasibility, economic practicability, the effect of other motor vehicle standards of the Government on fuel economy, and the need of the United States to conserve energy." 49 U.S.C. § 32902(f). NHTSA must consider these factors with regard to the overarching mandate of EPCA: energy conservation. *See Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1197 (9th Cir. 2008). The agency explicitly acknowledges this "overarching purpose," NPRM at 43206, but nevertheless proposes a rule that significantly increases energy use compared to the augural standards—an additional half a million barrels of petroleum *per day*. NPRM at 42995. NHTSA's attempt to cast this result as one that conserves energy strains credulity.

Congress has not directed NHTSA to analyze the EPCA factors in an abstract balancing exercise. Rather, these factors are a means to guide the agency to the mandatory end determination: "the maximum feasible average fuel economy level." 49 U.S.C. § 32902(a). The NPRM makes clear that NHTSA did not undertake to determine maximum feasible standards, but rather undertook an amorphous "appropriateness" determination divorced from the statutory mandate: "NHTSA views the determination of maximum feasible standards as a question of the appropriateness of standards given that their need . . . seems likely to remain low for the foreseeable future."

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[1] *E.g.* Ford.com, https://corporate.ford.com/microsites/sustainability-report-2017-18/driving-change/climate-commitment.html (stating support for "increasing clean car standards in the United States through 2025"); American Honda Motor Co. AVP Robert Bienenfeld (Apr. 20, 2018), http://hondanews.com/releases/our-perspective-vehicle-greenhouse-gas-and-fuel-economy-standards ("Honda supports continued improvements in the fuel economy of the U.S. vehicle fleet as prescribed by federal fuel economy and greenhouse gas (GHG) emissions standards through 2025."); GM CEO Mary Barra (May 8, 2018), https://www.linkedin.com/pulse/keeping-our-commitment-all-electric-future-mary-barra/ ("[W]e have an absolute and unwavering commitment to improve fuel economy, reduce emissions and invest in technologies to drive an all-electric future.").

[2] The agencies' modeling also assumes that in a period beyond the proposed standards, the fuel economy and greenhouse gas emissions rate of new vehicles will improve by a steady percentage each year. This artificially minimizes the value of lost fuel savings and pollution due to the proposed rule. *See* Comment by Environmental Defense Fund ("EDF"). (References to comments refer to comments by the named entities in Dockets EPA-HQ-OAR-2018-0283, NHTSA-2018-0067). The agencies' selective use of inconsistent assumptions about market-driven fuel economy and emission rates is capricious.

NPRM at 43226. Congress has not empowered NHTSA to determine the "need" for standards; Congress has directed NHTSA that the needed standards are those that are the maximum feasible in any given model year. NHTSA's "appropriateness" inquiry is not in accordance with law.

NHTSA's proposed rule is also arbitrary because it is based on the agencies' flawed technical analysis. These flaws affect nearly every aspect of NHTSA's consideration of the EPCA factors. The record does not support a rational conclusion that the proposed rule represents the "maximum feasible" standards.

- The analysis grossly understates "technological feasibility": NHTSA acknowledges that the augural standards "could be achieved based on the existence or the projected future existence of technologies," NPRM at 43216, but NHTSA concludes that the cost of the technology needed is prohibitive. As summarized below, the agencies' analysis of technological feasibility is deeply flawed. The result is that NHTSA arbitrarily overstates the cost of compliance with the augural (or higher) standards.

  - *Inaccurate baseline vehicle fleets.*[3] The agencies' baseline 2016 "analysis fleet" is not an accurate reflection of the real-world fleet in that year. The agencies arbitrarily assign technology to vehicles that have not yet incorporated that technology, effectively eliminating that technology from consideration despite it in fact being available to improve fuel economy.

  - *Erroneous model inputs and assumptions*.[4] The values used for technology effectiveness—particularly the effectiveness of technology packages—are far below real-world values. The agencies have also significantly increased the assumed costs of certain technologies—particularly for high compression ratio engines and electrification components—in contradiction to real-world data. Contrary to the historical record, the agencies also arbitrarily assume that manufacturers will voluntarily apply upfront all available technology that pays for itself through fuel savings in 30 months. This unsupportable assumption artificially inflates the cost for manufacturers to comply with the augural standards.

  - *Irrational model operation*.[5] In the real world, manufacturers will seek to comply with standards in a cost-effective manner. The agencies' reliance on the current Volpe model is irrational because it does not optimize for cost-effective compliance, but rather moves through predetermined technology sequences without regard to cost-effectiveness. The model produces irrational outcomes: (i) Volpe applies high cost technologies that have little or even a negative fuel economy benefit; (ii) Volpe forces unrelated technologies to be applied together.

  - *Arbitrary model constraints*.[6] The agencies arbitrarily impose limitations on technology adoption that do not exist in the real world. Among other things, despite abundant evidence from manufacturer actions over the past decade contradicting their imposed limitations, the agencies' models arbitrarily: (i) prohibit adoption of specific technologies and technology combinations; (ii) prohibit manufacturers from switching vehicle technology pathways; (iii) prohibit significant technology adoption outside of major redesigns; (iv) prohibit manufacturers from increasing redesign cadence; (v) prohibit significant technology adoption on non-"leader" vehicles; and (vi) broadly prohibit manufacturers from introducing any new vehicles or discontinuing any old vehicles over a decade-long period. NPRM at 43162. Arbitrary constraints are particularly inappropriate given NHTSA's statutory directive. "Feasibility" means "capable of being carried out." H.R. Rep. No. 94-700, at 172; *see also*, *CBD v. NHTSA*, 538 F.3d at 1194. If a manufacturer is capable of adopting a technology or changing redesign cadence, NHTSA must consider that capability.

  - *Modeling errors*.[7] The agencies incorrectly code important aspects of the Volpe model for this rulemaking. For example: (i) contrary to EPA's own data, Volpe applies an emission penalty when a manufacturer switches from Tier 2 to Tier 3 fuel; (ii) Volpe uses flawed engine maps following the Tier 3 switch; (iii) Volpe forces manufacturers to over-comply with NHTSA's augural standards; (iv) Volpe assigns a portion of a new technology's benefit to a non-fuel economy aspect of performance, but assigns all of that technology's cost

[3] *See* Comment by International Counsel on Clean Transportation ("ICCT"); Comment by Union of Concerned Scientists ("UCS").
[4] *See* Comment by ICCT; Comment by California Air Resources Board ("CARB"), H-D Systems Report; Comment by Meszler Engineering Services on Technology ("MES"); Comment by EDF.
[5] *See* Comment by MES on Technology; Comment by ICCT.
[6] *See* Comment by ICCT; Comment by CARB, H-D Systems Report; Comment by Baum & Associates on Product Redesign.
[7] *See* Comment by UCS.

as a cost of compliance with fuel economy standards; and (v) Volpe incorrectly models manufacturers' ability to earn and apply over-compliance credits.

The effects of these arbitrary modeling constraints all artificially increase the cost of complying with fuel economy standards. The Volpe model thus fails of its core function: to model cost-effective real-world compliance with fuel economy standards. For these reasons, among others, NHTSA's reliance on the model to evaluate "technological feasibility" under EPCA is arbitrary and capricious.

● The analysis grossly understates "economic practicability": NHTSA ostensibly considers standards to be economically practicable if they are "within the financial capability of the industry" without "adverse economic consequences such as significant loss of jobs or unreasonable elimination of consumer choice." NPRM at 43216. But NHTSA fails to make meaningful determinations in accordance with the agency's interpretation. Instead, NHTSA conducts a freestanding net-benefit analysis to compare the augural standards to the agency's chosen alternatives. NPRM at 42997. This approach is not in accordance with law and is undermined by the artificial inflation of technology costs discussed above. Further, as discussed below, the agencies' economic and safety modeling is flawed in its basic design, and produces results that are inconsistent with basic economic theory and that tangibly conflict with real-world observation. The modeling is not technically credible, and NHTSA's reliance on it is arbitrary.

Under NHTSA's own definition, the augural standards are economically practicable. NHTSA previously concluded that the standards are within the financial capability of the industry, and it has not contradicted that conclusion.[8] Instead, NHTSA posits that if the industry exercises that capability, it would lead to significant adverse economic consequences such as the unreasonable elimination of consumer choice. The record does not rationally support such a finding, and the statute does not allow this inquiry to forestall establishment of maximum feasible fuel economy standards.

In fact, investment, manufacturing, and jobs in the automotive sector have grown consistently throughout recent periods of increasing fuel economy standards. Investment in new vehicle technology creates demand for more auto-related labor.[9] The agencies' own analysis confirms this relationship, showing that rolling back standards significantly reduces technology spending and leads to a significant loss of jobs in the automotive sector. NPRM at 43265. Those losses in the automotive sector understate the impact of the rollback on the broader economy. The agencies arbitrarily ignore jobs created in the economy by fuel savings that can be spent on other goods. Macroeconomic analysis finds that by maintaining existing standards, more than 100,000 jobs will be created by 2025 and more than 250,000 by 2035 throughout the economy.[10]

NHTSA's consideration of consumer choice is arbitrary. NHTSA nowhere defines what would constitute "unreasonable elimination" of choice. The agencies conclude that the range of current models and options of higher fuel economy vehicles constitute "a plentiful selection . . . to choose from." NPRM at 42993. The agencies' analysis predicts future vehicle fleets under the augural standards with copious models and options to choose from across the fuel economy and performance spectra. NHTSA does not provide a reasoned explanation for why it does not consider this selection to be plentiful as well.

Instead of explaining why the diverse future range of choices available to consumers under the augural standards would be unreasonable under EPCA, NHTSA makes vague generalizations about consumer preferences and willingness-to-pay (WTP) for fuel economy. NPRM at 43217. NHTSA then reasons that manufacturers will pass on the full cost to comply with fuel economy standards to consumers, in turn pricing some consumers out of new vehicles they might otherwise prefer and potentially leading manufacturers to restrict sales of certain vehicle models or options. "This solution, if chosen, would directly impact consumer choice." NPRM at 43224. This is a just-so story—not a rational analysis—and is refuted by the evidence available to the agencies. The agencies offer no support for the assumption that technology costs automatically convert into increased prices. Indeed, in the NPRM the agencies observe that they might not.[11] Moreover, the agencies discount the consumer benefits other

[8] The agencies' current analysis also attempts to hold manufacturer profitability constant by assuming any costs of compliance would be fully passed to consumers. NPRM at 43222. This assumption unreasonably limits manufacturers' compliance options.
[9] *See* Comment by BlueGreen Alliance.
[10] See Synapse Energy Economics, Cleaner Cars and Job Creation (March 2018), Docket NHTSA-2018-0067-11600.
[11] *See* Comment by Consumers Union et al ("CU").

than efficiency associated with many technologies they project will be used to comply.[12] In short, the augural standards are within the financial capability of the industry, create a significant number of jobs compared to NHTSA's proposed rule, and will not unreasonably eliminate consumer choice. It is irrational for NHTSA to consider those standards economically impracticable under EPCA.

As noted above, however, NHTSA's rulemaking is unduly driven by a cost-benefit analysis to the exclusion of proper consideration of EPCA's statutory requirements. *Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1197 (9th Cir. 2008) ("Whatever method it uses, NHTSA cannot set fuel economy standards that are contrary to Congress's purpose in enacting the EPCA."). Further, the agencies' cost-benefit analysis itself rests on additional models and assumptions that are deeply flawed.[13]

- *Flawed Sales Model*.[14] The agencies rely on a new model for vehicle sales that assumes fuel economy standards increase vehicle prices and reduce sales. This assumption is not supported by historical evidence. The model itself is irrational because it fails to incorporate fuel cost savings or consumer WTP in predicting sales. The model is also flawed in its design and execution as, among other things, the agencies: (i) incorporate inflated average price increases; (ii) make unrealistic assumptions about pricing decisions; (iii) erroneously apply a historical implied elasticity of demand without regard to differential vehicle characteristics; (iv) inconsistently model consumers' willingness to pay for fuel economy and other characteristics; and (v) irrationally fail to segment the vehicle market despite well-established real-world segmentation by preference, income, and ability to pay. Further, basic calculation errors and model design flaws inflate the sales impact of price changes by more than 75 percent. Most fundamentally, flaws in the design of the model make it not usable for policy purposes. Manufacturers also have a significant ability to affect sales through marketing, and it is arbitrary and irrational for the agencies not to consider the ability of manufacturers to influence consumer preferences.
- *Flawed Fleet Share Model*.[15] The agencies provide scant explanation of the fleet share model used in the proposed rulemaking. Further, the model appears to artificially inflate costs associated with compliance, emissions, and fatalities. Reliance upon the results of this flawed model is arbitrary.
- *Flawed Scrappage Model*.[16] More than two-thirds of the purported net benefits of rolling back fuel economy standards are due to the output of the "scrappage" model. In the 2012 rulemaking and 2016 TAR, both agencies concluded that the impact of fuel economy standards on scrappage of used vehicles (and on sales of new vehicles) was far too uncertain and variable to provide a rational basis for regulation. Neither agency provides a plausible reasoned justification for reaching the opposition conclusion now. And this new model has never been peer reviewed—an indisputable best practice—and never made available to the public until the NPRM. It is arbitrary and irrational to rely on this model or on a cost-benefit analysis predicated on its outputs.
  - Errors in basic construction:[17] The model's basic construction is inconsistent with economic best practice, as it is mis-specified, overfitted, and includes many correlated explanatory variables. The agencies also attempted to validate the model by using a subset of the same data used to construct the model—such a basic error prevents drawing any valid predictive inferences.
  - Irrational separation of sales and scrappage: The agencies have previously recognized that sales of new vehicles and scrappage of old vehicles are dynamically related—*i.e.*, a decrease in sales should slow down scrappage and vice versa. The agencies now irrationally fail to couple their new scrappage model to their sales model, such that the number of new vehicles sold (or left unsold) has no effect on the number of vehicles scrapped. The agencies justify the rollback of the standards on the basis of the fatalities impact of an alleged slowdown in the transition into safer new vehicles, due to the price increase of those new vehicles from the standards. Yet the agencies fail to model how this slowed

[12] *See* Comment by ICCT.
[13] *See* Comment by EDF.
[14] *See* Comment by CU; Comment by CARB, Greene Report; Comment by Gillingham and Stock; Comment by MES on Vehicle Activity.
[15] *See* Comment by CU; Comment by MES on Vehicle Activity.
[16] *See* Comment by MES on Vehicle Activity.
[17] *See* Comment by Institute for Policy Integrity ("IPI"); Comment by CARB, Greene Report.

transition affects scrappage; the number of new vehicles sold (or not) has no effect on the scrappage model, nor on fatalities predicted by that model.

- Inexplicable outputs:[18] Under the agencies' modeling theory, new vehicle prices increase, which increases the demand for used vehicles (as a substitute good), which causes used vehicle prices to increase. If both new and used vehicles become more expensive, then overall fleet size should decrease: this is Economics 101. Instead, the scrappage model predicts a ballooning of the vehicle fleet. This unexpected growth is inconsistent with the economic literature on scrappage. It is also conceptually unrealistic, as EPA explained during the interagency comment process: "It's hard to imagine any real-world scenario under which over 60 additional used vehicles are retained for each new vehicle that the sales model predicts will be unsold."[19] Further, the model's projections of scrappage rates under the augural standards and under the rollback are statistically indistinguishable (despite translating into large differences in impacts such as emissions). None of the papers that the agencies rely upon support either the agencies' modeling design or the model's results. The scrappage model output is inexplicable, and it is irrational for the agencies to rely on it.

- *Unsupportable Projections of Increased Driving*. The agencies compound the modeling errors above by applying the model results in unjustifiable and arbitrary ways. As a result, the agencies predict that under the augural and existing standards there will be a massive increase in total driving in the form of vehicle-miles traveled (VMT). This increased driving leads the agencies to predict significant additional accidents, congestion, and emissions, the costs of which significantly affect the agencies' consideration of the economic practicability of the standards. The projections of increased VMT and attendant costs are not supported by rational analysis or the best available evidence.

  - Artificial VMT from arbitrary doubling of the "rebound" rate:[20] The projected increase in VMT under the augural standards is artificially inflated by the agencies' arbitrary decision to double the value for the "rebound" rate. The agencies do not provide a plausible justification for this doubling. Consideration of rebound research should focus on U.S. studies and those that use high-quality odometer data. Given the best available evidence, the agencies must set the current rebound rate no higher than 10% and the rate should decline into the future. In addition, because the agencies are examining responses to a change in fuel economy, and most available rebound research examines responses to a change in fuel prices, the agencies should consider whether it is appropriate to rely on this literature at all. However, the agencies concede that any increased VMT from the rebound effect is "freely chosen rather than imposed by [standards]," NPRM at 43148, and thus mobility benefits offset the costs associated with traffic accidents caused by that driving.

  - Artificial VMT from the scrappage and fleet share models:[21] The amount of vehicle miles traveled should depend primarily on the demand for vehicle travel. The agencies ignore this limitation, as well as the limited population of drivers, when they convert the scrappage model's ballooning vehicle fleet into VMT using multipliers that assume that each of the millions of additional vehicles added drive the same amount as each vehicle did in a smaller fleet. The record does not provide any rational justification for the assumption that each vehicle in a vastly enlarged vehicle fleet will drive the same amount, regardless of the demand for travel (or anything else), and the agencies' use of such an assumption is capricious. The agencies also irrationally and arbitrarily assume that if the same individual purchases a truck rather than a car, they will drive more—and thus the dynamic fleet share model's prediction of a shift from cars to trucks also arbitrarily inflates VMT. In direct conflict with their treatment of rebound VMT, the agencies do not provide a mobility benefit that offsets the costs of VMT-driven traffic accidents—even though the projected increase in driving is not "imposed by" the standards.

[18] *See* Comment by Jacobsen and van Benthem, Comment by IPI, Comment by CARB, Bunch and Gillingham Turnover Reports.
[19] *See* Docket ID EPA-HQ-OAR-2018-0283-0453, Attachment: "Email 5," at 14.
[20] *See* Comment by K. Small; Comment by CARB, Gillingham Rebound Report; Comment by Health, Environmental, and Conservation Groups on Rebound; Comment by IPI; Comment by C. Cirillo.
[21] *See* Docket ID EPA-HQ-OAR-2018-0283-0453, Attachment: "Email 5," at 4, 18; Comment by MES on Vehicle Activity.

- Understated Emissions Impact:[22] The agencies erroneously posit that rolling back standards will have a "negligible" impact on air quality compared to the augural standards. NPRM at 42996. The agencies' air quality calculations are infirm because they assume artificially high costs of compliance and are based on the irrational modeling discussed above. When the worst of the agencies' modeling errors are corrected, the best evidence indicates that higher fuel economy standards improve air quality, and it is arbitrary for the agencies to conclude otherwise.

The sales, scrappage, and fleet share models are deeply flawed, and the agencies' application of the model outputs irrational.

At bottom, the agencies' economic cost-benefit calculations are dominated by two dynamics: (i) the erroneous predictions of massive increases in VMT just discussed; and (ii) the arbitrarily inflated compliance costs discussed earlier. The fundamental errors in the projections of VMT and compliance costs fatally undermine the economic "benefits" the agencies claim for the rollback. Setting aside these erroneous calculations, NHTSA has not articulated a rational basis—cost-benefit based or otherwise—that the augural standards are not economically practicable under EPCA. The additional new evidence available to NHTSA since 2012 in fact strongly suggests that the augural standards are now less than the feasible maximum, and NHTSA should evaluate further increasing average fuel economy standards.

● NHTSA arbitrarily ignores "the effect of other motor vehicle standards": EPCA requires NHTSA to account for "the effect of other motor vehicle standards of the Government on fuel economy." 49 U.S.C. § 32902(f). NHTSA's analysis of this factor fails to account for the effect of California's emission standards. Because NHTSA relies on that analysis, its proposed standards are not in accordance with law.

The agencies' arbitrary decision to ignore California standards is unprecedented. NHTSA concedes that EPA's emission standards "obviously" must be considered,[23] but then refuses to consider California's emission standards on the basis that those standards are legally preempted by EPCA itself. Courts have upheld California standards against EPCA preemption challenges and Congress has amended EPCA without altering that framework. NHTSA's decision to perform its own statutory interpretation "afresh," NPRM at 43209, is arbitrary given past judicial and legislative action. Further, the agencies' assertion that fuel economy standards and emission standards are interchangeable is unsound. To fulfill its statutory duty under EPCA, NHTSA must at a minimum evaluate the effect of existing and potential California emission standards on maximum feasible fuel economy levels.

● NHTSA irrationally undervalues the need "to conserve energy": In 2012, NHTSA determined that the need of the United States to conserve energy supported the feasibility of steadily increasing fuel economy standards. The agency fails to provide a reasoned justification for its change in position. NHTSA suggests that the "facts have changed," NPRM at 43213, but nevertheless repeatedly relies on pre-2012 facts and trends without providing a rational basis to reverse its 2012 consideration of those very same facts.

NHTSA's conclusions are also not consistent with those of Congress. NHTSA suggests that the current need for energy conservation is best viewed relative to the need in the wake of the 1970s oil embargo when EPCA was passed, and that world changes since the 1970s warrant rolling back fuel economy standards. But in 2007, more than three decades on, Congress concluded that world changes warranted significantly increasing fuel economy standards and passed the Energy Independence and Security Act (EISA). Pub. L. No. 110-140, 121 Stat. 1492 (2007). NHTSA's consideration of energy conservation is unreasonable because it is inconsistent with Congress's passage of EISA.

It is irrational for the agency to rely on post-2012 changes in the petroleum market, and in particular on increases in domestic tight oil production, to support flatlining fuel economy standards. Fuel prices are notoriously hard to predict. The agencies' analysis used the EIA's AEO 2017 reference case fuel price estimates, but the 2018 reference case prices rose 10%. NHTSA's assertion that this increase "would not materially change the extent to which today's analysis supports the selection of the preferred alternative," NPRM at 43069 n.219, is inconsistent with the considerable weight NHTSA places on low fuel prices and demonstrates the agency's capricious treatment of energy conservation. The AEO 2018 also notes "a great deal of uncertainty" in future tight oil growth and observes that "future domestic tight oil and shale gas production" depend on multiple factors, "all of which are

[22] *See* Comment by EDF; Comment by Center for Biological Diversity ("CBD") et al. on Draft Environmental Impact Statement.

[23] NHTSA's consideration of the effect of EPA's standards is flawed. The Volpe CO2 program models a compliance pathway that allows manufacturers to pay fines, despite the Clean Air Act prohibiting such a path.

highly uncertain." *See* Van Wagener, D., Issues in Focus: Oil and Natural Gas Resources and Technology, in AEO 2018 (February 6, 2018). Regardless, increased U.S. oil production does not insulate the U.S. from market volatility or price shocks because the market for oil is global; the strongest protection against volatility is to reduce the oil intensity of the national economy through measure such as increased fuel economy standards and it is irrational for NHTSA to conclude that higher oil intensity promotes stability.[24] The irrationality of NHTSA's position has been demonstrated even in the period since the proposal was released, in which time gas prices have spiked, the President has blamed foreign countries for that spike, and analysts have concluded the United States is unable to single-handedly counter the spike, contrary to the agencies' suggestion otherwise.

NHTSA's analysis of the environmental implications is flawed and inadequate. Although NHTSA characterizes the National Climate Assessment as suggesting that "[m]any argue that is it likely that human activity . . . contribute[s] to the observed climate warming," NPRM at 43215, the National Climate Assessment in fact "concludes, based on extensive evidence, that it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming."[25] Both the Department of Transportation and EPA, as defendants in current federal litigation, "aver that current and projected atmospheric concentrations of six well-mixed GHGs, including CO2, threaten the public health and welfare of current and future generations, and this threat will mount over time as GHGs continue to accumulate in the atmosphere and result in ever greater rates of climate change." Answer, *Juliana v. U.S.*, 15-cv-1517 (D. Ore. Jan. 13, 2017) (ECF 98).

The agencies assume that greenhouse gas emissions will continue unchecked and cause a catastrophic increase in average global temperatures.[26] NHTSA suggests that because fuel economy standards cannot solely prevent this, the standards do not "merit their costs." NPRM at 43215. This appeal to futility is an invalid basis to decline to regulate. "Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop." *Massachusetts*, 549 U.S. at 524. Transportation is the largest single contributor to U.S. greenhouse gas emissions and NHTSA's cursory treatment of environmental considerations is insufficient to meet its statutory duty under EPCA. If the agencies determine that the existing GHG and augural fuel economy standards are an insufficient step toward averting a catastrophic fate, the only legally-valid response is to strengthen the standards, not to slash them.

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As discussed above, the record does not provide a rational basis to conclude that NHTSA's proposed standards are the "maximum feasible" standards as required by law. The record does provide a rational basis to conclude that the augural standards are feasible, and NHTSA should, at a minimum, finalize the augural standards. The additional new evidence available to NHTSA since 2012 strongly suggests that the augural standards are now less than the feasible maximum, and NTHSA should evaluate further increasing fuel economy standards. Additionally, given the agencies' conclusion that "consumer preferences have shifted markedly" toward larger vehicles, NPRM at 42993, NHTSA should evaluate whether additional fuel economy standard increases for larger vehicles are feasible and would advance EPCA's purpose of energy conservation.

III. EPA's Proposed Standards Violate the Clean Air Act and Fail to Protect Public Health and Welfare

The Clean Air Act requires EPA to set new vehicle emission standards to limit emissions of air pollutants that endanger the public health or welfare. *See* 42 U.S.C. § 7521(A)(1). In 2009, EPA concluded that greenhouse gas air pollution endangers the public health and welfare.[27] EPA further concluded that greenhouse gas emissions from new motor vehicles, including CO2, contribute to that dangerous air pollution. According to EPA: "The risk and severity of adverse impacts on public welfare are expected to increase over time." 74 Fed. Reg. at 66,498□99. In 2012, EPA set steadily-increasing greenhouse gas emission standards for new motor vehicles for MY2021-2025.

Since 2012, additional scientific evidence has revealed that the danger to the public health and welfare is even greater than previously thought. In 2015, EPA observed that new expert assessments and empirical

[24] *See* Comment by J. Bordoff; Comment by CARB, Stanton Applied Economics Clinic Report.
[25] Climate Science Special Report: Fourth National Climate Assessment, Executive Summary (Wuebbles, D.J., *et al*., eds. 2017), available at https://science2017.globalchange.gov/chapter/executive-summary/.
[26] *See* Comment by CBD on Draft Environmental Impact Statement.
[27] Endangerment Finding, 74 Fed. Reg. 66,496, 66,497 (Dec. 15, 2009).

observations "underscore the urgency of reducing emissions now."[28] Indeed, 2015, 2016, and 2017 were the three hottest years ever recorded.[29] Meanwhile, in 2016, the transportation sector became the largest source of GHG emissions in the United States.[30] The increasing danger, increasing urgency, and increasing importance of vehicle emissions all rationally counsel for strengthening emission standards. Yet EPA has determined that the public welfare is most appropriately served by rolling back existing standards, leading to *872 million metric tons* of additional CO2 emissions. NPRM at 43230.

This inexplicable determination flows from EPA's unlawful delegation of its expert decision-making to NHTSA. EPA has unrivaled agency expertise in vehicle emission technologies and modeling. Yet the proposal fails to reflect EPA's latest research and analysis, and EPA's own expert staff disclaimed the deeply flawed analysis that underlies the proposal. EPA's own modeling on the proposal appears to have found dramatically lower costs than NHTSA's modeling, yet it was set aside and has not been released to the public. Instead the proposal is based uncritically on NHTSA's analysis despite its extensive flaws. This approach is unlawful.

To the extent the rollback reflects an exercise of EPA's decision-making, it remains unlawful. EPA posits that foregoing prevention of 872 million metric tons of CO2 emissions is warranted "from a cost/benefit perspective," "in light of the new assessment indicating higher vehicle costs and associated impacts on consumers, and safety impacts." NPRM at 43230. EPA suggests that it is required to consider these costs and safety impacts and then balance them with the public health and welfare in a general way to arrive at "appropriate" standards. This approach is not in accordance with law.

EPA's overriding statutory duty is to address dangers to public health and welfare from emissions: it must "do the job Congress gave it in section 202(a)—utilizing emission standards to prevent reasonably anticipated endangerment from maturing into concrete harm." *Coal. for Responsible Regulation v. E.P.A.*, 684 F. 3d 102, 122 (D.C. Cir. 2012). In carrying out this duty, Congress has given EPA only "limited flexibility" to consider compliance costs to the manufacturing industry in setting emission standards. *See id*. at 127; 42 U.S.C. § 7521(a)(2). Likewise, Congress has directed EPA to consider whether required emission control technology presents "an unreasonable risk to public health, welfare, or safety in its operation or function." 42 U.S.C. § 7521(a)(4)(A). In the proposed rule, EPA impermissibly relies on these limited considerations at the expense of its core statutory duty to reduce dangerous emissions. Further, the proposed rule is arbitrary even under EPA's own balancing test. The agencies' flawed analysis overstates both the cost and the safety impact of existing emission standards, and understates the benefits of emission reductions. Because EPA relies on this analysis, its proposed standards are arbitrary.

- The analysis grossly overstates "the cost of compliance": In setting emission standards, EPA considers the time "necessary to permit development and application of the requisite technology, giving appropriate consideration to the cost of compliance." 42 U.S.C. § 7521(a)(2). According to EPA, "[t]he majority of these technologies have already been developed, have been commercialized, and are in-use on vehicles today." NPRM at 43229. But the agency concludes that the cost of broader adoption of these technologies is unduly burdensome. This conclusion is not supported by the record. It also represents an unprecedented consideration of cost that is unmoored from the statute, which focuses the cost inquiry on whether costs of compliance make it infeasible for manufacturers to meet standards within the relevant period of lead time.

Using NHTSA's Volpe model, the agencies estimate a compliance cost of up to $2,260 per vehicle in the year 2030. EPA does not provide a rational explanation why that cost is unduly burdensome—it simply asserts that "[l]ess stringent standards would be less burdensome." NPRM at 43229. Further, as discussed above in Section II, this per-vehicle cost is also significantly inflated. Without a reliable estimate of the cost of compliance, or a rational articulation of undue burden, EPA's determination is capricious.

Additionally, EPA determined in 2017 that the cost of existing standards was not unduly burdensome. In reaching that determination, EPA relied on models—ALPHA and OMEGA—that it developed and has relied on for many years specifically to analyze Clean Air Act compliance. It is not clear from the record whether EPA evaluated its proposed standards here under those models, and EPA has refused to provide updated versions of the models or the results of any analysis it has done using the models to the public despite repeated requests.[31] What is clear is

[28] Carbon Pollution Emission Guidelines for Existing Stationary Sources, 80 Fed. Reg. 64,662, 64,686 (Oct. 23, 2015).
[29] https://www.ncdc.noaa.gov/sotc/global/201713.
[30] https://www.eia.gov/todayinenergy/detail.php?id=29612# (Power Sector carbon dioxide emissions fall below transportation sector emissions, Jan. 19, 2017).
[31] *See, e.g.*, Letter from EDF et al., Docket No. NHTSA-2018-0067-5648.

that experienced EPA analysts expressed strong concerns about the technical soundness of using NHTSA's Volpe model—designed for EPCA analysis—to carry out Clean Air Act analysis.[32] The myriad flaws in Volpe, discussed above, bear out those concerns. Without sound modeling, EPA has no rational basis to reverse its prior determination. EPA must, at a minimum, test its proposal and alternatives under its Clean Air Act models so that it can rationally assess the costs.

- The analysis grossly overstates the "safety" impact of existing standards: The Clean Air Act contemplates EPA taking the safety of emission reduction technology into account. *See* 42 U.S.C. § 7521(a)(4). EPA cites hypothetical faulty trap-oxidizers as the exemplar. NPRM at 43228 n. 472. But the only "technology" EPA implies could be unsafe here is mass reduction (because of its effect on vehicle fatalities), but as discussed further below, the agencies concede that this effect is statistically indistinguishable from zero. NPRM at 43,111. The remainder of the negative "safety" effects cited by EPA result solely from their projections of increased driving, which, as discussed above, are arbitrary, and which, as discussed below, cannot properly be attributed to the standards or lawfully relied upon as a justification for failing to fulfill the Act's mandate to mitigate dangerous emissions from vehicles. In short, EPA has not provided a rational basis grounded in the record that maintaining existing standards would impose negative safety impacts.

- EPA's consideration of emission impacts is arbitrary: Despite acknowledging that "the purpose of Title II emissions standards is to protect the public health and welfare" and noting "the importance of this goal," EPA barely discusses emission impacts. NPRM at 43230. The agency acknowledges that rolling back standards increases emissions but "believes from a cost/benefit perspective" the rollback is warranted. *Id*. A pure cost/benefit approach is not in accordance with EPA's statutory authority.

  Further, the analysis that EPA relies on to calculate costs and benefits is flawed and the results are inconsistent with the best evidence in the record. Significant deficiencies in the agencies' analysis of costs and benefits are discussed in detail in Section II above. Of particular relevance to EPA, and for setting public health standards, the agencies' use of a drastically reduced value for the social cost of carbon is not supported by the record.[33] Neither EPA or NHTSA has provided a plausible reasoned justification for departing from the agencies' previous carbon cost estimates.

  This departure is particularly irrational given the increased need for emission reductions. The 2018 IPCC Report demonstrated that the harms from climate change are more severe and will happen faster than previously thought, making it ever more urgent that we act quickly to reduce emissions.[34] As discussed in Section II above, the agencies' own analysis assumes unchecked emissions will cause an intolerable increase in average global temperatures. Notwithstanding clear evidence of a worsening problem, EPA arbitrarily considered only regulatory alternatives "that are less stringent" than existing standards and proposed to do nothing to lower emissions by flatlining standards. NPRM at 43229. Given the record, this decision is arbitrary and unlawful. At a minimum, a rational decisionmaker would analyze at least some alternatives that are more stringent.

- EPA's analysis unlawfully privileges "consumer choice": Like NHTSA, EPA deploys "consumer choice" claims to justify reducing emission standards. The Clean Air Act does not authorize EPA to retrench on public health based on ill-defined generalizations about consumer preferences. As discussed above (Section II), the agencies do not provide a rational articulation for why the diverse vehicle fleets projected under existing standards meaningfully reduce consumer choice.

  EPA narrowly focuses on the "projected level of hybridization and the associated vehicle costs," which the agency concludes "may be too high from a consumer-choice perspective." NPRM at 43230. This is speculation, not a rational analysis grounded in the record. Moreover, hybridization levels are significantly inflated by the agencies' use of the Volpe model, which, as discussed above, fails to reflect real-world costs of compliance. Indeed, EPA arbitrarily relies on an analysis that, among other things, erroneously prevents manufacturers from adopting advanced conventional engines and then relies on the absence of those engines to forgo setting meaningful standards. The agencies also significantly overestimate the costs associated with hybridization.[35] EPA's reliance on erroneous hybridization rates and costs is arbitrary.

[32] *See, e.g.*, Docket ID EPA-HQ-OAR-2018-0283-0453, Attachment: "Email 5."
[33] *See* Comment by CARB, Auffhammer Report; Comment by IPI.
[34] *See* Comment by Consumer, Environmental, and Public Health Groups on Legal Issues, Section I.
[35] *See* Comment by MES on Technology; Comment by ICCT; Comment by CARB, H-D Systems Report.

Finally, EPA separately considers "consumer costs" as a factor to be balanced. NPRM at 43229. EPA cannot override its public health mandate by pointing to tangential costs such as consumer financing and insurance premiums. Even based on the agencies' own erroneous analysis, several of the intermediate stringency alternatives that the agencies considered resulted in net *savings* to consumers, primarily from fuel savings. NPRM at 43230. EPA does not offer a rational explanation for not, at a minimum, adopting the intermediate stringency standards that even it calculates offer net savings. But EPA's calculations of costs and benefits are erroneous. EPA's consumer costs are driven by posited increases in new vehicle prices due to the standards. As detailed above (Section II), these prices are inflated and not supported by the record. Further, the agencies undervalue the fuel savings and other benefits to consumers.[36] Because the agencies' projections of consumer costs and benefits are erroneous, EPA's reliance on those projections is arbitrary.

* * * * *

As discussed above, the record does not provide a rational basis to conclude that EPA's revised standards are consistent with the agency's legal obligation to set protective health and welfare standards. EPA must, at a minimum, refrain from weakening existing standards. Given the additional new evidence available to the agency—including the increased urgency and importance of emission reductions—EPA should evaluate further strengthening vehicle pollution standards.

IV. The Agencies' Safety Claims Are Misleading, Unsupported, and Cannot Legally Justify the Rollback

The agencies claim that rolling back standards is necessary to save lives. The agencies' own analysis and the best available evidence, however, clearly show that the existing and augural standards will, if anything, improve the safety of driving. As such, the proposed flatlining of standards must be abandoned.

The necessary implication of the agencies' safety claims is that changes made to vehicles to reduce emissions and improve fuel economy are making vehicles less safe or driving more dangerous. This is false. The agencies' own analysis shows that the effect of vehicle changes (such as reducing vehicle weight) on fatalities is statistically indistinguishable from zero. NPRM at 43,111. This is the case even though the agencies inappropriately analyze fatalities using historical data that fails to reflect advances in high-strength materials and design that make vehicles both lighter and safer.[37] Further, contrary to their prior approach, the agencies now model manufacturers reducing the weight of smaller vehicles. Evidence from the auto industry indicates that in fact manufacturers have not been reducing the weight of smaller vehicles, but rather have largely been reducing the weight of heavier vehicles and plan to continue to do so—which will reduce overall fatalities.[38] Nonetheless, even with this unjustifiably skewed analysis, the record shows no statistically significant effect of existing standards on vehicle safety. This accords with the historical observation that as fuel economy has improved, fatality rates have dropped.

Setting that analysis aside, *all* of the fatalities the agencies claim to be avoiding come from their projection that under the existing standards, *people will drive more*.[39] These projections of increased driving are not supported by theory or data, for reasons laid out above. But at the most basic level, it is clearly inappropriate to attribute to fuel economy and emission standards those fatalities that are the result of individuals *choosing* to drive more. Americans are well aware that when they choose to drive, they accept some risk. Americans choose to drive despite that risk because driving has value to them. They do not expect federal agencies will try to limit the amount they drive by, for example, making driving more expensive by making their vehicles less fuel efficient. More importantly, that is not the mandate Congress has given those agencies. Congress has given NHTSA the mandate to conserve energy by setting maximum feasible fuel economy standards. Congress has given EPA the mandate to protect the public health and welfare by limiting vehicle emissions. Nowhere in these statutes has Congress authorized the agencies to refuse their obligations because they believe that setting standards will lead Americans to drive more.

Despite their professed concern with safety, the agencies fail to accurately assess the obvious risk of rolling back standards: increased emissions. The proposed rollback of standards would lead to additional fatalities due to the negative health effects from increased vehicle emissions. When the worst of the agencies' modeling errors are

[36] *See* Comment by MES on Vehicle Activity.
[37] *See* Comment by CU; Comment by CARB.
[38] *See* Comment by Natural Resources Defense Council ("NRDC") on Mass Reduction.
[39] *See* Comment by American Council for an Energy-Efficient Economy ("ACEEE").

corrected, and when emissions are accounted for, the evidence shows that the augural and existing standards *reduce fatalities*.[40]

V. EPA's Proposal to Withdraw the 2013 Waiver of Preemption for California Is Unlawful

In the NPRM, EPA has proposed to withdraw the January 9, 2013 waiver of preemption for California's Advanced Clean Car (ACC) program as to the State's Zero Emissions Vehicle (ZEV) mandate and Greenhouse Gas (GHG) standards applicable to MY2021-2025. 78 Fed. Reg. 2145. But EPA has neither the authority nor the basis on which to do so. Congress has provided for EPA to grant or deny California waivers only at the time California applies for them, and only based on specified criteria. Congress has not provided EPA any authority to withdraw or revoke a previously-granted waiver.

Even if EPA did have the authority to revoke a waiver, and even if that authority was as expansive as EPA here claims, none of the three justifications proffered for EPA's proposed withdrawal of the waiver of preemption would stand up to scrutiny:

- Preemption under EPCA: EPA proposes to revoke the waiver because NHTSA has proposed to find that California's vehicle emission standards are "related to" fuel economy and are thus preempted under EPCA. There are multiple errors in EPA's argument. First, EPCA does *not* preempt California standards that have an EPA waiver of preemption – NHTSA's proposed determination is contrary to EPCA and unlawful. The text and history of EPCA and its amendments are contrary to NHTSA's claim that EPCA impliedly repealed the CAA authority that EPA uses to issue preemption waivers for state emission standards. Second, California's standards cover four greenhouse gases, not only CO_2, and have purposes and effects independent of improving fuel economy. Third, even if California's standards did address only CO_2, fuel economy and CO_2 emission standards are *not* in fact functional equivalents. For example, diesel engines achieve better fuel economy than gasoline engines, but diesel is more carbon-intensive than gasoline. As a result, switching from gasoline to diesel technology affects tailpipe CO_2 emissions differently from fuel economy, as the agencies themselves have admitted. *See, e.g.*, 2012 Joint TSD, EPA-420-R-12-901 at 3-97. The statutory mandates of reducing pollution and increasing fuel economy are wholly separate, and NHTSA's assertion of preemption – which it has no authority to assert – is based on an alleged "compliance technology overlap" which is both incomplete and ephemeral.

- Compelling and extraordinary conditions: "EPA proposes to find that California does not need its GHG and ZEV standards to meet compelling and extraordinary conditions because those standards address environmental problems that are not particular or unique to California, that are not caused by emissions or other factors particular or unique to California, and for which the standards will not provide any remedy particular or unique to California." NPRM at 43240. EPA's proposal fails on multiple grounds.

First, section 209(b)(1)(B) of the CAA directs EPA only to consider whether California needs a separate vehicle emissions program as a whole to meet compelling and extraordinary conditions. So long as California continues to need a separate program – which even EPA admits it does – EPA has no authority to cherry-pick particular standards within California's program to reject.

Second, even if EPA could consider particular, individual standards under this prong, EPA's efforts fail. The NPRM asserts that "'compelling and extraordinary conditions' mean environmental problems with causes and effects in California whereas GHG emissions present global air pollution problems." NPRM at 43243. This assertion has no basis in fact or law.

As an initial matter, even EPA's proposed interpretation could not support revocation of the ZEV program, which is, and always has been, designed to reduce long-term criteria emissions. Accordingly, the ZEV program is needed to meet even EPA's proposed definition of "compelling and extraordinary conditions."

EPA's novel interpretation is also a radical departure from EPA's past practice and is not a permissible reading of the phrase "compelling and extraordinary conditions." EPA has long recognized that California's air quality challenges do not need to be unique to the state: "There is no indication in the language of section 209 or the legislative history that California's pollution problem must be the worst in the country, for a waiver to be granted." 49 FR 18887 at 18891. Neither "compelling" nor "extraordinary" means "local," and there is nothing in the term "conditions" requiring that the conditions California seeks to address must be felt in California alone.

[40] *See* Comment by CBD on Draft Environmental Impact Statement; Comment by EDF.

EPA's proposed distinction between "local" and "global" pollutants also has no factual basis. Recent studies have shown that significant portions of California's nitrogen oxides and particulate matter pollution originate in Asia. Likewise, California's emissions of these pollutants contribute to ozone smog and fine particle pollution in other states. In short, both "traditional" pollutants and greenhouse gas pollutants have both local and global sources, and local and global impacts. Any attempt to distinguish between them is neither grounded in the statute nor supported in the record.

Not only is EPA's interpretation of "compelling and extraordinary" untenable, but its proposed waiver revocation also fails because California actually *does* suffer from unique environmental problems related to greenhouse gas emissions. To highlight just a few examples:

- Warming temperatures will exacerbate risk of drought given California's already hot and dry climate and its unique water sources. California relies on snowpack for its water supply, and that supply has already started shrinking due to diminished snowpack. By 2050, water supply from the snowpack is project to decline by two-thirds from historical levels.[41]
- California is the most productive agricultural state in the U.S., and the USGCRP's Third National Climate Assessment explained that California's agricultural sector – with its array of fruits and vegetables – will be affected by extreme weather more than states reliant on other types of crops. In addition, many California perennial crops depend on a certain number of "chilling hours" over the winter, without which the plants will neither flower nor produce fruit.
- The American Lung Association already considers California to have some of the dirtiest air in the U.S., with high levels of smog and particulate matter pollution. By increasing temperatures, climate change will worsen these smog conditions.

Finally, EPA suggests that California does not "need" GHG or ZEV standards to meet GHG conditions, because those standards will not have a "meaningful effect" on climate conditions in the state. But section 209(b)(1)(B) does not authorize EPA to second-guess California's judgment as to what is "needed," and thus EPA has historically (and correctly) deferred to California's judgment on which specific pollutants should be regulated, and how stringently. Indeed, deferring to California's judgment on "need" is the only way to faithfully execute Congress's intent to allow California to serve as a laboratory of innovation for the nation as a whole. Moreover, as to the ZEV program, in particular, the fact that that program may not solve California's climate problem in the near-term does not negate the fact that it has the potential to help do so in the long-term – and that long-term potential is the express purpose of the program. In fact, the same is true of the GHG program. EPA cannot defeat California's program by impermissibly raising the bar for the "need" threshold.

- Technological infeasibility: "EPA proposes to find that California's GHG and ZEV standards are inconsistent with section 202(a) because they are technologically infeasible in that they [do not] provide sufficient lead time to permit the development of necessary technology, giving appropriate consideration to compliance costs." NPRM at 43240. In proposing to find such an inconsistency, EPA is unlawfully abandoning longstanding administrative and judicial precedents that: (1) require EPA to defer to California's judgments; and (2) allow California to adopt standards more stringent than EPA's. EPA has consistently interpreted the CAA to demand substantial deference to California's judgments on cost and feasibility. As the D.C. Circuit has explained, "California is to have 'the broadest possible discretion in selecting the best means to protect the health of its citizens.'" *Nichols*, 142 F.3d at 462-63 (quoting H.R. Rep. No. 95-294, at 301-02). EPA's attempt to override California's determination of how much pollution can be cut is particularly unreasonable because California's judgment is consistent with EPA's own judgments in the 2012 federal rulemaking, the 2013 waiver decision, the Technical Assessment Review and the 2017 Midterm Evaluation. In short, EPA cannot carry its heavy burden to demonstrate infeasibility simply by observing that California's current standards are not identical to EPA's proposed weaker standards.

For a more detailed discussion, see Section V of the Joint Comments of Consumer, Environmental, and Public Health Groups on Legal Issues ("Joint Comments").

[41] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 5.

VI. EPA's Proposal to Block Section 177 States from Adopting California's GHG Standards Is Unlawful

In addition to unlawfully proposing to withdraw California's waiver of preemption, EPA also "proposes to conclude that States may not adopt California's GHG standards pursuant to section 177 because… this provision is limited to providing States the ability, under certain circumstances and with certain conditions, to adopt and enforce standards designed to control criteria pollutants to address NAAQS nonattainment." NPRM at 43240. EPA is incorrect. Section 177 requires that a state adopting California's standards have a nonattainment area or a maintenance plan, but Section 177 requires that states adopt California's whole program as it applies to a specific vehicle and model year, including components that reduce criteria as well as those that reduce GHG emissions. Allowing states to adopt only parts of California's standards would effectively create requirements for a "third car" – which section 177 expressly prohibits. Furthermore, once California standards have a waiver under Section 209(b), EPA has no role in determining whether a Section 177 state may adopt California's standards, and its interpretation of this section is afforded no deference.

For a more detailed discussion, see Section V of the Joint Comments.

VII. EPA's Proposal to Exclude Emissions of HFCs, Methane, and Nitrous Oxide Is Unlawful

In the NPRM, "EPA is proposing to exclude air conditioning refrigerants and leakage, and nitrous oxide and methane emissions for compliance with CO_2 standards after model year 2020." NPRM at 42988. EPA claims it is seeking "to provide for better harmony with the CAFE program" NPRM at 43193, and notes that it "would consider whether it is appropriate to initiate a new rulemaking to regulate these programs independently" NPRM at 43194. Its proposal to eliminate these factors is unlawful.

After the Supreme Court's decision in *Massachusetts v. EPA*, EPA determined that six greenhouse gases, individually and collectively, endanger public health and welfare. Four of those GHGs are emitted from motor vehicles. In addition to CO_2, vehicles emit methane (CH_4) and nitrous oxide (N_2O) from combustion of fuel, and hydrofluorocarbons (HFCs) from air conditioners. EPA has a mandatory duty to regulate vehicle emissions of all greenhouse gas pollutants for which it has made a positive endangerment finding. *Coalition for Responsible Regulation*, 684 F.3d at 126. EPA's vague promise of some future action to address HFC refrigerants is not a lawful justification for revoking regulations and leaving EPA's mandatory duty unfulfilled. The interest in harmonizing with the CAFE program cannot justify eliminating the standards governing these pollutants. Thus, EPA's proposal to eliminate the HFC, methane, and nitrous oxide components of the federal emission standards is a legal non-starter.

For a more detailed discussion, see Section III of the Joint Comments.

VIII. EPA's "Revised" Final Determination of the Mid-Term Evaluation Was Unlawful

In 2017 EPA made a Final Determination of the Mid-Term Evaluation in which EPA found that existing standards remained readily achievable, based on input from the public, a massive technical record, and a joint report with NHTSA and the California Air Resources Board that found lower costs than originally predicted. The next year, EPA "revised" the Final Determination to conclude exactly the opposite, that existing standards are not "appropriate." In this Revised Final Determination, EPA violated its own regulations, 40 C.F.R. § 86.1818-12(h), and basic requirements of reasoned decision-making. EPA provided no valid basis for rejecting its 2017 findings or withdrawing the Final Determination. Moreover, EPA failed, as required by the governing regulation, to explain and provide for comment on the technical basis for its new decision or reveal the alleged new information supporting its decision. Rather, EPA arbitrarily relied on little more than unexamined assertions from manufacturers. EPA's failure to abide by the Mid-Term Evaluation further impeded the public's ability to participate meaningfully in this rulemaking. EPA's violation of its regulations requires the agency to withdraw the proposal.

For a more detailed discussion, see Section VI of the Joint Comments.

IX. EPA and NHTSA's Failure to Justify Their Actions in the Face of Climate Change Realities Is Unlawful

The scientific consensus that climate change is real, man-made, and dangerous is overwhelming. EPA has repeatedly affirmed the severity of the threat and the urgency of the need to address it. Nonetheless, in their proposal, EPA and NHTSA utterly fail to evaluate the health and environmental risks posed by continued emissions of greenhouse gases. Even worse, the agencies make no attempt to relate their proposal – which would significantly increase greenhouse gas emissions – to the known facts about climate change and its threats, including

the urgency of reducing emissions now to reduce the risk of horrific harms from a destabilized climate. This willful disregard of the recognized scientific facts would render adoption of the proposed standards unlawful. Both EPA and NHTSA are required by statute to protect the public: CAA Section 202 requires EPA to prescribe standards to limit vehicular emissions that cause or contribute to air pollution that endangers public health and welfare. 42 U.S.C. § 7521(a)(1). NHTSA's mandate to adopt "maximum feasible" fuel economy standards reflecting "the need of the United States to conserve energy" requires factoring in the climate-altering impacts of consuming oil. 49 U.S.C. § 32902(a), (f). The agencies' proposal to set standards that achieve no additional emissions reductions fails completely to further their statutory mandate to protect the public and is proposed without any attempt to reconcile their proposal with facts about relevant health and environmental risks – which, in this case, must include climate change. Moreover, in the face of a threat as severe and urgent as climate change, their proposal to strip away existing protections with no serious consideration of alternative protective measures is arbitrary and unlawful.

For a more detailed discussion, see Section I of the Joint Comments.

X. EPA and NHTSA's Failure to Provide the Public Adequate Opportunity to Review and Comment on the Proposal Is Unlawful

EPA and NHTSA's rulemaking process has, in multiple respects, failed to provide the public with a meaningful opportunity to access necessary information on the proposal and to allow for public comment. This failure violates the agencies' obligations under the law.

The Administrative Procedure Act, the Clean Air Act, and long-standing executive branch guidance all require that agencies share relevant rulemaking materials with the public concurrent with the release of a rulemaking proposal. However, the agencies have failed to release information critical to the proposed rule that is necessary to allow for meaningful public comment. For example, EPA has, despite numerous requests dating back to even before the release of the proposal, failed to release documents and data related to the OMEGA model, which is EPA's primary tool for evaluating and setting vehicle GHG standards. This failure is particularly problematic given ample evidence that EPA abdicated its responsibilities to NHTSA despite expressed misgivings of EPA technical staff concerning NHTSA's analysis. Information in the docket suggests EPA's modeling found costs roughly half those found be NHTSA.[42] In addition, the agencies have failed to release, among other things, information about the models and data used to estimate battery costs, and data necessary to evaluate the proposal's projections for fleet population, size, sales, and fatalities. The failure to make these materials available renders the public comment opportunity legally inadequate and the proposal unlawful. To comply with the law, the agencies must release these materials and reopen the comment period before proceeding further.

In addition, the agencies provided a wholly inadequate public comment period, despite eighteen requests for extensions of the comment period of at least sixty days – requests signed by entities representing vast numbers of stakeholders. In announcing its denial of these requests, the agencies merely explained that "Automakers will need maximum lead time to respond to the final rule, and extending the comment period... [is] inconsistent with provision of maximum lead time." 83 FR 48578, 48579-50. This justification is arbitrary for several reasons, including that auto manufacturer representatives themselves were among those calling for a 60-day extension of the comment period. The agencies fail to explain why any interest in "maximum lead time" deserves to supersede the wide range of other concerns and interests raised by stakeholders. The agencies' arbitrary denial of the requests from a diverse chorus of stakeholders insisting that additional time was needed to review the proposal's novel and elaborate analyses, together with the agencies' refusal to make necessary information available to commenters, impeded the ability of stakeholders to meaningfully comment on the proposal.

For a more detailed discussion of the proposal's procedural flaws, see Section VI of the Joint Comments.

[42] *See* Docket ID EPA-HQ-OAR-2018-0283-0453, Attachment: "Email 5," at 113.

Attachment 2

David J. Friedman's Response to Questions for the Record dated August 29, 2019

APPENDIX A

COMMENTS OF THE CENTER FOR BIOLOGICAL DIVERSITY, CONSERVATION LAW FOUNDATION, EARTHJUSTICE, ENVIRONMENTAL DEFENSE FUND, ENVIRONMENTAL LAW AND POLICY CENTER, NATURAL RESOURCES DEFENSE COUNCIL, PUBLIC CITIZEN, INC., SIERRA CLUB, UNION OF CONCERNED SCIENTISTS
ON THE PROPOSED SAFER AFFORDABLE FUEL-EFFICIENT (SAFE) VEHICLES RULE FOR MODEL YEARS 2021-2026 PASSENGER CARS AND LIGHT TRUCKS,
DOCKET NOS. NHTSA-2018-0067, EPA-HQ-OAR-2018-0283

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I. The proposal violates the agencies' statutory responsibilities and is arbitrary and capricious because it brushes aside the scientific facts about climate change and the associated peril to public health and the environment, disregards the documented and immediate urgency of those hazards, and fails to connect the proposed rollback of standards to any rational response to climate change.

The transportation sector is the single largest contributor to U.S. greenhouse gas emissions, and the evidence is now overwhelming that climate change caused by burning gasoline and other fossil fuels gravely and imminently imperils human health, the economy, and the natural resources on which human survival depends. Nonetheless, climate change is largely absent from the thousands of pages comprising this notice of proposed rulemaking (NPRM) and supporting documents. Further, it is completely absent from the rationale used by the Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA) to stymie progress in reining in emissions from the largest contributor to the enormous peril we face from climate change.[1]

The NPRM proposes actions directly contrary to both agencies' statutory duties and flouts basic requirements of reasoned decision-making.[2] It fails to address the human suffering, death and environmental destruction already caused by climate change and exacerbated by the agencies' proposal. Crucially, it provides no explanation as to why greatly weakening standards governing the economy's largest-emitting sector could possibly be described as a reasonable response given the established scientific facts about climate change. The NPRM contains no rationale for how flat-lining standards for a critical six-year period can be reconciled with the overwhelming record evidence that rapid and massive emissions reductions must occur within the next decade if we are to avoid truly disastrous consequences. The proposal's gaping analytical voids on central issues violate fundamental requirements of reasoned decision-making applicable to all federal agencies. They contravene NHTSA's obligation to factor in climate change as a component of the statutory energy-conservation mandate. And they are a particularly egregious violation of EPA's obligations as the agency Congress designated to protect the public from air pollution that endangers health and welfare.

[1] While the Proposal discusses impacts on fuel consumption and some potential contributions to global warming, it makes no real attempt to grapple with – or indeed even cite to – the relevant scientific studies. Even when discussing emissions impacts, the Proposal includes statements such as that greenhouse gases "*theoretically* contribute to climate change," and that "*[m]any argue* that it is likely that human activities . . . contribute to the observed climate warming," despite the fact that there is the clear science on this matter, including in publications from federal programs in which EPA is a constituent agency (e.g., USGCRP). *See* 83 Fed. Reg. 42,986, 43,067 (emphases added).

[2] Unless otherwise specified, these comments pertain to both EPA and NHTSA, and the actions they have taken in developing this flawed proposal. Except where the context otherwise indicates, any reference to either agency or the agencies shall be interpreted to refer to both EPA and NHTSA. Many of the critiques of the legal and factual basis for this proposal are equally applicable to both agencies.

A. The scientific record confirms that anthropogenic climate change is a grave and imminent hazard, and the latest studies – which the agencies have not even considered – reinforce that climate change is proceeding at an unprecedented pace requiring rapid and decisive action to reduce greenhouse gas emissions now.

As we explain in more detail in separate comments on climate science and on NHTSA's Draft Environmental Impact Statement (DEIS),[3] climate change caused principally by combustion of fossil fuels poses severe hazards to human civilization and is already causing extensive damage throughout the nation and the world.[4] In 2009, EPA found—based on an "ocean of evidence"[5]—that anthropogenic GHGs are driving climate change that endangers public health and welfare;[6] the D.C. Circuit upheld that finding in its entirety against industry challenges,[7] and the Supreme Court refused to review the holding.[8] In their 2012 joint publication setting out standards for MY 2017-2025, EPA and NHTSA underscored that their final rules were in response to "the country's critical need to address global climate change and reduce oil consumption."[9] As is detailed in our separate Climate Change comments, since 2009, the peer-reviewed scientific literature on climate change and evidence of both future and *current* climate impacts has become even more clear, specific and undeniable, further buttressing the rigor of the endangerment finding and the urgency of the Clean Air Act's legal mandate that EPA address CO_2 emissions from vehicles and NHTSA's obligation to consider such impacts as part of its standard setting.[10] In the U.S. alone, climate change-related damages have already reached hundreds of billions of dollars every year, with 2017 setting an annual record of $306 billion.[11]

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[3] *See* Joint Comments of Environmental, Advocacy, and Science Organizations Regarding the Proposed Greenhouse Gas Emissions and Fuel Efficiency Standards for Light-Duty Vehicles, Model Year 2021-2026 -- Comments Specific to Climate Change; Joint Comments of Center for Biological Diversity, Sierra Club, Natural Resources Defense Council, Environmental Law and Policy Center, and Public Citizen Re: The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021-2026 Passenger Cars and Light Trucks: Draft Environmental Impact Statement.

[4] *See, e.g.*, Intergovernmental Panel on Climate Change, *IPCC Special Report: Global Warming of 1.5°C*, at 1-7 (Oct. 6, 2018) ("IPCC (2018)"), http://www.ipcc.ch/report/sr15/.

[5] *Coal. for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102, 123 (D.C. Cir. 2012), *rev'd in part on other grounds sub nom. Util. Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427 (2014).

[6] 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).

[7] *Coal. for Responsible Regulation*, 684 F.3d at 116-26.

[8] The Supreme Court denied the petitions for certiorari that sought to challenge the D.C. Circuit's ruling upholding the Endangerment Finding. *Virginia v. EPA*, 571 U.S. 951 (2013), and *Pac. Legal Found. v. EPA*, 571 U.S. 951 (2013).

[9] 77 Fed. Reg. at 62,626-27.

[10] *See* Joint Comments of Environmental, Advocacy, and Science Organizations Regarding the Proposed Greenhouse Gas Emissions and Fuel Efficiency Standards for Light-Duty Vehicles, Model Year 2021-2026 -- Comments Specific to Climate Change.

[11] NOAA National Centers for Environmental Information [NCEI], Billion-Dollar Weather and Climate Disasters (2018), https://www.ncdc.noaa.gov/billions/.

As EPA put it less than just two years ago, climate change is "the United States' most important and urgent environmental challenge."[12] Recent assessments of the best available science – an already vast and definitive body of knowledge – from the United States Government, scientific and professional bodies, and the international scientific community, have confirmed both that these climate change hazards are even more severe than previously believed and that they gravely damage us now.

As explained in a 2016 review of the scientific literature on impacts in the United States:

> Climate change is a significant threat to the health of the American people. The impacts of human-induced climate change are increasing nationwide. Rising greenhouse gas concentrations result in increases in temperature, changes in precipitation, increases in the frequency and intensity of some extreme weather events, and rising sea levels. These climate change impacts endanger our health by affecting our food and water sources, the air we breathe, the weather we experience, and our interactions with the built and natural environments. As the climate continues to change, the risks to human health continue to grow.[13]

In surveying the climate science less than two years ago, EPA explained that:

> [T]he most recent data before the agency indicate that climate change is an urgent and worsening global environmental crisis, and it will require countries to take steps to dramatically reduce greenhouse gas emissions. Climate change is already having a harmful impact on public health and the environment in this country (as well as globally), affecting the health, economic well-being, and quality of life of Americans across the country, and especially those in the most vulnerable communities.[14]

Other climate studies have reinforced and expanded upon these conclusions. For example, the Fourth National Climate Assessment published in November 2017 by the USGCRP – a federal program for which EPA is a constituent agency, along with NASA, NOAA, the National Science Foundation, and others – explained that "there is no convincing alternative explanation" for the observed warming of the climate over the last century other than human activities,[15] that "[c]hoices made today will determine the magnitude of climate change risks beyond the next few

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[12] EPA, Basis for Denial of Petitions to Reconsider and Petitions to Stay the CAA section 111(d) Emission Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units, at 1 (Jan. 11, 2017) ("EPA CPP Denial of Reconsideration"), https://archive.epa.gov/epa/sites/production/files/2017-01/documents/basis_for_denial_of_petitions_to_reconsider_and_petitions_to_stay_the_final_cpp.pdf.

[13] A. Crimmins, et al., The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment (U.S. Global Change Research Program 2016) http://dx.doi.org/10.7930/J0R49NQX.

[14] EPA CPP Denial of Reconsideration, at 5.

[15] USGCRP, Climate Science Special Report: Fourth National Climate Assessment, Vol. I, Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.), at 10 (2017) ("USGCRP 2017"), https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf.

decades,"[16] and that "[t]here is significant potential for humanity's effect on the planet to result in unanticipated surprises and a broad consensus that the further and faster the Earth system is pushed towards warming, the greater the risk of such surprises."[17]

The 2016 Draft Technical Assessment Report (Draft TAR), developed jointly by EPA, NHTSA, and the California Air Resources Board as part of the mid-term evaluation, surveyed more recent climate science studies that "confirm and strengthen the science that supported the 2009 Endangerment Finding."[18] The Draft TAR discussed[19] the key findings of major peer-reviewed studies of climate change issued after 2009 by the U.S. Global Change Research Program (USGCRP), the Intergovernmental Panel on Climate Change (IPCC), and the NRC. EPA and NHTSA acknowledged the scientific consensus, canvassed the massive documentation of current and ongoing harms occurring in the United States and elsewhere, acknowledged the large share of overall U.S. GHG emissions that come from cars, light trucks, and medium-duty passenger vehicles, Draft TAR at 1-20 to 1-21, and noted that the evidence pointed decisively toward the need to achieve substantial reductions in emissions quickly. Draft TAR at 1-16 to 1-17.

This month, the IPCC issued a new report, synthesizing the latest peer-reviewed climate scientific research, and issuing a stark warning that the time to act on the increasingly exigent circumstances is now. Based on more than 6,000 scientific references and including contributions from thousands of expert and government reviewers worldwide,[20] the Report considers the effects of global warming of 1.5°C above pre-industrial levels versus the previously-considered 2°C.[21] It concludes that pathways to limit warming to 1.5°C with little or no overshoot require "a rapid phase out of CO_2 emissions and deep emissions reductions in other GHGs and climate forcers."[22] In pathways consistent with a 1.5°C temperature increase, global net anthropogenic CO_2 emissions must decline *by about 45% from 2010 levels by 2030*, reaching net zero around 2050 (*high confidence*).[23]

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[16] USGCRP 2017 at 31.
[17] USGCRP 2017 at 32.
[18] EPA, California Air Resources Board, NHTSA, 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 at 1-14 (July 2016), https://nepis.epa.gov/Exe/ZyPDF.cgi/P100OXEO.PDF?Dockey=P100OXEO.PDF.
[19] *Id.* at 1-13 – 1-19.
[20] IPCC Press Release, *Summary for Policymakers of IPCC Special Report on Global Warming of 1.5 C approved by governments* (Oct. 8, 2018), https://www.ipcc.ch/news_and_events/pr_181008_P48_spm.shtml. The IPCC report was produced by 91 authors from 44 citizenships and 40 countries of residence (14 Coordinating Lead Authors, 60 Lead Authors, and 17 Review Editors) and 133 Contributing Authors, includes over 6,000 cited references, and considered a total of 42,001 expert and government review comments.
[21] IPCC (2018) at 3-6. The IPCC Special Report on Global Warming found that many of the most disastrous outcomes of climate change would occur between 1.5°C and 2°C, rather than between 2°C and 2.6°C as considered in the IPCC's Fifth Assessment Report. *See, e.g.*, IPCC (2018) 3-12, 3-13.
[22] *Id.* at Chapter 2, 2-28.
[23] *Id.* at Summary for Policymakers, SPM-15.

The October 2018 IPCC report explains the approximately 1°C temperature rise that has already occurred[24] has "resulted in profound alterations to human and natural systems, bringing increases in some types of extreme weather, droughts, floods, sea level rise and biodiversity loss, and causing unprecedented risks to vulnerable persons and populations"[25] The report elaborates on the specific nature of the threat at 1.5°C versus 2°C, indicating that the consequences of warming above 1.5°C are more devastating than previously understood, and highlighting the urgent importance of limiting warming below this threshold. The report demonstrates that a half degree Celsius of additional warming makes a vast difference in avoiding immense damage in food and water security, loss of coastal properties, extreme heat waves, droughts and flooding, migration, poverty, devastating health outcomes and lives lost. And it leaves no doubt that emission reductions *within the next decade* will make that difference.

As the agencies themselves have recognized, TAR at 1-17, a central feature of the climate change problem is that carbon dioxide, once emitted, remains in the atmosphere for decades or centuries. This means that each year of unabated emissions contributes to a growing, destabilizing stock of climate-altering gases, and that only a limited opportunity to abate emissions remains before the Earth faces long-lasting and effectively irremediable consequences. Yet in the NPRM, the agencies propose to lock in increased emissions from six model years' worth of vehicles—which will stay on the roads and combust fuel for decades more—during precisely this crucial next ten-year span of time.

The IPCC report provides overwhelming scientific evidence for the necessity of immediate, deep greenhouse gas reductions across all sectors to avoid devastating climate change-driven damages, and underscores the high costs of inaction or delays, *particularly* in the next decade. There is high confidence climate-related risks will be experienced at 1.5°C and "will increase with warming of 2°C and higher."[26] But, limiting global warming to 1.5°C can reduce this risk by – depending on the region – limiting the risk of increases in heavy precipitation events; substantially reducing the probability of drought and risks associated with water availability; lessening risks of local species losses and, consequently, risks of extinction; lessening projected frequency and magnitude of floods and droughts; reducing risks associated with forest fires, extreme weather events, and the spread of invasive species, pests, and diseases; providing strong benefits for terrestrial and wetland ecosystems and for the preservation of their essential services to humans; and limiting an expansion of desert and arid vegetation, which could cause "changes unparalleled in the last 10,000 years."[27]

The October 2018 IPCC report stresses the speed with which climate change is occurring and the urgency of taking decisive steps to curtail the emissions that will lock in further warming causing ever more severe harms: "If the current warming rate continues, the world would reach human–induced global warming of 1.5°C around 2040," and "[l]imiting warming to 1.5°C depends on GHG emissions *over the next decades*."[28] Existing national emissions-reduction pledges are

[24] IPCC (2018) at 1-45.
[25] IPCC (2018) at 1-7.
[26] IPCC (2018) at 3-7.
[27] IPCC (2018) at 3-7 to 3-9.
[28] IPCC (2018) at 1-45, 2-4 (emphasis added).

insufficient to limit global warming to 1.5°C, the IPCC report explains, "even if they are supplemented with very challenging increases in the scale and ambition of mitigation after 2030."[29] Thus, decisive mitigating action must occur *before* 2030. Limiting emissions to 1.5°C will require action at "a greater scale and pace of change" than ever before,[30] including "very ambitious, internationally cooperative policy environments that transform both supply and demand."[31] "[E]very year's delay before initiating emission reductions reduces by approximately two years the remaining time available to reduce emissions to zero."[32]

The transport sector "accounted for 28% of global final-energy demand and 23% of global energy-related CO2 emissions in 2014," with emissions in this sector growing faster than any other over the past half-century.[33] To stop these devastating consequences, the IPCC Report explains that there must be "major reductions in greenhouse gas emissions in all sectors,"[34] and that such reductions "will require substantial societal and technological transformations."[35] Relevant to the NPRM, the IPCC report specifically discusses the transportation sector, the largest U.S. source of GHG emissions:[36] In order to keep climate warming below 1.5°C, major reductions in emissions from the transport sector are necessary.[37]

In sum, the scientific record is now overwhelming that climate change poses grave harm to public health and welfare; that its hazards have become even more severe and urgent than previously understood; and that avoiding devastating harm requires substantial reductions in greenhouse gas emissions, including from the critically important transport sector, within the next decade.

B. The agencies' failure to consider the facts of climate change or to justify their decisions to weaken standards in the face of those facts is contrary to their respective statutory mandates and the record before them and is arbitrary and capricious.

Despite this overwhelming evidence concerning the hazards of climate change, and despite EPA's own repeated findings and affirmations of the severity of the threat and the urgency of the response, in the NPRM both agencies have utterly failed to take a serious look at the health and environmental risks posed by unabated emissions of greenhouse gases. The NPRM makes no

[29] IPCC (2018) at 2.4; *see also* IPCC (2018) at 2-90, 4-5.
[30] IPCC (2018) at 4-5.
[31] IPCC (2018) at 2-5.
[32] IPCC (2018) at 1-19; *see also id.* at 2-47 ("The later emissions peak and decline, the more CO2 will have accumulated in the atmosphere.")
[33] IPCC (2018) at 2-66.
[34] IPCC (2018) at 2-92.
[35] IPCC (2018) at 1-11.
[36] U.S. Energy Information Administration, *Power sector carbon dioxide emissions fall below transportation sector emissions*, Today in Energy (Jan. 19, 2017), www.eia.gov/todayinenergy/detail.php?id=29612; *see also* EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2016, at ES-12 (2018), https://www.epa.gov/sites/production/files/2018-01/documents/2018_complete_report.pdf (In 2016, passenger vehicle emissions contributed 42 percent of U.S. transportation-related carbon dioxide).
[37] IPCC (2018) at 2-66 to 2-67.

effort to relate the agencies' proposal to the known facts about climate change and its effects, even while the agencies propose regulatory changes that would vastly increase greenhouse gas emissions. It makes no effort whatever to reconcile the rolling back and flatlining of greenhouse gas emissions standards and fuel economy standards from MY 2021-2026 with the scientific consensus that major reductions in emissions over this very period are vital to avoid extreme climate harms from warming over 1.5 degrees.

This is not just bad policy; it is unlawful. Both agencies are bound by mandates to protect the public. Clean Air Act Section 202 requires EPA to prescribe standards to limit vehicular emissions that cause or contribute to air pollution endangering public health and welfare, 42 U.S.C. § 7521(a)(1). That mandate fulfills Congress's general direction in the CAA to "protect and enhance" air quality, 42 U.S.C. § 7401(a), and the Clean Air Act's mandate to mitigate the "mounting dangers to the public health or welfare" caused by air pollution from "motor vehicles," 42 U.S.C. § 7401(a)(2). NHTSA's mandate to adopt "maximum feasible" fuel economy standards reflecting "the need of the United States to conserve energy" requires the agency to consider the climate-altering impacts of consuming oil, 49 U.S.C. § 32902(a), (f). The agencies cannot satisfy these requirements without reconciling their proposal with the facts about the health and environmental hazards at issue, and without making a rational choice that gives effect to their protective mandates in light of the record facts. In the face of the severe and imminent threat of a destabilized climate, stripping away existing protections – with absolutely no explanation or discussion of alternative protective measures – is arbitrary and unlawful.[38]

Similarly, under basic requirements of administrative law as reflected in the APA, agencies must consider all "relevant factors," and "examine the relevant data and articulate a satisfactory explanation for its action."[39] Moreover, reasoned decision-making requires that, in developing a proposal, an agency must have "weighed competing views, selected a [solution] with adequate support in the record, and intelligibly explained the reasons for making that choice."[40] It must demonstrate a "rational connection" between the record facts and its policy choice.[41]

Fossil fuel-driven climate change is not an ancillary concern here; it is necessarily a central topic of this rulemaking. The reasonableness of a given policy response (such as strengthening or weakening standards) necessarily depends upon the severity, imminence and remediability of the hazard. The agencies cannot relegate climate change to a few stray passages, unconnected to the indisputable conclusion that their proposal doubles down on the very harms climate change causes. Instead, they must confront the scientific record – including a record EPA itself acknowledged in the draft TAR – and EPA's own previous conclusion that climate change is not just some vague problem, but "the United States' most important and urgent environmental challenge,"[42] on which delaying action comes at a huge cost. If the agencies – by weakening standards already on the books – mean to reverse their prior acknowledgments of the problem's seriousness and urgency, they have violated basic requirements because their notice does not

[38] *See State Farm*, 463 U.S. at 43 (agency acts arbitrarily where it entirely fails to consider an important aspect of the problem).
[39] *Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 42-43 (1983).
[40] *FERC v. Elec. Power Supply Ass'n*, 136 S. Ct. 760, 784 (2016).
[41] *State Farm*, 463 U.S. at 43.
[42] EPA CPP Denial of Reconsideration, at 1 (Jan. 2017).

give notice of such an intent, 42 U.S.C. 7607(d)(3); 5 U.S.C. 553(b), (c), nor have the agencies provided any basis for questioning the scientific record or departing from the agencies' prior findings. If the agencies believe that scientific findings – such as those reflected in the October 2018 IPCC report by the world's leading climate scientists that a temperature increase of over 1.5°C would mean severe and intolerable impacts for human society – are wrong, they must set forth the basis for that conclusion.

Instead, NHTSA and EPA do not even attempt to explain how rolling back the existing standards could be squared with the existing record and the additional evidence discussed herein. Rather, the agencies have tried to bury the entire issue by not directly challenging the science, urgency and gravity of climate change but nonetheless proposing standards that necessarily rest upon implicit judgments that climate change is neither urgent nor grave. Since the agencies provide no basis to reject the overwhelming scientific consensus, the policy changes the agencies propose are completely arbitrary, as well as in direct conflict with their statutory obligations to protect the public.

While the NPRM makes no effort to justify the proposed rollbacks in light of the known climate hazards, NHTSA's DEIS appears to adopt the view that greenhouse gas pollution will inevitably continue unabated, and portrays increases in temperature, sea level rise, extreme weather events, ocean acidification and other ancillary harms by 2100 that would be intolerable to human life but that are consequences that it is futile to make any effort to prevent.[43] But the agencies do not appear to rely on that apocalyptic view as a ground for their proposed standards, instead simply brushing those concerns aside; and indeed, the Clean Air Act does not give EPA authority to throw up its hands and declare protection of the public health and welfare futile. Moreover, there is no factual basis on which the agencies could conclude that unabated greenhouse gas emissions increases are inevitable, or that that emissions are unaffected by policy decisions like those facing the agencies here.

In its meager discussions of climate change, the NPRM appears to take the position that the emissions reductions that will be achieved under the existing standards are not sufficiently large to cause an appreciable reduction in climate harms to be worth the undertaking.[44] If this is the theory they rely on to justify weakening existing protections against climate-destabilizing pollution, their reasoning is unlawful, arbitrary and capricious. As noted, the transportation

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[43] NHTSA, Draft Environmental Impact Statement, Docket No. NHTSA-2017-0069 (July 2018), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld_cafe_my2021-26_deis_0.pdf , at S-18 - S-22 (discussing an array of impacts of climate change without acknowledging the need for mitigation).

[44] In discussing "Climate Change Impacts from Preferred Alternative," the agencies state that:

> The estimated effects of this proposal in terms of fuel savings and CO_2 emissions, again perhaps somewhat counter-intuitively, is [sic] relatively small as compared to the 2012 final rule. NHTSA's Environmental Impact Statement performed for this rulemaking shows that the preferred alternative would result in 3/1,000ths of a degree Celsius increase in global average temperatures by 2100, relative to the standards finalized in 2012. On a net CO_2 basis, the results are similarly minimal.

The Proposal then points to a graph comparing "the estimated atmospheric CO_2 concentration (789.76 ppm) in 2100 under he proposed standards to the estimated level (789.11 ppm) under the standards set forth in 2012 — or an 8/100ths of a percentage increase." 83 Fed. Reg. 42986, 42996-42997.

sector is the largest source of emissions in the United States (and light-duty vehicles are the largest component of the transit sector); the emissions at stake are not immaterial but enormous.[45] While any effort to mitigate climate change will require reductions from individual source categories that, standing alone, represent fractions of the problem, climate change necessarily cannot be controlled without reducing emissions from vehicles, their largest source. Indeed, EPA itself so concluded in its 2009 endangerment finding under § 202(a)(1):

> [N]o single greenhouse gas source category dominates on the global scale, and many (if not all) individual greenhouse gas source categories could appear small in comparison to the total, when, in fact, they could be very important contributors in terms of both absolute emissions or in comparison to other source categories, globally or within the United States. If the United States and the rest of the world are to combat the risks associated with global climate change, contributors must do their part even if their contributions to the global problem, measured in terms of percentage, are smaller than typically encountered when tackling solely regional or local environmental issues. The commenters' approach, if used globally, would effectively lead to a tragedy of the commons, whereby no country or source category would be accountable for contributing to the global problem of climate change, and nobody would take action as the problem persists and worsens.

74 Fed. Reg. 66543 (Dec. 15, 2009). EPA has not offered—and could not offer—any reasoned explanation for abandoning these findings or this approach.

Furthermore, applied generally, such fatalistic reasoning could preclude all regulation of emissions of carbon dioxide and other greenhouse gases – indeed would often foreclose efforts to control emissions of any pollutant that comes from many different sources – contrary to Congress' clear mandate to regulate emissions of pollutants that cause or contribute to emissions which endanger public health and welfare. *See, e.g., Mass. v. EPA*, 549 U.S. at 524. Such a wholesale abdication of statutory responsibility is entirely unlawful. *Cf.* U.S. Const. Art. II, s.3, cl. 5.[46] Because all of the individual steps needed to address the problem would have relatively small effects viewed in isolation, the agencies' reasoning amounts to the assertion that it is not worth doing *anything* to address the most urgent problem facing humanity. To the extent the agencies conclude that the existing standards are not a sufficient step towards addressing that problem, the solution is to adopt more stringent standards, not to eviscerate those already in place.

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[45] *See Massachusetts*, 549 U.S. at 524 ("Reducing domestic automobile emissions is hardly a tentative step. Even leaving aside the other greenhouse gases, the United States transportation sector emits an enormous quantity of carbon dioxide into the atmosphere."); *Coalition for Responsible Regulation*, 684 F.3d at 128 (approving EPA's finding that MY2012-2016 light duty vehicle GHG standards "result in meaningful mitigation of greenhouse gas emissions").

[46] EPA's position here is worse that the agency's position that was rejected by the Court in *Massachusetts*. At least there, the agency claimed that the problem was being addressed through other means it deemed more effective, 549 U.S. at 533-34. Here, EPA is not pointing to something else that would be more effective; the agency is just throwing up its hands and saying that even an incremental step to addressing the problem is too hard. That fatalism contravenes Congressional intent (see 42 U.S.C. §§ 7401-7402); the agency needs to keep trying, even in the face of challenges, until Congress tells it to stand down or comes up with a better path forward.

The agencies' proposed rollback also constitutes an unexplained, unjustified reversal of their own recently reaffirmed positions on the question of the need for reducing greenhouse gas emissions immediately. Just two years ago, EPA and NHTSA expressly acknowledged that the nature of the climate change hazard urgently requires timely reductions in emissions. As the agencies stated in the draft TAR:

> These [climate science] assessments and observed changes raise concerns that reducing emissions of GHGs across the globe is necessary in order to avoid the worst impacts of climate change, and underscore the urgency of reducing emissions now. The NRC Committee on America's Climate Choices listed a number of reasons "why it is imprudent to delay actions that at least begin the process of substantially reducing emissions."

Draft TAR at 1-17 (citing National Research Council, America's Climate Choices (2011)). Yet, in the NPRM – without having provided the slightest explanation or evidence to support a contrary view – the agencies are rushing in the opposite direction, weakening standards already on the books and thereby causing the release of an enormous additional quantity of greenhouse gas emissions. This unexplained, unjustified change in position is unlawful.[47] In essentially ignoring the principal health and environmental risks at issue, and in proposing a weakening of standards even as the science signals the urgent need for pressing action, both agencies are proposing an arbitrary and unexplained about-face.

II. The agencies' proposal violates the Administrative Procedure Act.

The proposal flouts the agencies' administrative law obligations to explain the record basis for the proposed change in policy. It fails to show that the proposed new policy is itself supported with "rational connection[s] between the facts found and the choice made,"[48] omitting the required "reasoned analysis for the change beyond that which may be required when an agency does not act in the first instance."[49]

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[47] See *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117 (2016); *Fed. Commc'ns Comm'n v. Fox Television Stations, Inc*, 556 U.S. 502 (2009); *Motor Vehicle Mfrs. Ass'n of the United States v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983); *Fox Television Stations*, 556 U.S. at 515; *id*. at 537 (Kennedy, J., concurring).

[48] *See State Farm*, 463 U.S. at 43 (agency decision must be "based on a consideration of the relevant factors" and agency cannot have "relied on factors which Congress has not intended it to consider") (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962)); *Pub. Citizen v. Fed. Motor Carrier Safety Admin.*, 374 F.3d 1209 (D.C. Cir. 2004); 42 U.S.C. 7607(d)(9). An agency acts arbitrarily when it takes action that is not supported by substantial evidence. *See, e.g., Cablevision Systems Corp. v. FCC*, 597 F.3d 1306, 1310 (D.C. Cir. 2010); *Fl. Gas Trans. Co. v. FERC*, 604 F.3d 636, 639 (D.C. Cir. 2010); *Ass'n of Data Processing Serv. Orgs. v. Bd. of Governors*, 745 F.2d 677, 683-84 (D.C. Cir. 1984).

[49] *Motor Vehicle Mfrs. Assn. of United States, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962)). *See also AMB Onsite Services-West v. NLRB*, 849 F.3d 1137, 1146 (D.C. Cir. 2017) (agency "cannot 'turn[] its back on its own precedent and policy without reasoned explanation'") (quoting *Dupuy v. NLRB*, 806 F.3d 556 563 (D.C. Cir. 2015)); *Pub. Citizen*, 733 F.2d at 98; *Verizon v FCC*, 740 F.3d 623, 636 (D.C. Cir. 2014).

Reasoned decision-making requires that the agencies "weighed competing views, selected a [solution] with adequate support in the record, and intelligibly explained the reasons for making that choice."[50] To that end, the agencies must examine the relevant information and show that the data on which their proposal relies are accurate and defensible.[51] Agencies must use "the best information available" in reaching their conclusions, and cannot lawfully rely on outdated information as circumstances change.[52] Agencies also act arbitrarily when they take action that is not supported by substantial evidence when considering the record as a whole.[53] Given the in-depth, multi-year analysis that went into the development and the mid-term review of these standards, including the joint Draft Technical Assessment Report, EPA and NHTSA cannot make a rational or lawful decision whether to retain, strengthen, or rollback the existing Clean Car Standards without engaging with this extensive record. As detailed below and in separate technical comments, the proposal fails to do this: its conclusions are instead based on deeply flawed analysis and fail to grapple with the extensive record support and prior agency conclusions endorsing the existing standards.

Moreover, reasoned decision-making in the context of a change in policy or legal interpretation requires that an agency demonstrate awareness of, and fully explain any departure from, the "facts and circumstances that underlay or were engendered by a prior policy."[54] "An agency cannot simply disregard contrary or inconvenient factual determinations that it made in the past."[55] Where an agency is operating against a factual record that contradicts its new policy, reasoned decision-making also requires that the agency "provide a more detailed justification than what would suffice for a new policy created on a blank slate."[56] Furthermore an agency must address "serious reliance interests" grounded on the prior policy—such as, in this instance, state plans relying on the existing federal and state standards.[57]

As detailed in the following pages and in extensive separate technical comments, the proposed rule falls far short of those standards, generally failing to provide any explanation of the 180-degree reversal on prior findings. The agencies unlawfully fail to grapple with the factual record

[50] *FERC v. Elec. Power Supply Ass'n*, 136 S. Ct. 760, 784 (2016).
[51] *See Dist. Hosp. Partners v. Burwell*, 786 F.3d 46, 57 (D.C. Cir. 2015).
[52] *Flyers Rights Education Fund v. FAA*, 864 F. 3d 738, 745 (D.C. Cir. 2017); *cf. Catawba County v. EPA*, 571 F.3d 20, 45 (D.C. Cir. 2009).
[53] *E.g.*, *Cablevision Systems Corp. v. FCC*, 597 F.3d 1306, 1310 (D.C. Cir. 2010); *Fl. Gas Trans. Co. v. FERC*, 604 F.3d 636, 639 (D.C. Cir. 2010); *Ass'n of Data Processing Serv. Orgs. v. Bd. of Governors*, 745 F.2d 677, 683-84 (D.C. Cir. 1984).
[54] *Fox*, 556 U.S. at 516; *see also Pub. Citizen*, 733 F.2d at 98 (agency must "'cogently explain'" basis for suspending rule) (quoting *State Farm*, 463 U.S. at 48); *Organized Village of Kake v. USDA*, 795 F.3d 956, 968-969 (9th Cir. 2015); *AMB Onsite Services-West v. NLRB*, 849 F.3d 1137, 1146 (D.C. Cir. 2017).
[55] *Fox*, 566 U.S. at 537 (Kennedy, J., concurring).
[56] *Fox*, 556 U.S. at 516.
[57] *E.g.*, *Encino Motorcars v. Navarro*, 136 S. Ct. 2117, 2126 (2016) (quoting *Fox*, 556 U.S. at 515); *see also Smiley v. Citibank South Dakota*, 517 U.S. 735, 742 (1996); *U.S. Telecom Ass'n v. FCC*, 825 F.3d 674 (D.C. Cir. 2016).

and prior conclusions that uphold the current, existing standards. The "fail[ure] to consider [these] important aspect[s] of the problem" renders the proposal arbitrary and capricious.[58]

III. EPA violates the Clean Air Act and the proposal is arbitrary and capricious.

A. EPA has failed to exercise its mandatory legal duty to apply its own expertise and judgment.

In this proceeding, EPA has unlawfully delegated its technical decision-making responsibilities under Clean Air Act Section 202 to NHTSA. As a result, the proposal and supporting materials omit consideration of EPA's expert input and analysis. Any finalization of the proposal would violate EPA's duties under the Clean Air Act and be arbitrary and capricious.

1. EPA may not sub-delegate its Clean Air Act obligations to NHTSA.

EPA has an independent duty under the Clean Air Act to establish greenhouse gas emission standards for light duty vehicles. The statute makes clear that the EPA Administrator "*shall*" prescribe such standards, where "in his judgment" such vehicle emissions endanger health and welfare.[59] Such standards "shall take effect after such period as *the Administrator* finds necessary to permit the development and application of the requisite technology."[60] As the agency acknowledges in the present rulemaking, this language imposes upon EPA a non-discretionary duty to act, which is "'wholly independent of DOT's mandate to promote energy efficiency.'"[61] "Consequently, EPA has no discretion to decline to issue greenhouse standards under section 202(a) or to defer issuing such standards due to NHTSA's regulatory authority to establish fuel economy standards."[62]

A corollary to the principle that EPA has a wholly independent obligation is that EPA is forbidden to delegate technical decision-making to NHTSA. This prohibition flows from the statutory text of section 202, as well as general limits on sub-delegation. It is well established that "federal agency officials . . . may not sub-delegate to outside entities—private or sovereign—absent affirmative evidence of authority to do so."[63] This prohibition on sub-delegation to outside entities serves to ensure democratic accountability and prevent "policy drift."[64]

The prohibition on sub-delegation applies to sub-delegation across federal agencies, no less than to sub-delegation to state or private entities. In *G.H. Daniels III & Assocs., Inc. v. Perez*, for example, the court invalidated the Department of Homeland Security's attempt to sub-delegate authority over the H-2B visa program to the Department of Labor.[65] The court explained: "DOL

[58] *State Farm*, 463 U.S. at 43.
[59] 42 U.S.C. § 7521(a)(1) (emphasis added).
[60] *Id.* (emphasis added).
[61] 83 Fed. Reg. at 43,227 (citing *Massachusetts*, 549 U.S. at 532).
[62] *Id.*
[63] *U.S. Telecomm Ass'n v. FCC*, 359 F.3d 554, 566 (D.C. Cir. 2004).
[64] *Id.* at 565–66.
[65] 626 F. App'x 205 (10th Cir. 2015).

is not a subordinate agency of DHS. And there is no statute authorizing the sub-delegation—indeed Congress gave DHS only the authority to consult with other government agencies. Absent Congressional authorization, DHS's sub-delegation in this case is improper."[66] The D.C. Circuit has previously rejected EPA's derogation of a statutory duty based on a Department of Transportation decision—even in an instance where the Clean Air Act explicitly articulated a consultative role for DOT.[67]

This prohibition applies with full force here, where EPA has separate and different statutory authority, obligations, and mission than NHTSA. "EPA has been charged with protecting the public's 'health' and 'welfare,' a statutory obligation wholly independent of [the Department of Transportation's] mandate to promote energy efficiency."[68] Indeed, although NHTSA is obligated by statute to account for the EPA standards in determining what standards are maximum feasible, EPA should not look to the CAFE standards—which are constrained by NHTSA's mandate to ignore certain paths to reduce emissions[69]—when setting its own emission standards.[70] Certain Clean Air Act provisions explicitly direct the Department of Transportation to issue regulations, underscoring that Congress knew how to assign rulemaking responsibility to DOT when it so chose.[71] Any delegation of EPA's independent mandate to NHTSA, a wholly separate agency with distinct aims and expertise, unlawfully abdicates EPA's responsibilities under the Clean Air Act.

EPA's duty encompasses two separate tasks: (1) EPA must exercise its own technical and scientific expertise in developing a factual and technical basis for determining the appropriate emission standards under Section 202(a); and (2) based on this factual and technical basis, EPA must exercise its own judgment in determining the appropriate emissions standard within the legal framework established by Section 202(a). In carrying out these tasks, EPA may turn to outside agencies and other entities for advice, fact-finding, and policy recommendations, provided EPA exercises independent judgment in making any final decisions.[72] But agencies impermissibly delegate their authority when they uncritically accept another entity's work product or rubber stamp analyses or decisions of outside entities under the guise of seeking

[66] *Id.* at 212.
[67] *NRDC v. Reilly*, 983 F.2d 259 (D.C. Cir. 1993)
[68] *Mass. v. EPA*, 549 U.S. at 532. *See also Coal. for Responsible Regulation*, 684 F.3d at 127 (recognizing that "just as EPA lacks authority to refuse to regulate on the grounds of NHTSA's regulatory authority, EPA cannot defer regulation on that basis"; "[EPA is not] required to treat NHTSA's . . . regulations as establishing the baseline for the [Section 202(a) standards]"; and further that "the [Section 202(a) standards] provid[e] benefits above and beyond those resulting from NHTSA's fuel economy standards").
[69] *See* 49 U.S.C. § 32902(h).
[70] *Coal. for Responsible Regulation*, 684 F. 3d at 127 (comparing relevant provisions of EPCA and CAA).
[71] *See, e.g.*, 42 U.S.C. § 7572(a). "Where Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion." *Russello v. United States*, 464 U.S. 16, 23 (1983) (quotations and alterations omitted).
[72] *Id.* at 120.

advice or considering factual materials developed by other entities.[73] Thus, an agency may not "blindly adopt . . . conclusions" in another agency's analysis, and reliance on a facially-flawed analysis of another entity—precisely what has occurred here—is arbitrary and unlawful.[74]

More generally, courts give deference to an agency's resolution of complex technical and scientific matters that come before the agency. This deference is premised on two underlying conditions: (1) the administrative agency has technical and scientific expertise in the area; and (2) the agency exercised its expertise in acting under authority delegated by Congress. As laid out below, EPA has not exercised its expertise here and accordingly judicial deference is not appropriate.[75]

2. EPA must exercise its own extensive technical and scientific expertise in developing a factual and technical basis for determining the appropriate emission standards under Section 202(a).

EPA must exercise its own independent engineering and scientific expertise—which surpasses any comparable NHTSA capabilities in relevant areas—in carrying out its mandatory duty to set vehicle greenhouse gas emission standards under the Clean Air Act. EPA may not defer to or *de facto* delegate the exercise of its technical expertise to NHTSA or any other agency. Congress has repeatedly emphasized the importance of developing EPA's independent technical expertise with regard to mobile source emissions, as it alone is charged with and equipped to set appropriately protective standards as required under the Clean Air Act.[76] EPA is the agency charged with prescribing standards for air pollution that endangers public health or welfare, "after such period as *the Administrator* finds necessary to permit the development and application of the requisite technology".[77] EPA must exercise its technical and scientific expertise to satisfy that obligation. Anything less is an unlawful abdication of EPA's statutory responsibilities.

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[73] *Ergon-West Virginia v. EPA*, 896 F.3d 600, 610, 613 (4th Cir. 2018); *U.S. Telecomm v. FCC*, 359 F.3d at 568. *Cf. Friends of the Earth v. FERC*, 720 F.2d 93, 99 (D.C. Cir. 1983); *Trinity Episcopal Church v. Romney*, 523 F.2d 88, 94 (2d Cir. 1975).

[74] *City of Tacoma v. FERC*, 460 F. 3d 53, 75 (D.C. Cir. 2006).

[75] *Ethyl Corp. v. EPA*, 541 F.2d 1, 36 (D.C. Cir. 1976) (en banc), *cert. denied*, 426 U.S. 941 (1976) (courts defer to the agency's expertise and do not "supplant the agency's expert decision-maker . . . the court must give due deference to the agency's ability to rely on its own developed expertise").

[76] *See, e.g.*, H. Rep. 89-899 (1965) at 15 (explaining that standards should be set administratively because of "the necessarily highly technical character of any standards . . . and the fact that current and future research and experience can be expected to provide the basis for improving and refining pollution control programs and standards"); H. Rep. 90-728 (Oct. 1967) (providing funding for fuel and vehicle research, and stating that "[i]ncreased research activities are essential to provide an improved technological basis for meaningful progress in air pollution control"); S. Rep. 91-1196 (Sep. 17, 1970) at 3 ("Extensive research must be carried out to accelerate knowledge of pollution effects and control methods."); S. Rep. 94-717 (Mar. 29, 1975) at 64-65 ("It was the intent of the 1970 [Clean Air Act] Amendments to produce two independent sources of technical advice for the Congress to assist in its decisions. Those two sources were the technical staff of the Environmental Protection Agency and the National Academy of Sciences.").

[77] 42 U.S.C. §§ 7521(a)(1), (2) (emphasis added).

EPA has a long history and extensive experience in developing a strong technical and scientific basis for setting emissions standards under section 202(a), led by its Office of Transportation and Air Quality and its world-leading vehicles lab in Ann Arbor, Michigan. This history includes extensive technical and engineering work conducted directly by EPA, as well as detailed investigations conducted by national labs, academic researchers, industry experts and contractors under EPA's oversight.[78] EPA employs experienced automotive powertrain engineers, many with PhDs and industry experience, and has published innumerable Society of Automotive Engineers papers on emission reduction technologies.[79] EPA operates a leading vehicle pollution test laboratory, has performed over 10,000 fuel economy tests, and has benchmarked the world's cleanest vehicles. NHTSA does not have any sort of comparable facility. EPCA specifically puts EPA in charge of certain vehicle testing and establishing underlying procedures—further evidence that Congress understood EPA's capacity in this area to be superior to NHTSA's.[80]

A review of all of the peer-reviewed publications relevant to the Draft Technical Assessment Report and mid-term evaluation that were performed, published, or contracted by EPA or NHTSA demonstrates that EPA was responsible for roughly five times more peer-reviewed publications than NHTSA.[81] For example, reports involving EPA staff included: modeling and validation of several component technologies relevant to reducing GHG emissions from vehicles; examination of opportunities that can reduce emissions available with improvements to existing engines; simulations of real world factors influencing GHG vehicle emissions using EPA's ALPHA model; and other analyses that directly bolster EPA's technical understanding relevant to this rulemaking.[82] NHTSA's body of work for the Draft Technical Assessment Report and mid-term evaluation, by comparison, did not demonstrate the same level of examination of key technical considerations, or the same breadth and depth of relevant analysis.[83] A discussion of EPA and NHTSA analytic work contained in the Draft Technical Assessment Report shows the same pattern.[84]

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[78] See Bill Charmley, EPA National Vehicle Fuel Emissions Laboratory, Presentation to the National Academies of Science, Committee on the Assessment of Technologies for Improving Fuel Economy of Light-Duty Vehicles-Phase 3, at 4-9 (July 16, 2018), Docket ID EPA-HQ-OAR-2018-0283-0771 https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0771.

[79] *Id.* at 20 (July 16, 2018).

[80] 49 U.S.C. § 32904.

[81] *See* Appendix D of comments submitted by Environmental Defense Fund, the Center for Energy Efficiency and Renewable Technologies and the Clean Power Campaign on the Environmental Protection Agency's Request for Comment on Reconsideration of the Final Determination of the Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles (Oct. 5, 2017), Docket No. EPA-HQ-OAR-2015-0827-9203, available at https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0827-9203.

[82] *Id.*

[83] *Id.*

[84] *Compare* Draft Technical Assistance Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025 (July 27, 2016) [hereinafter "Draft TAR"], Chapter 5 "Technology Costs, Effectiveness, and Lead-Time Assessment" pp. 5-1 to 5-413 (EPA analysis) *with id.* pp. 5-415 to 543 (NHTSA analysis).

EPA comprehensively and diligently exercised its expertise in this manner in the original rulemaking and in the development of the Draft Technical Assessment Report and 2017 Final Determination. EPA staff performed the technical analyses that led to the existing standards and which informed the Draft Technical Assessment Report.[85] EPA benchmarked more than twenty of the most advanced vehicles, engines, and transmissions as part of that analysis.[86] These data provided inputs and validation for EPA's vehicle simulation model, the Advanced Light-Duty Powertrain and Hybrid Analysis model (ALPHA).[87] EPA worked with the engineering firm FEV to conduct state-of-the-art cost teardown studies that informed the agency's cost analysis.[88] In assessing issues relating to consumer impacts and technology acceptance, EPA initiated a broad research agenda, including a project exploring automotive reviews of newly-introduced technologies and a comprehensive review of the academic literature on consumer willingness to pay for vehicle attributes; EPA also examined the challenges associated with developing a consumer choice model capable of making rational and reasonable quantitative predictions.[89] EPA also developed more sophisticated modeling tools, both ALPHA for full-vehicle simulation, and improvements to its Optimization Model for reducing Emissions of Greenhouse gases from Automobiles (OMEGA).[90]

An independent GAO report examined EPA and NHTSA's collaboration in the course of issuing MY2012 to 2016 standards and similarly found greater expertise and contributions from EPA as compared to NHTSA:

> The difference in the extent of new research that NHTSA and EPA conducted for this rulemaking likely results from differences in resources available to the agencies in the recent past. As we mentioned previously, from fiscal years 1996 to 2001—about 6 years—NHTSA was prohibited from using appropriated funds to change CAFE standards. According to NHTSA, the agency lost staff with expertise in this area as a result and did not begin to hire additional automotive engineers until summer 2009. By comparison, EPA has been able to develop and maintain automotive engineering expertise. This expertise has proved helpful in setting GHG emissions standards for automobiles. For example, EPA has been home to the National Vehicle and Fuel Emissions Laboratory since 1971, and in the early 1990s, it expanded its activities to conduct research and development of technologies used to reduce emissions, which are often marketed and licensed to the automobile industry. Although NHTSA brings safety expertise to CAFE standards, which has been a concern with raising CAFE standards in the past, the agency's primary mission and expertise is in vehicle safety, not vehicle power train design and the impact of vehicle emissions on the environment. Thus

[85] *See generally* Draft TAR at 2-2 to 2-3.
[86] *Id.* at 2-2.
[87] *Id.* at 2-3.
[88] *Id.*
[89] *Id.*
[90] *Id.*

NHTSA cannot be expected to have the same level of in-house expertise related to vehicle power train design and environmental issues as EPA.[91]

This independent report similarly documented and underscored EPA's greater contributions in the context of the development of the Phase 2, MY 2017-2025 standards now at issue—noting that, "EPA contributed research in time to provide analysis for the proposed rule. It also contributed funding to a greater degree [as compared to NHTSA]. . . . EPA conducted or contracted for three peer-reviewed studies to support the rulemaking and the modeling efforts," research that "provided the analysis of both CAFE and GHG standards with updated information and data."[92] In contrast, "[a]lthough NHTSA contributed research to the rulemaking process, it faced challenges in doing so."[93]

3. In past proceedings relevant to this rulemaking, EPA properly exercised its independent judgment and expertise.

Earlier proceedings relevant to these standards exemplify EPA's proper exercise of its expertise and judgment, while still coordinating and interfacing with NHTSA. As these past instances demonstrate, EPA's proper exercise of its independent judgment and technical and scientific expertise must not only encompass and rationally consider all of the substantial existing record, and all of EPA's past analysis and studies, but also all of the tools used in that analysis.

The Draft Technical Assessment Report and 2017 Final Determination relied extensively on use of sophisticated EPA analytic tools and methodologies, consistent with recommendations of the National Academy of Sciences.[94] EPA used its peer reviewed vehicle simulation model ALPHA to simulate the effectiveness of individual technologies and technologies in combination.[95] EPA considered the agency's vehicle teardown studies to estimate technology cost.[96] EPA also used its peer-reviewed OMEGA model to make reasonable estimates of how manufacturers could add technologies to vehicles in order to meet a fleet-wide GHG standard.[97]

The Draft TAR indicated that even though the agencies worked collaboratively "in an array of areas" during the development of the report, the "EPA GHG and NHTSA CAFE assessments were done independently."[98] The Draft TAR further noted that, "independent and parallel analysis can provide complementary results."[99]

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[91] Government Accounting Office, Vehicle Fuel Economy: NHTSA's and EPA's Partnership for Setting Fuel Economy and Greenhouse Gas Emission Standards Improved Analysis and Should be Maintained, GAO 10-336, at 23-24 (2010) (emphasis added), http://www.gao.gov/assets/310/301194.pdf.
[92] *Id.* at 23.
[93] *Id.* at 21.
[94] National Research Council, Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles (2015), The National Academies Press, https://doi.org/10.17226/21744.
[95] *See, e.g.*, Draft TAR at 5-246.
[96] *Id.* at 2-3.
[97] *Id.* at 12-2.
[98] *Id.* at ES-6.
[99] *Id.*

Even earlier, this approach was also the case for the Phase 1 and Phase 2 GHG emission and fuel economy rulemakings. Each agency utilized different modeling techniques in their respective analysis, while coordinating and endeavoring to align inputs.[100] In particular, these rulemakings involved the development and application of EPA and NHTSA's separate and independent models for their respective standards:

- EPA developed its OMEGA model as part of EPA's Phase 1 (MY2012-2016) GHG rulemaking and used the model to develop, test and justify EPA's choice of standards finalized in that rule.[101] EPA continued to refine and improve the OMEGA model as it developed the Phase 2 (MY2017-2025) GHG rulemaking and conducted the Midterm Evaluation of the MY2022-2025 standards.[102] EPA's OMEGA model estimates costs for automobile manufacturers to achieve variable fleet-wide GHG emission standards; its inputs are derived via EPA's ALPHA model, a full vehicle simulation tool that estimates GHG emissions for various vehicle types and technologies.[103]

- NHTSA developed its Compliance and Effects Model (commonly referred to as the CAFE or Volpe model) to help NHTSA in carrying out its statutory obligations under EPCA. NHTSA indicated in the MY2012-2016 CAFE rulemaking that the Volpe model was "developed specifically to support NHTSA's CAFE rulemakings" and incorporates a number of features and "engineering constraints" that are not appropriate for use by EPA in setting GHG standards.[104] NHTSA's Volpe model estimates the cost of achieving variable fuel economy standards; NHTSA's Autonomie model is the vehicle simulation tool that NHTSA has used in conjunction with the Volpe model.[105]

4. EPA has unlawfully failed to exercise its expertise and judgment in the current rulemaking.

In this rulemaking, EPA has unlawfully delegated to NHTSA its duty to exercise its own expertise and judgment.[106] If the proposed GHG standards are finalized, the proffered analysis and justifications would not merit judicial deference because they would not reflect EPA's expert

[100] Phase 1 Light-Duty Vehicle GHG and CAFE Standards Final Rule, 75 Fed. Reg. 25,324, 25,329 (May 7, 2010).
[101] 75 Fed. Reg. at 25,446; *see also* EPA, Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases.
[102] EPA, Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases.
[103] EPA, Light-duty Models for Greenhouse Gas (GHG) Emissions, https://www.epa.gov/regulations-emissions-vehicles-and-engines/light-duty-models-greenhouse-gas-ghg-emissions.
[104] 75 Fed. Reg. at 25,597, 25,572-81.
[105] *See, e.g.*, 83 Fed. Reg. at 43,000.
[106] *U.S. Telecomm*, 359 F.3d at 566.

judgment and input.[107] Before proceeding with this rulemaking, EPA must perform its own analysis and issue a reproposal to allow for public comment.

EPA explicitly disclaimed its involvement in the development of the technical record that underlies the rule and analyzes the factors explored and considered in the preamble's discussion—including cost, safety, and technological feasibility. During the course of inter-agency review, EPA recommended a specific disclaimer for the Preliminary Regulatory Impact Assessment, making clear that EPA was not involved in the PRIA's development or any technical analysis performed for the proposal:

> This Preliminary RIA is a work product of DOT and NHTSA and was not authored by EPA. The Preliminary RIA is based on the independent technical assessment from DOT-NHTSA, and the document should reflect appropriately who has authored the Preliminary RIA. EPA's name and logo should be removed from the DOT-NHTSA Preliminary Regulatory Impact Analysis document. EPA is relying upon the technical analysis performed by DOT-NHTSA for the Notice of Proposed Rulemaking.[108]

EPA's clear statement that the agency "is relying upon the technical analysis performed by DOT-NHTSA" for the proceeding—and the agency's manifest reliance on the DOT analysis in the published proposal—cannot be reconciled with the agency's duty to exercise its own technical and scientific expertise as well as base its decision-making on this record.[109] EPA's delegation of analytical authority is all the more concerning in light of EPA's superior expertise, as discussed above,[110] which appears to have been ignored.[111]

Similarly, during the interagency review process EPA raised concerns that the Department of Transportation drafted the NPRM preamble discussions laying out EPA's purported legal and technical reasoning regarding the proposed GHG standards:

> DOT has drafted preamble language in which DOT repeatedly speaks for the EPA Administrator . . . DOT speaks for the EPA Administrator's views on the appropriate level of the EPA standard, EPA's interpretation of the Clean Air Act, EPA's views on what factors are relevant in determining EPA's program design and the EPA standards[112]

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[107] *Ethyl Corp. v. EPA*, 541 F.2d 1, 36 (D.C. Cir. 1976) (en banc), *cert. denied*, 426 U.S. 941 (1976) (courts defer to the agency's expertise and do not "supplant the agency's expert decision-maker . . . the court must give due deference to the agency's ability to rely on its own developed expertise").
[108] Docket Entry: E.O. 12866 Review Materials for The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks NPRM, Docket ID EPA-HQ-OAR-2018-0283-0453 (hereinafter "EO12866 Review Materials"), File: "EO 12866 Review: EPA Comments on the Preliminary RIA sent to OMB, July 12, 2018" at 3 (July 12, 2018) ("EPA July 12, 2018 Comments"), https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0453.
[109] *U.S. Telecomm*, 359 F.3d at 566; *see also Deutsch v. U.S. Atomic Energy Commission*, 401 F.2d 404, 407 (D.C. Cir. 1968).
[110] See Section III(A)(2), (3), *supra*.
[111] *State Farm*, 463 U.S. at 43 (underscoring that "the agency must examine the relevant data").
[112] E.O. 12866 Review Materials, File: "Email 5- Email from William Charmley to Chandana Achanta," at 93 -- Memo: "EPA review of CAFE model with 'GHG' settings (08-Mar ver.)," (Apr. 16, 2018).

Again, the clear statement that the Department of Transportation has spoken for the EPA Administrator's views on "the appropriate level of the standard" and relevant factors "in determining EPA's program design and the EPA standards" cannot be reconciled with the Clean Air Act's clear statement that the EPA Administrator shall set vehicle emission standards and shall determine at what pace they take effect, among other judgments.[113]

Additional evidence confirms that EPA failed to apply its expertise and judgment during the course of the development of this proposal, rendering the proposal an unlawful abrogation of EPA's duty.[114] The technical analysis underlying the proposal failed to consider a range of relevant new analysis prepared by EPA. For example, the proposal's analysis does not reflect EPA technical work captured in numerous peer reviewed articles. Specifically, we searched in the docket for any record of over a dozen 2017 and 2018 EPA peer reviewed SAE articles highlighted in a recent EPA presentation to the National Academy of Sciences.[115] Not one of the 2017 papers highlighted in the NAS presentation was mentioned anywhere in the proposal or its supporting NPRM documents.[116] Not one of the 2018 papers was mentioned anywhere in NHTSA's rulemaking docket, nor in the proposal or its supporting documents; EPA's docket did include an entry for "EPA Authored SAE Papers for CY 2018" with pdfs,[117] but no indication suggests how these deeply pertinent materials were considered, if at all. The record does not reflect EPA's latest analysis and expertise in emission-reducing technologies, one more sign of the agency's impermissible delegation; moreover, as a result, the proposal's analysis of the alternatives improperly fails to consider this relevant information.

The proposal—although ostensibly issued jointly by both EPA and NHTSA—disregards analysis and input from EPA's own experts. Documents released to the docket through the Office of Management and Budget's Executive Order 12,866 interagency review process indicate that the proposal's analysis never incorporated concerns and input provided by EPA experts. The Director of the Assessment and Standards Division at EPA's Office of Transportation and Air Quality expressed concern in an email to NHTSA and OMB staff in June 2018:

> As you know, EPA has raised a wide range of technical issues with the analysis performed by NHTSA which serves as the technical underpinnings of the draft NPRM. Beginning in February of this year and continuing through April, EPA provided both DOT and OMB with a number of documents detailing our concerns, both with a number of the technical inputs for the NHTSA analysis, as well as technical concerns with the

[113] 42 U.S.C. §§ 7521(a)(1), (a)(2).
[114] *Id.*
[115] Bill Charmley, EPA National Vehicle Fuel Emissions Laboratory, Presentation to the National Academies of Science, Committee on the Assessment of Technologies for Improving Fuel Economy of Light-Duty Vehicles-Phase 3, at 20 (July 16, 2018), Docket ID EPA-HQ-OAR-2018-0283-0771, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0771.
[116] NHTSA's Draft EIS Appendices includes some of the 2017 reports in a several hundred-page long list of materials submitted by public commenters, but does not otherwise give any information on the analyses. Draft EIS, Appendices at Table B-1, https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld_cafe_my2021-26_deis_appendices_0.pdf.
[117] *See* EPA Authored SAE Papers for CY 2018, Docket ID EPA-HQ-OAR-2018-0283-0028, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0028.

> current version of the DOT CAFE model. This includes not only EPA's technical review of the DOT model inputs and the model itself – EPA also provided to OMB and DOT more than 60 technical documents, spreadsheets, presentations, peer-reviewed reports and peer-reviewed technical articles which details the technical work EPA has performed in the past several years.[118]

Throughout the development of the proposed rule and underlying analysis, EPA voiced serious and fundamental concerns about the rulemaking, which went largely ignored by NHTSA. For example, in a June 18, 2018 memo, EPA explained that within the CAFE model, "the technology packages applied by the model tend to be much more costly than necessary for any specified set of inputs and application constraints."[119] EPA noted that it had previously expressed these concerns in March and April 2018. At one point, EPA presented the results of the agency's own modeling, indicating that EPA's OMEGA modeling found costs *half* that of NHTSA's findings.[120] Yet NHTSA did not correct the errors in its modeling and analysis, and the published proposal drastically overestimates the cost of complying with the Clean Car Standards.[121]

In another consequential example of the NPRM's disregard for EPA's expertise, the NPRM analysis has made advanced High Compression Ratio engines (HCR2) unavailable to any vehicle in the entire U.S. fleet, describing that the technology "remains entirely speculative."[122] This decision is consequential—without changing anything else about the agencies' analysis, allowing HCR2 would reduce augural compliance costs by $619—or about 30% of the total difference between the augural and rollback scenarios.[123] And contrary to NHTSA's decision to omit HCR2, in the interagency review process EPA repeatedly observed that HCR2 should be included, observing, *e.g.*, that:

> [t]here are Atkinson engine vehicles on the road today (2018 Camry and Corolla with cooled EGR and the 2019 Mazda CX5 and Mazda6 with cylinder deac) that use high geometric compression ratio Atkinson-cycle technology that is improved from the first generation, MY2012 vintage "HCR1" technology. While it is true that no production vehicle has both cooled EGR and cylinder deac, as the EPA "HCR2" engine did, nonetheless, these existing engines demonstrate better efficiency than estimated by EPA.

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[118] E.O. 12866 Review Materials, File: "National Highway Traffic Safety Administration (NHTSA) Report- June 13, 2018" at 13 (June 14, 2018).
[119] E.O. 12866 Review Materials, File: "Email 5 - Email from William Charmley to Chandana Achanta - June 18, 2018" at 10.
[120] E.O. 12866 Review Materials, File: "Email 5- Email from William Charmley to Chandana Achanta," at 113 -- Memo: "EPA review of CAFE model with 'GHG' settings (08-Mar ver.)," (Apr. 16, 2018).
[121] *See, e.g.*, comments submitted to these dockets on this proposal by Union of Concerned Scientists; comments submitted by the International Council for Clean Transportation; Meszler Engineering Services (October 2018), Technical Memorandum I: The NPRM CAFE Model's Treatment of Technology Benefits and Costs, appended to comments filed by Natural Resources Defense Council.
[122] 83 Fed. Reg. at 43,038.
[123] *See* PRIA Table 13-4. *See also* comments submitted to these dockets on this proposal by the International Council for Clean Transportation.

> Therefore, it would be appropriate to continue to use EPA's cooled EGR + deac engine map to represent "HCR2" engines and strike this text and revise accordingly.[124]

Yet NHTSA overruled EPA and omitted the technology.[125] Although just one of many, this single example demonstrates that EPA experts sought to make fundamentally different judgments than NHTSA did, which would have led to dramatically different compliance cost projections and would ultimately have resulted in significantly divergent cost-benefit calculations.

A detailed discussion of the many concerns raised by EPA experts during interagency review of the proposal is included elsewhere in these comments.[126] The proposal's failure to properly incorporate or respond to EPA's reasoned, expert input is yet another example of the agency's impermissible delegation of its role to NHTSA.

Public information also indicates that EPA continued to update its OMEGA model and even ran OMEGA modeling runs during the course of this proceeding.[127] As noted above, materials in the docket indicate that this modeling found costs half that of NHTSA's Volpe estimates.[128] The proposal's exclusion of this centrally relevant modeling and analysis from the agencies' consideration—and even from the public domain, contrary to the requirements of Clean Air Act Section 307(d) and despite repeated attempts to obtain the model and EPA's results[129]—is yet

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[124] E.O. 12866 Review Materials, File: "EPA_comments_on_the_NPRM_sent_to_OMB,_June_29,_2018" at 82; *see also* File: "EPA_comments_on_the_Preliminary_RIA_sent_to_OMB,_July_12,_2018" at 281 (same).

[125] E.O. 12866 Review Materials, File: "NHTSA_responses_to_interagency_comments_sent_to_OMB" at 5.

[126] *See* Section VI(C), *infra*.

[127] *See, e.g.*, EPA review of CAFE model with "GHG" settings (08-Mar ver.), Meeting with Office of Management and Budget/OIRA at Slide 24, found at PDF page 113 (Apr. 16, 2018), available under the file titled "Email 5" at https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0453; see also Presentation to the National Academies of Science, Committee on the Assessment of Technologies for Improving Fuel Economy of Light-duty Vehicles - Phase 3 at Slides 6-7 (July 16, 2018), Docket ID No. EPA-HQ-OAR-2018-0283-0771, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0771; EPA Science Advisory Board Work Group on EPA Planned Actions for SAB Consideration of the Underlying Science, Memorandum: Preparations for Chartered Science Advisory Board (SAB) Discussions of EPA Planned Agency Actions and their Supporting Science in the Fall 2017 Regulatory Agenda at B-12 (May 18, 2018) (explaining that EPA would utilize its ALPHA and OMEGA models during the reconsideration of the Mid-Term Evaluation), https://yosemite.epa.gov/sab/sabproduct.nsf/9263940BB05B89A885258291006AC017/$File/WG_Memo_Fall17_RegRevAttsABC.pdf; End-to-End Use of ALPHA Vehicle Simulation in EPA's GHG Standards Assessments: From Baseline to Future Fleets at Slides 4-6, 17 (Jan. 25, 2018), http://sites.nationalacademies.org/cs/groups/depssite/documents/webpage/deps_188766.pdf; Peer Review of EPA's Response Surface Equation Report (May 2018), Docket ID No. EPA-HQ-OAR-2018-0283-0025, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0025.

[128] E.O. 12866 Review Materials, File: "Email 5- Email from William Charmley to Chandana Achanta," at 113 -- Memo: "EPA review of CAFE model with 'GHG' settings (08-Mar ver.)," (Apr. 16, 2018).

[129] As discussed further in Section VI(E)(1)(a), *infra*, signatories to these comments and others submitted repeated requests for the OMEGA model and supporting information; the failure to release this

another demonstration that EPA has improperly delegated its duty. Section 202 explicitly charges *EPA* with decision-making responsibility regarding the standards, noting that the standards "shall take effect after such period as *the Administrator* finds necessary to permit the development and application of the requisite technology."[130] EPA's wholesale retreat from this analysis and decision-making is unlawful.

5. The proposal's application of NHTSA's Volpe model and Autonomie tool to develop GHG emission standards is unlawful.

As detailed in separate comments, the Volpe model and Autonomie tool have pervasive flaws that render their application in underlying analysis for the vehicle GHG standards arbitrary and capricious. Furthermore, these tools are not designed consistent with the Clean Air Act statutory design. Application of these inferior NHTSA tools in evaluating vehicle GHG emission standards is further evidence of EPA's improper delegation and also arbitrary and capricious.

During the course of interagency review of the proposal, EPA's own experts rejected use of the CAFE model for development of the proposed GHG standards:

> At this point, EPA cannot endorse the use of the CAFE model for an EPA NPRM. Given the application of new, unreviewed models, errors and anomalies in technology effectiveness, higher than expected costs for batteries and some conventional technologies, and dated nature of some of the inputs and indefensible technology application constraints, it is not possible for EPA to conclude that the current NHTSA analysis reflects the conclusions of the research performed by EPA over the last five years. We also note that EPA's review of the CAFE model is limited by our ability to review the CAFE model code, and we renew our request for the uncompiled CAFE model code to enable EPA to complete our review.[131]

Later stating:

> EPA will not be providing comments on the draft material, as the underlying basis (CAFE model) is flawed, and thus comments are of no value until the technical basis is fixed[132]

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information is contrary to EPA's procedural obligations under the Clean Air Act. *Kennecott Corp. v. EPA*, 684 F.2d 1007, 1019–20 (D.C. Cir. 1982) (where data of central relevance to the rulemaking was not placed in the docket until shortly before promulgation, "EPA's refusal to convene a new round of public comment proceedings constitute[ed] reversible error" under CAA Section 307(d)(9)); *Union Oil Co. of California v. EPA,* 821 F.2d 678, 682-83 (D.C. Cir. 1987) (the docket "must provide the entire basis for the final rule . . . failure to docket data and analysis relied upon in formulating a final rule violates § 307(d)(6)(C) of the Clean Air Act").

[130] 42 U.S.C. § 7521(a)(2).

[131] E.O. 12866 Review Materials, File: "Email 5- Email from William Charmley to Chandana Achanta," at 56 -- Memo: "EPA review of CAFE model with 'GHG' settings (08-Mar ver.)," (Apr. 16, 2018).

[132] *Id.* at 93.

Yet the proposed GHG standards are entirely based on the results and findings from that model, demonstrating that the agency has uncritically accepted another agency's subpar, flawed analysis.

Extensive separate technical comments detail the many specific weaknesses of the modeling results derived in this proposal through use of the Volpe and Autonomie models. A selection of these flaws include:

- The Volpe model does not optimize for cost-effective compliance, such that Volpe applies high-cost technologies with little, no, or negative benefit.[133] While the Volpe model optimizes solely based on cost, the OMEGA model, by contrast, takes a clearly preferable approach of optimizing by both cost and effectiveness.[134]

- The Volpe model includes numerous errors, such as assigning a portion of a new technology's benefit to a non-fuel economy aspect of performance, but assigning all of that technology's cost as a cost of compliance with fuel economy standards.[135]

- The Autonomie values for technology effectiveness are far below real-world values, and input costs for certain technologies significantly exceed real-world values.[136]

- The NHTSA models arbitrarily impose limitations on technology adoption that do not exist in the real world.[137]

Furthermore, the Volpe model and association tools are not designed in accordance with EPA's independent statutory authority under Clean Air Act Section 202. The Volpe and OMEGA models have an overarching difference in their architecture—one where the Volpe modeling approach is designed to match NHTSA's statutory authority, but not EPA's. The EPCA requirements drive the design of the Volpe model, in that it performs a year-by-year analysis in order to demonstrate that NHTSA is meeting its EPCA obligations.[138] As a result, the Volpe model attempts to simulate for each manufacturer, by year, their refresh and redesign cadence across their vehicle platforms and then predict a manufacturer's technology deployment

[133] *See* comments submitted to these dockets on this proposal by the International Council on Clean Transportation.
[134] See comments submitted to these dockets on this proposal by Environmental Defense Fund (October 2018), *Review of the Agencies' Technical Analysis Supporting the SAFE Vehicle NPRM*.
[135] *See* comments submitted to these dockets on this proposal by the Union of Concerned Scientists.
[136] Review of the Technology Costs and Benefits Utilized in the Proposed SAFE Rule, by H-D Systems, appended to comments submitted to these dockets by the California Air Resources Board.
[137] *See, e.g.*, comments submitted to these dockets on this proposal by the International Council on Clean Technology.
[138] *See* 49 U.S.C. § 32902(a) ("Each standard shall be the maximum feasible average fuel economy level that the Secretary decides the manufacturers can achieve *in that model year*." (emphasis added)); § 32902(b)(2); 75 Fed. Reg. at 25,597-98; 2017 and Later Model Year Light-Duty Vehicle GHG and CAFE Standards, 77 Fed. Reg. 62,624, 63,008, n.1112 (Oct. 15, 2012) (EPCA requires that NHTSA make a year-by-year determination of the appropriate level of stringency and then set the standard at that level; NHTSA has "long interpreted this statutory language to require year-by-year assessment of manufacturer capabilities").

decision-making process for each platform.[139] But under the Clean Air Act, EPA is not required to demonstrate that standards are set at the maximum feasible level year-by-year, as EPCA explicitly requires for NHTSA.

In addition, statutory constraints in NHTSA's authority preclude it from considering vehicles powered by fuels other than gas or diesel.[140] These vehicles are obviously relevant to EPA's consideration of emissions.

NHTSA built into the Volpe model features that are inconsistent with EPA's statutory mandate. According to NHTSA, "the model uses an estimated value of CO2 credits to place a value on progress toward compliance with CO2 standards."[141] However, this value is fixed in a given model year for all manufacturers and is explicitly tied to the value of CAFE fines in that model year—providing an unreasonable characterization of how a manufacturer will value compliance with the GHG standards. The flaws in this approach were pointed out by EPA in interagency review.[142] NHTSA did not defend or justify the validity of this approach, which is necessarily novel for the agency, given that EPCA prohibits NHTSA from considering credits when establishing a fuel-economy standard.[143] In contrast, EPA has developed its OMEGA modeling framework during the course of and in order to support vehicle emission standard rulemakings,[144] such that the model is designed to accord with EPA's statutory authority under Section 202.

Yet this modeling is used to justify and assess the proposed GHG emission standards. Given this approach's manifest flaws and inconsistencies with the statute, any finalization of the proposal would accordingly be unlawful.

6. EPA has unlawfully failed to rely on its own modeling tools.

In the proposal, EPA has failed to rely on the OMEGA model—designed for the purpose of fulfilling EPA's statutory obligations under Clean Air Act Section 202—in favor of the Volpe

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[139] 75 Fed. Reg. at 25,597-98 ("The CAFE model accounts explicitly for each model year because EPCA requires that NHTSA make a year-by-year determination of the appropriate level of stringency and then set the standard at that level, while ensuring ratable increases in average fuel economy."); *id.* at 25,599 ("DOT modified the CAFE model in order to account for dependencies between model years and to better represent manufacturers' planning cycles, in a way that still allowed NHTSA to comply with the statutory requirement to determine the appropriate level of the standards for each model year. This was accomplished by limiting the application of many technologies to model years in which vehicle models are scheduled to be redesigned (or, for some technologies, "freshened"), and by causing the model to "carry forward" applied technologies from one model year to the next.").

[140] 49 U.S.C. §§ 32902(h)(1), (2).

[141] E.O. 12866 Review Materials, File: "EO 12866 Review: NHTSA responses to interagency comments sent to OMB," at 8 (July 12, 2018) (responding to comment number 28 from EPA).

[142] E.O. 12866 Review Materials, File: "Email 5- Email from William Charmley to Chandana Achanta" (June 18, 2018).

[143] 49 U.S.C. § 32902(h)(3).

[144] EPA, Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases.

model, which was designed for a different purpose, does not reflect the statutory requirements of the Clean Air Act, and with which the EPA staff have little expertise. As the proposal highlights, the Department of Transportation alone "develops, maintains, and applies" the Volpe model.[145] EPA appears not to have even run the model itself to confirm its results under different scenarios. The failure to consider EPA's own modeling—which the agency has conducted for years and appears to have conducted as part of this rulemaking—as part of evaluating vehicle GHG emission standards is further evidence of improper delegation. In addition, rejection of this deeply relevant analysis is further evidence of arbitrary and capricious decision-making.

The proposal's justification for why EPA is not using its own modeling and vehicle simulation inputs is unreasonable.[146] The proposal's reference to EPA's "broad discretion" in interpreting Section 202 and its relevant factors does not answer the separate issue of EPA's delegation of its own expertise and record development to another agency.[147] (It also incorrectly characterizes EPA's discretion under Section 202, as discussed further in Section III(B), *infra*.)

The proposal's contention that EPA's decision was merely and appropriately "*informed* by non-EPA created models,"[148] as opposed to *driven* by those models, is misleading and inaccurate. To start, as noted above, specific EPA analysis, modeling expertise, and concerns were affirmatively ignored during the course of the proceeding. This exclusion has impoverished the analysis reflected in the proposal.

Moreover, the analogy drawn between EPA's reliance on NHTSA analysis and the agencies' reliance on the Energy Information Administration for fuel price predictions is inapt.[149] EIA is the expert agency with respect to predicting fuel prices—Congress specifically charged EIA with "carrying out a central, comprehensive, and unified energy data and information program,"[150] and specifically required EPA to rely on EIA for information about transportation fuels in other sections of the Clean Air Act.[151] There is no argument that NHTSA or EPA has any comparable expertise on fuel price analysis. In contrast, EPA is the expert, congressionally-appointed agency with respect to understanding, modeling, and setting vehicle emission standards.[152] Setting aside EPA's relevant expertise and peer-reviewed and time-tested tools in favor of those of an agency with a separate, "wholly independent" mandate unlawfully delegates EPA's obligation and undermines the proceeding's analysis.[153]

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[145] 83 Fed. Reg. at 43,000.
[146] *Id.* at 43,000-02. *Compare with* Draft TAR at 2-10 ("As in past greenhouse gas and fuel economy rulemakings, NHTSA and EPA have utilized unique program analysis models. This difference in methodology ensures that the respective analyses produced by the agencies recognize their respective statutory authorities.").
[147] 83 Fed. Reg. at 43,000-01.
[148] 83 Fed. Reg. at 43,002.
[149] *Id.*
[150] 42 U.S.C. § 7135(a) (emphasis added).
[151] *See* 42 U.S.C § 7545.
[152] 42 U.S.C. § 7521(a).
[153] *Mass. v. EPA*, 549 U.S. at 532.

The proposal misleadingly presents the development of the MY 2021-2027 standards for heavy duty pickups and vans. Although EPA did engage directly with the Volpe model in that context,[154] EPA did not do so uncritically as here. EPA conducted a separate analysis using a different iteration of the CAFE model rather than rely on the version which NHTSA used, again resulting and parallel but corroborative modeling results.[155] Furthermore, materials in the record here underscore the unanswered concerns raised by EPA staff regarding application of NHTSA's modeling tools as well as the pervasive flaws in the current tools and in their application in this rulemaking.

There is no reason to cast aside EPA's extensive expertise and investment in the OMEGA model and underlying tools, inputs, and analysis—to not to use the expertise and modeling of each agency, as in the past. This long-standing approach has given all stakeholders, including the two agencies, the best evidence available, instead of artificially truncating the analysis and limiting it. The proposal never attempts to explain what is gained by setting aside EPA's centrally relevant and world-leading technical input, modeling development, and other expertise. This unreasonable, unjustified omission is unlawful.

7. These omissions render the proposed GHG standards fatally flawed.

Any finalization of the proposed GHG standards would be arbitrary and capricious because by excluding EPA's expertise and input, the proposal has unlawfully failed to consider relevant information and analysis.[156] As this section has detailed, the proposed GHG standards do not reflect the benefit of EPA's most recent research; application of EPA's purpose-built OMEGA model; feedback from EPA's expert staff; and numerous other important considerations. Even assuming *arguendo* that EPA has not impermissibly delegated its responsibilities in this proceeding, the proposed GHG standards are fatally flawed because they do not reflect this relevant information.[157] Before proceeding with this rulemaking, EPA must consider all relevant materials including these excluded insights, perform its own analysis, and issue a reproposal to allow for public comment.

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[154] 83 Fed. Reg. at 43,002.

[155] *See* 81 Fed. Reg. 73,478, 73,732 (Oct. 25, 2016) ("[T]he agencies performed separate analyses . . . These analyses are complementary, and independently support the same conclusion."); *see also* EPA & NHTSA, Regulatory Impact Analysis: Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2, EPA-420-R-16-900 (Aug. 2016), at10-2 ("For the Final Rule, NHTSA's Method A uses a modified version of the CAFE model developed since the NPRM . . . . EPA's Method B analysis continues to use the CAFE model and inputs developed for the NPRM."); *see also id.* sections 10.1.7 (detailing changes to model adopted by NHTSA for its analysis) and 10.3 (presenting results of "EPA's Method B Analysis").

[156] *State Farm*, 463 U.S. at 43.

[157] As discussed further in Section II, *supra*, agencies act arbitrarily when they take action that is not supported by substantial evidence when considering the record as a whole. *E.g.*, *Cablevision Systems Corp. v. FCC*, 597 F.3d 1306, 1310 (D.C. Cir. 2010); *Fl. Gas Trans. Co. v. FERC*, 604 F.3d 636, 639 (D.C. Cir. 2010); *Ass'n of Data Processing Serv. Orgs. v. Bd. of Governors*, 745 F.2d 677, 683-84 (D.C. Cir. 1984).

B. The proposal flouts EPA's obligation under the Clean Air Act to protect public health and welfare from harmful car and truck pollution and is arbitrary and capricious.

EPA has a mandatory duty to set motor vehicle emission standards for air pollutants that "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."[158] As discussed above, EPA has delegated its expert decision-making role to NHTSA in this rulemaking, such that finalizing this proposal would be unlawful and the result would be arbitrary and capricious and not merit deference.

Even assuming *arguendo* that EPA has exercised its decision-making duty here, it has done so unlawfully. The proposal's recommended course and the other proffered alternatives fall far short of EPA's obligation under the statute to protect human health and welfare from the urgent and dire threat of climate change—a threat EPA has recognized and does not contest. The justifications EPA asserts for the proposed rollback are unmoored from the statutory text, based on deeply faulty analysis, and arbitrary and capricious. The agency must withdraw this flawed proposal.

1. Greenhouse gas emissions manifestly "endanger public health or welfare."

In 2009, based on an extensive body of robust and compelling evidence, EPA found that emissions of greenhouse gases (GHGs) into the atmosphere are changing our climate and may reasonably be anticipated to endanger the public health and welfare of current and future generations in the U.S.[159] EPA noted that the concentration of greenhouse gases in the atmosphere was already at "essentially unprecedented" levels.[160] EPA's prediction in the Endangerment Finding that "[t]he risk and severity of adverse impacts on public welfare are expected to increase over time,"[161] has, regrettably, come to pass.

A partial litany of EPA's 2009 predictions describes a range of dire outcomes that are already manifesting: climate change is expected to increase ozone pollution over broad areas of the U.S., especially on high ozone days in the largest metropolitan areas with attendant increased risk of morbidity and mortality;[162] climate change is anticipated to cause more intense hurricanes;[163] large areas of the country are at serious risk of reduced water supplies and occurrence of heretofore exceptional extreme events like catastrophic flooding, wildfire, and droughts;[164] coastal areas are expected to face a multitude of increased risks, particularly from rising sea level and increases in the severity of storms.[165]

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[158] 42 U.S.C. § 7521(a)(1); *Mass. v. EPA*, 549 U.S. at 531-32.
[159] Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,497 (Dec. 15, 2009).
[160] *Id.* at 66,517.
[161] *Id.* at 66,498-99.
[162] *Id.* at 66,525.
[163] *Id.* at 66,498.
[164] *Id.*
[165] *Id.*

There is an urgent need to address harmful emissions of greenhouse gases in order to stay within a limited total budget of those pollutants and avoid the worst impacts of climate change. Reducing emissions later will not remove from the atmosphere the greenhouse gases that have already been emitted, which—because greenhouse gases are generally long-lived—will keep producing damaging climate impacts for a very long time. As EPA concluded more recently in 2015, new assessments including those of the Intergovernmental Panel on Climate Change, U.S. Global Climate Change Research Program, and the National Research Council (NRC), along with observed changes, "make it clear that reducing emissions of GHGs across the globe is necessary in order to avoid the worst impacts of climate change, and underscore the urgency of reducing emissions now."[166]

The NRC Committee on America's Climate Choices listed critical reasons why actions to reduce emissions cannot be delayed,[167] including:

- The faster GHG emissions are reduced, the lower the risks posed by climate change—in contrast, delays could commit the planet to a wide range of negative impacts, especially if climate sensitivity is on the higher end of the estimated range;

- Waiting for even more extreme impacts to occur before taking action is imprudent because the effects of GHG emissions do not fully manifest themselves for decades and, once manifest, many of these changes will persist for hundreds to thousands of years;

- The risks associated with doing business as usual are a much greater concern than the risks associated with a strong response.

The most recent scientific findings continue to reinforce the tremendous threat posed by climate change and the need for deep and immediate emission reductions. In particular, a recent special report by the Intergovernmental Panel on Climate Change (IPCC) details the dramatic consequences of climate change and underscores the benefits of mitigating greenhouse gas emissions as much as possible, as soon as possible.[168] The report examines the likely impacts of a warming planet – on water scarcity, food security, hurricanes and other extreme weather events, oceans, species habitat and more – under two scenarios: 1.5 and 2°Celsius (2.7 and 3.6°F, respectively) of warming above pre-industrial levels. The message from the report is stark. The world has already warmed 1°C; under current trends the world will hit 1.5°C within a dozen years. In demonstrating the substantial benefits from avoiding an extra half-degree of warming, the report provides a clear reminder that there is no safe level of warming. Every fraction of a

[166] Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662, 64,686 (Oct. 23, 2015).
[167] National Research Council, *America's Climate Choices* (2011), The National Academies Press.
[168] *See generally* Intergovernmental Panel on Climate Change, Global Warming of 1.5 °C: an IPCC special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty: Summary for Policymakers, http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

degree of avoided temperature rise—every avoided ton of greenhouse gas emissions—means a safer and more secure world for our children and future generations.

These and other recent findings are further detailed in a separate submission,[169] which describes the evidence of the following harms:

- An unrelenting rise in atmospheric temperatures, rendering increasingly large geographic areas less habitable;
- The increasing frequency and severity of extreme weather events, and the scientific advances attributing shifts in extreme weather to anthropogenic GHG emissions;
- Steadily rising ocean temperatures, sea level rise and the dire effects of ocean acidification;
- Increasing harm to human health and welfare, including current and future severe illness and mortality that disproportionately affect the elderly, children and disadvantaged communities;
- Harm to biodiversity, ecosystem services, and public lands;
- Severe harm to the U.S. economy with damages exceeding hundreds of billions of dollars every year, a number that will continue to rise over time;
- The clear and present danger of climate change to our national security;
- The immense difference in climate-change related damage created by overshooting a temperature rise beyond 1.5°C by just one-half of a degree, and the critical importance of action to reduce carbon emissions *within the next decade* to avoid those damages; and
- The United States' inability to remain within its shrinking carbon budget absent immediate action to greatly reduce vehicular GHG emissions.

In the current proposal, EPA acknowledges its finding that elevated concentrations of GHGs may reasonably be anticipated to endanger public health and welfare.[170] It acknowledges that temperature will increase with additional GHG emissions,[171] and concedes that GHG concentrations will rise to unfathomable levels—double the pre-industrial concentrations—without efforts at mitigation.[172] Indeed, EPA nowhere disputes the science underlying the Endangerment Finding, or the range and likelihood of dire threats anticipated with unmitigated climate change. While the agency goes to great pains to obscure and belittle the enormous

[169] Joint Comments of Environmental, Advocacy, and Science Organizations Regarding the Proposed Greenhouse Gas Emissions and Fuel Efficiency Standards for Light-Duty Vehicles, Model Year 2021-2026: Comments Specific to Climate Change, submitted to dockets EPA-HQ-OAR-2018-0283, NHTSA-2018-0067.
[170] 83 Fed. Reg. at 43,228.
[171] *Id.* at 42,996.
[172] *Id.* at 42,997.

magnitude of the emissions at stake in the current rulemaking,[173] it does not (and cannot) refute the grave and urgent threat at hand. Yet nowhere in the entire proposal does EPA attempt to reconcile the facts it has found about the grave threat that anthropogenic climate change poses to public health and welfare with EPA's proposed choice to adopt a policy that would exacerbate that hazard.

2. Light duty vehicles are major contributors to climate pollution.

The transportation sector has now overtaken electricity generation as the largest domestic source of the GHG pollution that endangers public health and welfare.[174] Emissions from this sector rose by 22% between 1990 and 2016, due in substantial part to light-duty vehicles.[175] Light-duty cars and trucks are responsible for nearly 60% of transportation sector GHG emissions.[176]

The recent IPCC special report, in examining the transportation sector, underscored that the transportation sector has witnessed faster emissions growth over the last half century than any other and concluded that "every possible measure would be required" for the sector to meet an emissions pathway consistent with limiting warming to below 2°C.[177] The report specifically highlighted the importance of "incremental vehicle improvements . . . especially in the short to medium term."[178]

Accordingly, the challenge of climate change cannot be addressed without meaningfully mitigating climate pollution from these sources and leveraging "every possible" opportunity for "incremental vehicle improvements"—such as the vehicle GHG emission standards at issue in this rulemaking.[179]

3. Section 202(a)(1) mandates that EPA address this urgent threat to public health and welfare.

Section 202(a)(1) is intended to address the contribution of vehicular emissions to this foreseeable endangerment. Section 202(a)(1) is precautionary:

> The 1970 version of § 202(a)(1) used the phrase "which endangers the public health or welfare" rather than the more-protective "which may reasonably be anticipated to endanger public health or welfare." See § 6(a) of the Clean Air Amendments of 1970, 84 Stat. 1690. Congress amended § 202(a)(1) in 1977 to give its approval to the decision in *Ethyl Corp. v. EPA*, 541 F.2d 1, 25 (D.C. Cir. 1976) (*en banc*), which held that the Clean

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[173] *See, e.g.*, *id.* at 42,996.
[174] EPA, *Inventory of U.S. GHG Emissions and Sinks 1990-2016* (2018) (EPA 430-R-18-003) at Table ES-6 and Fig. ES-14.
[175] *Id.* at 2-31.
[176] *Id.* at 2-30.
[177] IPCC, Global Warming of 1.5 °C: Chapter 2: Mitigation pathways compatible with 1.5°C in the context of sustainable development, at 2-66, http://report.ipcc.ch/sr15/pdf/sr15_chapter2.pdf.
[178] *Id.* at 2-67.
[179] *Id.* 2-66, 2-67; *see also* Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,537 (Dec. 15, 2009).

> Air Act "and common sense . . . demand regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable." See § 401(d)(1) of the Clean Air Act Amendments of 1977, 91 Stat. 791; see also H.R.Rep. No. 95-294, p. 49 (1977), U.S. Code Cong. & Admin. News 1977, p. 1077.

Massachusetts v. EPA, 549 U.S. 497, 506 n.7 (2007).

In keeping with this precautionary mandate, Section 202(a)(1) directs EPA to limit vehicular emissions to forestall the reasonably anticipated endangerment of public health and welfare. In setting standards under Section 202, EPA must consider technological feasibility, cost, and safety.[180] But such considerations may not supplant the overarching focus of Section 202: protecting public health and welfare by preventing pollution.[181] It is incumbent on EPA to "do the job Congress gave it in section 202(a)—utilizing emission standards to prevent reasonably anticipated endangerment from maturing into concrete harm."[182]

4. The proposal flouts EPA's Clean Air Act duty to protect public health and welfare from harmful climate pollution.

The scientific evidence is clear—and EPA has concluded—that greenhouse gas emissions endanger public health and welfare. Transportation emissions are the largest national source of emissions that contribute to that endangerment. Protection of public health and welfare, the central focus of Section 202(a)(1), demands that EPA's decision respond to this degree of threat to public health and welfare and the role played by vehicles in causing the problem.[183] As the NPRM itself recognizes, the central aim of Title II of the Clean Air Act is "the protection of public health and welfare."[184]

"A statute should ordinarily be read to effectuate its purposes rather than to frustrate them."[185] This is all the more true when the very provision at issue–§201(a)(1) itself–expressly focuses on preventing endangerment of "public health or welfare." EPA thus must set GHG standards that advance Section 201(a)(1) and (2)'s core mandate to protect public health and welfare, in light of EPA's concurrent reaffirmation of the clear threat posed by climate change. EPA signally fails to do so in this proposal. Just as eschewing any improvement in fuel economy over 10 model years is not remotely congruent with the requirement of that NHTSA set a "maximum feasible"

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[180] 42 U.S.C. §§ 7521(a)(2), (4)(A).
[181] *Cf. Center for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1194 (9th Cir. 2008); *see also* S. Rep. 95-127, 95th Cong. 1st sess. (May 1977) at 7 ("Stringent auto emissions standards were established because public health protection required it. . . . Stringent standards are feasible and healthy air quality cannot be achieved without such controls.").
[182] *Coalition for Responsible Regulation*, 684 F. 3d at 122.
[183] "Such emissions standards must be based on the degree of emission control needed to protect the public health and welfare . . . without any reference to the power source or the propulsion system." S. Rep. 91-1196, 91st Cong. 2d. sess. (Sept. 17, 1970) at 59.
[184] 83 Fed. Reg. at 43,228.
[185] *Wagner v. Federal Election Committee*, 717 F.3d 1007, 1014 (D.C. Cir. 2013), quoting *Motor Vehicle Mfrs. Ass'n v. Ruckelshaus*, 719 F.2d 1159, 1165 (D.C. Cir. 1983).

fuel economy standard under EPCA,[186] setting standards that roll back promulgated standards and vastly increase emissions of a gravely dangerous pollutant—whose current levels are causing grave harm to public health and welfare, and whose anticipated future levels threaten even greater harm—is antithetical to EPA's obligation under section 202(a)(1) and (2).

The proposal acknowledges that climate pollution is harmful—and the evidence and impacts continue to become clearer and clearer—yet the proposal recommends rolling back existing protections that help address this threat. The proposal does not question the overwhelming scientific consensus on climate change; does not proffer evidence that impacts are less dire than anticipated; and does not point to other mitigation strategies that the administration believes are more effective. Instead, the only minimal rationale the administration offers in defense of abandoning its statutory obligations is that these standards are only an incremental solution to the threat: the proposal calls the vast quantities of emissions at stake "minimal" in relation to the entire climate pollution problem.[187]

This nominal justification is unreasonable. Logically, the agency's rationale argues in favor of *more* protective, not less protective standards. Moreover, this defeatist reasoning—that we cannot do anything because this single step will not entirely solve the problem—is exactly the kind of "tragedy of the commons" reasoning that was rejected by the Supreme Court in *Massachusetts v. EPA*[188] and is at odds with the agency's past conclusions, without rational explanation.[189] The administration's reasoning, if accepted, would negate nearly any effort to address climate change, even from the largest jurisdictions and source categories. It would also permit a federal agency to ignore the will of Congress in the service of a favored public-policy outcome.

Indeed, EPA itself previously cautioned, in its motor vehicle endangerment finding under § 202(a)(1):

> . . . [N]o single greenhouse gas source category dominates on the global scale, and many (if not all) individual greenhouse gas source categories could appear small in comparison to the total, when, in fact, they could be very important contributors in terms of both absolute emissions or in comparison to other source categories, globally or within the United States. If the United States and the rest of the world are to combat the risks associated with global climate change, contributors must do their part even if their contributions to the global problem, measured in terms of percentage, are smaller than typically encountered when tackling solely regional or local environmental issues. The commenters' approach, if used globally, would effectively lead to a tragedy of the commons, whereby no country or source category would be accountable for contributing

[186] 49 U.S.C. § 32902(a).
[187] 83 Fed. Reg. at 42,996.
[188] 549 U.S. at 533; *see also id.* at 524.
[189] *Coalition for Responsible Regulation*, 684 F. 3d at 128 (endorsing EPA finding that 960 MMT reduction in GHG emissions from the MY 2012-2016 standards "would result in meaningful mitigation of greenhouse gas emission", and thus further the Clean Air Act's environmental goals).

> to the global problem of climate change, and nobody would take action as the problem persists and worsens.

74 Fed. Reg. at 66,543 (Dec. 15, 2009). EPA has not offered—and could not offer—any reasoned explanation for abandoning these findings or this approach, thereby violating a basic tenet of administrative law.[190]

The recent IPCC special report directly rebuts the administration's current position. According to the report, the next twelve years are the last window to change the trajectory of GHG emissions and secure a future with less than 2°C of warming.[191] The report underscores the importance of leveraging "every possible" opportunity for "incremental vehicle improvements . . . especially in the short to medium term."[192] The administration's proposal to roll back existing protections between MY2020 and MY 2026—dramatically *increasing* emissions during fully half of the 12-year closing window of time—flies in the face of the urgency underscored in the recent report. EPA has not and cannot explain how its dramatic rollback accords with the ever-growing body of evidence underscoring the urgency of mitigating GHG emissions and the need to achieve every incremental emission reduction possible. This abdication of the agency's solemn statutory duty renders the proposal arbitrary and capricious.

5. EPA has not made and cannot make the statutory finding of "necessity" that it must establish in order to justify a relaxation of the standards under Section 202(a)(2).

EPA did not propose to make, and could not make, the requisite finding under Clean Air Act Section 202(a)(2) that it is "necessary" to weaken the existing standards in order "to permit the development and application of the requisite technology."

The Clean Air Act requires EPA to control pollutants emitted by new motor vehicles when the agency has found that the pollution endangers health and welfare.[193] It provides that standards promulgated under Section 202(a)(1) "shall 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."[194] EPA may not defer such action without justification: "If EPA makes a finding of endangerment, the Clean Air Act requires the [a]gency to regulate emissions of the deleterious pollutant from new motor vehicles. . . . Given the non-discretionary duty in Section 202 (a)(1) and the *limited flexibility* available

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[190] Reasoned decision-making in the context of a change in policy requires that an agency demonstrate awareness of, and fully explain any departure from, the "facts and circumstances that underlay or were engendered by a prior policy." *Fox*, 556 U.S. at 516.

[191] IPCC, Global Warming of 1.5°C: an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty: Summary for Policymakers at SPM-15, http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

[192] *Id.* at 2-66, 2-67.

[193] 42 U.S.C. § 7521(a)(1).

[194] *Id.* § 7521(a)(2).

under Section 202(a)(2)," EPA must provide a statutory basis to "'ground [any] reasons for further inaction.'"[195]

The statutory reference in Section 202(a)(2) to "cost of compliance" is not a free-standing warrant for EPA to consider costs however it wishes; rather, "Section 202's 'cost of compliance' concern" is "juxtaposed . . . with the requirement that the Administrator provide the requisite lead time to allow technological developments."[196] Thus, "cost of compliance" in Section 202(a) "relates to the timing of a particular emission control regulation rather than to its social implications."[197] As EPA acknowledges, "'the [s]ection 202(a)(2) reference to compliance costs encompasses only the cost to the motor-vehicle industry to come into compliance with the new emissions standards.'"[198] Moreover, EPA does not contend anywhere that costs of compliance are so high that they are challenging to the industry, nor could it. Instead, the NPRM is concerned with sales prices purportedly too high for consumers to accept them. As we show elsewhere in these comments, even if those concerns were relevant, the projections the agencies present are based on erroneous assumptions and modeling. In any event, Congress "expected [EPA] to press for the development and application of improved technology rather than be limited by that which exists,"[199] and the agencies effectively concede that the current standards are technologically feasible, acknowledging that "[w]e continue to believe that technological feasibility, *per se,* is not limiting during this rulemaking time frame."[200]

The proposal's underlying analysis is at odds with the terms of Section 202(a)(2), rejecting even emission reductions reflecting the assembly of existing technology components. The Volpe model includes *a priori* constraints that, in essence, restrict vehicle models to current product offerings.[201] In other instances, a technology is not included in the Volpe model analysis because the agencies lack engine maps for the technology, notwithstanding that these technologies are in widespread use, and that, in other instances, the agencies have estimated technology effectiveness absent an engine map.[202] Unexplained, inconsistent, unreasonable *a*

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[195] *Coalition for Responsible Regulation*, 684 F.3d at 126-27 (quoting *Mass. v. EPA*, 549 U.S. at 535) (emphasis added)).
[196] *Motor & Equip. Mfrs. Ass'n, Inc. v. EPA* ("*MEMA I*"), 627 F.2d 1095, 1118 (D.C. Cir. 1979).
[197] *Id.*
[198] 83 Fed. Reg. at 43,227 (quoting *Coalition for Responsible Regulation*, 684 F.3d at 128).
[199] *NRDC v. EPA*, 655 F.2d 318, 328 (D.C. Cir. 1981), citing S. Rep. No. 91-1196, at 24 (1970) (other citations omitted); see also S. Rep. No. 91-1196, at 24 (1970) ("In other words, standards should be a function of the degree of control required, not the degree of technology available today.").
[200] 83 Fed. Reg. at 43,216.
[201] *See, e.g.*, comments submitted to this docket by the International Council on Clean Transportation; *see also* Review of the Technology Costs and Benefits Utilized in the Proposed SAFE Rule, by H-D Systems, appended to comments submitted to these dockets by the California Air Resources Board.
[202] *See* 83 Fed. Reg. at 43,051 n.174 (declining to include Atkinson cycle engines in analysis notwithstanding their documented use in light duty applications (*see, e.g.*, PRIA at 238, 245, 246)). However, in other cases the agencies have projected efficiency rates where there is no engine map from a production engine. *See* 83 Fed. Reg. at 43,038-39 (discussing advanced cylinder deactivation, considered an "emerging" technology, and noting that "[s]ome preproduction 8-cylinder OHV prototype vehicles were briefly evaluated for this analysis, but no production versions of the technology have been studied. . . . Since no engine map was available at the time of the NPRM analysis, ADEAC was estimated to improve a basic engine with VVL, VVT, SGDI, and DEAC by three percent (for engines with more than

priori constraints on consideration of readily available technologies not only fail to reasonably address the existing factual record,[203] as required by *Fox* and *State Farm,*[204] but are antithetical to the proper application of the statute; it cannot be "necessary" to delay regulations such that automakers postpone incorporating existing technology, and fleet-wide technology stalls or even backslides.

EPA's reasons for the proposed rollback of the existing standards are not based upon any proposed finding that the rollbacks are "necessary to permit the development and application of the requisite technology." Indeed, EPA has conceded that "[t]he majority of the[] [requisite] technologies have already been developed, have been commercialized, and are in-use on vehicles today."[205] EPA alleges that "the existing CO_2 standards are projected to require" 58% penetration by "mild hybrids plus strong hybrids" in model year 2030, and then concedes that "[t]hese technologies are available and in production today."[206]

EPA has utterly failed to make a finding that it is "necessary" to flatline the standards for six years, or even to roll back the standards at all, in order to "permit the development and application of the requisite technology." EPA concedes that "in light of the wide range of existing technologies that have already been developed, have been commercialized, and are in-use on vehicles today," technology availability, development and application are "not necessarily a limiting factor in the Administrator's selection of which standards are appropriate."[207] EPA's approach ignores the terms of the statute, which prescribes that standards "shall take effect after" the period the Administrator determines is "necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period."[208] EPA fails to show how keeping standards at "levels similar to what auto manufacturers are selling today,"[209] is necessary to permit development and application of the requisite technology for MYs 2021-2026.

Nowhere does EPA make a proposed finding that this additional lead-time is "necessary," as required by Section 202(a)(2), nor does EPA have any record basis that could validly support such a finding. Rather, EPA's decision appears largely driven by novel and analytically unsound analyses developed by NHTSA, which overstate safety impacts assertedly associated with greater use of used vehicles. As detailed elsewhere, these analyses are fatally flawed and

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4 cylinders"); *see also NRDC v. EPA*, 655 F.2d at 332-333 (upholding predictions that trap-oxidizer capable of regeneration over engine's useful life could be developed, although not yet demonstrated).

[203] *See, e.g.*, Proposed Determination TSD at 2-310 (all of the components of the Atkinson 2 package are in use, and "the necessary foundational technologies for the [Atkinson] technology (specifically, gasoline direct-injection…, increased valve phasing authority, higher compression ratios, and in some cases cooled exhaust gas recirculation) already are in wide application across the entire light-duty fleet").

[204] *Fox*, 556 U.S. at 516; *id.* at 537 (Kennedy, J., concurring); *State Farm*, 463 U.S. at 43; *see generally* Section II, *supra*.

[205] 83 Fed. Reg. at 43,229.

[206] *Id.*

[207] *Id.*.

[208] 42 U.S.C. § 7521(a)(2).

[209] 83 Fed. Reg. at 43,231.

unreliable[210] and the result of a flawed process.[211] These considerations are decidedly not the factors prescribed by Congress to guide EPA's setting of emissions standards for dangerous air pollutants.

The proposal contains no discussion of the relationship between timing of regulatory obligations and costs of compliance with Section 202(a)(1). EPA has not even proposed to find that its proposed lead-time is required with respect to cost of compliance concerns—let alone identify a defensible record basis for such a conclusion. EPA simply has not proposed (and therefore could not finalize), a finding that it is "necessary" to allow six or more years for the "development and application of the requisite technology."[212]

EPA attempts to justify the Proposed Rollback on its "particular consideration" for "high projected costs" to consumers (notably, again, nothing whatever is said about costs being too high for the industry to comply) and "the impact of the standards on vehicle safety."[213] In fact these claims regarding cost and safety depend upon analyses that are hopelessly flawed.[214] And in any event, EPA does not begin to demonstrate that the costs are so high as to require a weakening of the standards—or flatlining the standards for six years—and in particular does not demonstrate that such an approach is "necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period."[215] In its reference to "cost of compliance" in Section 202(a), "Congress . . . sought to avoid doubling or tripling the cost of motor vehicles to purchasers."[216] EPA now claims that the existing standards would increase per-vehicle costs by $2,260 in model year 2030.[217] Even if that vastly increased estimate were supported by the record (and it is decidedly not[218]), EPA has not proposed to find, and cannot propose to find, that these costs would double or triple the cost of motor vehicles—or even come close to doing so. Nor has EPA demonstrated that the projected costs render the standards infeasible within the lead-time provided. EPA, therefore, cannot rely on these cost assessments to support any "necessary" finding under Section 202(a), particularly where it has not proposed any such finding and where it has not discussed these costs in the mandated statutory context of need for additional lead-time.

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[210] *See, e.g.*, Section IV(A), *infra*; Environmental Defense Fund (October 2018), *Review of the Agencies' Technical Analysis Supporting the SAFE Vehicle NPRM*.
[211] *See, e.g.*, Section IV(B), *infra*.
[212] *See* 42 U.S.C. § 7521(a)(2).
[213] 83 Fed. Reg. at 43,231.
[214] *See, e.g.*, Section VI(A) & (B); *see also* comments submitted to these dockets on this proposal by Consumers Union; Natural Resources Defense Council (October 2018), Appendix A: Evaluation of Mass Reduction Assumptions in NHTSA Volpe Model; American Council for an Energy-Efficient Economy; Environmental Defense Fund.
[215] 42 U.S.C. § 7521(a)(2).
[216] *MEMA I*, 627 F.2d at 1118; *see also* 75 Fed. Reg. at 25,416.
[217] 83 Fed. Reg. at 43,229.
[218] *See, e.g.*, comments submitted to these dockets by International Council on Clean Transportation; comments submitted to these dockets by Union of Concerned Scientists.

The statute does not allow EPA to simply declare conclusorily that it considers standards "burdensome" on manufacturers.[219] Section 202(a)(2) expresses Congress' clear intent to impose some burdens in order to protect against serious harms to public health and welfare from polluting vehicles.[220] Section 202(a)(2) specifies the kind of burden that Congress thought sufficient operate as a constraint on the obligation to abate dangerous vehicle emissions: costs so severe as to preclude deployment of the requisite technology during the relevant period. EPA has entirely failed to propose, and cannot make, the finding required by Section 202(a)(2)—the very section EPA claims authorizes this action. EPA's proposal is inconsistent with the agency's prior recognition of the "limited flexibility" Section 202(a)(2) affords it, and lacks reasoned explanation for that change in position.[221]

6. EPA's reliance on safety concerns is ungrounded in the statute and unsupported by the record.

EPA's consideration of (wholly unfounded) safety concerns is again unmoored from the statute. Section 202(a)(4)(A) provides that "no emission control device, system, or element of design shall be used in a new motor vehicle or new motor vehicle engine for purposes of complying with requirements prescribed under this subchapter if such device, system, or element of design will cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function."[222] Section 202(a)(4)(B) sets out a detailed set of factors for deciding whether an emissions-control device or design element poses an "unreasonable risk."[223]

"Given the non-discretionary duty in Section 202 (a)(1) and the *limited flexibility* available under Section 202(a)(2)," EPA must provide a statutory basis to "'ground [any] reasons for further

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[219] *See* 83 Fed. Reg. at 43,229 ("Less stringent standards would be less burdensome.").
[220] *MEMA I*, 627 F.2d at 1118 ("Every effort at pollution control exacts social costs. Congress, not the Administrator, made the decision to accept those costs."); *cf. International Harvester Co. v. Ruckelshaus*, 479 F.2d 615, 640 (D.C. Cir. 1973) ("[A]s long as feasible technology permits the demand for new passenger automobiles to be generally met, the basic requirements of the Act would be satisfied, even though this might occasion fewer models and a more limited choice of engine types.").
[221] *See* 77 Fed. Reg. 62,624, 62,627 (Oct. 15, 2012).
[222] 42 U.S.C. § 7521(a)(2). Under Section 206(a)(3), EPA's certification of new motor vehicles and engines requires a determination by the agency that the vehicle or engine does not pose an unreasonable safety risk. *See* 42 U.S.C. § 7525(a)(3) ("A certificate of conformity may be issued under this section only if the Administrator determines that the manufacturer (or in the case of a vehicle or engine for import, any person) has established to the satisfaction of the Administrator that any emission control device, system, or element of design installed on, or incorporated in, such vehicle or engine conforms to applicable requirements of section 7521(a)(4) of this title.").
[223] 42 U.S.C. § 7521(a)(4)(B) ("In determining whether an unreasonable risk exists under subparagraph (A), the Administrator shall consider, among other factors, (i) whether and to what extent the use of any device, system, or element of design causes, increases, reduces, or eliminates emissions of any unregulated pollutants; (ii) available methods for reducing or eliminating any risk to public health, welfare, or safety which may be associated with the use of such device, system, or element of design, and (iii) the availability of other devices, systems, or elements of design which may be used to conform to requirements prescribed under this subchapter without causing or contributing to such unreasonable risk. …").

inaction.'"[224] Yet EPA's treatment of this factor fails to abide by or even acknowledge the relevant statutory framework. EPA did not purport to make any findings that any specific "emission control device, system, or element of design" available poses unreasonable risks under Section 202(a)(4)(B), such that its application would be barred under Section 202(a)(4)(A). To the contrary, the Agencies' analysis of mass reduction found that it had no effect on fatalities that was significant at the 95th percentile.[225] The statute does not provide for EPA to forego regulation of dangerous pollution based upon safety claims that do not pose the kinds of unreasonable risks as specifically addressed in Section 202(a)(4).[226]

As such, the general safety claims that EPA uses as a putative justification for rolling back standards fail because the record does not support any assertion that the vehicles complying with the existing standards are unsafe.[227] Instead, EPA impermissibly counts as safety defects of the rule—and uses as justification for rolling back the standards—additional fatalities that are attributable to people voluntarily choosing the drive more. Section 202 provides that EPA shall consider "if such device, system, or element of design will cause or contribute to an unreasonable risk to public health, welfare, or safety *in its operation or function*."[228] The additional fatalities projected via the proposal's (deeply flawed) new analysis stem from voluntary choices by individuals to drive more—not the "operation or function" of the technologies at issue. This is true of the thousands of fatalities attributed to the agencies' (unsupportable) projections of rebound driving in new vehicles. This is equally true of the safety benefits the proposal ascribes to the rollback of standards through the application of NHTSA's hopelessly flawed and indefensible scrappage model, as the fatalities projected under that model relate to (wholly unjustifiable) vast increases in miles travelled in used vehicles, a topic far removed from the new-vehicle and new-engine safety concerns that EPA properly considers under Sections 202(a)(4) and 206(a)(3). This is also true of the fatalities projected under the novel dynamic fleet share model, which has never been peer-reviewed for the purposes the Agencies use it for here. The fatalities under this model arise entirely due to the assumption that individuals will switch from purchasing cars to purchasing trucks under the standards and that when they do so they will drive more.

In addition to being outside the statutorily prescribed safety inquiry, the proposal's approach is arbitrary and irrational insofar as it relies on accidents and fatalities attributable to people voluntarily choosing the drive more. NHTSA has not previously applied this approach in evaluating safety in the context of a fuel economy rule, underscoring the irrationality of this approach. In fact, the agencies note that because of the fact that an increase in rebound driving is fundamentally the result of a consumer choice, it is not proper to attribute the traffic accident

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[224] *Coalition for Responsible Regulation*, 684 F.3d at 126-27 (quoting *Mass. v. EPA*, 549 U.S. at 535) (emphasis added)).
[225] 83 Fed. Reg. at 43,111.
[226] *Cf. NRDC v. Reilly*, 983 F.2d 259, 267 (D.C. Cir. 1993) (rejecting safety-based argument against EPA vapor recovery regulation on basis that the statute specifically provided for consideration of such safety concerns at implementation phase).
[227] *See* comments submitted to these dockets on this proposal by Consumers Union; Natural Resources Defense Council (October 2018), Appendix A: Evaluation of Mass Reduction Assumptions in NHTSA Volpe Model; American Council for an Energy-Efficient Economy; Environmental Defense Fund.
[228] 42 U.S.C. § 7521(a)(4)(A).

costs and fatalities to the standards.[229] Despite acknowledging this, and balancing out those costs with equal benefits in the benefit-cost analysis,[230] the agencies nonetheless rely on a reduction in rebound driving fatalities as part of their justification for rolling back the standards. And, despite the fact that the fatalities projected due to the scrappage and dynamic fleet share models are also due to the (projected) choice to drive more, the agencies do not conduct a similar balancing exercise in the benefit-cost analysis and point to these fatalities as the justification for the rollback. Further, the agencies have not justified the change from their past practice of focusing on the *rate* of safety incidents, to an absolute estimate—despite their duty to recognize and explain changes in course.[231] Indeed, if it were appropriate to ascribe costs based on additional accident costs to policies or practices that might encourage or enable more driving, a wide variety of public policies (and private actions) would be subject to challenge on that basis.

Further, even the agencies' framing of safety impacts makes clear the tension between their approach and their statutory mandates. EPA argues here (without any analysis to support the proposition) that if vehicle sales are affected, this will slow the rate at which individuals transition into newer, safer vehicles, and that will have safety effects. It is reasonable to assert that whenever any regulation affects the price of new vehicles, if that price effect slows sales, there will be an incremental effect on fatalities due to shifting driving or VMT to older vehicles. But that in and of itself cannot be a justification for failing to fulfill statutory mandates to protect public health and safety—because then statutory mandates would go forever unfulfilled. Safety regulations, such as the requirement that vehicles include seat belts, or air bags, or blind spot warnings, would never be able to take effect because they would increase the cost of a vehicle and, under the analysis presented here, would incrementally delay the transition into new vehicles. In directing EPA to address dangerous air pollution from vehicles, Congress was fully aware that doing so would likely involve some cost, which could in turn affect vehicle sales. Nowhere did Congress suggest that this would be an adequate justification for failing to fulfill the mandate to address dangerous air pollution.

The agency has impermissibly relied on an unfounded justification to explain why the safety findings it relies upon deviate drastically from the agency's prior record findings.[232] The NPRM preamble's discussion of EPA's consideration of safety issues singles out the elimination of the small vehicle mass reduction constraint, suggesting this change is primarily responsible for the dramatically different safety results that (allegedly) help justify the agency's proposal to drastically weaken the standards.[233] But as noted above, the proposal's supporting analysis shows that the agencies' new treatment of vehicle mass reduction has a negligible impact on safety outcomes. Under the proposal's analysis, mass reduction is not responsible for any fatalities at the 95 percent confidence level—in other words, mass reduction may be slightly increasing or decreasing fatalities, but the effect is so small it is not statistically significant.[234] In addition, the flaws in the agencies' analysis of mass reduction, if corrected, would indicate that

[229] 83 Fed. Reg. at 43,107.
[230] *See, e.g.*, 83 Fed. Reg. at 43,062; PRIA at 1207; *id.* at 1207 n.662; *id.* at 1207 n.663.
[231] *Fox*, 556 U.S. at 516.
[232] *Encino Motorcars v. Navarro*, 136 S. Ct. 2117, 2127 (2016).
[233] 83 Fed. Reg. at 43,231.
[234] 83 Fed. Reg. at 43,111.

the standards are *improving* fatality rates by reducing the weight of heavier vehicles while achieving mass reduction with modern high-strength materials and design innovations that maintain or enhance the safety of a vehicle.[235] Accordingly, the proposal's stated justification for rejecting its prior findings that the existing standards are fully compatible with safety is irrational and unsupported by the record.

7. EPA's analysis of cost is impermissibly beyond the bounds of the statute and arbitrary and capricious.

In *Coalition for Responsible Regulation v. EPA*, the D.C. Circuit emphasized EPA's limited discretion in considering costs when setting a standard under Section 202(a)(1) and (a)(2). While Section 202(a)(2) requires EPA to address costs of compliance when regulating, questions regarding the costs are "limited,"[236] and EPA has "limited flexibility available under Section 202(a)(2)."[237] In particular, Section 202(a)(2)'s "reference to compliance costs encompasses only the cost to the motor-vehicle industry to come into compliance with the new emission standards, and does not mandate consideration of costs to other entities not directly subject to the proposed standards," *i.e.*, consumers.[238]

EPA's consideration of costs in the current proposal disregards the statutory directions about how to consider costs. As explained above, under the statute and long-established EPA and judicial precedent, the Section 202(a)(2) mandate to consider cost directs a focused inquiry as to whether the costs for manufacturers are so large as to preclude "the development and application of the requisite technology" within the relevant "period" of lead time.[239] EPA may consider consumer preferences, but only to the extent they bear on achievability of emission reductions.[240] The NPRM impermissibly proposes to stall any progress in achieving EPA's obligation under Section 202(a)(1) and (a)(2) to prevent pollution that endangers human health and welfare, on the basis that any change from current hybrid and EV sales levels implies an undue impact on consumer choice.[241] Relying on consumer preferences in this loose, statutorily-unauthorized manner is fundamentally inconsistent with the core premises of the Clean Air Act and other laws that seek to address externalities of economic activity in the form of serious and unprecedented endangerment of public health and welfare. Even if NHTSA's dubious analysis of consumer preferences were well-founded (and it is not), for EPA to refuse to limit gravely harmful pollution because some people would prefer products not to be subject to weaker or no limits is a

[235] *See* comments submitted to these dockets on this proposal by Consumers Union.
[236] *Coalition for Responsible Regulation*, 684 F. 3d at 118; *see also MEMA I*, 627 F.2d at 1118 (interpreting Section 202's reference to cost of compliance as restricted to "the economic costs of motor vehicle emission standards and accompanying enforcement procedures" and noting that "[e]very effort at pollution control exacts social costs. Congress, not the Administrator, made the decision to accept those costs").
[237] *Id.* at 127.
[238] *Id.* at 128.
[239] 42 U.S.C. § 7521(a)(2).
[240] *Cf. International Harvester v. Ruckelshaus*, 478 F. 2d 615, 633-36 (D.C. Cir. 1973).
[241] *Id.* (standards can result in "fewer models and a more limited choice of engine types").

fundamental rejection of Congress's contrary policy judgment and a fundamental abdication of EPA's duty to protect public health and welfare.

The proposal alleges that the current level of hybrid/EV sales is already being forced onto consumers, directly or through cross-subsidies. But this allegation cannot outweigh the core focus of Section 202(a)(1) and (2) on preventing harms to public health and welfare by reducing a vehicular pollution contributing to climate change. Any such cross-subsidization cannot outweigh the value of the pollution reduction at stake—Congress determined as much by enacting these provisions. Even if consumers did not prefer catalytic converters and their installation imposed some cost, pollution limits reflecting their use are still required under Section 202 in order to achieve the statute's overriding pollution reduction mandate.[242]

Finally, EPA's consideration of costs is arbitrary and capricious for failure to properly consider the additional pollution burden and resulting health impacts from the weakened standards. As discussed in detail elsewhere, this unreasonable omission impermissibly biases the analysis against more protective standards.[243]

8. The proposal's technical analysis is irredeemably flawed.

Agencies must examine the relevant information and show that the data and analysis on which they rely are accurate and defensible.[244] In the context of a change in course, reasoned decision-making also requires that an agency demonstrate awareness of, and fully explain any departure from, the "facts and circumstances that underlay or were engendered by a prior policy."[245]

EPA's technical analysis is pervasively flawed and unjustified, failing to meet these basic standards. In light of the wholly inadequate comment period[246] and the extraordinary number of defects and inadequate justifications, we are unable to detail each individual failing here; instead, we briefly list the major areas of concern here with a cross cite to other discussions that provide detailed elucidations of each.

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[242] *MEMA I*, 627 F.2d at 1118 ("Every effort at pollution control exacts social costs. Congress, not the Administrator, made the decision to accept those costs.").

[243] *See* comments submitted to these dockets by Environmental Defense Fund, Section on Emissions (discussing, e.g., unreasonable assumptions regarding imports of gasoline and crude oil that do not accord with the proposal's claim that the U.S. is becoming self-sufficient in crude oil production).

[244] *See Dist. Hosp. Partners v. Burwell*, 786 F.3d 46, 57 (D.C. Cir. 2015).

[245] *Fox*, 556 U.S. at 516; *see also Pub. Citizen*, 733 F.2d at 98 (agency must "'cogently explain'" basis for suspending rule) (quoting *State Farm*, 463 U.S. at 48); *Organized Village of Kake v. USDA*, 795 F.3d 956, 968-969 (9th Cir. 2015); *AMB Onsite Services-West v. NLRB*, 849 F.3d 1137, 1146 (D.C. Cir. 2017).

[246] *See* Section VI(D), *infra*.

The proposal's safety analysis includes numerous flawed new approaches and findings that are unsupported by the record (e.g. new treatment of mass reduction[247]; rebound[248]); the result of clear error (e.g. vehicle scrappage results[249]); and/or an effort at misleading presentation (e.g. use of absolute fatality estimates instead of the fatalities rate[250]). The proposal does not properly incorporate or answer EPA's substantial, expert concerns regarding the integrity of the underlying safety analysis. [251] Key components of the analysis were never subject to peer review, contravening EPA's own policies and basic tenets of rational decision-making.[252] In light of the proposal's reliance on these irrational analyses, failure to justify the changes in course, and failure to properly explain and resolve disagreements, finalizing the proposal would be arbitrary and capricious.

The proposal's underlying analysis of cost and feasibility is similarly flawed. The NPRM raises concerns that high costs and very high EV/hybrid penetration will be needed to achieve the standards, undermining the maintenance of what EPA erroneously views as consumer choice. But EPA must provide a reasoned explanation for departing from its existing conclusions.[253] EPA has failed to assess and provide a rational justification for why the new inputs and assumptions reflected in the underlying modeling—which drive the findings it relies upon—deviate drastically from the agency's prior approaches. These findings are infected with faulty assumptions and arbitrary constraints, resulting in a thumb-on-the-scale projection of large amounts of electrification needed for compliance with attendant higher costs.[254]

EPA has failed to consider and respond to evidence in the record showing that the existing standards remain feasible and cost-effective.[255] The existing EPA standards are supported by an extensive and robust record including both the 2012 and 2016 records. The 2017 Final Determination concluded that the standards could be *stronger*, based on rigorous support in the

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[247] *See* comments submitted to these dockets on this proposal by Consumers Union; Natural Resources Defense Council (October 2018), Appendix A: Evaluation of Mass Reduction Assumptions in NHTSA Volpe Model.

[248] *See* comments submitted to these dockets by: The Institute for Policy Integrity at the NYU School of Law; Ken Gillingham; Environmental Defense Fund and Union of Concerned Scientists, *Analysis of the Value and Application of the Rebound Effect.*

[249] *See* comment submitted to these dockets on this proposal by the Institute for Policy Integrity; Mark Jacobsen, NHTSA-2018-0067-7788; Meszler Engineering Services (October 2018), Technical Memorandum II: The NPRM CAFE Model's Vehicle Activity Forecasting Methods, appended to comments filed by NRDC; David Bunch (August 2018), An Evaluation of NHTSA's Economics-based Modeling, appended to comments filed by the California Air Resources Board.

[250] *See* comments submitted to these dockets on this proposal by Consumers Union; R. Michael Van Aucken, appended to comments filed by the California Air Resources Board.

[251] *See* Section VI(C), *infra*.

[252] *See* Section VI(D), *infra*.

[253] *Encino Motorcars v. Navarro*, 136 S. Ct. 2117, 2127 (2016).

[254] *See* comments submitted to these dockets on this proposal by the International Council for Clean Transportation; Meszler Engineering Services (October 2018), Technical Memorandum I: The NPRM CAFE Model's Treatment of Technology Benefits and Costs, appended to comments filed by Natural Resources Defense Council.

[255] *U.S. Sugar Corp. v. EPA*, 830 F.3d 579 (D.C. Cir. 2016).

record.[256] The Draft Technical Assessment report underlying the 2017 Final Determination, issued jointly by EPA, NHTSA, and CARB, concluded based on an extraordinarily robust record that "[a] wider range of technologies exist for manufacturers to use to meet the MY2022-2025 standards, and at costs that are similar or lower, than those projected in the 2012 rule" and that "[a]dvanced gasoline vehicle technologies will continue to be the predominant technologies, with modest levels of strong hybridization and very low levels of full electrification (plugin vehicles) needed to meet the standards."[257] EPA has failed to grapple with this massive body of evidence and rationally justify its departure from its prior findings on technological feasibility.[258]

9. EPA's analysis of pollution impacts is arbitrary and capricious.

The agency unlawfully mischaracterizes the harm at stake in this rulemaking. First, EPA's treatment of emission reduction benefits in its cost-benefit analysis improperly minimizes the forgone benefits stemming from the proposal's substantially increased emissions. Second, the agency fails even to seriously discuss the climate harms at stake.

EPA has relied upon a cost-benefit consideration as part of its analysis of the proposal: in its consideration of emissions impacts, the NPRM states that "the Administrator believes from a cost/benefit perspective that the foregone GHG emission reduction benefits from the proposed standards are warranted."[259] But EPA's analysis of forgone GHG reduction benefits arbitrarily departs from well-established best practices regarding the social cost of GHG emissions by using an improperly high discount rate and a flawed, so-called "domestic" estimate.[260] As discussed in detail in separate comments, the resulting estimates are unsupported and their use is arbitrary, capricious, and unlawful.[261] EPA's reliance on these estimates as part of its justification for determining the level of the standards renders the proposal fatally flawed.[262]

In addition, the agency fails to grapple with the dire threats posed by greenhouse gases and their ensuing impacts. The proposal includes only passing references to the health and welfare threat posed by climate pollution— even though Section 202(a)(1)'s central focus is on preventing air

[256] EPA, Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation, at 8, EPA-420-R-17-001 (Jan. 2017), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100QQ91.pdf.
[257] DTAR at ES-2.
[258] *Encino Motorcars v. Navarro*, 136 S. Ct. 2117, 2127 (2016).
[259] 83 Fed. Reg. at 43,230. Costs are a subsidiary concern compared to protecting the public health and welfare from threatened pollution harms. *Cf. Husqvarna AB v. EPA*, 254 F. 3d 195, 200 (D.C. Cir. 2001) (construing CAA section 213(a)(3) and upholding EPA's weighing of statutory factors of greatest degree of emission reduction achievable, cost, lead time, and safety, stating that "the overriding goal of the section is air quality and the other listed considerations, while significant, are subordinate to that goal").
[260] The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021 – 2026 Passenger Cars and Light Trucks: Preliminary Regulatory Impact Analysis, 1063-65 (July 2018, updated Aug. 23, 2018), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld-cafe-co2-nhtsa-2127-al76-epa-pria-180823.pdf.
[261] *See generally* comments submitted to these dockets on treatment of the social cost of carbon by the Institute for Policy Integrity, et. al.
[262] *Cf. Center for Biological Diversity v. NHTSA*, 508 F.3d 508, 531 (9th Cir. 2007); *High Country Conservation Advocates v. Forest Service*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014).

pollution that endangers human health or welfare. The proposal includes no discussion of the latest science on climate change, and no discussion of the impacts at stake beyond a minimal discussion of the additional ppm and temperature increases expected with the recommended alternative—presented in a format that minimizes and belittles these impacts.[263] The discussion of climate impacts in the proposal's accompanying Draft Environmental Impact Statement does not remedy the inadequate consideration EPA gives this central factor in the NPRM. First, the DEIS discussion is still abbreviated and inadequate.[264] Second, the DEIS is a NHTSA document, and EPA may not delegate its consideration of pollution impacts at stake—the core consideration for EPA's decision-making under Section 202—to another agency.[265] As detailed earlier in these comments, there is a fundamental irrationality in the proposal's failure to address the impact of EPA's choices on this most grave and serious of health and environmental threats.[266] EPA cannot simply ignore the unambiguous will of Congress in existing legislation on the basis of a disagreement about the importance of combating air pollution that endangers public health and welfare.

C. The proposals to remove non-CO_2 GHGs from the GHG standard are unlawful.

Under present rules, the stringency of the CO_2 standard reflects reductions in emissions of the potent GHG hydrofluorocarbons (HFCs) by reducing leakage of these refrigerants or by substituting refrigerants with lower climate forcing potency.[267] EPA also has adopted separate standards for methane (CH_4) and nitrous oxide (N_2O), which standards can either be met individually, or, as part of the CO_2 standard, by various options for increasing reductions of CO_2 to reflect the CO_2 equivalent of the CH_4 and N_2O emissions.[268]

EPA now proposes to stop accounting for non-CO_2 GHGs as part of the CO_2 standard, leaving an outright gap for emissions of A/C refrigerants, and eliminating the fleet-wide CO_2 compliance options for CH_4 and N_2O.[269] These proposals are unlawful. They would impose costs without environmental benefit based on a justification—harmonization with CAFE[270]—that is not even a decision factor under Clean Air Act § 202(a), and that conflicts with the proposal's own acknowledgment that these emissions do not significantly impact average fuel economy.[271] The

[263] *See, e.g.*, 83 Fed. Reg. at 42,996
[264] *See, e.g.*, Joint Comments of Center for Biological Diversity et. al., Re: The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021-2026 Passenger Cars and Light Trucks: Draft Environmental Impact Statement.
[265] *See* Section III(A), *supra*.
[266] *See* Section I, *supra*.
[267] *See* 83 Fed. Reg. at 43,193 ("Prior to MY 2021, average required CO_2 levels reflect underlying target functions . . . that reflect the use of automotive refrigerants with reduced global warming potential . . . and/or the use of technologies that reduce the refrigerant leaks . . . ."); *see also* 77 Fed. Reg. at 62,804 (explaining how A/C leakage and substitution credits are reflected in the standard).
[268] 83 Fed. Reg. at 43,194.
[269] *Id.* at 43,193.
[270] *Id.*
[271] *Id.* at 43,197 n.380, 43,209.

gap in control of A/C refrigerants is doubly illegal, since EPA has a mandatory legal duty to control these pollutants. EPA has no legal alternative to retaining these standards.

1. Air conditioning refrigerants.

a. Eliminating A/C refrigerants from the standard is contrary to law

EPA is proposing to eliminate the ability to apply A/C leakage credits and reduce the stringency of the 2021 and succeeding MY standards by adjusting the curves to reflect a 13.8 g/mi reduction in stringency for passenger cars and 17.2 g/mi for light trucks.[272] EPA indicates that it "would consider whether it is appropriate to initiate a new rulemaking to regulate [the A/C leakage program] independently . . . ."[273] This part of the proposal is illegal on its face. EPA has a mandatory duty to regulate vehicular emissions of all GHG pollutants for which it made a positive endangerment finding.[274] The HFC refrigerants are among those pollutants.[275] A promise of future action, much less the conditional possibility proffered here, is not a lawful justification for repealing existing standards that fulfill this mandatory duty.[276] Eliminating the A/C refrigerant component of the CO_2 standard is patently contrary to law.

b. Eliminating A/C refrigerants from the standard is also arbitrary and capricious.

Even a regime with a separate standard for A/C refrigerants would be illegal. Such a regime would increase costs to manufacturers and result in environmental detriment by removing any incentive to use the most aggressive approaches to curtail emissions of these highly potent GHGs. A rule imposing costs without corresponding environmental benefits is "a classic case of arbitrary and capricious rulemaking,"[277] and the imposition of environmental detriments is likewise arbitrary.

There is no question that there exist viable, highly cost-effective A/C leakage and substitution strategies, and that manufacturers have begun to use them. Numerous auto manufacturers are using leakage-related technologies and receiving GHG compliance credits: BMW, Ford, Fiat-Chrysler, General Motors, Honda, Hyundai, Jaguar, Kia, Mercedes, Mitsubishi, Nissan, Subaru, Tesla, Toyota, VW, and Volvo. Four have begun deploying lower-global warming refrigerants—substituting HFO-1234yf for HFC-134a: GM, Honda, Jaguar, Fiat Chrysler.[278]

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[272] *Id.* at 43,193-94. The proposal unreasonably does not explain how the curves are adjusted to reflect passenger car and light truck contributions, even though GHG standards apply to the entire light-duty fleet and there are no separate passenger car and light truck standards.
[273] *Id.* at 43,194.
[274] *Coalition for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102, 126 (D.C. Cir. 2012), *aff'd in part, rev'd in part on other grounds sub nom*. *Util. Air Regulatory Grp. v. EPA*, 573 U.S. 302 (2014), and *amended sub nom. Coalition for Responsible Regulation, Inc. v. EPA*, 606 F.App'x 6 (D.C. Cir. 2015).
[275] 77 Fed. Reg. at 62,633-34, 62,770.
[276] *See Chemical Waste Management v. EPA*, 976 F.2d 2, 19 (D.C. Cir. 1992) (concluding that the promise of future action could not serve as compliance with the agency's statutory obligations).
[277] *Chemical Manufacturers Ass'n v. EPA*, 217 F. 3d 861, 865 (D.C. Cir. 2000).
[278] EPA, Greenhouse Gas Emission Standards for Light-Duty Vehicles: Manufacturer Performance Report for the 2016 Model Year (Jan. 2018) at 34-36 (Tables 3-11 & 3-12), available at https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100TGIA.pdf; *see also* EPA, Draft Technical

Eliminating these compliance alternatives forces manufacturers to find some less cost-effective means of compliance, a cost nowhere acknowledged much less assessed.[279]

Even if there were a separate standard independent of the CO_2 standard, manufacturers would have no incentive to over-comply, as they now do.[280] Given the high climate-forcing potential of these pollutants,[281] and the disastrous consequences of climate change,[282] EPA should be taking action to reduce their use. Instead, the agency is proposing to do the opposite.[283]

The proposal contains nary a sentence examining the costs and environmental consequences of eliminating refrigerants from the standard. The only justification for this ill-considered action is "better harmony with the CAFE program . . . ."[284] But harmonization is not an enumerated decision factor under CAA § 202(a), and it cannot outweigh Section 202's command to EPA to address pollution that endangers human health and welfare. In addition, this justification conflicts with the proposal's own acknowledgment that these emissions do not significantly impact average fuel economy.[285] The proposal ignores the central issues posed by this proposed action, a hallmark of arbitrary decision-making.[286]

EPA should withdraw this proposal and retain the existing regime, meaning that the stringency of the CO_2 standard (*i.e.* the CO_2 curves) would not be affected. There is no legal basis for the proposed approach.

Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025, at 5-207 (July 2016) [hereinafter DTAR] ("Since the [federal rulemaking], many manufacturers have generated and banked credits through this program and continue to do so today."); *id.* at 5-216 to 218 (discussing the availability of alternative refrigerants with lower global warming potential than HFC-134a).

[279] *See, e.g.*, Draft TAR at 5-216 ("Vehicle manufacturers consider low-leak technologies to be among the most cost-effective approaches to improving overall vehicle GHG emission performance.").

[280] *See* 83 Fed. Reg. at 43,193 (noting that some manufacturers claim credits nearly up to the cap level of 18.8g/mi CO_2e).

[281] HFC-134a, currently the most prevalent refrigerant, has a 100-year global warming potential of 1,430. EPA, *Refrigerant Transition & Environmental Impacts*, available at https://www.epa.gov/mvac/refrigerant-transition-environmental-impacts. HFO-1234yf, used by four manufacturers as a substitute, has a 100-year global warming potential of 4. *Id.*

[282] *See, e.g.*, Intergovernmental Panel on Climate Change, *Global Warming of 1.5°C* (Oct. 6, 2018) (concluding, among other things, that warming above 1.5°C could trigger the near-total loss of tropical coral reefs and the collapse of the Antarctic and Greenland ice sheets, and that there is a 12-year window to take action to avoid these devastating losses).

[283] Nor can EPA point to Title 6 of the CAA to justify absence of or weakening of standards here. *See Mexichem Fluor, Inc. v. EPA*, 866 F.3d 451, 454 (D.C. Cir. 2017) (holding that Section 612 of the CAA does not provide EPA with authority to regulate non-ozone depleting HFCs).

[284] 83 Fed. Reg. at 43,193.

[285] *Id.* at 43,197 n.380, 43,209.

[286] *State Farm*, 463 U.S. 29, 43 (1983) (failure to consider an important aspect of the problem is arbitrary).

2. Standards for CH_4 and N_2O.

Although EPA is not proposing to eliminate the CH_4 and N_2O standards, it does propose to remove alternative compliance mechanisms whereby the standards can be met on a fleet-average basis by folding the weighted CO_2e (including CH_4 and N_2O) into the CO_2 standard.[287] The alternative compliance mechanisms exist to provide cost-effective options for compliance, and were considered by manufacturers to be a necessary element of the program for certain types of vehicles.[288] Eliminating these flexibilities consequently imposes costs on manufacturers without discernible environmental benefits. None are claimed for the proposal. Indeed, the proposal threatens to produce environmental detriments, as manufacturers will no longer have any incentive to over-comply with the standard to generate credits toward CO_2 compliance, including by extra removal of the potent GHGs CH_4 and N_2O.[289] As with the A/C leakage proposal, the sole ground advanced is harmonization with the CAFE program.[290] Again, this is not an enumerated decision factor under § 202(a), whatever significance can be attributed to it cannot outweigh the enumerated statutory criteria, and this justification is in tension with the proposal's own findings. The failure to analyze the proposal's costs and environmental effects is itself arbitrary and capricious,[291] and the grounds advanced for this proposal are unpersuasive. EPA should likewise abandon this part of the proposal.

IV. NHTSA violates EPCA and the proposal is arbitrary and capricious.

When setting "maximum feasible average fuel economy" standards NHTSA must consider four factors: "technological feasibility, economic practicability, the effect of other motor vehicle standards of the Government on fuel economy, and the need of the United States to conserve energy." 49 U.S.C. § 32902(f).

Of these four factors, NHTSA must prioritize energy conservation. In enacting the Energy Policy and Conservation Act, NHTSA's governing statute, Congress explicitly stated that key mandates of the act were "to conserve energy supplies through energy conservation programs," and "to provide for improved energy efficiency of motor vehicles." Pub. L. No. 94-163, §2, 89 Stat. 871 (1975); *see also,* Pub. L. No. 110-140, 121 Stat. 1492 (2007). NHTSA itself admits that "[t]he overarching purpose of EPCA is energy conservation." 83 Fed. Reg. at 43213.

In considering the various factors, NHTSA cannot "undermine the fundamental purpose of EPCA: energy conservation." *Center for Biological Diversity v. NHTSA,* 538 F.3d 1172, 1194 (9th Cir. 2008); *Center for Auto Safety v. NHTSA*, 793 F.2d 1322, 1340 (D.C. Cir. 1986). Setting standards that give excess weight to other factors (e.g., economic practicability, consumer preference, safety) so as to override the mandates of energy conservation and providing for

[287] *Id.* at 43,194; *see also* 77 Fed. Reg. at 62,799 (describing the alternative CO_2-equivalent standard option).
[288] *See* 77 Fed. Reg. at 62,799 (pointing out that manufacturers having difficulty meeting the N_2O or CH_4 standards still had the option of complying using the CO_2 equivalent alternative).
[289] No credits were available for over-compliance with the bare CH_4 and N_2O standards.
[290] 83 Fed. Reg. at 43,194.
[291] *State Farm,* 463 U.S. at 43.

improved energy efficiency of motor vehicles, would be arbitrary and capricious and contrary to the intent of Congress. *Id.* Yet, NHTSA violates that intent here.

A. NHTSA's proposal fails to comply with its mandate to prioritize energy conservation, and its analysis of the required statutory factors is arbitrary and capricious.

In the proposal, NHTSA declares that "[t]he world has changed, and the need of the U.S. to conserve energy may no longer disproportionately outweigh other statutorily-mandated considerations." *See e.g.*, 83 Fed. Reg. at 43226. Yet not only does NHTSA fail to substantiate its conclusions and justify its departure from its practice in past rulemakings, its proposal also contravenes Congress' intent that NHTSA strive towards increased energy conservation. *State Farm*, 463 U.S. at 43, *Encino Motorcars*, 136 S. Ct. at 2127.

Congress explicitly made energy conservation, including developing efficient motor vehicles, the key mandate of EPCA. Pub. L. No. 94-163, §2, 89 Stat. 871 (1975); Pub. L. No. 110-140, 121 Stat. 1492 (2007); *see also, CBD v. NHTSA*, 538 F.3d at 1194. NHTSA can only act in a manner that is consistent with Congress' directive, and Congress has not provided it with the authority to substitute its judgment for Congress' as to the need to conserve energy. *See e.g., Louisiana Public Service Comm'n v. FCC*, 476 U.S. 355, 374 (1986); *Clean Air Council v. Pruitt*, 862 F.3d 1, 9 (D.C. Cir. 2017). If NHTSA believes that the need for energy conservation is no longer the central consideration informing an average fuel-economy standard, the agency must ask Congress to change the law rather than cease to execute it. *Cf.* U.S. Const. art. II, § 3, cl. 5.

NHTSA's rationale for its proposed standards completely frustrates EPCA and Congress' intent with its enactment. Rather than pursue greater fuel economy, NHTSA has explicitly rejected that goal by claiming that there is no longer any real need to conserve energy and instead justifies its proposed standards based on factors, including maintaining low vehicle prices, "consumer preference," and other considerations such as the agency's misguided claims concerning phantom safety implications of increased vehicle miles traveled that will allegedly be caused by standards that require improvements in fuel economy. The proposed changes to how NHTSA weighs these factors as well as the methodology used to consider the implications of higher standards would effectively mean that more stringent fuel economy standards would never be approved. That result would be contrary to what lawmakers intended – that CAFE standards become increasingly stringent over time so that gasoline and diesel-powered vehicles conserve energy at the rate that is maximum feasible.

NHTSA's proposal also violates the goals of amendments to EPCA. Upon passing EISA, which amended provisions of EPCA, Congress explicitly stated that its intent was to "increase the efficiency of products, buildings, and vehicles." Pub. L. No. 110-140, 121 Stat. 1492 (2007); *see also, Memorandum of the President*, 74 Fed. Reg. 4907 (Jan. 26, 2009) (stating that energy independence requires "annual fuel economy increases for automobiles), *Presidential Memorandum*, 75 Fed. Reg. 29399 (May 21, 2010). In passing EISA, lawmakers also envisioned that energy conservation required increasingly stringent standards: "[r]educing gasoline consumption, in part by strengthening CAFE standards, addresses America's need for energy security, and must be a part of our deliberations on energy and environmental policy." *Review of the Administration's Energy Proposals for the Transportation Sector: Hearing Before*

the Subcommittee on Energy and Air Quality of the H. Committee on Energy and Commerce, 110th Cong. 4-5 (2007) at 3 (statement of Rep. Hastert, Ill.)

1. NHTSA unlawfully deprioritizes the factor of energy conservation.

As noted above, the prime factor that NHTSA must consider in setting standards is the need to conserve energy. *CBD v. NHTSA*, 583 F.3d 1172, 1194 (9th Cir. 2008); *Center for Auto Safety*, 793 F.2d at 1340. NHTSA's failure to prioritize this factor violates its statutory obligations.

As part of considering "energy conservation," NHTSA must consider several subfactors: "the consumer cost, national balance of payments, environmental, and foreign policy implications of our need for large quantities of petroleum, especially imported petroleum." *See* 77 Fed. Reg. at 62669; *Center for Auto Safety*, 793 F.2d at n 12. NHTSA's consideration of these factors is fundamentally flawed. For example, it gives only cursory consideration to the environmental implications of its proposal, which violates its statutory obligations under EPCA. Its analysis of the other factors is also flawed in numerous ways.

a. Energy conservation remains essential, and NHTSA's analysis of the national balance of payments and foreign policy implications is erroneous.

NHTSA argues that the need for energy conservation is no longer as great as it was previously, due to increased domestic oil production and decreased oil imports. *See* 83 Fed. Reg. at 43216. Even assuming that NHTSA could lawfully override Congressional intent by administrative fiat (which it cannot), NHTSA is wrong as a matter of fact. The importance of energy conservation remains vital for multiple reasons, including: the continuing dependence on oil imports for the U.S., which remains a net petroleum importer, the economic boost provided by incentivizing the development of clean technology, the cyclical nature of energy markets, the unpredictability of oil prices, and the environmental benefits of reduced oil consumption.[292]

NHTSA's analysis that the U.S. no longer needs to conserve energy is arbitrary and capricious. The need to conserve energy is not simply a function of the quantity of oil that is currently being produced in the United States. As explained here, a proper evaluation of the factors NHTSA considers demonstrates that the need to conserve energy has in fact grown in significance. As one appellate court noted ten years ago, "[t]he need of the nation to conserve energy is even more pressing today than it was at the time of EPCA's enactment…[w]hat was a reasonable balancing of competing statutory priorities twenty years ago may not be a reasonable balancing of those priorities today." *CBD v. NHTSA*, 538 F. 3d at 1197-98.

In considering the "national balance of payments," NHTSA states that the subfactor is not particularly relevant, given that domestic oil production has increased, while oil imports have decreased. 83 Fed. Reg. at 43211. Similarly, in considering "foreign policy implications," NHTSA notes that increased domestic production reduces the urgency of conserving energy. 83 Fed. Reg. at 43212. Because of these shifts, NHTSA concludes that "gasoline price shocks are no longer as much of a threat as they were when EPCA was originally passed," and that the need

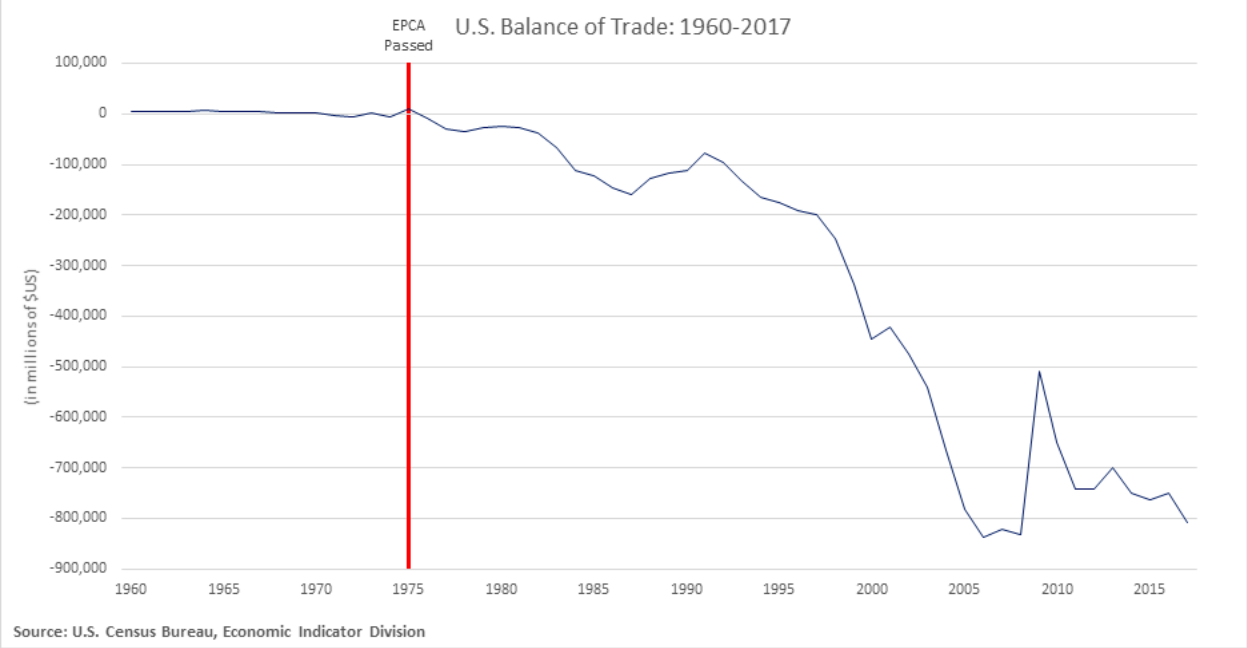
[292] *See e.g.*, Jason Bordoff, Comment on fleet turnover modeling in Notice of Proposed Rulemaking for the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks, Docket No. EPA-HQ-OAR-2018-0283 and Docket No. NHTSA-2018-0067.

for energy conservation is no longer as pressing as it was when EPCA was enacted. 83 Fed. Reg. at 43215.

NHTSA's evaluation of these subfactors is flawed and arbitrary. NHTSA's assumptions about trends in domestic oil production and energy prices are short-sighted and fail to account for the cyclical nature of energy markets and the uncertainties associated with certain extractive practices. Prioritizing energy conservation remains a key part of the balancing calculus NHTSA must use, and yet, NHTSA arbitrarily disregards that consideration when evaluating the national balance of payments and foreign policy implications.

National Balance of Payments: NHTSA wrongly suggests that because domestic oil production has increased, our "national balance of payments" no longer supports the need to conserve energy. This suggestion is wrong for multiple reasons.

First, our "national balance of payments" is in fact far worse than it was when EPCA was first passed. When EPCA was passed in 1973, the U.S. census reports the United States was a net exporter. In 2017, the United States trade deficit was 522 billion dollars.[293]



Domestic oil production serves both global and domestic oil demand and thus reductions in domestic consumption will help reduce our overall trade deficit. While U.S. oil imports may have decreased in recent years, the U.S. is still a net oil importer.[294] In 2017, the U.S. imported approximately 10.1 million barrels per day (MMb/d) of petroleum from about 84 countries; and

[293] https://www.census.gov/foreign-trade/statistics/historical/gands.pdf

[294] U.S. Energy Information Administration, *Annual Energy Outlook 2018* (Feb. 6, 2018) at 22, available at https://www.eia.gov/outlooks/aeo/pdf/AEO2018.pdf.

almost 80 percent of such imports were crude oil.[295] This continued dependence on imported oil leaves the U.S. vulnerable to future oil price shocks and market volatility.[296]

Even if NHTSA lawfully could discount the need to conserve energy contrary to its Congressional mandate (which it cannot), it is also important to recognize that domestic energy production is not guaranteed to continue at existing levels. Much of the increase in domestic production is due to the use of fracking and other unconventional methods.[297] Financial analysts have noted the fact that most oil production based on fracking is not profitable and may be in a financial "bubble" at present.[298] For example, the Economist reported in 2017 that shale fracking costs exceeded revenues for 34 of 40 quarters.[299] Given these risks, NHTSA must account for the potential for reduced domestic production, and increase vehicle fuel efficiency by setting maximum feasible efficiency standards as Congress has instructed it to do. Moreover, federal and state agency actions governing fracking have been heavily scrutinized and subject to legal challenges because of the environmental damages they cause, which could also alter the viability or profitability of such extraction practices in the long-term.[300] Similarly, other extractive practices, as well as the infrastructure relied upon to transport domestic energy supplies, have also been subject to recent court challenges, all of which creates uncertainty about the supply and pricing of domestic energy sources.[301]

Foreign Policy Implications: NHTSA concludes its discussion of foreign policy implications with the claim that increased domestic supply has "added a new stable supply to the global oil market and reduced the urgency of the U.S. to conserve energy." 83 Fed. Reg. at 43212. This is incorrect and also ignores significant foreign policy concerns.

As noted above, the United States continues to import significant quantities of oil and is not yet a net exporter of oil. Moreover, because oil is a global commodity, the price of oil in the United States follows global oil prices whether or not that oil is produced domestically. And as the chart

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[295] U.S. Energy Information Administration, FREQUENTLY ASKED QUESTIONS. How much petroleum does the United States import and export?, available at https://www.eia.gov/tools/faqs/faq.php?id=727&t=6

[296] Council on Foreign Relations, Dylan Yalbir, *Why Fuel Economy Standards Matter to U.S. Energy Dominance* (March 13, 2018); *available at* https://www.cfr.org/blog/why-fuel-economy-standards-matter-us-energy-dominance

[297] Time; *A Major Second Wave of U.S. Fracking is About to Be Unleashed Upon the World* (March 6, 2018); http://time.com/5187074/fracking-energy-oil-natural-gas/; Reuters, *U.S. Oil Industry Set to Break Record, Upend Global Trade* (Jan. 15, 2018); https://www.reuters.com/article/us-usa-oil-record-shale-analysis/u-s-oil-industry-set-to-break-record-upend-global-trade-idUSKBN1F50HV; *see also*, U.S. Energy Information Administration, *Today in Energy* (Feb. 22, 2018), *available at https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0711*

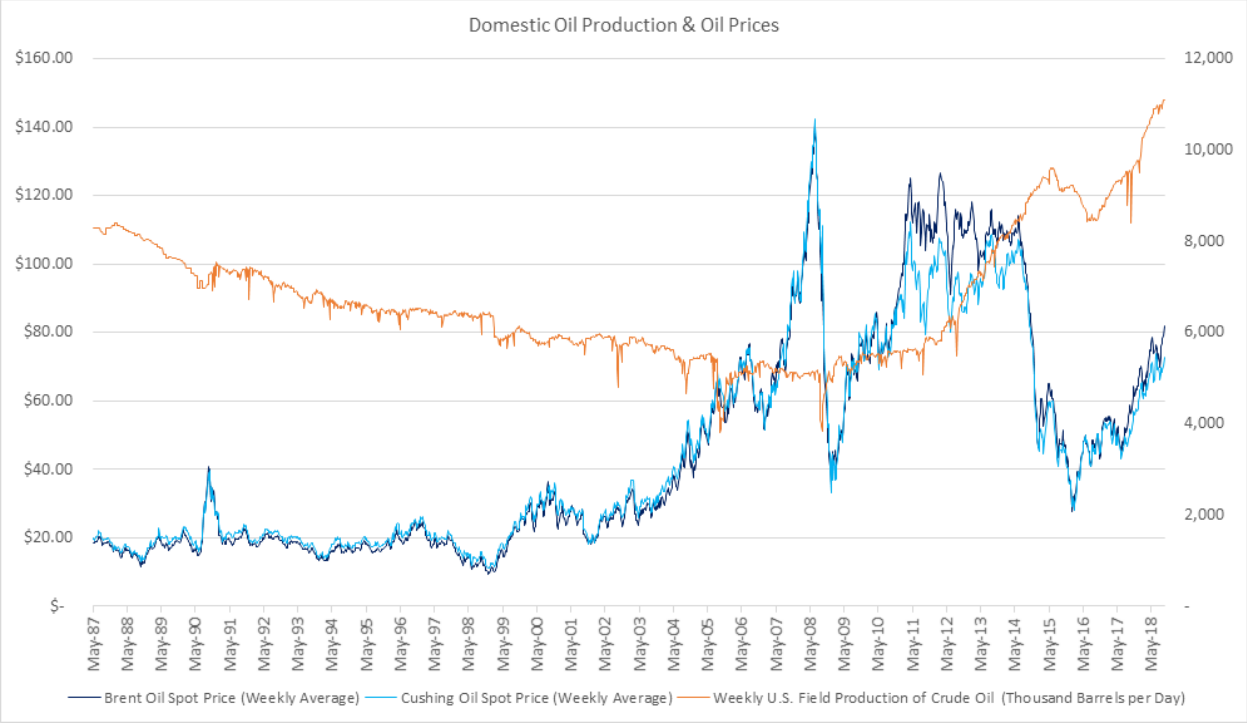
[298] https://www.wsj.com/articles/wall-streets-fracking-frenzy-runs-dry-as-profits-fail-to-materialize-1512577420; New York Times, Bethany McLean, *The Next Financial Crisis Lurks Underground* (Sept. 1, 2018); *available at https://www.nytimes.com/2018/09/01/opinion/the-next-financial-crisis-lurks-underground.html*

[299] ttps://www.economist.com/business/2017/03/25/americas-shale-firms-dont-give-a-frack-about-financial-returns

[300] *See e.g., Wyoming v. Zinke*, Case No. 16-8068; *King & Gardiner Farms v. County of Kern*

[301] *Sierra Club v. FERC*, Case No. 16-1329, Opinion (Aug. 22, 2017); https://www.sierraclub.org/sites/www.sierraclub.org/files/blog/FINAL%20ORDER%208-22-17.pdf

below illustrates, volatility in global oil prices (blue line) have not been eliminated by U.S. production increases (orange line).



More importantly, the United States continues to import oil from countries that increase our geopolitical vulnerability. As the Council on Foreign Relations' Amy Meyers Jaffe and Dylan Yalbir have written, "two of the top five source countries of U.S. petroleum imports are currently Saudi Arabia and Venezuela; dependence on neither seems ideal given recent political developments" and noted that the directive of EPCA was to "avoid being susceptible to fallout from foreign political turmoil like the events currently playing out in Venezuela and the Middle East."[302] More broadly, many of our allies -- and the global economy as a whole -- are also vulnerable to the actions of significant oil producing nations, many of whom are not aligned with the United States. By reducing U.S. oil consumption we not only reduce our exposure but also help reduce the risk to our allies. NHTSA's analysis improperly ignores these important foreign policy implications.

NHTSA fails to provide any rigorous or meaningful analysis of the impacts on balance of payments and foreign policy, and fails to give any real value to these subfactors. It simply states that because it concludes the U.S. is no longer as dependent on petroleum as it was when EPCA

[302] Council on Foreign Relations, Dylan Yalbir, *Why Fuel Economy Standards Matter to U.S. Energy Dominance* (March 13, 2018); *available at* https://www.cfr.org/blog/why-fuel-economy-standards-matter-us-energy-dominance; Jim Krane, *Trump Climbdown Shows Saudis Hold The Cards - And the Oil*, Forbes, Oct. 16, 2018; *available at* https://www.forbes.com/sites/thebakersinstitute/2018/10/16/trump-climbdown-shows-that-saudis-hold-the-cards-and-the-oil/#3eb2688c1550

was passed, consideration of the national balance of payments and foreign policy considerations are less important. 83 FR at 43215; *see also,* 83 FR at 43211-12. That is the sum total of NHTSA's analysis on these factors.

While the acute crises of the 1970s have for now abated, that does not deliver NHTSA from the obligation to cogently and comprehensively explain why it is not appropriate to further reduce the impact on the balance of payments of the country and further reduce the foreign policy problems caused by our ongoing importation of significant quantities of foreign oil. If NHTSA believes these are not problems that need to be addressed, the agency must explain the current situation with respect to these subfactors, what the incremental effect of retaining the current standards would be on them, and the value of that incremental effect to the country. It is arbitrary to reject these subfactors without such an analysis and explanation. *See Encino Motorcars,* 136 S. Ct. at 2127.

In addition to a failure to analyze in any detail or depth the balance of payments factor and the foreign policy factor, NHTSA ignores the views of other branches of government. For example, just recently, the President of the United States admonished OPEC nations for restricting the amount of oil they pump, which adversely affects the supply of oil and the price of gasoline in the United States. Economic and military considerations were front and center in the public position taken by the President.[303] NHTSA cannot ignore those parts of the government that are directly charged with addressing the country's interest with respect to energy security, balance of payments, and foreign policy.

b. Consumer Costs.

In considering consumer costs, NHTSA argues that due to increased domestic energy security and lower oil/gasoline prices, consumers do not prioritize fuel savings and fuel economy in selecting new vehicles. 83 Fed. Reg. at 43216. As noted above, NHTSA's assumptions regarding energy security and oil prices are wrong. Further, as explained in greater detail in various environmental and consumer groups' comments to this docket, NHTSA's assumptions regarding consumer preferences are deeply flawed.

Consumers continue to value fuel savings and fuel economy when purchasing new vehicles. Gasoline costs remain a highly significant cost for consumers. In the past decade, gasoline prices reached their peak in 2008.[304] This recent peak demonstrates that the importance of reducing gasoline costs is as important now as it ever was. In addition, once a vehicle is purchased, every dollar saved because of increased fuel efficiency is a real and actual benefit for consumers irrespective of how they balanced the myriad different factors considered when purchasing a new car. The 2012 rule, as well as the materials accompanying EPA's 2017 Final Determination, provide a detailed explanation regarding consumers' continued preference for fuel-efficient

[303] *See* Thomas Heath, *Trump Urges OPEC to Drive Down Oil Prices,* Washington Post, Sep. 20, 2018; *available at* https://www.washingtonpost.com/business/2018/09/20/trump-urges-opec-drive-down-oil-prices/?utm_term=.205c3fd2016f.

[304] U.S. Energy Information Administration, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMM_EPMR_PTE_NUS_DPG&f=W

vehicles. Yet, NHTSA has failed to provide a reasoned explanation for why this analysis is no longer valid. *See Encino Motorcars v. Navarro*, 136 S. Ct. 2117, 2127 (2016).

While NHTSA briefly acknowledges that fuel costs money and consumers benefit from more efficient vehicles (83 FR at 43210), the agency then ignores the straightforward calculus that greater fuel economy saves consumers net benefits by saving them more money than the incremental change in vehicle prices. Rather than providing any real analysis, NHTSA argues that "consumer cost as an element of the need of the U.S. to conserve energy is also less urgent in the context of the structural changes in oil markets over the last several years." 83 FR at 43216. As detailed above, the need to conserve energy remains essential.

NHTSA's efforts to reject fuel economy improvements by invoking alleged limits in consumer demand for fuel economy is inconsistent with EPCA, which reflects a congressional judgment that the federal government should promote fuel economy *beyond* what the market would otherwise provide. Congress renewed that judgment as recently as 2007, when it enacted the current mandate to raise fuel economy. In particular, 49 U.S.C. § 32908(g), enacted as part of EISA in the Energy Independence and Security Act of 2007, provides that the Secretary of Transportation "shall develop and implement by rule a consumer education program to improve consumer understanding of automobile performance," regarding "fuel economy and greenhouse gas and other emissions over the useful life of the automobile," 49 U.S.C. §§ 32908(g)(1)(A)(i), 32908(g)(2).

Under that statute, the Secretary of Transportation was obligated to issue a final rule establishing the consumer education campaign "not later than 42 months after the date of the enactment of the Ten-in-Ten Fuel Economy Act," which became law on Dec. 19, 2007. 49 U.S.C. § 32908(g)(4). Yet NHTSA wholly ignored this congressional directive, and has failed to implement any program to promote fuel economy among consumers. This statute was enacted more than a decade ago, and NHTSA's statutory deadline to finalize a rule implementing this obligation was more than seven years ago, and yet NHTSA has not taken any action to comply thereunder. Instead, NHTSA has sat idly by, and now throws its hands up to proclaim that, because (in its judgment) consumers do not value fuel economy improvements, fuel economy regulations must be rolled back. NHTSA's logic is without real-world basis, and is contrary to Congressional directives that NHTSA actively counter any consumer reluctance. The EISA consumer education directive makes clear that Congress understood (as do auto manufacturers, who spends billions annually on shaping consumers' preferences) that consumers' understanding and desire for fuel economy is not fixed and immutable, and should not operate as a constraint on pursuing the public and national benefits of fuel economy. The agency's failure to comply with Congress's command betrays a lack of commitment to its affirmative obligations to promote fuel economy.

The flaws in NHTSA's approach are underlined by a recent study of automobile advertising conducted by researchers at University of California-Davis for Consumers Union. Gwen Arnold, et al., *Content Analysis of Unique Auto Ads in the United States: 2005, 2012, 2015, and 2017* (2018) ("*Content Analysis of Unique Auto Ads*").[305] This study finds that advertisements for

[305] The study is available at https://consumersunion.org/wp-content/uploads/2018/10/Final-Report-Auto-Ad-Content-Analysis-080318-1-1-1.pdf.

light-duty vehicles focus overwhelmingly upon emotional appeals; that such ads emphasize performance three times as often as environmental attributes or fuel economy; and that advertisements for plug-in hybrids and full-electric vehicles were extremely rare (a maximum of 1.4 percent of advertisements studied in 2017). *Id*. at 1, 5-6.[306] This study demonstrates that the public and even consumer benefits of fuel-efficient cars are not a central focus of auto manufacturers' profit-oriented advertising strategies, and in fact are downplayed to incentivize consumers to prioritize other vehicle attributes in their purchasing decisions. The study underlines the basic realities that explain why Congress chose not to rely upon the private market alone, but instead to impose statutory requirements that automakers deliver maximum feasible fuel economy vehicles. These public benefits of fuel economy improvements are not adequately provided by the private market alone. The study also demonstrates that there is no reason to believe that NHTSA's failure to perform its own statutory duties to "improve consumer understanding" about the benefits of improved fuel economy, see 49 U.S.C. §§ 32908(g)(1)(A)(i), 32908(g)(2), would be compensated for by auto company advertising.

c. Environmental Considerations.

Despite acknowledging that "[t]he overarching purpose of EPCA is energy conservation," NHTSA does not adequately consider the environmental and climate considerations that are part of evaluating this factor. *Cf.* 83 Fed. Reg. at 43213. In so doing, NHTSA fails to consider an important aspect of the statutory analysis and fails to explain its departure from its own past practices. *State Farm*, 463 U.S. at 43, *Encino Motorcars*, 136 S. Ct. at 2127.

As part of moving the U.S. to "greater energy independence and security," lawmakers intended NHTSA to set maximum feasible fuel economy standards, which conserve energy and account for the environmental and climate benefits that accompany reduced petroleum consumption.[307] In the past, NHTSA itself has acknowledged that in setting fuel economy standards, consideration of the environmental implications of those standards must include "reductions in emissions of carbon dioxide and criteria pollutants and air toxics." 77 Fed. Reg. at 62669; *see also*, 75 Fed. Reg. 25324, 25556 (2010); 71 Fed. Reg. 17566, 17644 (2006).

Yet now, NHTSA ignores not just the energy conservation that will result from more stringent standards, but also the environmental and climate costs that will result from less stringent fuel economy standards. Under this proposal half a million more barrels of oil will be consumed per day, compared to NHTSA's augural standards. 83 Fed. Reg. at 42995. Extracting, processing and consuming oil has numerous adverse health effects, largely levied on low-income communities and communities of color. Many of these fence-line communities are composed of

[306] *Content Analysis of Unique Auto Ads* at 5 ("Emotional appeals of a variety of types are by far the most prevalent theme in auto ads in the years examined. These ads also frequently highlight vehicle performance and sales/incentive promotions of many types (e.g., bonus cash, low APR, sale events)."; "Themes related to vehicle performance are approximately three times more common in auto ads than themes related to safety or fuel economy/green. On average, themes of safety and fuel economy/green are present with roughly the same lower frequency.")

[307] Pub. L. No. 110-140; *see also id.* §§ 202(a)(2); 712(c); 1101; *Review of the Administration's Energy Proposals for the Transportation Sector: Hearing Before the Subcommittee on Energy and Air Quality of the H. Committee on Energy and Commerce*, 110th Cong. 4-5 (2007), statement of Rep. Dingell at 4.

people of color, and/or low-income individuals. Some 17.6 million people in the United States live within a mile of an active oil or gas well.[308] Such proximity leads to increased exposure to criteria air pollutants and airborne toxics, as well as contaminated soil and water.[309] These exposures contribute to a host of adverse health outcomes, including: increased incidence of respiratory and cardiac conditions, adverse birth outcomes for developing fetuses, and increased cancer risk.[310] Likewise, communities living near refineries and roadways also bear increased pollution burdens, and suffer from greater rates of respiratory and cardiac ailments, and increased cancer risks.[311] Without considering this spike in oil extraction, transportation, refinement and consumption and related pollution, NHTSA has not given full consideration to the energy-conservation factor in 49 U.S.C. 39202(f), and its selection of a preferred alternative without accurate consideration of this factor violates NHTSA's mandate. *See State Farm,* 463 U.S. at 43; *CBD v. NHTSA*, 538 F.3d at 1198.

NHTSA also ignores the climate implications of its proposal. NHTSA argues that its current proposal would only increase global temperatures by 0.003º by 2100 (compared to the augural standards), and there is no need to place "an outsized emphasis" on environmental and climate considerations. 83 Fed. Reg. at 43216. Yet, as pointed out in coalition comments on the DEIS, and in the recent Intergovernmental Panel on Climate Change Report, not only is NHTSA's figure wrong, a rise in temperature would have severe consequences.[312] The Rhodium Group calculated that additional carbon emissions resulting from NHTSA's proposal would be larger than the total current national annual emissions of 82% of the countries on Earth.[313] Continuing increases in carbon emissions have dire consequences for a world already teetering on the brink

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[308] Environmental Health Perspectives, Eliza D. Czolowski, *et. al.*, *Toward Consistent Methodology to Quantify Populations in Proximity to Oil and Gas Development: A National Spatial Analysis and Review* (Aug. 23, 2017); *available at https://ehp.niehs.nih.gov/doi/10.1289/EHP1535*

[309] *Id.*; *see also*, Judy Stone, *Fracking is Dangerous to Your Health: Here's Why*, Forbes, Feb. 23, 2017; *available at https://www.forbes.com/sites/judystone/2017/02/23/fracking-is-dangerous-to-your-health-heres-why/#42363acd5945*; U.S. Environmental Protection Agency, *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States* (December 2016), *available at https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990*

[310] *Id.; see also,* Concerned Health Professionals of New York, Physicians for Social Responsibility, *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking* (March 2018), *available at http://concernedhealthny.org/wp-content/uploads/2018/03/Fracking_Science_Compendium_5FINAL.pdf*

[311] *See* California Environmental Protection Agency, *Draft Analysis of Refinery Chemical Emissions and Health Effects* (Sep. 2017), *available at https://oehha.ca.gov/media/downloads/faqs/refinerychemicalsreport092717.pdf;* NAACP, Clean Air Task Force, *Fumes Across the Fenceline* (Nov. 2017) at 24-27; *available at http://catf.us/resources/publications/files/FumesAcrossTheFenceLine.pdf*; American Lung Association, *Living Near Highways and Air Pollution*, http://www.lung.org/our-initiatives/healthy-air/outdoor/air-pollution/highways.html; Health Effects Institute, *Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects* (Jan. 2010), *available at https://www.healtheffects.org/publication/traffic-related-air-pollution-critical-review-literature-emissions-exposure-and-health*

[312] Intergovernmental Panel on Climate Change, *Global Warming of 1.5 Degrees C;* http://www.ipcc.ch/report/sr15/

[313] Rhodium Group: https://rhg.com/research/the-biggest-climate-rollback-yet/

of irreversible consequences from climate change[314] NHTSA's failure to consider these impacts is contrary to NHTSA's own warnings in the 2012 EIS and the 2016 TAR, which cautioned against actions that would contribute to global temperature increases.[315] It is also contrary to NHTSA's past practices of considering the climate impacts of fuel economy standards, and NHTSA fails to explain why it has departed from its past practice. *Encino Motorcars*, 136 S. Ct. at 2127; 77 Fed. Reg. at 62669. Further, because the impact of fuel economy standards on climate change must be considered in evaluating the nation's need to conserve energy, NHTSA's decision to give less weight to this factor despite imminent climate hazards is indefensible.[316]

d. NHTSA relies on an erroneous definition of "energy conservation."

NHTSA relies upon a view that conservation of energy means nothing more than avoiding wasteful or destructive uses of energy, relying on a dictionary definition of the verb conserve.[317] NHTSA relies on this to argue that "[i]n the context of climate change, NHTSA believes it is hard to say that increasing CAFE standards is necessary to avoid destructive or wasteful use of energy as compared to somewhat-less-rapidly-increasing CAFE standards."[318] NHTSA fails to provide a meaningful definition of conservation of energy, and more importantly, fails to explain its departure from its past definitions. *Encino Motorcars*, 136 S. Ct. at 2127.

First, NHTSA fails to clarify anywhere what it means by the metric wasteful or destructive use of energy. Although the dictionary cited by NHTSA does partially define "conserve" by using these terms, that definition does nothing to establish when energy usage crosses a line and becomes wasteful or destructive. NHTSA fails to do so as well. It is arbitrary for NHTSA to fail to define what it means by the metric wasteful or destructive, and then to use this alleged metric in a circular fashion to try to justify the argument that fuel economy is unimportant.

Second, NHTSA uses these terms to imply oil use is wasteful only when it is thrown away or leaked unused. But the plain, common-sense meaning of wasting resources includes using them inefficiently. The low priority NHTSA places on environmental and other considerations is explicable only under such a narrow, cramped, and unnatural-in-context meaning of the terms wasteful or destructive. There is certainly nothing in common parlance or the dictionary that leads to this view, and NHTSA's failure to explain why this is the appropriate definition is arbitrary and capricious.

Third, NHTSA relies upon no legislative history or case law to support its view that conservation of energy means solely the avoidance of wasteful or destructive use of energy. In fact, the

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[314] American Meteorological Society: https://www.ametsoc.net/sotc2017/StateoftheClimate2017_lowres.pdf; California Climate Assessment: http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf; Science, Solomon Hsiang, *et. al.*, *Estimating Economic Damage from Climate Change in the United States* (June 30, 2017), http://science.sciencemag.org/content/356/6345/1362

[315] *See* 2012 Final Environmental Impact Statement at 4-15, 5-158; 2016 Technical Assessment Report at 1-13 - 1-22.

[316] *See e.g.*, Sections I and IV.A.1.c, *supra.*

[317] 83 FR at 43,213.

[318] 83 FR at 43,215.

dictionary definition relied upon by NHTSA is broader than NHTSA notes - it defines "conserve" as meaning "to keep in a safe or sound state, especially to avoid wasteful or destructive use."[319] Hence the avoidance of waste or destruction, even under NHTSA's approach, should be guided by the overarching idea of keeping a resource safe or sound.

Fourth, NHTSA's reliance on an undefined and seemingly narrow concept of avoiding wasteful or destructive use of energy fails to recognize that there is a much more straightforward meaning to the concept of waste of energy in the context of fuel use by internal combustion engines. Some two-thirds of the fossil fuel consumed in internal combustion engines is lost to waste heat and not used to perform the work of moving the car. The CAFE program calls for use of technologies that reduce this energy wastage, to make the use of the fuel more energy efficient. Higher mileage per gallon means the same amount of fuel (energy content) provides more work and therefore more miles, and the same number of miles are traveled while consuming less fuel (energy content). Technologies achieve this result by wasting less heat energy so that vehicles travel a given distance on less fuel. By definition, worse fuel economy is more wasteful of fuel and energy, and better fuel economy is less wasteful of fuel and energy. And reducing the waste of energy reduces fuel costs for consumers, improves balance of payments, reduces environmental impacts, and reduces foreign policy concerns. Avoiding wasteful and destructive use of energy requires increasing fuel economy, not reducing it.

2. NHTSA fails to set technologically-feasible standards.

NHTSA's proposal ignores its obligation to set fuel economy standards that are technology-forcing.

NHTSA's proposal notes that while the various alternatives under consideration all "appear as though they could narrowly be considered *technologically* feasible … based on the existence or the projected future existence of technologies that could be incorporated in future vehicles," the diminished need for energy conservation reduces the need to utilize more efficient technology. 83 Fed. Reg. at 43216. NHTSA also notes that shifting consumer preferences could also weigh against adding more fuel-efficient technology to vehicles. *Id.*

NHTSA cannot rely on these considerations to set less stringent standards, particularly when Congress intended NHTSA to set technology-forcing standards to achieve maximum feasible fuel economy. "Congress created mandatory vehicle fuel economy standards, intended to be technology forcing, with the recognition that 'market forces...may not be strong enough to bring about the necessary fuel conservation which a national energy policy demands." *Center for Auto Safety*, 793 F.2d at 1339, *citing* S. Rep. No. 179, 94th Cong., 1st Sess. 2 (1975), U.S.C.C.A.N. 1975 at 9. In discussing how "feasibility" should be interpreted in other provisions of EPCA, Congress stated that "[t]he term feasibility is used in the strict sense, namely 'capable of being carried out.'" H.R. Rep. No. 94-700, at 172; *see also, CBD v. NHTSA*, 538 F.3d at 1194. Because, as NHTSA notes, more stringent standards than those proposed remain achievable with existing technology (or technology that will be deployed in the near future), NHTSA is required

[319] "Conserve," Merriam-Webster, available at https://www.merriam-webster.com/dictionary/conserve (last visited September 20, 2018).

to retain the current standards given the priority Congress placed on energy conservation, the direction to set "maximum feasible" standards, and the other EPCA factors.

The augural standards were issued in 2012 and reaffirmed in the 2016 TAR and EPA's 2017 Final Determination, and are supported by an extensive and robust record.[320] NHTSA has failed to explain its departure from its prior findings on "technological feasibility," and why those standards are no longer feasible. *Encino Motorcars v. Navarro*, 136 S. Ct. 2117, 2127 (2016). Indeed, the record shows that the standards were not only feasible, but that they were readily within manufacturers' grasp, and that the standards could be made more stringent.

Even if the augural standards posed a challenge to a small handful of manufacturers, NHTSA itself has acknowledged in the past that it is not meant to be constrained by the technology that is currently on the market, and can set aggressive, technology-forcing standards. In the 2012 rulemaking, NHTSA stated that it can "set technology-forcing standards, i.e., ones that make it necessary for manufacturers to engage in research and development in order to bring a new technology to market." 77 Fed. Reg. at 63015; *see also,* 77 Fed. Reg. at 62668.

3. NHTSA gives undue weight to economic practicability and consumer issues.

While NHTSA may consider "economic practicability" in setting fuel economy standards, it must always prioritize EPCA's goal of enhancing energy conservation. Thus, NHTSA's heavy reliance on "economic practicability" and consumer preference to the detriment of greater fuel economy runs contrary to its statutory obligations.

NHTSA argues that in evaluating "economic practicability," the "potential for unreasonable elimination of consumer choice, loss of U.S. jobs, and a number of adverse economic consequences" weigh in favor of setting less stringent standards. 83 Fed. Reg. at 43216. While NHTSA may consider consumer preference or utilize a cost-benefit analysis in evaluating "economic practicability," it may not do so in a manner that compromises EPCA's fundamental mandate of energy conservation.[321]

In considering economic practicability, NHTSA should set standards that are challenging for manufacturers, in order to push them towards greater energy savings. In fact, in the past, NHTSA has adopted the view that "the law does not preclude a CAFE standard that poses considerable challenges to any individual manufacturer." 77 Fed. Reg. at 62668; *citing, CEI-I,* 793 F.2d 1322, 1352 (D.C. Cir. 1986). NHTSA's current proposal, which places great weight on economic considerations to flatline the standards at model year 2020 (or otherwise roll back existing

[320] *See* comments submitted to these dockets on this proposal by the International Council for Clean Transportation; Meszler Engineering Services (October 2018), Technical Memorandum I: The NPRM CAFE Model's Treatment of Technology Benefits and Costs, appended to comments filed by Natural Resources Defense Council.

[321] Pub. L. No. 94-163, §2, 89 Stat. 871 (1975); Pub. L. No. 110-140, 121 Stat. 1492 (2007); *CBD v. NHTSA*, 583 F.3d 1172, 1194 (9th Cir. 2008); *Center for Auto Safety,* 793 F.2d at 1338, 1340.

standards) violates EPCA's directive to prioritize energy conservation even when that challenges individual manufacturers.

NHTSA also argues that more stringent standards could negatively affect employment, by hindering automakers or dealers who cannot sell more efficient vehicles, or by shifting production overseas to locations with cheaper labor. 83 Fed. Reg. at 43224-25. These considerations are also addressed in the 2012 rulemaking, as well as in the 2016 TAR, and support maintaining NHTSA's augural standards.[322] NHTSA has not provided a reasoned explanation as to why this analysis is no longer valid. *Encino*, 136 S. Ct. at 2127.

More stringent standards actually enhance domestic employment opportunities. Today, more than 288,000 workers at more than 1,200 U.S. factories and engineering facilities across 48 states are building the technologies that directly improve fuel economy.[323] Updated fuel economy standards have been instrumental in spurring this economic recovery – rapid innovation and new vehicle content have brought additional investment to expand the automotive sector and created a need for labor to manufacture and integrate technology into a new generation of vehicles.[324] A recent Synapse Energy Economics study found that manufacturers meeting existing CAFE standards would lead to both short- and long-term employment increases in the automotive sector. Synapse projected that the standards would add over 100,000 jobs by 2025 and more than 250,000 jobs by 2035.[325] Synapse also found that the standards would increase GDP by $13.6 billion in 2025 and $16.1 billion in 2035.[326] Synapse's study confirms that saving consumers money at the pump, and allowing them to spend those dollars elsewhere, will lead to net job creation.[327]

NHTSA's discussion of this issue is largely based on speculative, conditional scenarios or possibilities. Contrary to Congress' intentions, NHTSA's speculations are all biased in one direction – trying to justify less conservation of energy. NHTSA also fails to provide any analysis of whether the current standards are within the financial capability of the industry. The only time NHTSA addresses this issue is when it asserts that in some cases manufacturers' profits may be reduced under the current standards, and if this occurs year over year then continued falling profits could lead to risks to companies' long-term viability. 83 Fed. Reg. at 43225. This amounts to no more than speculation about a possible future scenario; and, as discussed above, stringent standards may be set even if they are challenging for some industry participants. Further, this unfounded speculation is contradicted by data from the TAR and more

[322] *See* comments submitted to these dockets for this proposal by Synapse, Assessment of Macroeconomic Impacts from Federal SAFE Proposal, appended to comments filed by the California Air Resources Board.
[323] Natural Resources Defense Council and Blue Green Alliance, *Supplying Ingenuity II: U.S. Suppliers of Key Clean, Fuel-Efficient Vehicle Technologies* (June 2017) at 3 (Supplying Ingenuity); *available at https://www.nrdc.org/resources/supplying-ingenuity-ii-us-suppliers-key-clean-fuel-efficient-vehicle-technologies*
[324] *Supplying Ingenuity* at 6.
[325] Synapse Energy Economics, *Cleaner Cars and Job Creation: Macroeconomic Impacts of Federal and State Vehicle Standards* (March 27, 2018) at ES-2; *available at http://www.synapse-energy.com/sites/default/files/Cleaner-Cars-and%20Job-Creation-17-072.pdf*
[326] *Id.*
[327] *Id. at* 16.

recent data, which shows existing standards bring numerous economic benefits to the automotive industry.

NHTSA relies heavily on the argument that consumers do not wish to pay for fuel efficient vehicles and that they cannot afford new vehicles. 83 Fed. Reg. at 43222. These considerations are thoroughly addressed in the 2012 rulemaking, as well as in the 2016 TAR co-authored by NHTSA as part of EPA's 2017 Midterm Evaluation, and support maintaining, and even strengthening, NHTSA's augural standards. NHTSA fails to provide a reasoned explanation justifying its departure from its prior findings. *Encino Motorcars*, 136 S. Ct. at 2127.

In addition, as set forth in Consumers Union's and Consumer Federation of America's comments, new data shows that consumers remain willing to pay for fuel-efficient vehicles, and that consumers can readily finance new vehicle purchases. Further, as set forth in UC-Berkeley's comment letter on the impacts of the NPRM on low-income consumers, maintaining stringent emissions and fuel-economy standards benefits low-income consumers by increasing fuel savings, reducing vehicle operating and maintenance costs, and enhancing access to clean cars on the used car market. Thus, NHTSA's argument that more stringent standards may disadvantage "low-income or credit-challenged purchasers"[328] is incorrect.

NHTSA's analysis of consumer choice fails in many ways. 83 Fed. Reg. at 43216. First, NHTSA treats this issue as if consumers are a single group, with a singular set of preferences, and argues that existing standards limit consumer choice. This premise is wrong and NHTSA provides no actual data to support its argument.

The one place where NHTSA even approaches discussing an actual reduction in choice amounts to unsupported speculation. In one paragraph NHTSA discusses a scenario where a manufacturer might reduce offerings of 6-cylinder models to force consumers to buy more fuel efficient 4-cylinder models. NHTSA can say no more than "[t]his solution, if chosen, would directly impact consumer choice. It seems increasingly likely that this solution could be chosen as CAFE stringency increases." 83 Fed. Reg. at 43224. There is no analysis to support this scenario, no presentation of past examples or projections of future cases, and no analysis of how likely it is to occur or the nature or degree of reduction in choice if it does occur.

The second form of elimination of consumer choice mentioned by NHTSA – manufacturers failing to add technology that consumers do want – is not explained by NHTSA, and thus provides no basis to support a conclusion that there is an unreasonable elimination of consumer choice. Moreover, as discussed above, consumer choice issues may not be weighed to override the need to conserve energy.

4. NHTSA fails to consider the effect of other motor vehicle standards of the Government.

NHTSA's disregard of "other motor vehicle standards of the Government," such as EPA's vehicle greenhouse gas emissions standards and California's vehicle greenhouse gas emission standards, is arbitrary and capricious.

[328] 83 Fed. Reg. at 43222.

NHTSA argues that it is not obligated to defer to EPA's GHG standards, and that it is not obligated to consider California's standards under this factor. 83 Fed. Reg. at 43210. NHTSA's position goes against Congress' express intent, NHTSA's own past practice, and governing case law. *State Farm*, 463 U.S. at 43; *Encino Motorcars*, 136 S. Ct. at 2127.

In setting maximum feasible fuel economy standards, Congress directed NHTSA to consider "the effect of other motor vehicle standards of the Government on fuel economy," including EPA's vehicle emissions standards.[329] That EPA's GHG standards are "other motor vehicle standards" is reinforced by the plain text of the Clean Air Act and related cases.[330] NHTSA itself acknowledges in this proposal that EPA's GHG standards are "literally 'other motor vehicle standards of the Government.'" 83 Fed. Reg. at 43209. NHTSA has previously considered EPA's emissions standards in setting fuel economy standards.[331] In considering EPA's standards, NHTSA must use such standards to guide its setting of fuel economy standards, consistent with EPA's mandate to "protect public health and welfare." *See Central Valley Chrysler-Jeep Inc. v. Goldstene*, 529 F.Supp.2d 1151, 1170 (E.D. Cal. 2007). NHTSA fails to explain why it is now departing from what the law requires, and its past practice.

Congress also explicitly directed NHTSA to consider California's standards.[332] The plain text of EPCA does not limit NHTSA to considering other *federal* standards. 49 U.S.C. § 32902(f). Courts have also affirmed that NHTSA must consider California's standards as "other standards of the federal government." *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F. Supp. 2d 295, 347 (D. Vt. 2007); *Central Valley Chrysler-Jeep Inc. v. Goldstene*, 529 F. Supp. 2d 1151, 1168 (E.D. Cal. 2007). In past rulemakings, NHTSA has also considered California's standards.[333] And as with EPA's standards (and assuming the statute permitted NHTSA's new position), NHTSA must now provide a reasoned explanation for its change in position regarding California's standards. *Encino*, 136 S. Ct. at 2127.

5. NHTSA's safety analysis is unlawful.

As with the foregoing factors, while NHTSA can consider safety as part of its analysis of maximum feasible standards, it must have a rational, non-arbitrary basis for its safety concerns, and it cannot give such weight to any such concerns as to completely frustrate its mandate to prioritize energy conservation.

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[329] 49 U.S.C. § 32902(f); *see also*, Pub. L. No. 94-163, § 502(d)(2)(D).
[330] 42 U.S.C. § 7521(a)(1); *Massachusetts v. EPA*, 549 U.S. 497, 528 (2007).
[331] 77 Fed. Reg. 62,624, 63,033 (2012); 75 Fed. Reg. 25,324 (2010); 70 Fed. Reg. 51,414 (2005); 68 Fed. Reg. 16,868 (2003).
[332] Pub. L. No. 94-163, § 502(d)(2)(D), 89 Stat. 871, 905; S. Rep. No. 94-516, at 154-56.
[333] *See* 77 Fed. Reg. 62,624, 63,018 (Oct. 12, 2012); 75 Fed. Reg. 25,324, 25,556, 25,607 (May 7, 2010); 68 Fed. Reg. 16868-01, 16896 (Apr. 7, 2003); 71 Fed. Reg. 17566-01, 17,643 (Apr. 6, 2006); 70 Fed Reg 51,414, 51453-54 (Aug. 30, 2005). The view that NHTSA should consider California emissions standards is also mirrored by EPA in past waiver decisions. *See, e.g.*, 43 Fed. Reg. 1829, 1831 (Jan. 12, 1978); *available at* http://cdn.loc.gov/service/ll/fedreg/fr043/fr043008/fr043008.pdf. NHTSA now wrongly argues that this directive only applies to model years 1978 to 1980. 83 Fed. Reg. at 43210. NHTSA's argument is contradicted by its past practice of considering California emissions standards when setting fuel economy standards, even those issued after 1980.

NHTSA argues that more stringent standards will significantly increase new vehicle costs, which will in turn keep consumers in "older, less safe vehicles." 83 Fed. Reg. at 43209. The flaws in NHTSA's analyses are addressed in other comments submitted by other NGO groups. NHTSA's assertions fail to meet the minimum requirements of reasoned agency decision-making, and thus cannot be used to dismiss NHTSA's statutory obligation to promote advances in energy conservation. *CBD v. NHTSA*, 583 F.3d 1172, 1194 (9th Cir. 2008).

As the NPRM admits, 83 Fed. Reg. at 43,111, and as the accompanying technical comments demonstrate, nearly all fatality increases contemplated by the NPRM flow from the agencies' projections that individuals will choose to drive more under the standards because new vehicles are more fuel efficient and cheaper to drive, because the scrappage model projects an increase in the number of existing vehicles and a commensurate increase in driving, and because NHTSA assumes truck owners will drive more than car owners.

NHTSA's reliance on this analysis is unlawful, chiefly because EPCA prevents NHTSA from considering the effects of the standards' "indirect," downstream increases in VMT – consequences NHTSA describes as "freely chosen" by drivers and not "imposed by" the standards – as a measure of "safety" that could thwart otherwise feasible fuel economy standards. As an initial matter, NHTSA has pointed to no language in EPCA or elsewhere that might allow consideration of such effects to weigh heavily (if not conclusively) against the agency's overriding obligation to conserve energy: the agency vaguely claims "authority to consider [safety] independently of" the "economic practicability" factor set forth in 49 U.S.C. § 32902(f), and proceeds to analyze safety outside that or any other EPCA factor, but never identifies the source or bounds of its capacity to conduct the NPRM's particular safety analysis. 83 Fed. Reg. at 43206 n.387. By declining to tether this analysis to any statutory authority that might provide intelligible congressional instructions to the agency – particularly as compared to EPCA's overriding mandate – the agency has impermissibly arrogated authority to itself and rendered the NPRM's safety analysis unlawful: "if there is no statute conferring authority, a federal agency has none." *Michigan v. EPA*, 268 F.3d 1075, 1081 (D.C. Cir. 2001).

In the face of NHTSA's silence, we have been unable to locate a congressional grant of authority allowing the agency to weigh – indeed, to rely on – what it calls "indirect[] . . . consumer behavior" when considering maximum feasible fuel economy standards. 83 Fed. Reg. at 43106. It is true that certain courts have recognized that "NHTSA has always examined the safety consequences of the CAFE standards in its overall consideration of relevant factors," and that these courts have therefore occasionally permitted safety analyses without identifying "the precise statutory basis" for NHTSA's underlying authority. *Competitive Enter. Inst. v. NHTSA*, 901 F.2d 107, 121 n.11 (D.C. Cir. 1990). But in those cases, the parties had alluded to a specific source of regulatory authority (EPCA's provision for considerations of "economic practicability"), and, in any event, the safety concerns at issue stemmed directly from the proposed rule, *e.g.*, the possibility that smaller cars associated with the standards would be less safe. *Id.*

Here, by way of contrast, NHTSA does not invoke any authority for its consideration of downstream effects. It moreover claims to evaluate the "maximum feasible" fuel economy standard with reference to safety-related increases in VMT that, unlike those in *Competitive Enterprise Institute*, are not actually "imposed on consumers by CAFE standards." *See* 83 Fed.

Reg. at 43107. The resulting analysis – in which NHTSA evaluates regulatory effects by looking to phenomena it admits are far removed from the regulation and depend upon speculative decisions made by independent actors – is a textbook example of decision-making rendered arbitrary and capricious due to consideration of a "factor[] which Congress has not intended [the agency] to consider[.]" *Motor Vehicle Mfrs. Ass'n of U.S. v. State Farm Mut. Auto. Ins.*, 463 U.S. 29, 43 (1983). *See City of Portland, Oregon v. EPA*, 507 F.3d 706, 713 (D.C. Cir. 2007). Congress has already specified the factors NHTSA may consider when promulgating fuel economy standards, 49 U.S.C. § 32902, and has not included the type of indirect effects the NPRM embraces. *See* H.R. Rep. No. 94–700, at 156 (1975) (contemplating that NHTSA would consider direct effects, such as "motor vehicle safety standards under the National Traffic and Motor Vehicle Safety Act of 1966," under the "other . . .vehicle standards" component of 49 U.S.C. § 32902). By excluding such factors, Congress has already balanced the role increased mobility and VMT should play in fuel economy standards and concluded that energy savings should predominate, subject to the discrete criteria in 49 U.S.C. § 32902.

Even at their most generous, therefore, courts reviewing considerations of safety under EPCA have noted that it would be "impermissible for NHTSA to rely" on indirect effects like "consumer demand to such an extent that [the agency] ignored the overarching goal of fuel conservation." *Ctr. for Auto Safety v. Nat'l Highway Traffic Safety Admin.*, 793 F.2d 1322, 1340 (D.C. Cir. 1986). *See also Ctr. for Auto Safety v. Claybrook*, 627 F.2d 346, 348 (D.C. Cir. 1980) (stressing "common sense" reading of factors). Yet this is precisely what would transpire if NHTSA's admittedly "new" and "expanded" interpretation of EPCA were to stand, since the agency would then be empowered to calculate increasingly speculative downstream safety effects from changes to VMT until the benefits of proposed standards were rendered "impracticable," and Congress' primary mandate to NHTSA – to regulate for the conservation of energy – was subsumed. Instead, Congress and courts have made clear that NHTSA must subordinate speculative downstream effects like rebound and scrappage to fuel economy standards that will directly conserve energy. *Ctr. for Auto Safety*, 793 F.2d at 1340. "[I]f [NHTSA] believes the statute untoward" with respect to its treatment of indirect safety effects, "then it should take its concerns to Congress . . . . [I]n the meantime it must obey [EPCA] as written," and not shirk its obligation to conserve energy by resorting to distant and hypothetical safety concerns. *Oceana, Inc. v. Locke*, 670 F.3d 1238, 1243 (D.C. Cir. 2011).

In any event, NHTSA must have a rational, non-arbitrary basis for its safety concerns. The technical flaws in NHTSA's analyses are addressed in comments submitted by other NGO groups, and are incorporated here by reference. As detailed in those comments, NHTSA's assertions fail to meet the minimum requirements of reasoned agency decision-making – including by failing to engage with the safety analysis of the 2012 rule and 2016 TAR – and thus cannot be used to cast aside NHTSA's statutory obligation to promote advances in energy conservation. *CBD v. NHTSA*, 583 F.3d 1172, 1194 (9th Cir. 2008).

B. NHTSA's proposal violates EPCA's lead-time provisions.

NHTSA's proposal runs afoul of the lead time requirements of EPCA. *See* 83 Fed. Reg. at 43226.

EPCA requires that any regulation regarding fuel economy standards be finalized "at least 18 months before the beginning of each model year." 49 U.S.C. § 32902(a); *Memorandum of the President*, 74 Fed. Reg. 4907 (Jan. 26, 2009) ("Federal law requires that the final rule regarding fuel economy standards be adopted at least 18 months before the beginning of the model year"). The same requirement applies to amendments to a standard. 49 U.S.C. § 32902(g)(2). NHTSA argues this only applies if standards are being made more stringent. 83 Fed. Reg. at 43207. However, this is not a permissible construction of that provision. Section 32902(g)(1) only permits amendments that "meet[ ] the requirements of subsection (a) or (d) as appropriate." Section 32902(a) requires fuel economy standards to be prescribed 18 months before the beginning of each model year. These two provisions read together require that any amendments to standards - whether they increase or decrease standards - be prescribed at least 18 months before a model year. *See Chevron*, 467 U.S. at 843; *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 133 (2000) (holding that the words of a statute must be read in context, and with a view to their place in the overall statutory scheme); *King v. Burwell*, 135 S. Ct. 2480, 2489 (2015).

EPCA defines a "model year" as beginning on January 1 of a calendar year. 49 U.S.C. § 32901(a)(16). Because model year 2021 begins on January 1 of that year, any standards for that model year must be completed by July 1, 2019. In the last joint rule on vehicle emissions and fuel-economy standards, the agencies needed ten months to issue a final rule after issuing their proposed rule. 76 Fed. Reg. 74854-01 (Dec. 1, 2011); 77 Fed. Reg. 62624 (Oct. 15, 2012). Given this rulemaking is of equivalent complexity, it is likely that the agencies will need at least ten months, if not more to finalize this rule, which would violate the lead time requirements for model year 2021.

In addition, NHTSA is limited to prescribing fuel economy standards for only five model years at a time. 49 U.S.C. § 32902(b)(3)(B). Here, NHTSA is setting standards for six model years, 2021 through 2026. 83 Fed. Reg. at 42986. This exceeds NHTSA's statutory authority.

EPCA's lead time requirements exist to ensure that automakers, suppliers, and other groups connected to the industry have sufficient time to plan the production of standards-compliant automobiles and to provide certainty in the automotive market. This is as true for regulatory changes that increase the stringency of standards, as it is for changes that decrease the stringency of the standards. Changing the MY 2021 standard at this late date would penalize technologically advanced automakers and parts suppliers, who have already made significant investments in updating their technology. *See e.g.*, *International Harvester v. Ruckelshaus*, 478 F.2d 615, 637-38 (D.C. Cir. 1973) (pointing out market dangers of relaxing EPA standards, and how such action "is likely to be detrimental to the leader who has tooled up to meet a higher standard than will ultimately be required"). Further, because NHTSA allows automakers to use credits – earned from over-compliance with fuel economy standards, or purchased from other automakers – to meet fuel economy standards, automakers also have an interest in ensuring that the pricing for CAFE credits remains stable.[334] Weakening standards at this date could lead to a

[334] 49 U.S.C. § 32903; Benjamin Leard and Virginia McConnell, *New Markets for Credit Trading Under US Automobile Greenhouse Gas and Fuel Economy Standards,* Resources for the Future, (May 2017) at 11, 16, *http://www.rff.org/files/document/file/RFF-Rpt-AutoCreditTrading.pdf*.

glut of credits and devalue the credits already banked by automakers, which would be disruptive to the manufacturers that have done the most to further EPCA's energy-conservation goals.

C. NHTSA has used the incorrect CAFE penalty rate in its analysis of technological feasibility and costs.

NHTSA has failed to use the legally-required CAFE penalty of $14 per tenth of a mile per gallon in evaluating anticipated manufacturer compliance with standards and technology costs.

Under EPCA, NHTSA must act to penalize manufacturers who fail to meet fuel economy standards. 49 U.S.C. § 32912. The purpose of the penalty is to foster compliance with the law and to have a remedial impact. 49 C.F.R. § 578.2. Thus, it is crucial for the penalty to be regularly updated so that it continues to incentivize compliance with fuel economy standards.

Throughout its analysis of the proposed rule, NHTSA relies on a penalty rate of $5.50 per tenth of a mile per gallon that manufacturers fail to meet the standard.[335] However, this analysis is plainly unlawful, as well as arbitrary and capricious, because the actual penalty rate for model year 2019-and-after fleets is $14, plus further annual inflation adjustments.[336]

NHTSA has separately *proposed* to reinstate the earlier, outdated penalty rate of $5.50.[337] But that proposal is rife with numerous legal and logical errors.[338] And a mere proposal cannot serve as the lawful basis of NHTSA's analysis here.

V. The agencies' proposal to revoke state authority violates the law and is arbitrary and capricious.

A. EPA lacks authority to withdraw California's waiver.

1. EPA possesses no authority to preempt California's regulations, and its proposal to do so here is unconstitutional.

The doctrine of preemption is grounded in the Supremacy Clause, which makes "the laws of the United States … the supreme law of the land." U.S. Const., Art. VI, cl.2. Congress, which has exclusive authority to make federal law, *id.*, Art. I, sec. 1, has discretion to determine when and how state law is preempted. *See Armstrong v. Exceptional Child Ctr., Inc.*, 135 S. Ct. 1378, 1383-84 (2015). As in other areas of law, "an agency literally has no power to act ... unless and until Congress confers power upon it." *La. Pub. Serv. Comm'n v. FCC*, 476 U.S. 355, 374 (1986). In particular, a federal agency may preempt state law by its actions, as EPA proposes to

[335] *See e.g.*, 83 Fed. Reg. at 43160; 83 Fed. Reg. at 43186; 83 Fed. Reg. at 43450.
[336] *See* 81 Fed. Reg. 95,489, 95,491 (Dec. 28, 2016); *NRDC v. NHTSA*, 894 F.3d 95, 116 (2d Cir. 2018) (vacating unlawful suspension and clarifying that the Civil Penalties Rule "is now in force").
[337] *See* 83 Fed. Reg. 13,904 (Apr. 2, 2018).
[338] *See* Natural Resources Defense Council, Comment on Notice of Proposed Rulemaking - NHTSA Civil Monetary Penalty, *Docket No. NHTSA-2018-0017* (May 1, 2018), https://www.regulations.gov/document?D=NHTSA-2018-0017-0012; Natural Resources Defense Council, Comment on Reconsideration of Final Corporate Average Fuel Economy Rule, *Docket No. NHTSA-2017-0059* (Oct. 10, 2017), https://www.regulations.gov/document?D=NHTSA-2017-0059-0011.

do here by withdrawing the section 209 waiver for California's GHG and ZEV standards, only under carefully circumscribed conditions. As set forth in *City of New York v. FCC,* 486 U.S. 57 (1988), cases of administrative preemption require consideration of two inquiries: whether the agency intended to preempt state law, and – critically here – "whether the [agency] is legally authorized to pre-empt state and local" law or regulation. 486 U.S. at 65-66; *see also Louisiana Pub. Serv. Comm'n v. FCC*, 476 U.S. 355, 374 ("a federal agency may preempt state law only when and if it is acting within the scope of its congressionally delegated authority"); *id.* at 374 ("the best way of determining whether Congress intended the regulations of an administrative agency to displace state law is to examine the nature and scope of the authority granted by Congress"). Without such a delegation, the separation of powers prevents an executive agency from unilaterally taking action to preempt state law.

Here, Congress has plainly made no explicit delegation of authority to EPA to withdraw a waiver.[339] The delegation is solely to grant waivers based on enumerated criteria. *See* 42 U.S.C. § 7543(b). Furthermore, the "nature … of the authority granted," 476 U.S. at 374, is to give California maximum authority to design its own vehicle emissions programs so that California may continue to act as a pioneer and a laboratory for the nation in setting vehicular emission standards, and to give California maximum leeway to protect the health of its citizens. *See* S. Rep. No. 90-403 at 33, 81 (1967); H.R. Rep. No. 95-294 at 301-02 (1977). Withdrawal of a granted waiver is radically inconsistent with these objectives. There can be no legitimate argument that Congress implicitly delegated to EPA the authority to take action so radically at odds with Congressional objectives.

Moreover, there is a well-established "presumption that state and local regulation of matters related to health and safety is not invalidated under the Supremacy Clause." *Hillsborough County v. Automated Medical Laboratories, Inc*., 471 U.S. 707, 715 (1985). This same presumption applies to consideration of agency preemption of such state laws. *Id.*; *see also Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947) (we "start with the assumption that the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress"). So, in addition to taking action palpably at loggerheads with the clear and oft-reiterated Congressional purpose of enabling the California program, EPA is taking the highly disfavored action of preempting a state health and safety program.

EPA's actions in derogation of that "clear and manifest [Congressional] purpose" are beyond its delegated authority. Given the absence of either explicit or implicit Congressional delegation to withdraw waivers, EPA has arrogated to itself a power only Congress can exercise. Such a usurpation cannot stand – it is the Executive exercising a Congressional function and is therefore unconstitutional. The proposed waiver denial thus fails at its very inception.

[339] "[A]gencies have no special authority to pronounce on pre-emption absent delegation by Congress," and in accordance with the legislative history described below, it is clear section 209 narrowly limits EPA's authority to applying the section 209 waiver criteria. *Wyeth v. Levine*, 555 U.S. 555, 577 (2009).

2. The Clean Air Act does not expressly grant EPA authority to withdraw California's waiver.

a. The plain language of the current version of Section 209 provides no waiver withdrawal authority.

The plain language of section 209 does not grant EPA authority to withdraw California's waiver once it has been granted based on a full and thorough consideration of the relevant statutory factors.

Section 209 of the Clean Air Act provides that EPA "shall, after notice and opportunity for public hearing" grant California a waiver from Clean Air Act preemption:

> if the State determines that the State standards will be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards. No such waiver shall be granted if the Administrator finds that—
> (A) the determination of the State is arbitrary and capricious,
> (B) such State does not need such State standards to meet compelling and extraordinary conditions, or
> (C) such State standards and accompanying enforcement procedures are not consistent with section 7521(a) of this title.

42 U.S.C. § 7543(b)(1).

The plain text of this provision, providing that "no waiver shall be granted" if EPA does not make the required findings, demonstrates that Congress considered this to be a one-time determination that EPA would not be authorized to revisit or revise in the future. A useful contrast is the language of Clean Water Act section 404(c), which provides for the EPA Administrator to "deny or restrict the disposal of dredged or fill material into navigable waters . . . including the withdrawal" of a previous authorization "whenever he determines, after notice and opportunity for public hearings, that the discharge of such materials into such area will have an unacceptable adverse effect on" the environment. 33 U.S.C. § 1344. In *Mingo Logan Coal Co. v. EPA*, the D.C. Circuit held that such explicit language was sufficient to "grant the Administrator authority to prohibit/deny/restrict/withdraw a specification [for disposal authority] at *any* time." 714 F.3d 608, 613 (D.C. Cir. 2013) (emphasis in original). CAA section 209 lacks any such language expressly authorizing EPA to reverse a waiver decision "whenever" it so chooses, and notably, EPA does not claim any express statutory authority to do so.

Rather than pointing to any statutory language as a basis for authority to revoke a waiver once granted, EPA relies on a single sentence in a committee report that references the Agency administrator's "right to . . . withdraw the waiver at any time after notice and an opportunity for public hearing he finds that the State of California no longer complies with the conditions of the waiver." S. Rep. No. 90-403, at 34 (1967) (quoted in 83 Fed. Reg. at 43,242). EPA vastly overreads this sentence, which has no grounding in the current legislative history and language of Section 209.

Most importantly, this sentence appeared in a committee report applicable to a now-superseded version of the statute. Section 209 was first enacted as part of the Air Quality Act of 1967, but

revised in 1977 with the express intent, as described in an accompanying committee report, of "afford[ing] California the broadest possible discretion in selecting the best means to protect the health of its citizens and the public welfare." H.R. Rep. No. 95-294 at 301-02 (1977) (quoted in *Motor & Equip. Mfrs. Ass'n, Inc. v. EPA*, 627 F.2d 1095, 1110 (D.C. Cir. 1979)). As of 1977, Congress placed primary decision-making authority under section 209 in the hands of California, not of EPA, with the burden of proof on opponents to justify even an initial waiver denial. *See* H.R. Rep. No. 95-294 at 23; *Motor & Equip. Mfrs. Ass'n v. EPA*, 627 F.2d. at 1121 (in considering the issues, California's regulations "are presumed to satisfy the waiver requirements and . . . the burden of proving otherwise is on whoever attacks them"). EPA itself "has recognized that the intent of Congress in creating a limited review based on the section 209(b)(1) criteria was to ensure that the federal government did not second-guess state policy choices." 78 Fed. Reg. 2112, 2115 (Jan. 9, 2013). That 1977 overhaul also added section 177, enabling other states to adopt California's vehicle standards and further underlining Congress's intent of preventing federal preemption from "interfer[ing] with legitimate police powers of States" or "prevent[ing] effective protection of public health." H.R. Rep. No. 95-294 at 309. Meanwhile, the legislative history from the 1977 revision of section 209 contains no reference to any EPA authority to revoke or withdraw a waiver grant.

Changes to the plain language of section 209 in 1977 confirm that, as described in the legislative history, Congress intended to strengthen California's discretion and role in the waiver process. The original 1967 version of section 209 stated that "[t]he Secretary [of Health, Education, and Welfare, who then administered the Act] shall" grant California a preemption waiver "unless he finds that such State does not require standards more stringent than applicable Federal standards to meet compelling and extraordinary conditions" or the standards are not consistent with section 202(a). The 1977 amendments to section 209 significantly strengthened California's role in this process. As section 209 was amended then, and stands today, it provides that EPA shall grant a preemption waiver if "*the State* determines that the State standards will be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards," unless EPA finds that the State's determination is arbitrary and capricious or that two other criteria have not been met. 42 U.S.C. § 7543(b)(1) (emphasis added). This language shows that Congress meant California to take the lead and importing a broad EPA revocation authority into section 209 would undermine that Congressional intent.

Moreover, another 1977 development – the creation of Clean Air Act section 177 – reinforces that Congress did not intend the grant of a section 209 waiver to be subject to reversal. As Congress amended section 209 to expand California's discretion in adopting its own motor vehicle emissions regulations, it also established the right of *other* states to adopt standards identical to California's. 42 U.S.C. § 7507. As detailed further below, and as envisioned by Congress, section 177 states have relied on this statutory authority to incorporate vehicle standards into their long-term plans for meeting pollution reduction goals. *See, e.g.*, H.R. Rep. No. 95-294 at 213. That statutory design is not compatible with a scenario where EPA could revoke the California standards and change the rules on a state that adopted those standards years later.

Finally, in 1977 and earlier Congress emphasized the need for certainty in the waiver process to protect manufacturers as well. As emphasized in the House Committee on Interstate and Foreign Commerce report on the proposed amendments, "once a waiver is granted to California,

compliance with the State's standards is deemed to satisfy the Federal requirements in California." H.R. Rep. No. 95-294 at 302; H.R. Rep. No. 94-1175 at 248. If EPA could revoke California's waiver after-the-fact, compliance with the Clean Air Act could turn into an ever-moving target rather than providing the regulatory certainty that Congress intended.

This question of regulatory certainty is particularly salient for auto manufacturers given the possibility that, in some respects, federal standards may be *more* stringent than California standards, as long as the California standards are "in the aggregate" equally or more protective of public health. 42 U.S.C. § 7543(b)(1). Congress added this language to section 209 in 1977 specifically to accommodate California's desire to apply more stringent standards for nitrogen oxide emissions than the federal standards, but more lenient carbon monoxide controls, based on the State's view that the net result would be more effective protection of Californian's public health. *See* H. Rpt. 95-294 at 302. Thus, vehicles designed to meet the California standards while a waiver was in effect might not meet the otherwise applicable federal standards. Congress was clearly concerned that manufacturers have "adequate lead time" to allow for design and production of compliant cars in all state and national markets, *see id.* at 310, yet allowing EPA to revoke California's waiver at any time could throw the new-automobile market in both California and 177 States into chaos as automakers scrambled to meet a new suite of federal standards (some of which could be more stringent than their revoked California counterparts) without any lead time.

Congress's 1977 amendments to section 209, as well as its enactment of section 177, placed California and 177 States in the lead role in determining how to best protect their citizens' health and welfare. Accordingly, EPA's outdated reference to legislative history from 1967 should not be used to undermine that role by placing the federal government in the position to pull the rug out from the states at any time.

b. The 1967 version of Section 209 did not grant EPA authority to revoke a waiver.

Even looking back to the superseded 1967 version of section 209, it is not appropriate to read that provision to allow EPA revocation of a waiver whenever the Agency might choose to reassess the statutory factors. To do so would be inconsistent with section 209 itself, the actual language cited by EPA in the committee report, and the fact that Congress enacted this provision knowing that California would count on any Clean Air Act waiver to make significant regulatory decisions that would engender serious reliance interests. Like the current-day version, the 1967 version of section 209 provided that California "shall" receive a waiver as long as it could meet certain threshold requirements:

> The Secretary *shall*, after notice and opportunity for public hearing, waive application of this section to any State which has adopted standards (other than crankcase emission standards) for the control of emissions from new motor vehicles or new motor vehicle engines prior to March 30, 1966, unless he finds that such State does not require standards more stringent than applicable Federal standards to meet compelling and extraordinary conditions or that such State standards and accompanying enforcement procedures are not consistent with section 202(a) of this title.

Public Law 90-148, § 208(b) (emphasis added). Like the current version of section 209, this language contemplates a one-time assessment of the waiver criteria by EPA, followed by issuance of a waiver as soon as EPA determined the criteria were met.

Congress's approach was the result of legislative discussion showing that California needed to be able to rely on a waiver in order to move forward quickly to address air pollution driven in large part by motor vehicle emissions. On a number of occasions, legislators referred to any delay in California's ability to enact such standards as an intolerable obstacle to necessary measures to address serious environmental problems. *See, e.g.*, 113 Cong. Rec. 30963 (1967) ("On behalf of the millions of residents of California, I ask my colleagues in the House not to force us to take a step backwards in our fight against smog . . . Our needs are too urgent now[.]"); *id.* at 30976 ("Mr. Chairman, we must take every appropriate action, however drastic, and we must do it immediately. The health of our people demands that no further delay be tolerated."). It was clear at the time that California would rely on a preemption waiver to act swiftly in establishing appropriate standards, and that retracting such a waiver could thus leave California without adequate tools to protect its citizens' health and well-being – potentially indefinitely.

In fact, Congress expressly chose to adopt a version of section 209 designed to allow California to rely on its ability to obtain a preemption waiver, rather than putting "the entire State of California at the mercy of the decision of one appointed head of a Federal department." 113 Cong. Rec. 30942 (1967). A central point of debate prior to the 1967 enactment of section 209 related to whether California would have to convince federal regulators to grant a preemption waiver, or whether California would have the broad discretion to set its own standards subject to a limited federal veto where it was facing serious pollution problems. *See, e.g.*, 113 Cong. Rec. 30,941-42 (1967) (describing differences between two proposals). During the House floor discussion of these two competing approaches, proponents of the latter approach explained the dangers of requiring California to go "hat in hand" to seek federal permission from decisionmakers subject to powerful auto industry lobbying interests. 113 Cong. Rec. 30955. They explained that could result in intolerable delay in establishing key environmental protections that California would rely on to address motor vehicle pollution. *Id.* ("Knowing bureaucracy in Washington, I can tell you that under the present version of the bill many dangerous smog alerts can well occur in the city of Los Angeles while California experts are pleading their case here in Washington, trying to convince the bureaucrats of the merits of their request."). One California representative even noted that the state had already established standards "to require more effective controls of hydrocarbon and carbon monoxide emissions by 1970 [that] would be threatened" by the need to obtain federal permission. *Id.* at 30957.

In the end, the House voted for the version of section 209 that maximized California's discretion, recognizing that the state needed to be able to move forward and rely on a preemption waiver in order to effectively address its "compelling and extraordinary" pollution problems. A major concern cited by legislators supporting that approach was that the grant of a waiver not be delayed or withheld at the federal level based on some "reason of political expediency." 113 Cong. Rec. 30956 (1967). That concern led Congress to adopt a version of section 209 that allows California to chart its own course in protecting public health and the environment, limiting EPA's role to reviewing a proposal initiated by California to determine whether it meets certain limited criteria, and offering a definitive yes or no on whether a waiver should be granted.

Reading section 209 to implicitly authorize EPA revocation of a waiver after-the-fact would once again give the federal government a significant role in California's continuing implementation of its vehicle standards, contrary to an approach that was designed to place clear bounds on the federal role. An isolated snippet of legislative history cannot authorize a federal role entirely different from that intended by Congress.

c. If EPA does have any authority to revoke a waiver, it is severely constrained in light of Congress's overall intent in 1967.

Even taking the statement from the 1967 committee report on equal footing with the statutory language and Congress's otherwise articulated intent, it does not authorize withdrawal of a waiver based on a reassessment of the statutory waiver criteria. Rather, the statement would authorize waiver withdrawal only if "the State of California *no longer* complies with the *conditions* of the waiver," *i.e.*, if California were not abiding by the terms on which a waiver was granted. S. Rep. No. 90–403, at 34 (1967) (emphasis added). This language must be read in light of the above legislative history showing that in 1967 Congress did not intend to require California to continually go "hat in hand" to EPA for permission to protect the public health from dangerous vehicle pollution, but rather to be able to rely on a waiver grant to carry out its normal police powers, as California has for years with respect to both the GHG and ZEV standards.[340] Accordingly, it is notable that the committee report's language does not refer to an unfettered right for EPA to withdraw a waiver at any time based on a reassessment of the original grounds for granting a waiver in the first place. Rather, the statement narrowly describes a situation where EPA placed some "condition" on implementation of California's standards in granting the section 209 waiver. EPA has failed to demonstrate that the State of California is "no longer" abiding by any such "condition" placed on the original waiver for the GHG and ZEV standards.

A focus on the existence of express "conditions" on a waiver is consistent with the larger context of this Senate committee report statement. It immediately follows the assertion that: "It is essential that the Federal Government and State of California cooperate closely in the development of enforcement procedures relative to certification of vehicles so that the industry, when confronted with differing standards, need not be faced with different methods of obtaining certification." S. Rpt. 90-403 at 34. This concern about conflicting certification procedures could explain Congress's anticipation that EPA might place specific conditions on the *implementation* of California standards after the grant of a section 209 waiver. Indeed, EPA did set forth such conditions on the implementation of California standards occasionally in the years following the enactment of section 209. For example, in a 1971 waiver grant, EPA specified that in implementing the proposed standards California could not apply them to a certain model year and could not require certain fuel for compliance testing. 36 Fed. Reg. 8172, 8173 (Apr. 23, 1971). EPA has identified no such explicit "condition" in the original waiver grants for the GHG and ZEV standards with which California is "no longer" in "compliance."

Further, the legislative history references a failure by "the State of California" to fulfill the conditions upon which a waiver was granted. Even if a waiver grant was to be read to encompass implicit conditions that the State of California must meet, such conditions would be

[340] See Section V(B), supra.

limited to implementation of the standards for which a waiver was granted. The legislative history makes no reference to revisiting the grounds upon which a waiver was granted--but rather to whether the State of California, a governmental entity, is fulfilling its part of the delegated authority bargain.

A narrow construction of any EPA revocation authority to avoid unconstrained federal second-guessing of the state also makes sense given that Congress knew California would rely on its authority to regulate motor vehicle emissions as a key part of an interlocking regulatory scheme to protect millions of its citizens against the harmful effects of air pollution. As observed during the floor debate on Section 209, ninety percent of California's air pollution at that time came from mobile sources such as light-duty vehicles. 113 Cong. Rec. at 30946. It was in part that significant role of motor vehicle emissions in California that drove Congress's decision to respect the State's expertise in regulating and need to control mobile sources without being preempted by the Clean Air Act. As Congress knew, the State of California would have to take on motor vehicle emissions as a key component of any plan to achieve larger emissions reduction goals. To the extent any EPA revocation authority does exist, if EPA could invoke it years after the fact and withdraw waiver grants for significant elements of California's emissions standards on a piecemeal basis, it could undercut the regulatory certainty necessary for California to effectively carry out long-term plans for reducing vehicle pollution.

In 1967, Congress chose not to put California in the position to have to go "hat in hand" to the federal government for initial authorization to protect its citizens' health and welfare. 113 Cong. Rec. 30955 (1967). The NPRM's interpretation of the cited Senate committee report would run counter that intent by requiring the state to go "hat in hand" to plead with EPA not to revoke a waiver even years *after* the original grant. Any importation of the committee report language into the implementation of section 209 should instead abide by its narrow phrasing to allow California to faithfully implement its state standards without fear of reversal once EPA has granted a waiver.

In enacting and later amending section 209, Congress made EPA a gatekeeper, not a watchdog. The history of this provision is replete with references to Congress's intent that California would be able to exercise its judgment as to how to best address motor vehicle emissions in order to protect its citizens. Once EPA has exercised its statutory authority to review whether that judgment satisfies certain very limited criteria, the Agency cannot position waiver revocation as a Sword of Damocles hanging over the head of California and Section 177 states as they attempt to effectuate the Clean Air Act, and automakers as they attempt to comply with it, ready to fall at any moment.

3. EPA lacks inherent authority to revoke California's waiver at this late date.

Absent a genuine statutory basis for its claim of revocation authority, EPA relies on the general principle that it "has inherent authority to reconsider, revise, or repeal past decisions to the extent permitted by law so long as the Agency provides a reasoned explanation." 83 Fed. Reg. at 43,242. However, any such "inherent authority" to reconsider is subject to well-established and important constraints on EPA's discretion to reconsider any decision at any time.

Consistent with the status of the section 209 waiver as a one-time, fact-based determination, EPA has historically, and appropriately, characterized the waiver's grant as an informal adjudication. *See* 74 Fed. Reg. 32,744, 32,781 (July 8, 2009) ("EPA's waiver proceedings and actions under section 209(b)(1) are informal adjudications."). A significant body of precedent recognizes an implied right to reverse such adjudicative actions only in the short term, and subject to highly restrictive constraints. For example, courts have held that an agency may reconsider an adjudicative decision to correct undisputed "ministerial" or "clerical" errors. *See, e.g., Howard Sober, Inc. v. ICC*, 628 F.2d 36, 41 (D.C. Cir. 1980). But it is not appropriate to revisit a completed adjudication based on, for example, a shift in the agency's interpretation of the law. *Cf. Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208-09 (1988).

Courts have more tightly constrained, however, any substantive reconsideration of an adjudicative decision. An agency may not reconsider its own decision if to do so would be arbitrary, capricious, or an abuse of discretion. *Macktal v. Chao*, 286 F.3d 822, 826 (5th Cir. 2002). Importantly, a number of cases stand for the proposition that any agency reconsideration must occur "within a reasonable period of time." *Mazaleski v. Treusdell*, 562 F.2d 701, 720 (D.C. Cir. 1977) ('We have many times held that an agency has the inherent power to reconsider and change a decision if it does so within a reasonable period of time.') (quoting *Gratehouse v. United States*, 512 F.2d 1104,1109 (1975).

In this case, the timeframe for EPA's waiver revocation cannot be considered "reasonable." Here, EPA seeks to revoke California's GHG waiver a full five years after its approval, and years after California has made major policy decisions and taken significant regulatory actions in reliance on that waiver. Even worse, it has been two and a half *decades* since EPA approved the waiver for California's Low-Emissions Vehicle program in 1993, which includes the ZEV program as a core component of the State's plan to attain the relevant NAAQS. *See* 58 Fed. Reg. 4166. EPA has since reaffirmed that waiver grant for subsequent versions of the Low Emissions Vehicle Program. *See, e.g.*, 70 Fed. Reg. 22,034 (Apr. 28, 2005); 68 Fed. Reg. 19,811 (Apr. 22, 2003).

As courts have repeatedly held, "'[w]hat is a short and reasonable time period will vary with each case, but absent unusual circumstances, the time period would be measured in weeks, not years." *Belville Min. Co. v. United States*, 999 F.2d 989, 1000 (6th Cir. 1993) (quoting *Gratehouse v. United States*, 512 F.2d 1104, 1109 (1975)) *see also Mazaleski*, 562 F.2d at 719-720. In multiple contexts, courts have held that an agency's authority to reconsider does not extend up to five years, or even for substantially shorter lengths of time. *See, e.g., Brooklyn Heights Ass'n v. Nat'l Park Serv.*, 818 F. Supp. 2d 564, 569 (E.D.N.Y. 2011) (five years); *Cabo Distrib. Co. v. Brady*, 821 F. Supp. 601, 613 (N.D. Cal. 1992) (three years); *Gubisch v. Brady*, No. CIV. A. 88-2031, 1989 WL 44083, at *10 (D.D.C. Apr. 20, 1989) (16 months); *Gabbs Exploration Co. v. Udall*, 315 F.2d 37, 41 (D.C.Cir. 1963) (one year); *Prieto v. United States*, 655 F. Supp. 1187, 1192 (D.D.C. 1987) (nine months).

In deciding whether a given time period is reasonable, courts have looked at a number of factors. One metric for a "reasonable" timeframe is the period in which the party adversely affected by the adjudication may seek judicial review or otherwise appeal the agency decision – in this case, just 60 days under 42 U.S.C. § 7607(b)(1). *See Prieto v. United States*, 655 F. Supp. 1187, 1192 (D.D.C. 1987). Another key factor is whether parties have relied on the agency's action.

Compare Moncrief v. U.S. Dep't of Interior, No. 17-cv-609, 2018 WL 4567136, at *6 (D.D.C. Sept. 24, 2018) (invalidating agency's reconsideration of oil and gas drilling lease "because of the failure to consider the substantial reliance interests at play") *with Belville*, 999 F.2d at 1000 (upholding agency reconsideration eight months based in part on lack of reliance interest); *see also Am. Methyl Corp. v. EPA*, 749 F.2d 826, 839 (D.C. Cir. 1984). In this case, in the years since EPA originally granted California its waiver, the State itself as well as people and businesses within California, have relied heavily on the existence of the waiver.

Under California's 2016 law SB 32, the state has committed to a greenhouse gas emissions reduction target of 40 percent below 1990 levels by 2030. As laid out in California's 2017 scoping plan, every sector of the state's economy – including transportation, its largest source of greenhouse gas emissions – will need to achieve substantial emissions reductions to meet that target. CARB, California's 2017 Climate Change Scoping Plan at ES-1.[341] Eliminating the transportation emission reductions attributable to California regulations pursuant to its Section 209 waiver would likely significantly alter the feasibility of California's current plans for lowering its greenhouse gas emissions. The result of revoking the waiver at this point would therefore be to upset the state's settled expectations in formulating and carrying out its plans to implement SB 32.

Meanwhile, countless private entities that have planned around California's existing plan may face the prospect of unexpected costs and stranded investments. For example, the State's fuel suppliers are required to purchase greenhouse gas allowances as part of California's cap-and-trade program. CARB, California's Cap and Trade Program: Fuel Facts (Dec. 2014), https://www.arb.ca.gov/cc/capandtrade/guidance/facts_fuels_under_the_cap.pdf. If light-duty vehicles in the State are less efficient and emit more greenhouse gases than expected due to a revocation of California's waiver, the costs for these allowances could go up significantly. Increased costs on fuel suppliers or their customers may well result in significant financial stress for businesses and individuals throughout California. Various entities in California are also preparing for significant levels of electric vehicle penetration consistent with the GHG and ZEV standards, such as through a recent $750 million investment in EV programs, including EV charging infrastructure, authorized by the California Public Utilities Commission. *See* Dkt. Nos. 17-01-020 *et al.*, Application of San Diego Gas & Electric Company (U 902E) for Approval of SB 350 Transportation Electrification Proposals, Decision on the Transportation Electrification Standard Review Projects (May 31, 2018).[342] Such ratepayer-funded infrastructure could end up being underutilized if not coupled with complementary policies favoring EV adoption. And this is just one piece of the significant public and private planning and investment that has gone into preparing for increased EV penetration in California in accordance with the ZEV Program. *See generally* State of California, 2018 ZEV Action Plan Priorities Update (Sept. 2018), *available at* https://business.ca.gov/Portals/0/ZEV/2018-ZEV-Action-Plan-Priorities-Update.pdf.

The same reliance interest arises with respect to California's plans to address criteria pollutants as required under the Clean Air Act. The State's CAA implementation plan specifically relies on the Advanced Clean Cars program as a means for attaining National Ambient Air Quality

[341] *Available at* https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf
[342] *Available at* http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M215/K380/215380424.PDF

Standards. *See, e.g.*, CARB, Revised Proposed 2016 State Strategy for the State Implementation Plan at 11 (Mar. 17, 2017), (discussing ZEV program as element of SIP);[343] 81 Fed. Reg. 39,424, 39,425 (June 16, 2016) (approving ZEV Program as component of California SIP). EPA has formally approved this SIP, recognizing that these standards were an important component of the state's ability to meet its "attainment and maintenance plans developed by California to meet CAA SIP requirements." 83 Fed. Reg. 23,232, 23,233 (May 18, 2018). As discussed below,[344] the ZEV Program remains an important part of California's plan to reduce particulate matter and other criteria pollutants. To the extent EPA disputes that assertion, 83 Fed. Reg. at 43,247-48, it impermissibly seeks to displace California in its Congressionally-approved role as arbiter of decisions about how best to attain its air pollution reduction goals. *See supra* section V(A)(2).

California's reliance on the ZEV Program has existed over the twenty-five years since the State first adopted the LEV Program. During that time period, California has explained on multiple occasions that its program is essential to achieving attainment of criteria pollutant standards as well as its GHG reduction targets.[345] In other words, for more than 20 years California has been relying on portions of the waiver that EPA seeks to revoke here as an integral component of its Clean Air Act compliance plans. The proposal utterly fails to confront the possible effects of removing this key program from California's arsenal in addressing serious air pollution problems and attaining federal Clean Air Act standards.

California has been issuing and will continue to issue stationary source permits and plan investments in infrastructure such as public transit based on its approved SIP. Again, if EPA revokes the State's section 209 waiver, resulting in higher-than-expected light-duty vehicle pollution in 2021 and beyond, those committed permits and infrastructure investments may contribute to NOx, particulate matter, ozone, or other pollution at levels above National Ambient Air Quality Standards. Such NAAQS exceedances may have significant public health impacts and also trigger additional requirements for California to cut pollution to comply with the Clean Air Act, such as more stringent requirements for stationary sources.

Finally, other states besides California have also acted in reliance on the existence of the State's waiver. Between 2004 and 2010, twelve States – Connecticut, Delaware, Maine, Maryland,

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[343] *Available at* https://www.arb.ca.gov/planning/sip/2016sip/rev2016statesip.pdf.
[344] *See infra* sections V(D)(1)(b)(iv) & V(D)(4).
[345] *See, e.g.*, CARB, Staff Report: 1998 ZERO-EMISSION VEHICLE BIENNIAL PROGRAM REVIEW at 2 (July 6, 1998), https://www.arb.ca.gov/msprog/zevprog/98review/staffrpt.pdf ("[NOx and non-methane organic gas reductions from the ZEV program] are substantial when considered within the context of all the SIP measures needed to approach attainment in California's most severe air quality regions. In fact, the ZEV program provides California with its greatest hope of long-term substantial emission reductions from the light-duty vehicle fleet by providing an opportunity for extremely clean vehicles to compete in the marketplace."); CARB, Staff Report: Initial Statement of Reasons, Advanced Clean Cars, 2012 PROPOSED AMENDMENTS TO THE CALIFORNIA ZERO EMISSION VEHICLE PROGRAM REGULATIONS at 72 (Dec. 7, 2011), https://www.arb.ca.gov/regact/2012/zev2012/zevisor.pdf ("In the San Joaquin Valley, the SIP identified the need to reduce NOx emissions by 80 tons/day in 2023 through the use of long-term and advanced technology strategies . . . . equivalent to eliminating the NOx emissions from all on-road vehicles operating in these regions. This implies ZEVs are needed as a critical part of the future California fleet to achieve climate change goals and critical criteria pollutant emission reductions.").

Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island and Vermont – adopted California's emission standards pursuant to Section 177 of the Clean Air Act, 42 U.S.C. § 7507. Each of these states and their citizens have since made numerous decisions and investments in reliance on the existence of California's waiver. Massachusetts, as one example, has adopted California's standards as a means to implement its Global Warming Solutions Act of 2008 (GWSA), which mandates that the Commonwealth reduce statewide greenhouse gas emissions at least 80% below the 1990 emissions level by 2050 and meet interim emissions-reduction limits. MASS. GEN. LAWS ch. 21N, §§ 3(b) & 4(a). It has also relied on the California LEV standards in planning to comply with the ozone NAAQS. *See* Case Nos. 18-1114 *et al.*, *California v. EPA*, State Petitioners' Appendix in Support of their Opposition to Respondents' and Movant-Intervenors' Motions to Dismiss, Exs. D-M (Aug. 29, 2018).

Massachusetts is not alone in relying on mobile source programs allowed under Section 177 as a vital component of its SIP. Pennsylvania also specifically updated its SIP to include a new Clean Vehicles Program that adopted California's emissions standards for light-duty vehicles. When approving this revised SIP in 2014, EPA explicitly recognized that the Clean Vehicles Program was an important component of the state's overall strategy "to achieve and maintain attainment of the National Ambient Air Quality Standards (NAAQS) for ozone." 77 Fed. Reg. 3386 (Jan. 24, 2012). Maryland likewise amended its Clean Cars Program in 2014 in order to align it with California's vehicle emissions standards. Maryland subsequently revised its SIP to include its updated vehicle emissions standards. In 2015, EPA formally approved the revised SIP. 80 Fed. Reg. 40,920 (July 14, 2015). Revoking California's preemption waiver would therefore directly interfere with these states' legitimate reliance interests by preventing them from carrying out their previously approved SIPs and forcing them to revisit long-settled pollution reduction plans.

4. Even if EPA has authority to revoke a Section 209 waiver, and even if that authority is as expansive as EPA here asserts, it must produce a record that overcomes its prior findings and the strong presumption in favor of California's right to a waiver.

As described above and in further detail below, both the language and legislative history of section 209 place a heavy burden on EPA to justify any decision to deny California a waiver. Even assuming EPA has the authority to revoke, and that the authority is as expansive as EPA here claims (which it is not), EPA must shoulder that same burden in the context of a waiver revocation, and it is harder still to meet that burden in the face of a previous determination that the waiver was warranted. The burden on EPA to justify a waiver withdrawal is thus substantially higher than the agency's ordinary burden of explaining a change in position.

This is especially true given Congress's clear intent in amending the waiver provision in 1977 to expand the original, already central role of California as a "pioneer in this field," not subject to the whims of any "Federal bureaucrat." 113 Cong. Rec. 14393, 14407 (1967) (cited in 40 Fed. Reg. 23,102, 23,103 (May 28, 1975)). As EPA explained even prior to its 1977 amendments, "[e]ven in the two areas concededly reserved for Federal Judgment by this legislation—the existence of 'compelling and extraordinary' conditions and whether the standards are technologically feasible—Congress intended that the standard of EPA review of the state decision be a narrow one." 40 Fed. Reg. at 23,103. Meanwhile, "[t]he structure and history of the California waiver provision clearly indicate both a Congressional intent and an EPA practice

of leaving the decision on ambiguous and controversial matters of public policy to California's judgment." *Id.* at 23,104; *see also Motor & Equip. Mfrs. Ass'n v. Nichols*, 142 F.3d 449, 463 (D.C. Cir. 1998); *MEMA I*, 627 F.2d at 1121; *Ford Motor Co. v. EPA*, 606 F.2d 1293, 1298 (D.C. Cir. 1979). A heavy burden on EPA to justify any waiver denial, particularly in the face of having previously granted the same waiver, is consistent with this long line of precedent.

B. EPA's waiver analysis fails to accord California the maximum possible discretion to design its clean cars program.

1. The Clean Air Act gives California wide discretion to maintain its own clean cars program.

The plain text of the section 209(b)(1), its legislative history, case law, and EPA's own practice of applying section 209(b) make clear that EPA must give great deference to California's regulatory choices in adopting motor vehicle emission standards, including greenhouse gas emission standards and zero-emission vehicle (ZEV) standards.

Section 209(b)(1) of the Clean Air Act states that EPA "shall" grant California's waiver "if the State determines that the State standards will be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards."[346] This provision gives California, not EPA, the discretion to make the protectiveness determination and clearly mandates EPA defer to California's finding. This structure recognizes California's history of leading the country in developing vehicle emission standards. In delegating regulatory authority to California, Congress similarly delegated to California, as a sovereign, the authority to make its own complex decisions about the levels of compliance costs that are appropriate given the pollution burdens, both of which will be borne by California's citizens.

The legislative history of the Clean Air Act only reinforces the great deference owed to California. The 1977 amendments to section 209(b) gave California the power to make its own protectiveness determination, and they replaced the requirement that California's standards be "more stringent" than federal standards with the requirement the state's standards, as a whole, be "at least as protective" as federal standards.[347] Congress' intent was to "confer[ ] broad discretion on the State of California to weigh the degree of health hazards from various pollutants and the degree of emission reduction achievable for various pollutants with various emission control technologies and standards."[348] The 1977 amendments to the Clean Air Act demonstrate that "Congress consciously chose to permit California to blaze its own trail with a minimum of federal oversight."[349] In other words, Congress intended to give California great deference to set its own motor vehicle standards and limit the ability of EPA to deny California's waiver.

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[346] 42 U.S.C. § 7543(b)(1).

[347] *Ford Motor Co. v. EPA*, 606 F.2d 1293, 1296-97 (D.C. Cir. 1979) (citing H.R. Rep. No. 95-294, 95th Cong., 1st Sess. at 301-302 (1977); *see also MEMA v. Nichols*, 142 F.3d 449, 453 (D.C. Cir. 1998); *MEMA v. EPA*, 627 F.2d 1095, 1121 (D.C. Cir. 1979); 83 Fed. Reg. 42986, 43244 (Aug. 24, 2018).

[348] H. Rep. 95-294 at 23.

[349] *See Ford Motor Co.*, 606 F.2d at 1297.

Moreover, EPA itself has repeatedly recognized that Congress intended section 209(b) "to ensure that the federal government did not second-guess state policy choices,"[350] and that EPA is bound to affirm the regulatory decisions made by California even if the EPA Administrator would not make the same decisions at the federal level.[351] The EPA Administrator has stated that "I believe I am required to give very substantial deference to California's judgments."[352]

2. EPA bears the burden of proof in seeking to revoke California's waiver.

Even if EPA had any authority to revoke California's waiver, it bears the burden of proof when seeking to revoke a waiver already granted to California.

Opponents of California's emissions standards and ZEV standards bear the burden of proof to show that California is not entitled to its waiver for those standards.[353] "California's regulations . . . when presented to the Administrator are presumed to satisfy the waiver requirements and . . . the burden of proving otherwise is on *whoever* attacks them."[354] In analyzing the standard of proof applicable to CARB's protectiveness determination in EPA's 2013 decision to grant California's waiver, EPA itself stated that "EPA or others that may oppose the waiver must demonstrate that CARB's factual findings lacked any acceptable reasoning."[355] Accordingly, the same standard applies whether EPA or industry groups seek to revoke California's waiver.

Placing the burden of proof on those who seek to revoke California's waiver - whether they are industry groups or EPA - reflects Congress' objectives of allowing California to maintain its own motor vehicle emissions program and its role of pioneering emission controls for national application.[356] Contrary to EPA's contention "that the decision to withdraw the waiver would warrant exercise of the Administrator's judgment,"[357] EPA is not accorded any discretion or deference in its decision to withdraw California's waiver. Even if EPA has the authority to revisit a waiver determination, it has a high bar to clear to show that California no longer meets the criteria for its waiver. Congress' prior statement on waiver denials illustrates the challenges that face opponents of California's waiver:

> The Administrator, thus, is not to overturn California's judgment lightly. Nor is he to substitute his judgment for that of the State. There must be clear and compelling evidence that the State acted unreasonably in evaluating the risks of various pollutants in

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[350] 78 Fed. Reg. at 2115; 40 Fed. Reg. 23102, 23103 (May 28, 1975).
[351] *See* 40 Fed. Reg. 23102, 23103-04 (1975) (stating the EPA Administrator is "constrained to approve a California approach to the problem which [he] might also feel unable to adopt at the Federal level.")
[352] 78 Fed. Reg. at 2115, 2117; 40 Fed. Reg. at 23103-04.
[353] *See MEMA v. EPA*, 627 F.2d at 1123, 1132; *see also* 78 Fed. Reg. at 2116.
[354] *MEMA v. EPA*, 627 F.2d at 1123 (emphasis added).
[355] 78 Fed. Reg. at 2118.
[356] *See Ford Motor Co.*, 606 F.2d at 1297; *see also, FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 133 (2000) (holding that the words of a statute must be read in context, and with a view to their place in the overall statutory scheme); *King v. Burwell*, 135 S. Ct. 2480, 2489 (2015).
[357] 83 Fed. Reg. at 43245.

> light of air quality, topography, photochemistry, and climate in that State, before EPA may deny a waiver."[358]

While this discussion was about denying a waiver, it applies equally to attempts to revoke a waiver. EPA provides no support for its argument that "preponderance of the evidence is the proper burden of proof," [359] which is contradicted by the statutorily mandated deference to California, legislative history, case law, and EPA's own practice.

C. NHTSA's assertion that EPCA preempts state CO_2 regulations does not support revocation.

EPA "propos[es] to conclude that if NHTSA finalizes a determination that California's GHG and ZEV standards are preempted [under EPCA], then it would be necessary to withdraw the waiver" issued to California in 2013. 83 Fed. Reg. 43,240. There are several reasons that EPA cannot reach that conclusion. First and foremost, as explained in detail *infra* at section V(H)(2). EPCA does not preempt California's GHG or ZEV standards. Second, EPCA does not delegate any authority to NHTSA to pronounce on the scope of preemption under Section 32919, and EPA cannot defer to that proposed pronouncement. *See infra* at section V(H)(1). Even assuming that NHTSA's pronouncement had the force of law, it would not apply retroactively to justify EPA in revoking a previously issued waiver.[360] Still less does EPCA delegate to EPA the authority to pronounce on the scope of preemption under that Act.

Third, Section 209(b) of the CAA does not authorize EPA to consider preemption under other laws—much less another agency's opinion on such preemption—when deciding whether to waive (or, if EPA had such authority, to revoke a waiver) of the preemptive effect of the CAA. Rather, Section 209(b) provides specific, enumerated criteria that EPA must consider; those criteria focus on solely on California's determination of a need for its own standards, the equal or greater protectiveness of the state's standards as compared to Federal standards, and the consistency of the standards with Section 202(a) of the CAA. Notably absent is any delegation of authority to EPA to consider the consistency of the standards with *other* federal statutes outside of the CAA, let alone statutes that EPA does not administer and with respect to which it possesses no expertise. That is no doubt why "EPA has historically declined to consider as part of the waiver process whether California standards are constitutional or otherwise legal under other Federal statutes apart from the Clean Air Act." 83 Fed. Reg. 43,240. What makes this a "unique situation," *ibid.*, is that EPA is proposing to depart from its historical practice and the plain text of Section 209(b) to retroactively invalidate a waiver issued years ago based on a flawed preemption decision under a different statute proposed by a different agency with no power to make such a decision.

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[358] H.R. Rep. No. 95-294, at 302.
[359] 83 Fed. Reg. at 43244, fn. 567.
[360] *See Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988).

D. EPA cannot revoke a waiver for the GHG or ZEV standards under section 209(b)(1)(B).

Section 209(b) of the Clean Air Act (CAA) directs that the Administrator shall waive preemption of California State standards for new motor vehicles or engines unless the Administrator makes any one of three findings, in which case "[n]o such waiver shall be granted."[361] EPA must deny a waiver if it finds that California was arbitrary and capricious in determining that "the State standards will be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards."[362] EPA must deny a waiver if it finds that California "does not need such State standards to meet compelling and extraordinary conditions."[363] Finally, EPA must deny a waiver if it finds that "such State standards and accompanying enforcement procedures are not consistent with section 202(a) of this part [42 U.S.C. § 7521(a)]."[364] In the NPRM, EPA proposes to revoke the waiver on the latter two grounds. Even if EPA had authority to revoke a waiver on those grounds, which it does not, neither ground supports EPA's proposed revocation. The comment below discusses each ground in turn.

We address 209(b)(1)(B) first. That section requires that EPA shall deny a waiver if California "does not need such State standards to meet compelling and extraordinary conditions." This requirement is informed by the meanings of three distinct phrases:

- "such State standards"
- "compelling and extraordinary conditions"
- "need . . . to meet"

Each of these statutory phrases - considered both independently and together - defeats EPA's effort to revoke California's waiver.

1. Section 209(b)(1)(B)'s test must be applied to CA's emissions program as a whole, rather than to particular GHG or ZEV standards in isolation

a. EPA has historically read "such State standards" to refer to California's program as a whole.

Courts afford great weight to a longstanding statutory interpretation by an agency charged with its administration. *See, e.g., Barnhart v. Walton*, 535 U.S. 212,221-22 (2002); *Sec'y a/Labor v. Excel Mining, LLC*, 334 F.3d 1,6-8 (D.C. Cir. 2003)(according "particular deference" to 25-year-old agency interpretation). And here, for decades, EPA has consistently interpreted section

[361] 42 U.S.C. § 7543(b)(1); EPA has acknowledged that "[t]he law makes it clear that the waiver requests cannot be denied unless the specific findings designated in the statute can properly be made." 79 Fed. Reg. 6,584, 6,586 (Feb. 4, 2014).
[362] § 7543(b)(1)(A).
[363] § 7543(b)(1)(B).
[364] § 7543(b)(1)(C).

209(b)(1)(B) to refer to the California program as a whole.[365] That is, EPA has consistently - and correctly - acknowledged that the sole question before the agency under this prong is whether California has a "continued need for its own mobile source emissions control program."[366] Thus, the agency's analysis of the "compelling and extraordinary" factor "has usually been cursory and not in dispute, as the fundamental factors leading to air pollution problems—geography, local climate conditions (like thermal inversions), significance of the motor vehicle population—have not changed over time[.]"[367]

Some very early decisions (before the 1977 amendments to section 209(b) which added the "in the aggregate" language) did appear to consider whether California needed the specific standards under consideration. *See* 33 Fed. Reg. 10160 (1968) ("The California State Standards and related enforcement procedures set out below … are required to meet such compelling and extraordinary conditions"); 34 Fed. Reg. 7248 (1969) (finding that specific standards considered were "required to meet compelling and extraordinary conditions); 36 Fed. Reg. 8172 (1971) ("the following California State Standards . . . are required to meet California's compelling and extraordinary conditions."). However, beginning in 1971--even before the clarifying "in the aggregate" language was added to Section 209(b)-- and for the nearly five decades since then, EPA has consistently read the term "such State standards" in 209(b)(1)(B) to refer to the California program as a whole. *See, e.g.*, 37 Fed. Reg. 17458 (1972) ("The California State emission standards applicable to 1973 and 1974 model year light-duty vehicles, when considered as a total regulatory program . . . are required to meet California's compelling and extraordinary conditions").[368]

Notably, the pre-1977 decisions applied the prior version of the statute, which provided that "[t]he Secretary shall. . . waive application of this section to [California] . . . unless he finds that such State does not require standards more stringent than applicable Federal standards to meet compelling and extraordinary conditions."[369] As described here, EPA read even that precursor

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[365] *See California State Motor Vehicle Pollution Control Standards; Waiver of Federal Preemption Notice of Decision,* 49 Fed. Reg. 18,887, 18,890 (May 3, 1984).
[366] *Id*.
[367] *California State Motor Vehicle Pollution Standards; Notice of Decision Denying a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles*, 73 Fed. Reg. 12,156, 12,161 (Mar. 6, 2008).
[368] *See also* 49 Fed. Reg. 18,887, 18,890 (May 3, 1984) (209(b)(1)(B) "inquiry concerns whether 'compelling and extraordinary conditions' exist that justify California's continued need for its own mobile source emissions control program"); 51 Fed. Reg. 31,173 (Sept. 2, 1986) ("California continues to have compelling and extraordinary conditions which require its own program, and, thus, I cannot deny the waiver on the basis of the lack of compelling and extraordinary conditions"); 52 Fed. Reg. 20,777 (June 3, 1987) (same); 53 Fed. Reg. 7021 (Mar 4, 1988) (same); 53 Fed. Reg. 7022 (Mar. 7, 1988) (same); 54 Fed. Reg. 6447 (Feb. 10, 1989) (same); 55 Fed. Reg. 43,028 (Oct. 25,1990) (same); 57 Fed. Reg. 24,788 (June 6, 1992) (same); 58 Fed. Reg. 4166 (Jan. 13, 1993) (same); 59 Fed. Reg. 48,625 (Sept. 13, 1994) (same); 69 Fed. Reg. 60,995 (Oct. 14, 2004) (same); 70 Fed. Reg. 50,322, 50,323 (August 26, 2005) (same); 71 Fed. Reg. 78,190, 78,192 (Dec. 28, 2006) (same); 81 Fed. Reg. 95,982, 95,986 (Dec. 29, 2016) ("EPA affirms California's need for its new motor vehicle emissions program as a whole, to meet compelling and extraordinary conditions.").
[369] P.L. 90-145 § 208(b).

provision to ask only whether California needed a separate vehicle emissions program. And in 1977, Congress recognized that, "[i]n general, the Environmental Protection Agency has liberally construed the waiver provision so as to permit California to proceed with its own regulatory program." H. Rpt. 95-294 at 301. Congress then chose to "ratify and strengthen the California waiver provision," *id.*, "to broaden and strengthen the State of California's authority to prescribe and enforce separate new motor vehicle emission standards," *id*. at 23. Congress thus revised Section 209 to remove any ambiguity in the prior version, and to codify EPA's historical interpretation. EPA cannot override Congress's directive.

Indeed, other than the NPRM, the *only* other departure from this reading was EPA's 2008 decision denying California a waiver for GHG standards.[370] And even that decision was later reversed in a decision in which EPA recognized that its departure from the traditional reading of the statute was incorrect, and returned to that reading.[371]

Now, the agency attempts to reject the very reasoning underlying its prior grant, and to revoke the waiver on this ground. EPA cannot do so for the reasons described below. Moreover, EPA has failed to comprehensively identify the analysis it previously relied upon in its prior 2009 and 2013 grants of a waiver for California's GHG standards, and explain why EPA is now rejecting the reasoning underlying its prior grant. For example, in 2009 EPA cogently explained that (1) the most straightforward reading of this provision called for considering California's need for a motor vehicle program as a whole, (2) the interpretation adopted in 2008 improperly placed too much reliance on drawing a negative inference from the legislative history, that Congress' discussion of local factors causing air pollution problems like ozone meant that Congress implicitly also intended to prohibit California from addressing global air pollution problems, and (3) such a negative inference of implied Congressional intent was contrary to the primary and explicit thrust of Congress' intent in the legislative history - providing California the broadest possible discretion in developing its motor vehicle program, avoiding the problems associated with more than one State program, and obtaining for the nation the potential benefits from innovation by having a separate California program. EPA also explained that many air pollution problems do not occur in isolation, and have major global or national characteristics, as is the case with both ozone and PM. It is not accurate to draw an overly-simplified distinction, labeling some air pollution problems as local or regional and others as global. 74 FR 32744 (July 8, 2009), at 32761-762. While we discuss these issues below, in addition to responding to our comments EPA has a separate obligation to fully identify and justify its change from each of the elements of its prior, well-reasoned analysis.

[370] *California State Motor Vehicle Pollution Control Standards; Notice of Decision Denying a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles*, 73 Fed. Reg. 12,156 (Mar. 6, 2008).
[371] *California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles*, 74 Fed. Reg. 32,744, 32,761 (Jul. 8, 2009).

b. The plain text of the statute demonstrates that "such State standards" refers to the California program as a whole.

i. The word "such" refers to the antecedent plural term "the State standards" which must be considered "in the aggregate" in 209(b).

"Since 'such' is a qualifying word … , its meaning is ordinarily derived from the last antecedent" usage of the qualified noun.[372] The last antecedent use of "standards" in Section 209(b) is the provision requiring that California must determine that "the State standards will be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards."[373] For decades, EPA has consistently recognized this fact. In 1984, the Administrator observed that

> if Congress had intended a review of the need for each individual standard under (b)(1)(B), it is unlikely that it would have used the phrase "… does not need *such* state standards" (emphasis supplied), which apparently refers back to the phrase "State standards … in the aggregate," as used in the first sentence of section 209(b)(l), rather than to the particular standard being considered.[374]

And because "such" refers to "standards . . . in the aggregate", the term "standards" in 209(b)(1)(B) must refer to more than one state standard – a fact which even EPA concedes. *See* 83 Fed. Reg. at 43246 ("it is clear that 'such State standards' refers at least to all of the standards that are the subject of the particular waiver request before the Administrator").[375]

That the phrase refers to the term as used in 209(b)(1) finds support in the fact that the word "such" is also used elsewhere in the same clause. And "identical words used in different parts of the same act are intended to have the same meaning." *See Gustafson v. Alloyd Co.*, 513 U.S. 561, 570 (1995). This is especially true when the same word is used twice within the same provision. *Clark v. Martinez*, 543 U.S. 371, 378, 386 (2005) (holding that giving the same words different meaning is a "dangerous" method of statutory interpretation).

The first two words of 209(b)(1)(B) refer to "such State." That is, the clause requires that EPA must deny a waiver if it finds that "s*uch State* does not need such State standards to meet compelling and extraordinary conditions." (emphasis added). This phrase "such State" cannot have any meaning unless "such" is read to refer to an antecedent use of the word "State" in the statute. And the antecedent uses in the statute all lead back to the phrase "any State which has adopted standards . . . for the control of emissions from new motor vehicles or new motor vehicle engines prior to March 30, 1966" – e.g., California. And neither EPA nor anyone else has ever read the phrase "such State" to refer to anything else.[376] Thus, the phrase "such State"

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[372] *New England Power Co. v. Fed. Energy Regulatory Com.*, 571 F.2d 1213, 1225 (D.C. Cir. 1977).
[373] 42 U.S.C. § 7543(b).
[374] *California State Motor Vehicle Pollution Control Standards; Waiver of Federal Preemption Notice of Decision*, 49 Fed. Reg. 18,887, 18,890 (May 3, 1984) (emphasis in original).
[375] Notwithstanding this concession, EPA argues (inconsistently and incorrectly) that "such" may in fact refer to the singular "standard" in 209(a), as described below.
[376] *See, e.g.*, 83 Fed. Reg. at 43,240 ("section 209(b)(1) of the Act requires the Administrator . . . to waive application of the prohibitions of section 209(a) to California").

demonstrates that the word "such" is used in section 209(b)(1)(B) to refer to the antecedent usage of the qualified noun. As described above, this then means that "such State standards" necessarily refers to the "the State standards" which must be considered "in the aggregate" and not to any other extrinsic meaning, such as "the specific State standard for which California requests a waiver at a given time."

Moreover, consistent with EPA's long-standing interpretation,[377] "the State standards" must refer to the California program as a whole. If the term were read to refer to only the specific State standard subject to a given waiver application, it would not be possible for either the State or the Administrator to weigh whether the standards "in the aggregate" are at least as protective as Federal standards. Thus, the only reasonable reading is that the term "such State standards" refers back to the full slate of California motor vehicle emissions standards – not the specific State standard which is the subject of a given waiver application.

ii. "Such" cannot refer to section 209(a)

Notwithstanding the foregoing, and notwithstanding the agency's long-standing acknowledgement that "such" here refers back to "the State standards . . . in the aggregate," *see* 49 Fed. Reg. at 18890, the agency now attempts to inject uncertainty by suggesting that "such" might instead refer to the singular "standard" in 209(a).[378] 209(a) provides that "[n]o State or any political subdivision thereof shall adopt or attempt to enforce any [motor vehicle emissions] standard[.]"[379]

EPA's suggestion suffers several fatal flaws. First, EPA offers no basis on which to override the canon that "such" refers to the last antecedent, and not to whatever previous use of the word EPA finds most convenient. EPA cannot overwrite binding precedent regarding statutory construction by simply waving its hand.

Second, EPA's proposed reading would cause each use of the word "such" in 209(b)(1)(B) to have a different meaning. As described above, all parties acknowledge that the phrase "such State" in 209(b)(1)(B) refers to the state described in 209(b)(1)(B) - that is, California. If the word "such" here were to refer to 209(a) instead, 209(b)(1)(B) would refer to those states *not* subject to waiver under 209(b)(1). Such a reading would render 209(b)(1)(B) nonsensical and contrary to the fact that 209(b)(1)(B) applies only to California - a fact which all parties recognize. To avoid this absurd result, EPA appears to propose to interpret that the first instance of "such" in 209(b)(1)(B) refers to the last antecedent use of "state" in 209(b)(1), but that the second instance of "such" skips past the last antecedent use of "standards" in 209(b)(1) and points instead to a use of the term "standard" in 209(a). EPA cannot bifurcate the word "such" to have two different meanings in the same clause.[380]

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[377] *See* 49 Fed. Reg. at 18,887.
[378] *See* 83 Fed. Reg. at 43,246.
[379] 42 U.S.C. § 7543(a).
[380] That "such" refers to 209(b)(1) is further supported by the parallel language regarding non-road vehicles in 209(e), which is itself modeled after the language in 209(b). The 209(e) provision parallel to 209(b)(1) refers to "the California standards," 209(e)(2)(A), and the provision parallel to 209(b)(1)(B)

Moreover, even if this bifurcation were permissible, which it is not, EPA's proposed interpretation would nevertheless fall apart, as the word "standard" in 209(a) describes what states *cannot* do - namely, adopt even one single emissions standard, whereas 209(b) refers to what California *can* do - namely, adopt emissions "standards" in the plural. 209(b)(1)(B) must logically refer only to what California can do, and therefore must refer to 209(b)(1).

Finally, even EPA is unable to accept the limitations that its proposed interpretation would impose. In the same breath with which EPA suggests that 209(a) supports interpreting 209(b)(1)(B) to refer to a standard in the singular, the agency observes that EPA considers California's applications for "*package[s]* of standards . . . as it receives them, individually."[381] And EPA states that "it is clear that 'such State standards' refers at least to all of the standards that are the subject of the particular waiver request before the Administrator."[382] EPA offers no explanation for how "any standard" in 209(a) could be read to refer *both* to a single California standard *and* to "a package" of standards adopted by California. Again, the term "any standard" cannot have two meanings at once. To the contrary, the only term which could even plausibly refer to a "package of standards" is the plural "standards" in 209(b)(1). And, as shown below, that clause refers not to a single package, but to the California program as a whole. Moreover, also as shown below, even if it did refer to a single package, EPA would not have authority under 209(b)(1)(B) to deny a waiver only for a particular standard within that package.

iii. EPA cannot ignore that the statute deliberately uses the plural "standards."

EPA also attempts to inject ambiguity by disregarding the statute's use of the plural "standards" as meaningless. *See* 83 Fed. Reg. at 43246 (suggesting that "the use of the plural term 'standards' [does not] definitively answer the question of the proper scope of EPA's analysis, given that the variation in the use of singular and plural form of a word in the same law is often insignificant and a given waiver request typically encompasses multiple 'standards.'"). EPA's position is again contrary to decades-long agency precedent. *See* 49 Fed. Reg. at 18890 (1984) (EPA observing that "[t]he use of the plural, i.e., 'standards,' further confirms that Congress did not intend EPA to review the need for each individual standard in isolation").

As support for its (unacknowledged) change in position, EPA cites to 1 U.S.C. § 1, which the agency describes as providing that ''[w]ords [in Acts of Congress] importing the singular include and apply to several persons.''[383] But EPA omits the key provision of the statute, which describes that the canons of construction listed therein apply only "unless the context indicates otherwise." 1 U.S.C. § 1; *see also Life Techs. Corp. v. Promega Corp.*, 137 S. Ct. 734, 742 (2017). And the Supreme Court has held in instances when Congress used both the plural and

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refers to "such California standards," 209(e)(2)(A)(ii). There is no other antecedent use of "California standards" to which 209(e)(2)(A)(ii) could conceivably be referring to. This structure of 209(e) demonstrates that "standards" in 209(b)(1)(B) refers to "standards . . . in the aggregate" in 209(b)(1), and not to "any standard" in 209(a).

[381] 83 Fed. Reg. at 43246 (emphasis altered).

[382] *Id.*

[383] 83 Fed. Reg. at 43246 n.576.

singular of the same term within a statute, the use of the plural meant plural, and the use of the singular meant singular. *See Life Techs.*, 137 S. Ct. at 742.

As in *Life Techs*, Congress methodically employed the use of both the singular and plural in section 209. Section 209(a) prohibits states from adopting "any *standard*."[384] And Section 209(b)(2) provides that "[i]f each State *standard* is at least as stringent as the comparable applicable Federal *standard*, such State *standard* shall be deemed to be at least as protective of health and welfare as such Federal standards[.]"[385] That Congress used the singular "standard" in each of these instances demonstrates that, had Congress likewise intended EPA to consider the need for each individual standard under 209(b)(1)(B), Congress would have directed as much by using the singular "standard" there also. It did not. It used the plural, demonstrating that 209(b)(1)(B) is meant as a test only for whether California needs a separate vehicle emissions program, and not whether California needs any particular standard.

But EPA fails to acknowledge the varied uses of singular and plural in section 209, and instead ignores context entirely. EPA simply suggests that the use of the plural in *other* statutes is "often" insignificant.[386] That the plural may be insignificant in other statutes does not inform whether the context of 209(b) dictates that it is insignificant there. Contrary to EPA's newfound position, the four corners of 209(b) demonstrate that Congress intended the prohibition to apply to even one "standard" in the singular, but that California may adopt "standards" in the plural. It is these "standards" to which 209(b)(1)(B) refers. In context, the plural "standards" can only refer to California's program as a whole.

In sum, the word "such" in "such State standards" can only refer to the California standards to be considered "in the aggregate," and therefore must refer to California's program as a whole. EPA's attempts to circumvent the plain meanings of the word "such" and the plural word "standards" fail.

iv. Reading "such State standards" to refer to the entire California program is the only way to ensure California's ability to adopt State standards equal to the federal standards in either stringency or protectiveness.

Section 209(b) expressly allows California to adopt an individual State standard that is "at least as" stringent than the corresponding Federal standard, and to adopt less stringent standards so long as the California program is "at least as" protective as the Federal program.[387] The phrase "at least as" in both instances must be accorded its common meaning. *See Perrin v. United States*, 444 U.S. 37, 42 (1979) ("unless otherwise defined, words will be interpreted as taking their ordinary, contemporary, common meaning."). The common meaning of "at least as" is "not less than."[388] Therefore, 209(b) allows California to adopt standards either equal in stringency to

[384] 42 U.S.C. § 7543(a) (emphasis added).
[385] 42 U.S.C. § 7543(b)(2) (emphasis added).
[386] 83 Fed. Reg. at 43,246.
[387] 42 U.S.C. § 7543(b)(1) & (2); *see also* 83 Fed. Reg. at 32247 n. 579.
[388] Oxford Dictionaries, "At Least", available at https://en.oxforddictionaries.com/definition/at_least (accessed October 17, 2018).

the Federal standards, or standards which are less stringent individually but equally protective "in the aggregate."

But this ability to adopt both equally stringent and equally protective standards would be nullified by reading the statute as directing the Administrator to apply 209(b)(1)(B) to each State standard individually, insofar as under that reading California would be required to show an isolated "need" to have standards which provide either no or negative incremental stringency, and either no or negative incremental protectiveness, relative to the Federal standards.[389] Considering only that one standard in isolation would seem to cause California to inevitably fail this test. For example, when California adopted CO standards less stringent than the corresponding federal standard, it did so to enable NOx standards more stringent than the Federal standards, as described above. Demonstrating need for the more lenient CO standard would require either: a) considering the CO standard and the NOx standard together in an "aggregated" analysis; or b) determining that the "need" for a standard for one pollutant may be to enable reduced impacts from an altogether different pollutant. But the former would be impermissible if "such State standards" refers only to each particular standard in isolation, as EPA proposes; and the latter would forbid EPA from revoking California's GHG waiver in this instance unless EPA impermissibly bifurcates the meaning of the statutory term "need" from its plain meaning, and from EPA's historical interpretation thereof.

As to the first possibility – EPA has historically (and correctly) acknowledged that it cannot read the statute to allow it to consider multiple standards as a package if one standard enables the other, but to read it as requiring consideration of particular standard on a case-by-case basis in all other circumstances.[390] The only instance in which EPA took a contrary position was in the later-reversed decision to deny California a waiver for GHG regulation in 2008.[391] Therein, EPA suggested that "it is not implausible to think … that the less stringent CO standards should be considered with respect to the ozone problem when evaluating compelling and extraordinary conditions, not the CO problem, as ozone control was the purpose of the less stringent CO standard."[392]

In the NPRM, however, even EPA abandons any attempt to meaningfully defend the notion that it could consider multiple standards together when one standard is less stringent than the Federal standard, but could only consider each particular standard individually in all other applications. Although EPA acknowledges its prior stance that this bifurcated reading of the statute would be "inconsistent," the agency then simply asserts – without analysis or argument – that "EPA proposes to determine that the balance of textual, contextual, purposive, and legislative history evidence at minimum supports the conclusion that it is ambiguous whether the Administrator may consider whether California needs the *particular* standard or standards under review to meet compelling and extraordinary conditions."[393]

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[389] § 7543(b); *see* H. Rpt. 95-294 at 302 (1977) (describing that the "in the aggregate" test was designed to allow California to adopt some standards less stringent that the Federal corollary).
[390] *See* 49 Fed. Reg. at 18,890 n.24 (May 3, 1984).
[391] *See* 73 Fed. Reg. at 12,161.
[392] *Id.*
[393] 83 Fed. Reg. at 43247 (emphasis in original).

But even if EPA were correct that the statute were ambiguous (which it is not), the agency itself has acknowledged that its proposed interpretation requires it to read the statute differently in different factual contexts.[394] As described in detail below, even an ambiguous statute cannot be a chameleon in this manner. *United States v. Santos*, 553 U.S. 507, 522-23 (2008) (plurality) (superseded by statute on other grounds) (emphasis in original) ("[T]he same word, *in the same statutory provision*, [cannot have] different meanings *in different factual contexts*."). Against this fundamental principle of statutory interpretation, "State standards" in 209(b)(1)(B) cannot mean both "the California program" and "each particular standard" depending on factual context – it must mean one or the other, always. The only reading that would allow EPA to consider both a less stringent and a more stringent standard together under the "need" prong of 209(b)(1)(B) is the reading in which "State standards" refers to California full set of standards - that is, to its separate vehicle emissions program as a whole - and not to a particular standard in isolation. Therefore, "such State standards" in 209(b)(1)(B) must refer to California's program as a whole.

One could, of course, alternatively suggest that even if "such State standards" refers to each particular standard individually, EPA could still approve a less stringent standard through the "need" test in 209(b)(1)(B). That is - the thinking would go - even if the CO standard were considered in isolation, California could "need" a less stringent CO standard to enable reductions of other pollutants.

However, even if it is intuitive that California could "need" a less stringent standard to cause the overall regime to be *more* protective, California would have to show "need" for an equally or less stringent standard that causes merely *equal* protectiveness to preserve the meaning of "at least as" in the protectiveness clause. And the only way to preserve California's ability to do so is to read "need" as being satisfied by California's judgment that its standards *might* provide some benefit beyond that of the Federal standards.[395] That reading is both consistent with EPA's prior practice and forestalls EPA from denying a waiver for California's GHG program.

Consistent with the plain text of the statute, and as described in more detail below, EPA has consistently deferred to California's judgment as to whether particular stringencies of standards within its regulatory program are "needed," and, indeed, has deferred to California regarding whether the State "needs" to address individual pollutants at all, even approving California's

[394] *See* 74 Fed. Reg. at 32761 ("The text of [209(b)(1)(B)] . . . provides no indication other than Congress intended a single interpretation for this provision, not one that varied based on the kind of air pollution problem at issue.")

[395] That California, and not EPA, is to decide which specific standards it "needs" is also demonstrated by the legislative history describing that California is empowered to choose to regulate emissions which EPA does not choose to regulate. *See* H. Rpt. 90-728 at 21 (describing that 209(b) allows California to "establish . . . standards applicable to emissions not covered by Federal Standards); *accord* 38 N.J.R. 497(b) at comment 585 (describing EPA decision document granting waiver for pollutants not federally regulated under section 202 pollutants). Without deference regarding "need" for specific standards, EPA could force its own judgment about which particular standards are "needed" upon California, therefore eviscerating California's ability to regulate more broadly than EPA.

decision to regulate apparently "harmless" emissions.[396] Indeed, EPA interpreted the waiver provision to require deference to California regarding need even under the pre-1977 version of the statute. And in 1977, Congress affirmed EPA's historical application of 209(b), observing that "[i]n general, the Environmental Protection Agency has liberally construed the waiver provision so as to permit California to proceed with its own regulatory program,"[397] and choosing in response to "ratify and strengthen the California waiver provision,"[398] so as "to broaden and strengthen the State of California's authority to prescribe and enforce separate new motor vehicle emission standards".[399] In accordance with Congress's ratification of its reading of the term "need," EPA has continued to reject applying a heightened "need" standard even where California standards are *identical* to the corresponding Federal standard, observing that "California may adopt a set of . . . standards identical to Federal standards, so that California can implement its own vigorous enforcement program."[400]

In the waiver applications for California's current GHG standards, California demonstrated that GHG standards will impact local ozone conditions.[401] EPA has acknowledged the same fact by, e.g., expressly observing that climate change "can also increase the formation of ground-level ozone."[402] California has therefore demonstrated that GHG standards will impact local ozone conditions, which even EPA agrees are "compelling and extraordinary conditions" warranting regulation by California. Therefore, under that statutorily-mandated meaning of the term "need" (and EPA's consistent historical interpretation of that term), even assuming that EPA were correct that GHGs do not qualify as "compelling and extraordinary conditions" (which it is not, as shown below), EPA is nevertheless bound to defer to California's judgment that the State "needs" GHG standards, at the very least, to address ozone conditions.

This connection is even more direct for the ZEV program, which program is and has for decades been primarily intended to address criteria emissions, as described in more detail below.[403] EPA purports to undermine this historic fact by asserting that California's most recent waiver application for the ZEV program stated that the program has no criteria emissions benefit because, under LEV III, the fleet would "become cleaner regardless of the ZEV regulation because manufacturers would adjust their compliance response to the standard by making less

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[396] *See California state motor vehicle pollution control standards, waiver of federal preemption*, 43 Fed. Reg. 25,729, 25,735 (June 14, 1978).
[397] H.R. Rep. 95-294 at 301 (1977).
[398] *Id*.
[399] *Id*. at 23.
[400] *California State Motor Vehicle Pollution Control Standards, Waiver of Federal Preemption*, 43 FR 998, 1000 (Jan. 5, 1978).
[401] *See* 73 Fed. Reg. at 12163 (discussing arguments that climate change affects localized ozone pollution).
[402] *California State Motor Vehicle Pollution Control Standards; Greenhouse Gas Emissions From 2014 and Subsequent Model Year Medium and Heavy-Duty Engines and Vehicles; Notice of Decision*, 81 Fed. Reg. 95,982, 95,987 n.32 (Dec. 29, 2016).
[403] *See Emission Standards for Clean-Fuel Vehicles and Engines, Requirements for Clean-Fuel Vehicle Conversions, and California Pilot Test Program*, 59 Fed. Reg. 50042, 50047 (Sept. 30, 1994) (observing that "CARB defines a ZEV as: . . . any vehicle which is certified . . . to produce zero emissions of any criteria pollutants under any and all possible operational modes and conditions.").

polluting conventional vehicles."[404] But the agencies selectively omit *the very next sentence* of California's application, which continues, "[h]owever, since upstream criteria and PM emissions are not captured in the LEV III criteria pollutant standard, net upstream emissions are reduced through the increased use of electricity and concomitant reductions in fuel production."[405] Moreover, the agency omits the fact that California's application also observed that "[t]he ZEV regulation does not provide GHG emission reductions in addition to the LEV III GHG regulation given that ZEV emissions are included in determining compliance with the GHG standard."[406] Conveniently ignoring that the ZEV standards have the same (zero) effect on near-term criteria and GHG emissions, the agencies suggest that CARB identified the overarching purpose of the ZEV standard as "to move advanced, low GHG vehicles from demonstration phase to commercialization."[407] But, in fact, CARB noted that it is committed "to meeting California's long term *air quality* and climate change reduction goals through commercialization of ZEV technologies."[408]

In other words, EPA's characterization of ZEV takes out of context a statement that, read correctly, simply acknowledges that the ZEV program mandates that automakers must take a specific compliance pathway (zero-emissions vehicles) for a portion of the fleet as part of their obligation to meet the fleet-wide average standards for both criteria and GHG emissions for the purpose of promoting long-term emissions reductions in both categories.[409] ZEV is thus a component of the ACC program's standards for both criteria and GHG emissions, but it does not, considered alone, reduce tailpipe emissions of either category of pollutants in the near term. And for criteria pollutants, this has *always* been true. The agencies' suggestion that the purpose of the ZEV program somehow changed in 2012 is flatly incorrect.

Regardless, perhaps recognizing that even the near-term criteria impacts of GHG and ZEV standards satisfy the plain statutory meaning of the word "need," in its 2008 decision and again here EPA has proposed to apply a heightened burden for California to show "need" in the context of GHG standards alone. In 2008, EPA dismissed any impact on ozone as irrelevant, suggesting that the "need" test must prohibit any standard that does not address the "fundamental causal factor" of local pollution conditions in California.[410] Now, EPA proposes that "need"

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[404] 83 Fed. Reg. at 43,238.
[405] EPA-HQ-OAR-2012-0562-0004 at 16.
[406] *Id.*
[407] 83 Fed. Reg. at 43,242.
[408] EPA-HQ-OAR-2012-0562-0004 at 2 (emphasis added); *see also id.* at 22 (describing a "primary objective" as "ZEV technology commercialization and long-term GHG and criteria emission goals").
[409] *See California State Motor Vehicle Pollution Control Standards; Within the Scope Determination and Waiver of Preemption Decision for Amendments to California's Zero-Emission Vehicle (ZEV) Standards,* 76 Fed. Reg. 61095, 61096 (Oct. 3, 2011) ("the 2008 ZEV amendments establish . . . a single compliance strategy or set of requirements that all large volume manufacturers are required to follow").
[410] *See* 73 Fed. Reg. at 12,161, 12,162. In 2008, EPA also rejected California's observation that GHG standards would reduce upstream emissions. 73 Fed. Reg. at 12163. But even EPA itself has historically justified regulation under section 202 due in part to upstream benefits. *See, e.g., Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule,* 75 Fed. Reg. 25324, 25497-98 (May 7, 2010) (EPA observing that "[r]educing tailpipe 209(b) CO2 emissions from light-duty cars and trucks through tailpipe standards . . . will result in reduced fuel

requires that California must demonstrate that a standard have a "meaningful impact" on conditions,[411] and thereby dismisses California's claims that ozone impacts warrant GHG regulations.[412]

Attributing either of these definitions to the word "need" is contrary to the statutory directive described above. Again, the statute directs that California may adopt standards merely equal to the otherwise-applicable Federal standards in both stringency and protectiveness - that is, EPA is expressly required to approve California standards even if those standards may have *no incremental benefit.* Raising the "need" standard to require a showing of "meaningful impact" is directly at odds with this statutory requirement, and would effectively rewrite the statute to require that California's standards be "more" protective than Federal standards, rather than "at least as" protective. EPA cannot rewrite the statute.

And, again, not only does EPA's proposed reading depart from the statutory text, it departs from EPA's long-standing (and correct) practice of complying with the statutory directive by deferring to California's judgment on this question, as highlighted by those instances in which EPA has approved California standards less stringent than or identical to the Federal standards. For example, in approving a less stringent CO standard to enable a more stringent NOx standard, EPA did not consider whether the "fundamental causal factor" of NOx pollution was the CO standard (and such an inquiry would inevitably be answered "no"); nor did EPA attempt to weigh whether the decreased CO standard would have a "meaningful impact" on NOx pollution. *See* 43 Fed. Reg. at 25,736 ("arguments [regarding the need for these standards and the wisdom of California's emissions control strategy] are not grounds for denying California a waiver."). Similarly, in approving a State standard identical to the Federal standard to afford California the opportunity to adopt a "vigorous enforcement regime," EPA did not consider whether that opportunity would meaningfully (or even marginally) impact emissions.[413] Neither has EPA ever undertaken such an inquiry for any other California standards (other than the GHG standards in the later-reversed 2008 decision, and again now). Instead, EPA has correctly observed that "[a]rguments concerning the wisdom of California's actions with regard to motor vehicles, … the marginal improvements in air quality that will allegedly result, and the question of whether these particular standards are actually required by California all fall within the broad area of public policy . . . [left] to California's judgment."[414] EPA's attempt to now rewrite the

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demand and reductions in the emissions associated with all of the processes involved in getting petroleum to the pump," and quantifying those reductions). California likewise has authority to consider those benefits under 209(b).

[411] *See* 83 Fed. Reg. at 43,248.

[412] *Id*. at 43,249.

[413] 43 Fed. Reg. at 1000.

[414] *California State Motor Vehicle Pollution Control Standards, Waiver of Federal Preemption,* 41 Fed. Reg. 44,209, 44,210 (Oct. 7, 1976). *See also California State Motor Vehicle Pollution Control Standards, Waiver of Federal Preemption*, 43 Fed. Reg. 15,490, 15,493 (Apr. 13, 1978) ("that these standards might not have a net beneficial health effect . . . [is] not [a] ground[] for denying California a waiver."); 43 Fed. Reg. at 25,735 (decisions "whether to regulate [harmless] emissions" must be left to California's judgment); 49 Fed Reg at 18,891 ("it is not necessary for CARB to quantify the exact emissions benefits its new standards will create when it is clear that its standards are significantly more

meaning of the word "need" is yet another effort to turn the statute into a chameleon. Again, EPA cannot have it both ways.

v. "Such State Standards" in section 209(b)(1)(B) does not refer to only a subset of standards within California's program.

EPA suggests that, even if 209(b)(1)(B) refers to multiple standards, that section could refer to any of: "the standards in the entire California program, the program for similar vehicles, or the particular standards for which California is requesting a waiver under the pending request."[415] EPA is wrong. 209(b)(1)(B) can only refer to the California program as a whole.[416]

First, and again, Congress ratified and codified EPA's traditional interpretation that "such State standards" refers to California's vehicle emissions program as a whole both through the section 209(b) revision and re-codification in 1977, and through incorporation of language virtually identical to 209(b)(1)(B) into section 209(e) in 1990.

Second, even if such State standards could somehow refer to "the particular standards for which California is requesting a waiver under the pending request" or to "the program for similar vehicles," control of which particular standards are presented in one request, or which standards apply to "similar vehicles," falls to California. And if EPA must consider only the request as a whole, EPA would still be unable to reject only one standard within that request under 209(b)(1)(B), for reasons described in the next section. Therefore, even EPA's alternate interpretations would forbid EPA from denying a waiver for only particular standards within the vehicle emissions program.

vi. Through section 209(e), Congress again ratified and codified EPA's long-standing interpretation that the "compelling and extraordinary" requirement concerns only California's vehicle emissions program as a whole.

In the 1990 Clean Air Act amendments, Congress added section 209(e)(2), which is a parallel provision to 209(b).[417] Section 209(e) provides that EPA "shall . . . authorize California to adopt and enforce standards and other requirements relating to the control of emissions from [nonroad] vehicles or engines."[418] And, just as in 209(b)(1)(B), 209(e)(2)(A)(ii) provides that "[n]o such authorization shall be granted if the Administrator finds that . . . California does not need such California standards to meet compelling and extraordinary conditions." The language

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stringent than the corresponding Federal . . . standards and thus will result in greater emission reductions.").

[415] 83 Fed. Reg. at 43,246.

[416] Note that here EPA suggests the phrase "such State standards" could refer to "the standards in the entire California program." Even this suggestion is incorrect. 209(b)(1)(B) concerns "the need for [California's] own motor vehicle emission control program," *see* 59 FR 46,978 (Sept. 13, 1994), not the need for all of the standards in that program.

[417] P.L. 101-549 § 213.

[418] 42 U.S.C. § 7543(e)(2)(A).

of 209(e)(2)(A)(ii) language is identical to section 209(b)(1)(B), save for substitution of the word "State" in 209(b)(1)(B) for the word "California" in 209(e).

"Congress is presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it reenacts a statute without change." *Lindahl v. Office of Pers. Mgmt.*, 470 U.S. 768, 782 n.15 (1985). "So too, where . . . Congress adopts a new law incorporating sections of a prior law, Congress normally can be presumed to have had knowledge of the interpretation given to the incorporated law[.]" *Id*. Here, Congress adopted and reenacted the language of 209(b)(1)(B) into 209(e) with full knowledge of EPA's traditional interpretation that 209(b)(1)(B) asked only whether California needed a separate vehicle emissions program. By copying that language into 209(e), Congress adopted and ratified EPA's traditional interpretation.

And EPA has acted accordingly. The agency has consistently (and correctly) acknowledged that "such California standards" in 209(e)(2)(A)(ii) refers to California's mobile emissions program, not to *particular* California standards. Specifically, EPA has observed that the provision "restricts EPA's inquiry to whether California needs its own mobile source pollution program to meet compelling and extraordinary conditions, and not whether any given standards are necessary to meet such conditions."[419] That EPA has followed Congress's ratification and codification of the agency's longstanding interpretation of such State standards in section 209(e) demonstrates that EPA cannot now change that interpretation in 209(b)(1)(B).

vii. The plain meaning of "such state standards" does not nullify 209(b)(1)(b)

EPA attempts to undermine the plain text of the statute (as described above) by suggesting that reading 209(b)(1)(B) to apply only to California's program as a whole:

> [L]imits the application of the criterion. Once EPA had determined that California needed its very first set of submitted standards to meet extraordinary and compelling conditions, it is unclear that EPA would ever have the discretion to determine that California did not need any subsequent standards for which it sought a successive waiver—unless EPA is authorized to consider a later submission separate from its earlier finding.[420]

Yet again, this position is both incorrect and contrary to decades of agency precedent.

As EPA itself has acknowledged, 209(b)(1)(B) imposes a high burden on opponents of a waiver. In the agencies' words, "Congress has made it abundantly clear that the manufacturers would

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[419] *See, e.g., California State Nonroad Engine Pollution Control Standards; Large Spark-Ignition (LSI) Engines; New Emission Standards and In-Use Fleet Requirements; Notice of Decision*, 80 Fed. Reg. 76468, 76472 (Dec. 9, 2015); *see also* 79 Fed. Reg. 6,584, 6,586 (Feb. 4, 2014) ("EPA has observed that "In light of the similar language of sections 209(b) and 209(e)(2)(A), EPA has reviewed California's requests for authorization of nonroad vehicle or engine standards under section 209(e)(2)(A) using the same principles that it has historically applied in reviewing requests for waivers of preemption for new motor vehicle or new motor vehicle engine standards under section 209(b).")

[420] 83 Fed. Reg. at 43246.

face a heavy burden in attempting to show 'compelling and extraordinary conditions' no longer exist: The Administrator, thus, is not to overturn California's judgment lightly. Nor is he to substitute his judgment for that of the State. There must be clear and compelling evidence that the State acted unreasonably in evaluating the relative risks of various pollutants in light of the air quality, topography, photochemistry, and climate in that State, before EPA may deny a waiver."[421] But the fact that Congress imposed a high burden does not mean that section 209(b)(1)(B) is without any teeth.

Indeed, as even EPA has acknowledged, "that 209(b)(1)(B) mandates consideration only of California's program as a whole "does not make section 209(b)(1)(B) a nullity[.]"[422] This is because "conditions in California may one day improve such that it no longer has the need for a separate motor vehicle program. The statute contemplates that such improvement is possible."[423] EPA fails to even mention its prior acknowledgement of this fact in the proposal, and fails to explain how and why it has changed its analysis on this issue. Conditions in California may change, which demonstrates that applying 209(b)(1)(B) to the California program as a whole, while imposing a high burden in accordance with Congress's intent to give California broad leeway, is not a nullity. EPA cannot defeat the plain text of the statute by suggesting as much.

c. Because "such State standards" refers to California's program as a whole, EPA cannot invoke 209(b)(1)(b) to revoke a waiver only for a particular standard or subset of standards.

In the proposal, EPA suggests that even if "such State standards" refers to the California program as a whole, it may nevertheless deny or revoke a waiver for a particular standard within that program which it deems not "needed." The agency asserts that "EPA could also review California's GHG standards themselves even where, as in the instant ACC waiver package, the waiver request is for a single coordinated package of requirements and amendments that include standards designed to address global environmental effects caused by a globally distributed pollutant, such as GHGs as well as requirements for a compliance mechanism that could likely address both criteria pollutants and GHG emissions[.]".[424] EPA's suggestion is wrong.

EPA makes no effort to justify its position based on the text of 209(b)(1)(B), and instead appears to assert its position as a mechanism to *circumvent* the plain language of the statute. That is, EPA simply asserts without any support whatsoever that even if the phrase refers to California's program as a whole (which it does, as described above), EPA can still choose to apply 209(b)(1)(B) to a particular standard in isolation. This assertion is contrary to the plain language of the statute.

As EPA has historically noted, the 209(b)(1)(B) inquiry asks only "does California need a separate vehicle emissions program." And the answer to this question cannot turn on the need for a specific standard within that program. Instead, the question concerns only whether California has compelling and extraordinary conditions, and whether a regime providing for two separate vehicle emissions programs (Federal and State) will enable California to endeavor to

[421] *See* 49 Fed. Reg. at 18890 n.25 (quoting H.R. Rep. 95-294).
[422] 74 FR 32744, 32762 (July 8, 2009).
[423] *Id.*; *see also* 78 Fed. Reg. 2112, 2128 (Jan. 9, 2013) (same).
[424] *See* 83 Fed. Reg. at 43,247.

remedy those conditions. Which specific pollutants are covered under California's regime does not alter the outcome of this inquiry as to the program as a whole. That EPA now proposes to find that, in EPA's judgment, California does not need to regulate GHGs does not affect EPA's longstanding and indisputable conclusion that California *does* need a separate vehicle emissions program to meet compelling and extraordinary conditions. EPA admits as much.[425] In sum, a particular standard cannot undermine the need for a separate vehicle emissions program. This common-sense notion is confirmed by historical practice. EPA has affirmatively determined that "decisions on controversial matters of public policy, such as whether to regulate [harmless] emissions" must be left to California's judgment.[426]

Moreover, legislative history demonstrates that EPA has historically taken the correct approach. Congress was primarily concerned with the number of separate vehicle emissions programs with which automakers would be required to comply, and expressly determined that, so long as California experienced "compelling and extraordinary" conditions, a structure in which automakers faced two separate regulatory requirements was preferable. *See, e.g.*, S. Rep. 90-403 (1967) at 33 (describing Congress's desire that the industry be "confronted with only one potential variation" from the Federal standards, which will "minimize economic disruption"); 49 Fed. Reg. at 18,890 ("in creating an exception to Federal preemption for California, Congress expressed particular concern with the potential problems to the automotive industry arising from the *administration* of two programs. Therefore . . . the 'need' issue thus went to the question of standards in general, not the particular standards for which California sought a waiver in a given instance." (footnotes, quotation, and alterations omitted) (emphasis in original)).

Provided that the two-program structure was in place, the legislative history demonstrates that Congress was not concerned by which specific pollutants California would choose to regulate. *See* H. Rpt. 90-728 at 21 (describing that 209(b) allows California to "establish . . . standards applicable to emissions not covered by Federal Standards"); *accord* 38 N.J.R. 497(b) at response to comment 585 (describing EPA decision document granting waiver for pollutants not federally regulated under section 202). To the contrary, congress directed that, if California still needs a separate vehicle emissions program, then it shall have the "broadest possible discretion" in determining which pollutants will be regulated thereunder. *See* H.R Rep. 95-294 at 301-302 ("The Committee Amendment is intended to ratify and strengthen the California waiver provision and to affirm the underlying intent of that provision, i.e. to afford California the broadest possible discretion in selecting the best means to protect the health of its citizens and the public welfare."); *id*. at 23 (Section 209(b) "confers broad discretion on the State of California to weigh the degree of health hazards from various pollutants and the degree of emission reduction achievable for various pollutants with various emission control technologies and standards"); *Ford Motor Co. v. Environmental Protection Agency*, 606 F.2d 1293, 1303 (D.C. Cir. 1979) ("the broad thrust of the 1977 amendments … was to expand the deference accorded to California."). The legislative history demonstrates that, so long as California needs a

[425] *See* 83 Fed. Reg. at 42,999 (acknowledging that "California continues to be in widespread non-attainment with Federal air quality standards" and "[p]arts of California have a real and significant local air pollution problem," but asserting EPA's conclusion that "CO2 is not part of that local problem").
[426] *See* 43 Fed. Reg. at 25,735.

separate vehicle emissions program, EPA has no authority to second-guess which specific standards, in EPA's judgment, California truly needs.

d. Even if the meaning of "such state standards" were ambiguous, EPA's interpretation is unreasonable.

Even EPA does not suggest that the plain text compels EPA to engage in a standard-by-standard analysis, instead attempting only to inject ambiguity into the statute. *See, e.g.*, 83 Fed. Reg. at 43246 ("EPA considers the text of section 209(b)(1)(B) . . . to be ambiguous."). To the contrary, for the reasons described above, EPA is wrong: the plain text of the statute directs EPA to consider only whether California needs a separate vehicle emissions program.

However, even if the meaning of the phrase were ambiguous, EPA's interpretation would still be unlawful. First, EPA cannot lawfully read "such State standards" to have two different meanings in precisely the same statutory provision. As described above, EPA does not so much as acknowledge that its proposed reading of the phrase "such State standards" in 209(b)(1)(B) would itself have two dramatically different and inconsistent meanings.

The agency itself acknowledges that its proposed interpretation requires it to read the statute differently in different factual contexts. That is, EPA proposes to maintain its long-standing reading (California's program as a whole) as applied to criteria pollutant standards, and a new meaning (particular standards), as applied to GHG and ZEV standards. *See* 83 Fed. Reg. at 43247 ("EPA thus, [sic] believes that it is appropriate, in evaluating California's need for a waiver under section 209(b)(1)(B), to examine California's program as a whole to the extent that the problem is designed to address local or regional air pollution problems").

Even an ambiguous statute cannot be a chameleon. *United States v. Santos*, 553 U.S. 507, 522-23 (2008) (plurality) (superseded by statute on other grounds) (emphasis in original) ("[T]he same word, *in the same statutory provision*, [cannot have] different meanings *in different factual contexts.* To hold otherwise would render every statute a chameleon, and would establish within our jurisprudence . . . the dangerous principle that judges can give the same statutory text different meanings in different cases." (quotations and citations omitted)); *Clark v. Martinez*, 543 U.S. 371, 378 (2005) ("To give these same words a different meaning for each category would be to invent a statute"); *id*. at 386 (calling this a "dangerous" method of statutory interpretation). And the agency itself has historically acknowledged that such a bifurcation is wholly impermissible. *See* 74 Fed. Reg. 32744, 32761 (July 8, 2009) ("The text of [209(b)(1)(B)] . . . provides no indication other than Congress intended a single interpretation for this provision, not one that varied based on the kind of air pollution problem at issue.").[427]

Further demonstrating that EPA's approach is impermissible, the agency's reasoning as to when the "particular standard" definition would apply is circular. EPA purports that because it (erroneously) reads the term "compelling and extraordinary conditions" to refer only to so-called "local" pollutants with local effects and local causes, an emissions standard addressing a global air pollution problem must force the scope of the "such State standards" inquiry to narrow from

[427] *See also* EPA Ans. Br., D.C. Cir. Case No. 09-1237, Doc. #1262751 (Filed Aug. 26, 2010) at 6 n.1 (EPA observing that its position would "result[] in a bifurcated interpretation of the statute").

"whole program" to "particular standard," which inevitably leads back to the question of whether the emissions standard addresses "compelling and extraordinary" conditions, which do not include global pollutants.[428] In other words, whether a standard would survive the test if applied only to that particular standard determines whether the test should be applied only to that particular standard. This contorted reasoning demonstrates the lengths EPA has gone to eliminate the statutorily-mandated deference it is to afford California to define the contours of its own vehicle emissions program.

Simply, EPA cannot have it both ways. Either "such State standards" refers to the California program as a whole, or it refers to each particular standard. The agency's attempt to afford a single use of a term both meanings simultaneously is unreasonable. *See United States Dep't of the Treasury IRS Office of Chief Counsel Wash. D.C. v. FLRA*, 739 F.3d 13, 21 (D.C. Cir. 2014) (observing that an agency "ha[d] set forth two inconsistent interpretations of the very same statutory term, and thus acted arbitrarily and capriciously."). EPA must adhere to the unambiguous statutory text, directing it to consider only whether California needs a separate vehicle emissions program under 209(b)(1)(B).[429]

2. EPA's proposed interpretation of the statutory phrase "compelling and extraordinary conditions" is wrong.

EPA proposes to revoke California's Clean Air Act waiver for GHG and ZEV standards in part because the agency now claims, contrary to past determinations, that California does not need those standards to meet "compelling and extraordinary conditions." Specifically, EPA "is proposing to find that GHG emissions impacts cannot be considered 'compelling and extraordinary conditions…'" 83 Fed. Reg. at 43,248. EPA unlawfully and unreasonably interprets "compelling and extraordinary conditions" to mean only "environmental problems with causes and effects in California." EPA claims climate change due to GHG emissions is not a compelling and extraordinary condition, because GHGs assertedly "present global air pollution problems." 83 Fed. Reg. at 43,243. EPA also reads in a requirement that the "environmental problems" at issue, their causes, and the remedy for them must be "particular or unique" to California, 83 Fed. Reg. at 43,240,[430] or "sufficiently different" from conditions elsewhere, 83 Fed. Reg. 43,245.

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[428] Of course, even under the agencies' circular reasoning it could not revoke a waiver for the ZEV standard because, as described above, the ZEV standard is - and always has been - expressly designed to address long-term criteria emissions.

[429] To be clear, for all of the reasons discussed earlier, it would be unlawful to apply the agency's proposed interpretation to just GHGs, or to apply it more broadly to all pollutants, including criteria pollutants. The fact that the agency attempts to apply it to one and not the other merely demonstrates the absurdity of the agencies' position.

[430] EPA states that California does not need the standards to meet compelling and extraordinary conditions "because those standards address environmental problems that are not particular or unique to California, that are not caused by emissions or other factors particular or unique to California, and for which the standards will not provide any remedy particular or unique to California." 83 Fed. Reg. at 43240.

EPA appears to envision "compelling and extraordinary" conditions as only those which no other state experiences, even in part.[431] EPA's position is that receiving a waiver requires conditions that are "sufficiently different from the nation as a whole," and California does not qualify if for each of the areas identified as an impact from greenhouse gas pollution, one or even a few states also have that kind of problem. 83 Fed. Reg. at 43,249.

Yet nothing in the phrase "compelling and extraordinary conditions" calls for such a limited definition – to the contrary, the plain meaning of the words and the statutory structure dictate the opposite conclusion, as does the legislative history. And EPA has long-recognized that California's problem need not be geospatially unique.[432] The statutory language and structure, legislative history, and EPA's past practice undermine EPA's proposed interpretation. EPA's proposed interpretation is wrong and unreasonable.

a. The plain meaning of "compelling and extraordinary conditions" is broad and encompasses greenhouse gases and the impacts of climate change.

EPA's interpretation – excluding GHG impacts from the term "compelling and extraordinary conditions," and requiring that the conditions at issue (and their causes and solutions) be wholly unique to California, such that no other entity experiences any of the same circumstances – is inconsistent with the plain meaning of the phrase "compelling and extraordinary conditions," and is uninformed by previous courts' considerations of similar statutory language and terminology.

First, these terms are plainly broad. While Congress did discuss California's smog problem during discussion and debate of the waiver provision, there is no basis for narrowing the meaning of the phrase they chose – "compelling and extraordinary conditions" – to just smog or "local" pollutants, as EPA asserts. As *Massachusetts v. EPA* makes clear, when Congress uses broad language, the interpretation of that language should not be limited by the mention of specific examples in the legislative history. As the Court stated:

> While the Congresses that drafted § 202(a)(1) might not have appreciated the possibility that burning fossil fuels could lead to global warming, they did understand that without regulatory flexibility, changing circumstances and scientific developments would soon render the Clean Air Act obsolete. *The broad language of § 202(a)(1) reflects an intentional effort to confer the flexibility necessary to forestall such obsolescence.*[433]

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[431] *See*, e.g., 83 Fed. Reg. at 43249 ("California's claims that it is uniquely susceptible to certain risks because it is a coastal State does not differentiate California from other coastal States such as Massachusetts, Florida, and Louisiana," listing only three similar states but still arguing that California's situation is not "particular or unique").

[432] *See* 49 Fed. Reg. at 18,891 ("there is no indication in the language of section 209 or the legislative history that California's pollution problem must be the worst in the country, for a waiver to be granted").

[433] *Massachusetts v. EPA*, 549 U.S. 497, 532 (2007) (emphasis added); see also, *Pennsylvania Dep't of Corrections v. Yeskey*, 524 U.S. 206, 212 (1998) ("the fact that a statute can be applied in situations not expressly anticipated by Congress does not demonstrate ambiguity. It demonstrates breadth.") (quoted in Massachusetts v. EPA, 549 U.S. at 532).

The plain meaning of the words "compelling" and "extraordinary" further undermines EPA's argument. The term "compelling" means "demanding attention," and the term "extraordinary" means "going beyond what is usual, regular, or customary."[434] The D.C. Circuit Court has called the phrase "expansive statutory language."[435] And courts have held that the terms do not require uniqueness.[436]

It is difficult to see how climate change and its impacts do not meet the definition of "compelling and extraordinary," both "demanding action" and being "beyond what is usual, regular, or customary." Under any reasonable interpretation of the statute, there is no basis for excluding greenhouse gas emissions and the impacts of climate change from Section 209(b).

As a practical matter, it makes little sense to interpret the statutory language as requiring California to show that air quality or climate conditions in the state are "unique" or "sufficiently different" from those in other states. As discussed more below, the Clean Air Act allows other states to adopt California's standards. 42 U.S.C. §§ 7507, 7543. It does not make sense to require California to show that conditions are unique to it or worse than in any other state, and also to allow other states to adopt California regulations to address their air pollution problems. That other states, in fact, suffer from pollution equivalent to, or in some instances, worse than California's does not defeat the conclusion that California suffers from compelling and extraordinary conditions.[437]

Moreover, there is nothing in the language of Section 209(b)(1)(B) that calls for a geographic comparison. Even if EPA were correct (which it is not) that conditions in California are not geospatially "extraordinary," they are certainly *temporally* extraordinary, as the string of recent and worsening climate-change-related impacts in California demonstrates.

EPA also tries to draw a clear distinction between "the nature of GHG concentrations as a *global* air pollution problem, rather than a *regional or local* air pollution problem." 83 Fed. Reg. at 43,245 (emphasis added). But this has no basis. First, nothing in the plain meaning of "compelling and extraordinary conditions" means "local" or otherwise supports this distinction. Moreover, EPA's attempt to distinguish between "local" and "global" pollutants and impacts does not accord with reality. Recent studies have shown that nitrogen oxides and particulate matter pollution (which EPA recognizes are within the scope of Section 209(b)) have both local

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[434] Merriam-Webster Online Dictionary. http://www.merriam-webster.com (23 Oct. 2018).
[435] *Am. Trucking Ass'ns v. EPA*, 600 F.3d 624, 627 (D.C. Cir. 2010) (interpreting the identical phrase in Clean Air Act section 209(e)).
[436] See, e.g., *Shell Oil Co. v. United States Dep't of Labor*, 106 F. Supp. 2d 15, 19 (D.D.C. 2000) (dismissing argument OSHA did not properly find "compelling local conditions" because "it did not find that there were any 'compelling' conditions unique to California"); *Amerada Hess Pipeline Corp. v. FERC*, 117 F.3d 596 (D.C. Cir. 1997) (dismissing the argument that because oil spills are common occurrences, they could not be considered "extraordinary").
[437] *See* U.S. Environmental Protection Agency, Criteria Pollutant Nonattainment Summary Report; https://www3.epa.gov/airquality/greenbook/ancl3.html.

and global sources, as well as local and global impacts.[438] The distinction EPA attempts to make between GHG and criteria pollutants is illusory.

b. EPA's interpretation is inconsistent with the statutory structure and legal precedent.

EPA's interpretation also violates the statutory structure of the Clean Air Act, as well as applicable legal precedent. Section 209(b) must be read in relation to the rest of the Clean Air Act. In particular, Section 209(b) is directly related to both Section 202(a) and 209(a). As the Supreme Court has held, Section 202(a) grants EPA authority to regulate greenhouse gas emissions from new motor vehicles. *Massachusetts v. EPA*; 549 U.S. 497 (2007). Section 209(a) then preempts states from adopting any such standards. 42 U.S.C. § 7543(a) (2018). And Section 209(b) grants a waiver from the preemption provision for California. 42 U.S.C. § 7543(b) (2018).

Given this statutory design, it is illogical and unreasonable for EPA to propose that California does not have authority co-extensive with EPA's under Section 202(a). Asserting that California may regulate fewer pollutants than EPA is also inconsistent with the legislative history making clear that section 209(b) allows California to "establish . . . standards applicable to emissions not covered by Federal Standards." H. Rpt. 90-728 at 21. It is also inconsistent with agency precedent, in which EPA has consistently approved California's authority to regulate any pollutant that *could* be regulated by EPA under 202(a), even if EPA had not done so, and regardless of which particular California "condition" that pollutant impacted.[439] As EPA has recognized, if Congress had been concerned with only a specific California problem, it "could have limited the ability of California to set more stringent standards" to only those pollutants that contributed to that problem." 49 Fed. Reg. at 18,890. "Instead, Congress took a broader approach consistent with its goal of allowing California to operate its own comprehensive program." *Id.*

Case law supports this conclusion, upholding California's authority to regulate greenhouse gases under Section 209(b), despite claims of preemption under the Energy Policy and Conservation Act. *Central Valley Chrysler Jeep Inc. v. Goldstene*, 529 F. Supp. 2d 1151 (E.D. Cal. 2007) (concluding that "both EPA and California, through the waiver process of section 209, are equally empowered through the Clean Air Act to promulgate regulations that limit the emission of greenhouse gasses, principally carbon dioxide, from motor vehicles").

Second, EPA's rigid requirement of uniqueness – that the "compelling and extraordinary conditions" that California seeks to address must be singular to it and not shared by other states –

[438] *See, e.g*, Lin, M., et al. *US surface ozone trends and extremes from 1980 to 2014: quantifying the roles of rising Asian emissions, domestic controls, wildfires, and climate*, Atmos. Chem. Phys., 17, 2943-2970 (2017); Ewing, S., et al., *Pb Isotopes as an Indicator of the Asian Contribution to Particulate Air Pollution in Urban California*, Environ. Sci. Technol., 44 (23), 8911–8916 (2010).

[439] *See, e.g.*, 49 Fed. Reg. at 18,890 (rejecting argument that California cannot regulate particulate matter because those emissions do not relate primarily to California's smog problem); 38 N.J.R. 497(b) at response to comment 585 (describing EPA decision document granting waiver for pollutants not federally regulated under section 202 at the time); 43 Fed. Reg. at 25,735 (approving waiver to regulate even "harmless" emissions).

is also in conflict with the statutory structure. Section 209 must be read in conjunction with Section 177 of the Act, which allows other states to adopt California's emissions standards. *See FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 133 (2000) (holding that the words of a statute must be read in context, and with a view to their place in the overall statutory scheme). It would not make sense to let other states adopt California's standards if they were designed to address conditions wholly unique to California and felt nowhere else. Indeed, thirteen other states (and the District of Columbia) have adopted California's standards pursuant to Section 177. 42 U.S.C. § 7507. Interpreting "compelling and extraordinary conditions" as EPA proposes is in direct conflict with Section 177. And as discussed below in the context of legislative history, even at the times Congress enacted the waiver provision and Section 177, other states have had comparable or worse air pollution than California.

c. The legislative history supports a broad reading of "compelling and extraordinary conditions."

Congress did not limit California's waiver authority to the state's smog conditions. Congress could have limited "compelling and extraordinary need" to "severe smog conditions." But instead Congress used broader terms that allow for inclusion of serious air pollution problems other than smog. As discussed above, *Massachusetts v. EPA* makes clear that when Congress uses broad language in the Clean Air Act, the scope of that language is not limited by the mention of specific examples in the legislative history. The Court found that even if the Congress that drafted Section 202(a)(1) had not appreciated the future threat of global warming, they intentionally used broad language in the Clean Air Act to forestall obsolescence and provide the tools for EPA to address new pollution problems as they arise. *Massachusetts v. EPA*, 549 U.S. at 532.

Like Section 202(a)(1), Congress did not limit Section 209(b)(1)(B) to a defined set of smog conditions, but provided broader authority to address new air pollution problems affecting California as they arise. It is patently unreasonable for EPA to take the use of a specific example cited in the legislative history to *limit* language that is so plainly broad and expansive.

EPA's singular focus on the legislative history's discussion of California's smog problem ignores the other stated rationales for allowing California to set its own standards. Chief among these was California's role in pioneering motor vehicle emission control technology and serving as a testing ground for innovative emissions controls that later could be applied nationwide.

The Senate committee report on the 1967 legislation that created the California waiver provision noted that the initial federal motor vehicle standards were "based on California's experience," and that Senator George Murphy "convinced the committee that California's unique problems *and pioneering efforts* justified a waiver of the preemption section." S. Rpt. 90-403 at 33 (1967) (emphasis added). The committee report noted several advantages of this approach, including that "the nation would benefit from California's experience with lower standards, as California would continue to be the 'testing area' for such standards." *Id.*

Congressional floor statements reiterated these points, arguing that California should be allowed to continue to lead the way on addressing air pollution and that Congress should take advantage of the opportunity to let California serve as a laboratory for the nation.[440]

As a final remark before adoption of the Conference Report in the Senate, Senator Murphy stated:

> I am firmly convinced that the United States as a whole will benefit by allowing California to continue setting its own more advanced standards for control of motor vehicle emissions. In a sense, our State will act as a testing agent for various types of controls and the country as a whole will be the beneficiary of this research.

Id. at 32,478; *see also, Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F.Supp. 2d at 398 ("Through amendments to the CAA, Congress has essentially designated California as a proving ground for innovation in emission control regulations.").

The legislative history makes clear that the California waiver provision was not limited to the state's smog problem. Congress intended to give California "the broadest possible discretion" not just to prevent smog, but more broadly "in selecting the best means to protect the health of its citizens and the public welfare." *See e.g.,* H.R. Rep. No. 95-294 at 301-302 (1977). EPA has found that climate change adversely affects public health. 74 Fed. Reg. 66,496 at 66,510, 66,526-29 (December 15, 2009). And "welfare" expressly encompasses effects on "climate." 42 U.S.C. § 7602(h).

EPA also tries to rely on the legislative history to support its claim that the conditions in California need to be "unique" or "sufficiently different from the nation as a whole." 83 Fed. Reg. at 43,247. As noted above, the plain meaning and statutory structure (especially Section 177) undermine any such reading, and the legislative history does, as well. Indeed, both when the waiver provision was first enacted and when Section 177 was adopted, there were states with pollution comparable to or worse than California's.[441] "Compelling and extraordinary" thus cannot mean wholly unique based on an overall reading of the legislative history.

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[440] *See, e.g.,* 113 Cong. Rec. at 30,944 (statement of Rep. Talcott) ("Long ago, the State of California attacked the problem of air pollution and smog. We have made great progress. We have probably been the foremost contributor to the 'war on air pollution.' We in California have set standards for the rest of the Nation to emulate.… We must let the State of California establish higher standards; we must permit the State of California to set new examples and lead the way for cleaner air."); *id*. at 30,954 (statement of Rep. Moss) (California "should be permitted to continue to assert its initiative and its leadership"); *id*. (statement of Rep. Moss) ("there is offered to this Nation the ideal laboratory, where the demonstrated initiative exists and where the resources exist to solve this problem and contribute significantly to the entire Nation. I believe we should take advantage of this unique opportunity.").

[441] *See, e.g.,* 113 Cong. Record at 30,988 (statement of Rep. Rogers) ("in the rating of cities with air pollution, Los Angeles is not the first. It is the fourth."); *id.* at 30947 (statement of Rep. Staggers) (noting estimates that "as many as 250 excess deaths occurred in the New York City area during the thermal inversion in the winter of 1962"); *id.* at 30955 (statement of Rep. Roybal) (noting that in 1948, smog in Donora, Pa., caused "acute illness to 5,000 of the 14,000 population, with 18 deaths," and in New York City in 1966, "a heavy concentration of smog was responsible for 168 deaths"); Environmental

There is no legislative history stating that California must have impacts worse than the rest of the country taken as a single entity made up of the 49 other states. Nor is there any legislative history suggesting that because a single state somewhere has air pollution impacts equivalent to one aspect of California's, the plethora of California's impacts taken together are not compelling and extraordinary -- they in fact are unique. See 49 Fed. Reg. at 18,891 (finding that particulate matter air pollution in California does not have to be demonstrably worse than the rest of the country for California to be entitled to a to justify waiver).

d. The Proposed Interpretation is Antithetical to the Purpose of the Statutory Preemption Waiver.

Perhaps the most glaring flaw in the proposed interpretation is that it is antithetical to the Congressional purposes in enacting the waiver of federal preemption. Congress had three main intentions in the waiver provision: providing California with the broadest possible discretion in running its separate motor vehicle program; gaining the benefits for the country as a whole from having a California program that acts as a laboratory for the nation; and allowing only two separate motor vehicle programs, one state and one federal, thereby reducing the burden on manufacturers. In its 2009 grant of the waivers for the California GHG and ZEV regulations, EPA was at pains to explain how its traditional interpretation -- which considers whether California continues to need its separate motor vehicle program to meet compelling and extraordinary conditions -- furthers each of these objectives. 74 Fed. Reg. 32,761-62. No such explanation is attempted in the present proposal, nor is one possible. The proposal hinders and thwarts the Congressional objectives: it thwarts California's pioneering vehicular standards and its ability to serve as a laboratory for the rest of the country; and it tramples on the broad discretion Congress meant to afford California to operate its own program. This kind of restrictive interpretation favoring preemption but at odds with Congressional intent is highly disfavored, in particular where, as here, the State program precedes the federal one.[442] Moreover, as a general matter, an interpretation of an otherwise ambiguous phrase which thwarts Congressional purposes is unreasonable and impermissible.[443] Here, not only is there no such "reasonable explanation," none is attempted and none is possible.

Protection Agency, *Monitoring and Air Quality Trends Report, 1974* (February 1976) (comparing air pollution in California vs. Illinois, Connecticut, Pennsylvania, Washington, D.C.), *available at,* https://www.epa.gov/air-trends/historical-air-quality-trends-reports; *see also,* Environmental Protection Agency, *Monitoring and Air Quality Trends Report, 1977* (December 1978) (comparing air pollution in California vs. Illinois, Florida, New York, Ohio, Texas).

[442] *United States v. Locke*, 529 U.S. 89, 108 (2000) (stating that the "historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress").

[443] *See Good Fortune Shipping v. Commissioner IRS*, 897 F. 3d 256, 261-62 (D.C. Cir. 2018) (to be a permissible interpretation under Chevron step 2, "we consider whether the interpretation is 'arbitrary or capricious in substance, or manifestly contrary to the statute… Our focus is thus on 'whether the [agency] has reasonably explained how the permissible interpretation it chose is 'rationally related to the goals of' the statute'" (internal citations omitted)); *Council for Urological Interests v. Burwell*, 790 F. 3d 212, 219 (D.C. Cir. 2015) ("An interpretation is permissible if it is a 'reasonable explanation of how an agency interpretation serves the statute's objectives'" (quoting *Northpoint Tech Ltd. v. FCC*, 412 F. 3d 145, 151 (D.C. Cir. 2005)).

e. EPA's past practice in waiver decisions supports a broad reading of "compelling and extraordinary conditions."

In past waiver decisions, EPA has broadly interpreted the phrase "compelling and extraordinary conditions," and has not required California to show that the extent of emissions was unique to the state or that emissions had more severe effects in the state than in other states or the nation as a whole. Instead, EPA's practice has been to find "compelling and extraordinary conditions" are present when California has ongoing air quality and climate challenges and seeks to address those challenges through a suite of emissions standards.

When first granting California's vehicle GHG waiver in 2009, the EPA Administrator plainly stated: "I have interpreted the 'compelling and extraordinary conditions' criterion to not properly include a consideration of whether the impacts from climate change are compelling and extraordinary in California." 74 Fed. Reg. at 32746. Rather, "the better approach is to review California's need for its new motor vehicle emissions program as a whole to meet compelling and extraordinary conditions, and not to apply this criterion to specific standards, or to limit it to standards designed to address only local or regional air pollution problems." 74 Fed. Reg. at 32761. Thus, an individual standard need not be required to address "compelling and extraordinary circumstances," and it is sufficient that it be "part of California's overall approach to reducing vehicle emissions to address air pollution problems." *Id.*; *see also,* 78 Fed. Reg. 2112, 2129, 2131 (Jan. 9, 2013).

In granting California's GHG waiver, EPA also reiterated that "Congress . . . intentionally provided California the broadest possible discretion in adopting the kind of standards in its motor vehicle program that California determines are appropriate to address air pollution problems that exist in California, whether or not those problems are local or regional in nature, and to protect the health and welfare of its citizens." 74 Fed. Reg. at 32762.

In other decisions waiving preemption for California motor vehicle standards, EPA has taken a similarly broad interpretation of "compelling and extraordinary circumstances." When California sought a waiver to set more stringent particulate matter emissions standards for model years 1985 to 1989, manufacturers made a similar argument to the one made by EPA here – that "compelling and extraordinary conditions" exist only where particulate matter standards are needed to address such conditions. 49 Fed. Reg. 18887-02, 18890 (May 3, 1984). EPA rejected the argument that "each standard must be analyzed in isolation," and instead found that the "'compelling and extraordinary conditions' does not refer to levels of pollution directly, but primarily to the factors that tend to produce them: geographical and climatic conditions, that when combined with large numbers and high concentrations of automobiles, create serious air pollution problems." *Id.* at 18890; *see also,* 81 Fed. Reg. 95982-01 (Dec. 29, 2016) (granting waiver for medium- and heavy-duty GHG standards), 55 Fed. Reg. 43028-01 (Oct. 25, 1990) (granting waiver for hydrocarbon and carbon monoxide emissions).

3. California is experiencing state-specific compelling and extraordinary conditions and the waiver will contribute to benefits within the state.

EPA's arguments here -- that California's program does not address compelling and extraordinary state-specific conditions -- are the same arguments it soundly rejected in earlier waiver proceedings.

In 2009, EPA rejected the arguments it had relied on when the Bush Administration denied California's GHG waiver, finding that opponents of the waiver had not met their burden under the alternative test to show that the effects of greenhouse gas emissions are "sufficiently different" or more severe in the state when compared to other parts of the country. 74 Fed. Reg. at 32764; 78 Fed. Reg. at 2129 (reiterating particularized California impacts). EPA also rejected the argument that California must show its standards would mitigate greenhouse gas emissions impacts in the state, citing the great deference that must be given to California's "policy judgment that an incremental directional improvement will occur and is worth pursuing." 74 Fed. Reg. at 32766.

Even under EPA's current (untenable) interpretation , the proposed waiver revocation fails because California actually does suffer compelling and extraordinary conditions related to greenhouse gas emissions, and the state's program does contribute to reducing such problems in the state and elsewhere.[444]

a. Scientific studies overwhelmingly indicate that almost all potential effects of climate change will impact California, causing extremely harsh and catastrophic damages for the state.

California, as the most populous and third largest state,[445] is uniquely situated to feel extraordinarily devastating and disproportionate effects from climate changes due to emissions of greenhouse gases.

In terms of absolute numbers, California has not only the largest overall population (and therefore more people generally to manage through climate change), but also the largest population of both older (65 and over)[446] and younger (18 and under)[447] residents – two groups

[444] *See also* Environmental Law Clinic at the University of California, Berkeley, Comment Letter on Proposed SAFE Vehicles Rule (Aug. 27, 2018); https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-1132; https://www.law.berkeley.edu/wp-content/uploads/2018/09/ELC-Vehicle-GHG-Letter-Climate-Impacts.pdf

[445] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.

[446] California's population 65 and over totaled 4,246,514 as of the last census. The state with the next highest number of older residents, Florida, had almost a million fewer (3,259,602). *See* U.S. Census Bureau, The Older Population: 2010, Werner, Carrie A. (2011), https://www.census.gov/prod/cen2010/briefs/c2010br-09.pdf, at 9.

[447] California's population 18 and under totaled 9,295,040 as of the last census. The state with the next highest number of resident 18 years and under, Texas, had more than two million fewer (6,865,824). *See* U.S. Census Bureau, Age and Sex Composition: 2010, Howden, Lindsay M, and Meyer, Julie A. (2011), https://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf, at 7.

that will be disproportionately affected by climate change due to their more limited capabilities to withstand extreme heat, poor air quality, or contaminated water, for example, and their likelihood of needing assistance during any extreme weather events. Because California is so large, the state's climatic and topographic diversity is unmatched – encompassing everything from mountains historically experiencing heavy snowfall, to deserts that are "some of the hottest and driest areas of the United States,"[448] to dense forests, to sandy beaches and a lengthy coastline.[449] With such diversity, California will experience almost all of the potential effects of climate change, meaning that the state has to address a wide variety of consequences simultaneously – coastal losses, agricultural stress, drought and accompanying water shortages, increasing wildfires, public health crises, and more. This makes adaptability exceedingly more challenging than it would be if California had to face only one or two of the major climate change impacts. California is "one of the most 'climate-challenged' regions of North America," with an "extremely variable" climate, and climate change "is making extreme conditions more frequent and severe."[450]

California's recently-published Fourth Climate Change Assessment found that the state will experience all of the following: warming temperatures (*very high confidence*), rising sea levels (*very high confidence*), declining snowpack (*very high confidence*), increasing heavy precipitation events (*medium-high confidence*), increasing frequency of drought (*medium-high confidence*), and increasing acres burned by wildfire (*medium-high confidence*).[451] The study also explained that, by mid-century, "human mortality, damages to coastal properties, and the potential for droughts and damaging floods" will cost the state an estimated tens of billions of dollars.[452] Furthermore, California is "a globally ranked biodiversity hotspot," with only 25 regions in the world home to as many species. But if current emissions levels continue, "between 45 to 56% of the natural vegetation in California" will be climatically stressed by 2100[453] - meaning that it will face climate-related challenges from, for example, high temperatures, low rainfall, and long dry seasons, which will have significant repercussions for California's biodiversity and the functioning of its ecosystems.

[448] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.
[449] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.
[450] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 3.
[451] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 4.
[452] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 9.
[453] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 13.

In fact, California's most recent climate assessment made clear that "California is already experiencing climate change"[454] and many of its accompanying stresses. According to the report, the effects of climate change are already underway, and "temperatures are warming, heat waves are more frequent, and precipitation has become increasingly variable," for example.[455]

b. California's hot and dry climate, made significantly more extreme by recent warming, will face an above-average threat of increased droughts and wildfires as a result of climate change, with far-reaching and devastating consequences that are already occurring and will only increase without responsive action.

California exists in what is "the hottest and driest region in the United States,"[456] an area that is "already parched" and likely to get even hotter and drier.[457] Current conditions in California have already been exacerbated by climate change. The past four years in the state were the warmest on record.[458] Annual average temperatures have increased in California by approximately 2ºF since the early 20th century, with "historically unprecedented warming" projected if emissions are not restrained.[459] An average temperature increase of 5.6ºF to 8.8ºF is expected in California by 2100, depending on the extent of greenhouse gas emissions reductions.[460]

The potential for more frequent and more intense droughts and wildfires accompanies these warming temperatures. For California, "[n]aturally occurring droughts are expected to become

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[454] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 19 (citing Barnett, T. P., Pierce, D. W., Hidalgo, H. G., Bonfils, C., Santer, B. D., Das, T., … Dettinger, M. D. (2008). Human-induced changes in the hydrology of the western United States. Science, 319(5866), 1080–1083. https://doi.org/10.1126/science.1152538, and Williams, A. P., Seager, R., Abatzoglou, J. T., Cook, B. I., Smerdon, J. E., & Cook, E. R. (2015). Contribution of anthropogenic warming to California drought during 2012-2014: Global Warming and California Drought. Geophysical Research Letters, 42(16), 6819–6828. https://doi.org/10.1002/2015GL064924).

[455] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 13.

[456] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 463.

[457] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 463.

[458] California Environmental Protection Agency, *Indicators of Climate Change in California* (May 2018) at S-4; https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.

[459] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.

[460] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 5.

more intense," even if overall precipitation increases, because the rate of soil moisture loss will increase during dry spells.[461] Scientists project that wildfires will also become more frequent and severe.[462]

The warming temperatures and accompanying droughts present an extraordinary threat in part because of California's unique water needs. The state relies on snowpack both to manage its water supply and to control flooding.[463] The state has already been seeing the effects of a diminished snowpack – in the past century, the amount of snowmelt reaching the Sacramento River had declined by nearly ten percent.[464] As early as 2050, water supply from the snowpack is projected to decline by two-thirds in California.[465] If emissions continue without additional controls, by 2100 this water supply from snowpack could fall to less than one-third.[466] With rising temperatures, snow falls only at higher elevations, meaning the snowpack stores less water.[467] To compound this, "[h]igher spring temperatures will also result in earlier melting of the snowpack."[468] This premature melting "could have substantial negative impacts on water-dependent sectors and ecosystems."[469] Moreover, the two largest reservoirs in the state – the Shasta and Oroville reservoirs – may have roughly one-third less water stored annually by the end of the century.[470]

All of this will change the quantity and timing of availability of California's water resources. This will necessitate a change to California's water infrastructure, which is characterized by a "spatial and temporal mismatch of supply and demand (with most of the precipitation in the state occurring in the northern part of the state in the winter but most of the demand concentrated in major urban areas and agricultural areas in the southern and central part of the state, especially in

[461] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.
[462] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.
[463] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.
[464] California Environmental Protection Agency, *Indicators of Climate Change in California* (May 2018) at S-6; https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.
[465] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 5.
[466] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 5.
[467] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.
[468] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.
[469] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.
[470] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 10.

the summer).[471] The Sierra Nevada snowpack provides natural water storage for the state, but as it is reduced due to warmer temperatures, less snowfall, and premature melting, this will result in implications throughout California's water management system.[472] One study has called this requisite infrastructure change "especially profound,"[473] and one for which California's complex water storage and distribution network are not designed.[474]

Accompanying these climate-change-driven droughts, California is likely to experience more intense wildfire seasons, which are "strongly associated with increased spring and summer temperatures and an earlier spring snowmelt."[475] Since 1950, the area burned by wildfires each year has increased; and the past few years have been the worst fire years on record.[476] The largest fire on record – the Mendocino Complex Fire – occurred just this summer, and burned over 400,000 acres and destroyed over 150 homes.[477] Conditions will only worsen over time. Models project "up to a 74% increase in burned area in California, with northern California potentially experiencing a doubling under a high emissions scenario toward the end of the century."[478] Large wildfires (burning greater than 25,000 acres) "could become 50% more frequent by the end of century if emissions are not reduced,"[479] and California wildfires could

[471] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 56.
[472] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 47.
[473] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 10.
[474] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 10.
[475] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 323-24.
[476] California Environmental Protection Agency, *Indicators of Climate Change in California* (May 2018) at S-9; https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf; CalFire, *Top 20 Largest California Wildfires; https://www.fire.ca.gov/communications/downloads/fact_sheets/Top20_Acres.pdf;* .
[477] CalFire, http://www.fire.ca.gov/current_incidents/incidentdetails/Index/2175; New York Times, *Three of California's Biggest Fires Ever Are Burning Right Now* (Aug. 10, 2018), https://www.nytimes.com/interactive/2018/08/10/us/california-fires.html
[478] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 468.
[479] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 6.

"burn up to a maximum of 178% more acres per year than current averages."[480] In addition to destroying homes, infrastructure, forests, and farmland, projections show that the increasing wildfires "will affect extensive portions of California's electricity transmission grid."[481] Together, the intense droughts and large wildfires "are reshaping California's mountain ecosystems," including already resulting in greater than 23% stress mortality in mid-elevation forests in the Sierra.[482] In a populous state covered almost one-third by forests which "provide important ecosystem services including water capture and filtration, wildlife habitat, recreation opportunities, and timber products,"[483] these consequences are devastating.

California is already experiencing these drought and wildfire effects. Since 2012, for example, the state has been hit by "one of its most severe and widespread droughts since record-keeping began in 1895,"[484] "an almost non-existent Sierra Nevada winter snowpack in 2014-2015, increasingly large and severe wildfires, and back-to-back years of the warmest average temperatures."[485] California's most recent climate assessment explained that the drought effects of climate change are already being felt: "California has experienced a succession of dry spells, and with warmer conditions the impacts of these droughts have increased."[486] Furthermore,

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[480] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 6.

[481] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 115 (citing Sathaye, J. A., L. L. Dale, P. H. Larsen, G. A. Fitts, K. Koy, S. M. Lewis, and A. F. P. de Lucena, 2013: Estimating impacts of warming temperatures on California's electricity system. Global Environmental Change, 23, 499-511, doi:10.1016/j.gloenvcha.2012.12.005),

[482] USGCRP, Climate Science Special Report: Fourth National Climate Assessment, Vol. I, Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.) (2017), https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf at 289 (citing Asner, G.P., P.G. Brodrick, C.B. Anderson, N. Vaughn, D.E. Knapp, and R.E. Martin, 2016: Progressive forest canopy water loss during the 2012–2015 California drought. Proceedings of the National Academy of Sciences, 113, E249-E255. http://dx.doi.org/10.1073/ pnas.1523397113).

[483] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 12.

[484] USGCRP, Our Changing Planet: The U.S. Global Change Research Program for Fiscal Year 2017 (2016), https://downloads.globalchange.gov/ocp/ocp2017/Our-Changing-Planet_FY-2017_full.pdf, at 33; see also NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.

[485] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 3; see also NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca. (The record warmth in 2014 and 2015, in combination with multiple years of below average precipitation . . . led to one of the most severe droughts on record for the state").

[486] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 13 (citing Office

"Peak runoff in the Sacramento River occurs nearly a month earlier now than in the first half of the last century, glaciers in the Sierra Nevada have lost an average of 70 percent of their area since the start of the 20th century, and birds are wintering further north and closer to the coast."[487] The devastating drought that lasted from 2012 to 2016 "has been described as a harbinger of projected dry spells in future decades, whose impacts will likely be worsened by increased heat."[488]

Wildfires are already becoming more severe, too. "[T]he area burned by wildfires has increased in parallel with increasing air temperatures," and "[w]ildfires have also been occurring at higher elevations in the Sierra Nevada mountains."[489] The effects of wildfires can be, and already have been, "cascading." For example, transportation infrastructure has been impacted by recent wildfires, when, following the 2018 Thomas wildfire in southern California, mudslides resulted in Highway 101, closing a major north-south corridor for the state.[490]

c. California's long coastline means climate change is having and will have above-average negative consequences for the state.

California's coastline stretches over 1100 miles,[491] making it the third longest coastline in the United States. Because of the coastline's size and the "high concentrations of people and

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of Environmental Health Hazard Assessment, California Environmental Protection Agency. (2018). Indicators of Climate Change in California. Retrieved from https://oehha.ca.gov/media/downloads/climatechange/report/2018caindicatorsreportmay2018.pdf).

[487] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 13 (citing Office of Environmental Health Hazard Assessment, California Environmental Protection Agency. (2018). Indicators of Climate Change in California. Retrieved from https://oehha.ca.gov/media/downloads/climatechange/report/2018caindicatorsreportmay2018.pdf).

[488] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 13 (citing Mann, M. E., & Gleick, P. H. (2015). Climate change and California drought in the 21st century. Proceedings of the National Academy of Sciences, 112(13), 3858–3859. https://doi.org/10.1073/pnas.1503667112).

[489] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 29 (citing Office of Environmental Health Hazard Assessment, California Environmental Protection Agency. (2018). Indicators of Climate Change in California. Retrieved from https://oehha.ca.gov/media/downloads/climatechange/report/2018caindicatorsreportmay2018.pdf); Schwartz, M. W., Butt, N., Dolanc, C. R., Holguin, A., Moritz, M. A., North, M. P., … van Mantgem, P. J. (2015). Increasing elevation of fire in the Sierra Nevada and implications for forest change. Ecosphere, 6(7), art121. https://doi.org/10.1890/ES15- 00003.1).

[490] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 55.

[491] California Ocean Science Trust, Rising Seas in California: An Update on Sea-Level Rise Science, Griggs, G., Árvai, J., Cayan, D., DeConto, R., Fox, J., Fricker, H.A., Kopp, R.E., Tebaldi, C., and

development along the coast,"[492] climate change presents an above average threat to California. The state has already experienced rising sea levels – since 1900, the mean sea level has risen by 7 inches in San Francisco.[493] The projected 1 to 4 foot rise in global sea level by the end of the 21st century means "major challenges for California's water management system,"[494] erosion of coastal areas,[495] and extreme high tides and accompanying flooding and infrastructure damage.[496] At risk of "flooding, inundation, and coastal retreat" are "[h]undreds of miles of roads and railways, harbors and airports, power plants and wastewater treatment facilities, in addition to thousands of businesses and homes."[497] Because California has the nation's largest

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Whiteman, E.A. (eds.) (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf, at 6.

[492] California Ocean Science Trust, Rising Seas in California: An Update on Sea-Level Rise Science, Griggs, G., Árvai, J., Cayan, D., DeConto, R., Fox, J., Fricker, H.A., Kopp, R.E., Tebaldi, C., and Whiteman, E.A. (eds.) (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf, at 6.

[493] California Environmental Protection Agency, *Indicators of Climate Change in California* (May 2018) at S-7; https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.

[494] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca. With respect to water management, the California State Climate Summary explained: "Continued sea level rise will present major challenges to California's water management system. The Sacramento-San Joaquin Delta is the hub of California's water supply system. Water from reservoirs in Northern California flows through the Delta where it is then pumped into aqueducts to central and southern California. Sea level rise will cause salty ocean water to intrude into the Delta through San Francisco Bay. This would require increased releases of water from upstream reservoirs to keep the salty water out of the Delta. Water that is used to repel salt flows out into the ocean is no longer available for water supply, reducing the overall amount of water." Similarly, "In Los Angeles, sea level rise poses a threat to groundwater supplies and estuaries, potentially contaminating groundwater with seawater, or increasing the costs to protect coastal freshwater aquifers." *See* USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 469 (citing Heberger, M., H. Cooley, P. Herrera, P. H. Gleick, and E. Moore, 2011: Potential impacts of increased coastal flooding in California due to sea-level rise. *Climatic Change*, 109, 229-249, doi:10.1007/s10584-011-0308-1; Bloetscher, F., D. E. Meeroff, B. N. Heimlich, A. R. Brown, D. Bayler, and M. Loucraft, 2010: Improving resilience against the effects of climate change. *American Water Works Association*, **102**, 36-46).

[495] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 469; California Ocean Science Trust, Rising Seas in California: An Update on Sea-Level Rise Science, Griggs, G., Árvai, J., Cayan, D., DeConto, R., Fox, J., Fricker, H.A., Kopp, R.E., Tebaldi, C., and Whiteman, E.A. (eds.) (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf, at 3.

[496] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 465-69.

[497] California Ocean Science Trust, Rising Seas in California: An Update on Sea-Level Rise Science, Griggs, G., Árvai, J., Cayan, D., DeConto, R., Fox, J., Fricker, H.A., Kopp, R.E., Tebaldi, C., and Whiteman, E.A. (eds.) (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf, at 6.

ocean-based economy,[498] estimated at $44 to 46 billion annually,[499] the potential economic impacts to the state are incredibly significant. Furthermore, California's coastal regions provided wages and salaries totaling $19.3 billion and supplied 502,073 jobs in 2013.[500] "Although California's 19 coastal counties only account for 22 percent of the state's area, they are home to 68 percent of its people, 80 percent of its wages, and 80 percent of its GDP."[501] California's ocean-based economy is primarily "connected to coastal recreation and tourism, as well as ports and shipping."[502] The facilities and infrastructure that support this ocean economy, along with miles and miles of public beaches, "lie within a few feet of present high tide."[503] Fishing is also an important part of California's ocean economy, and fishing communities in the state "depend

[498] The ocean-based economy is "the part of the economy for which all or part of the inputs derive from the ocean," and includes six sectors comprising twenty one industries: marine related construction; living resources (e.g., fish hatcheries, fishing, seafood markets); minerals (oil and gas exploration and production, sand and gravel mining); ship and boat building and repair; tourism and recreation (e.g., amusement, boat dealers, hotels and lodging, eating and drinking locations, marinas, sporting goods); transportation (e.g., deep sea freight, marine transportation, warehousing). National Ocean Economics Program, Kildow J, Colgan C, Johnston P, Scorse, J., Farnum, M., State of the U.S. Ocean and Coastal Economies: 2016 Update (2016), http://midatlanticocean.org/wp-content/uploads/2016/03/NOEP_National_Report_2016.pdf, at 7.

[499] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 469 (citing Cooley, H., E. Moore, M. Heberger, and L. Allen, 2012: Social Vulnerability to Climate Change in California. California Energy Commission. Publication Number: CEC-500-2012-013, 69 pp., Pacific Institute, Oakland, CA; Pendleton, L. H., 2009: The economic value of coastal and estuary recreation. The Economic and Market Value of Coasts and Estuaries: What's At Stake?, L. H. Pendleton, Ed., Coastal Ocean Values Press, 115-139. [Available online at http://www.habitat.noaa.gov/pdf/ economic_and_market_valueofcoasts_and_estuaries.pdf]); California Ocean Science Trust, Rising Seas in California: An Update on Sea-Level Rise Science, Griggs, G., Árvai, J., Cayan, D., DeConto, R., Fox, J., Fricker, H.A., Kopp, R.E., Tebaldi, C., and Whiteman, E.A. (eds.) (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf, at 6 (citing Kildow, J. Colgan, C., Scorse, J., Johnston, P., Nichols, M. State of the U.S. Ocean and Coastal Economies 2014 (2014)).

[500] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 15.

[501] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 65 (citing Eastern Research Group, Inc. (ERG). (2016). The National Significance of California's Ocean Economy. NOAA Office for Coastal Management. Retrieved from https://coast.noaa.gov/data/digitalcoast/pdf/california-ocean-economy.pdf).

[502] California Ocean Science Trust, Rising Seas in California: An Update on Sea-Level Rise Science, Griggs, G., Árvai, J., Cayan, D., DeConto, R., Fox, J., Fricker, H.A., Kopp, R.E., Tebaldi, C., and Whiteman, E.A. (eds.) (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf, at 6.

[503] California Ocean Science Trust, Rising Seas in California: An Update on Sea-Level Rise Science, Griggs, G., Árvai, J., Cayan, D., DeConto, R., Fox, J., Fricker, H.A., Kopp, R.E., Tebaldi, C., and Whiteman, E.A. (eds.) (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf, at 6.

on fish and shellfish for their livelihoods, which provide a diverse supply of seafood to the state and for export."[504] With warming, oxygen in the ocean is depleted and the waters are acidifying, which is "already affecting marine fisheries and aquaculture."[505] One study found that "[i]n the coming decades, 10 percent of the world's population may face micronutrient and fatty acid deficiencies simply because the oceans are running out of wild fish."[506]

Ominous for California is that a new study predicts that global sea level rise will be more intense for California than other areas because of the effects of ice loss from the Greenland and Antarctic Ice Sheets.[507] According to that study, "[t]hese ice sheets will soon become the primary contributor to global sea-level rise, overtaking the contributions from ocean thermal expansion and melting mountain glaciers and ice caps."[508] Ice loss from these areas, "causes higher sea-level rise in California than the global average: for example, if the loss of West Antarctic ice were to cause global sea-level to rise by 1 foot, the associated sea-level rise in CA would be about 1.25 feet."[509] Thus, California is poised to face sea-level increases greater than in some other areas.

The direct impacts will be devastating to California's coast, but "[r]ising sea levels, warming ocean waters, increasing acidity, and decreasing dissolved oxygen levels will have effects that ripple far beyond the three-quarters of Californians who live in coastal counties."[510]

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[504] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 65.
[505] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 65.
[506] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 65 (citing Golden, C. D., Allison, E. H., Cheung, W. W. L., Dey, M. M., Halpern, B. S., McCauley, D. J., … Myers, S. S. (2016). Nutrition: Fall in fish catch threatens human health. Nature News, 534(7607), 317. https://doi.org/10.1038/534317a).
[507] California Ocean Science Trust, Rising Seas in California: An Update on Sea-Level Rise Science, Griggs, G., Árvai, J., Cayan, D., DeConto, R., Fox, J., Fricker, H.A., Kopp, R.E., Tebaldi, C., and Whiteman, E.A. (eds.) (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf.
[508] California Ocean Science Trust, Rising Seas in California: An Update on Sea-Level Rise Science, Griggs, G., Árvai, J., Cayan, D., DeConto, R., Fox, J., Fricker, H.A., Kopp, R.E., Tebaldi, C., and Whiteman, E.A. (eds.) (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf, at 3.
[509] California Ocean Science Trust, Rising Seas in California: An Update on Sea-Level Rise Science, Griggs, G., Árvai, J., Cayan, D., DeConto, R., Fox, J., Fricker, H.A., Kopp, R.E., Tebaldi, C., and Whiteman, E.A. (eds.) (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf, at 3.
[510] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 15.

With respect to infrastructure, airports and highways, along with "[i]nfrastructure that supplies energy along the coast – particularly docks, terminals, and refineries,"[511] are particularly threatened by climate change and coastal flooding. "The region's populous coastal cities face rising sea levels, extreme high tides, and storm surges, which pose particular risks to highways, bridges, power plants, and sewage treatment plants. California's critical port cities, which handle half of the nation's incoming shipping containers, are also at risk.[512]

Because California's many miles of highways and bridges and its several coastal international airports are vital for the worldwide movement of people and goods, sea level rise in California will have far-reaching effects. Without emissions controls, transportation infrastructure is "at increased risk of flooding with a 16-inch rise in sea level in the next 50 years, an amount consistent with the 1 to 4 feet expected global increase in sea level."[513] Urban coastal airports – for example, those in San Francisco, Oakland, and San Diego – "will be susceptible to major flooding from a combination of sea-level rise and storm surge by 2040-2080."[514] Equally troubling, California has a number of power plants in coastal regions that face flooding risks from rising sea levels.[515]

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[511] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 9.

[512] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 463.

[513] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 469.

[514] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at

[515] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 119. Predictions for California are even more extreme when considering the occurrence of a once-in-100-year flood. The miles of highways susceptible to coastal flooding in a 100-year storm event will triple from current levels to 370 miles by 2100, with over 3,750 miles exposed to temporary flooding. "Miles of highway at risk of flooding in a 100-year storm event will triple form current levels to 370 miles by 2100. Under that scenario, over 3750 additional miles of highway will be exposed to temporary flooding." *See* California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 10; "Projected increases in extreme coastal flooding as a result of sea level rise will increase human vulnerability to coastal flooding events. Currently, 260,000 people in California are at risk form what is considered a once-in-100-year flood. With a sea level rise of about three feet . . . and at current population densities, 420,000 people would be at risk from the same kind of 100-year flood event, based on existing exposure levels. Highly vulnerable populations – people less able to prepare, respond, or recover from natural disaster due to age, race, or income – make up approximately 18% of the at-risk population." *See* USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment,

California is known for its "iconic shoreline,"[516] which brings tourism to the state year-round. But, according to one study, Southern California may lose 31 to 67% of its beaches to complete erosion by 2100, unless something is done to curb greenhouse gas emissions.[517] The same study found that, by 2050, "statewide damages could reach nearly $17.9 billion from inundation of residential and commercial buildings" affected by sea level rise.[518] This will have major negative consequences for California's tourism industry, coastal economy, and the lives of a huge number of coastal residents.

And, again, California is *already* feeling these sea level effects, with sea level along the central and southern coasts of the state having risen more than 15 cm (5.9 inches) over the 20th century.[519] In recent years, "even moderate tides and storms have produced extremely high sea-levels."[520] For example, La Jolla's "all-time highest sea-level" occurred in November 2015 "under a high astronomical tide and a moderate storm."[521] Furthermore, California's recent climate change assessment explained that the state has already "experienced unusual events in the ocean and along the coast, including an unprecedented marine heat wave, a record harmful algal bloom, closures of fisheries, and a significant loss of northern kelp forests."[522]

Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 469-70.

[516] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 15.

[517] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 15.

[518] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 15. A 100-year coastal flood, on top of this level of sea level rise, would almost double these costs. *Id.*; California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 9, 95.

[519] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 31.

[520] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 65.

[521] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 31.

[522] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 65.

d. California's large agricultural sector will face devastating impacts from climate change.

California is also exceptional in that it is the most productive agricultural state in the nation,[523] also producing over half of the nation's specialty crops.[524] California produces about 95% of the nation's apricots, almonds, artichokes, figs, kiwis, raisins, olives, cling peaches, dried plums, persimmons, pistachios, olives, and walnuts, along with other high-value crops.[525]

The USGCRP's Third National Climate Assessment explained that California's agricultural sector – producing an array of fruits and vegetables – will be affected more than those reliant on other types of crops because extreme weather affects fruits and vegetables "more than other crops because they have high water content and because sales depend on good visual appearance."[526] "The combination of a longer frost-free season, less frequent cold air outbreaks, and more frequent heat waves accelerates crop ripening and maturity, reduces yields of corn, tree fruit, and wine grapes, stresses livestock, and increases agricultural water consumption."[527] These effects are already occurring, and "[t]his combination of climate changes is projected to continue and intensify, possibly requiring a northward shift in crop production, displacing existing growers and affecting farming communities."[528] These agricultural communities have already felt impacts, with the 2016 drought resulting in a $603 million economic loss and the loss of 4,700 jobs due to agricultural impacts.[529]

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[523] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.

[524] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 14.

[525] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 467.

[526] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 467.

[527] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 467.

[528] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 467.

[529] California Natural Resources Agency, California's Fourth Climate Change Assessment: Statewide Summary Report, Louise Bedsworth, Dan Cayan, Guido Franco, Leah Fisher, and Sonya Ziaja (2018), http://www.climateassessment.ca.gov/state/docs/20180827-StatewideSummary.pdf, at 59 (citing Medellín-Azuara, J., MacEwan, D., Howitt, R. E., Sumner, D. A., & Lund, J. R. (2016). Economic Analysis of the 2016 California Drought on Agriculture (p. 20). Davis, California: Center for Watershed Sciences University of California - Davis. Retrieved from https://watershed.ucdavis.edu/files/DroughtReport_20160812.pdf).

Additionally, many California perennial crops are reliant on a certain number of "chilling hours" over the winter (during which the temperatures fall between 32ºF and 50ºF). For example, grapes require 90 hours, peaches need 225, apples 400, and cherries need more than 1000 chilling hours.[530] If the requisite chilling hours do not occur, the plants will neither flower nor produce fruit. In some regions, the number of chilling hours was already 30% lower in 2000 than in 1950.[531] A "very conservative estimate" of chilling hours in the future projects a decline of 30% to 60% by 2050 and of up to 80% by 2100.[532]

The declining snowpack and earlier spring melting, discussed above, may have dire consequences for California's agricultural industry, when coupled with the warming temperatures and rising seas. By 2050, under certain precipitation conditions, California's agricultural production could face climate-related water shortages of up to 16% in certain regions. Hotter conditions due to climate change could also lead to further loss of soil moisture.[533] The "[r]educed yields from increasing temperatures and increasing competition for scarce water supplies will displace jobs in some rural communities."[534] USGCRP's Third National Climate Assessment found that "[w]arm-season vegetable crops grown in Yolo County, one of California's biggest producers, may not be viable under hotter climate conditions."[535]

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[530] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/ at 156 (citing Luedeling, E., M. Zhang, and E. H. Girvetz, 2009: Climatic changes lead to declining winter chill for fruit and nut trees in California during 1950–2099. *PLoS ONE*, **4**, e6166, doi:10.1371/journal.pone.0006166).

[531] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/ at 156.

[532] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/ at 156 (citing Luedeling, E., M. Zhang, and E. H. Girvetz, 2009: Climatic changes lead to declining winter chill for fruit and nut trees in California during 1950–2099. *PLoS ONE*, **4**, e6166, doi:10.1371/journal.pone.0006166).

[533] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 14.

[534] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 463.

[535] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 467 (citing Jackson, L., V. R. Haden, S. M. Wheeler, A. D. Hollander, J. Perlman, T. O'Geen, V. K. Mehta, V. Clark, and J. Williams, 2012: Vulnerability and Adaptation to Climate Change in California Agriculture. A White Paper from the California Energy Commission's California Climate Change Center (PIER Program). Publication number: CEC-500-2012-031, 106 pp., Sacramento, California Energy Commission. [Available online at http://www. energy.ca.gov/2012publications/CEC-500-2012-031/CEC-500- 2012-031.pdf]; Jackson, L. E., S. M. Wheeler, A. D. Hollander, A. T. O'Geen, B. S. Orlove, J. Six, D. A. Sumner, F. Santos-Martin, J. B. Kramer, W. R. Horwath, R. E. Howitt, and T. P. Tomich, 2011: Case study on potential agricultural

These consequences will be detrimental both to the nation's food supply and to California's economy.

e. Climate change has had, and will continue to have, negative impacts on California' ecosystems.

Warming temperatures are remaking ecosystems that are unique to California.

Since the 1930s, the composition of state forests has changed – with more small trees and fewer large trees; and a different mix of tree species, with fewer pines and more oaks, largely as a consequence of declining water sources.[536] In the Sierra Nevada mountains, the Ponderosa pine forest moves upslope, as warming reduces the areas that experience freezing nighttime temperatures.[537] Tree deaths have increased since the 2012 to 2016 drought – 129 million trees died during that time, in large part because higher temperatures and decreased water availability has made the trees more vulnerable to insects and other pathogens.[538]

Climate change has also dramatically affected the distribution and behavior of various species. In the Sierra Nevada mountains, range shifts have been seen in almost 75 percent of small mammal species, and over 80 percent of the bird species – with many high-elevation species moving higher upslope as temperatures increase.[539] In the past 45 years, certain Central Valley butterfly species have been appearing earlier in the spring, with the changes in their cycle being correlated with hotter and drier winter conditions.[540] Warming oceans, increasing acidification, and shifts in key food sources have affected many marine species – Chinook salmon runs have been affected by extreme mortality events, mollusks have been affected by acidifying seas, California sea lions have experienced higher levels of pup mortality.[541] These conditions have also decimated the

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responses to climate change in a California landscape. Climatic Change, 109, 407-427, doi:10.1007/s10584-011- 0306-3).

[536] California Environmental Protection Agency, *Indicators of Climate Change in California* (May 2018) at S-9; https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.

[537] California Environmental Protection Agency, *Indicators of Climate Change in California* (May 2018) at S-10; https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.

[538] California Environmental Protection Agency, *Indicators of Climate Change in California* (May 2018) at S-10; https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.

[539] California Environmental Protection Agency, *Indicators of Climate Change in California* (May 2018) at S-11; https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.

[540] California Environmental Protection Agency, *Indicators of Climate Change in California* (May 2018) at S-12; https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.

[541] California Environmental Protection Agency, *Indicators of Climate Change in California* (May 2018) at S-12; https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.

state's once lush kelp forests, and have caused an imbalance in the species occupying these forests – for example, urchin populations have swelled, while abalone have declined.[542]

f. California's already hot climate, its overwhelmingly urban population, and the large percentage of Californians living in poverty mean climate change will have greater human impacts in California than elsewhere.

As explained above, California's already hot temperatures are rapidly getting hotter, a trend that, without additional efforts to curb greenhouse gas emissions, will only speed up as time goes on. This will have a direct impact not only on California's coastline, agricultural industry, and economy, but also on the health of Californians.

Heat waves – the natural disaster responsible for the most deaths in California over the past 30 years[543] – will become more intense, which "could particularly stress coastal communities, such as San Francisco, that are rarely exposed to extreme temperatures and therefore are not well adapted to such events."[544] The 2006 heat wave in California already resulted in high morbidity and mortality, especially among elderly populations,[545] killing over 600 people, resulting in 16,000 emergency department visits, and leading to nearly $5.4 billion in damages. [546] Research "suggests that mortality risk for those 65 or older could increase ten-fold by the 2090s because of climate change." [547]

Over the past ten years, California has experienced "the highest number of very warm nights (minimum temperature above 75ºF) on record, and since 1995 a below average number of cold

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[542] Alistair Bland, Yale Environment 360, *As Oceans Warm, The World's Kelp Forests Begin to Disappear* (November 20, 2017), https://e360.yale.edu/features/as-oceans-warm-the-worlds-giant-kelp-forests-begin-to-disappear; Jono Wilson, Cool Green Science, *Managing Fisheries in the Face of Climate Change* (Aug. 29, 2018); https://blog.nature.org/science/2018/08/29/managing-fisheries-in-the-face-of-climate-change/; California Natural Resources Agency, California's Fourth Climate Change Assessment, *California's Coast and Ocean Summary Report* (August 2018), http://www.climateassessment.ca.gov/state/docs/20180827-OceanCoastSummary.PDF

[543] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 7.

[544] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.

[545] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 471 (citing Ostro, B. D., L. A. Roth, R. S. Green, and R. Basu, 2009: Estimating the mortality effect of the July 2006 California heat wave. Environmental Research, 109, 614-619, doi:10.1016/j. envres.2009.03.010. [Available online at http://www.energy. ca.gov/2009publications/CEC-500-2009-036/CEC-500-2009- 036-F.PDF]).

[546] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 7.

[547] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 7.

nights (minimum temperature below 20ºF)."[548] According to NOAA, "[w]armer nights mean public health challenges," for many reasons – "sunrise laborers ply their trade with a warmer baseline" and the poor and elderly "are more sensitive when they can't 'reset' even for a few hours overnight without the aid of air conditioning," for example.[549]

Days with temperatures exceeding 106.6ºF – referred to as "extreme heat days" – are also predicted to increase due to climate change. For example, from 1961-2005, downtown Fresno experienced only four such days. Depending on the degree of reductions in greenhouse gas emissions, studies predict there will be between 26 and 43 such days during the time period from 2050 to 2099.[550] The hotter temperatures also will increase annual electricity demand because of the increased use of air conditioning units, with the largest increases in peak hourly demand during the hot months (and the requisite need for electricity-generating capacity to try to meet this demand).[551] Heat-Health Events (HHEs) "will worsen drastically throughout the state: by mid-century, the Central Valley is projected to experience average HHEs that are two weeks long, and HHEs could occur 4 to 10 times more often in the Northern Sierra region."[552]

This drastic heat will have a huge effect on the health of California's urban population – which includes the vast majority of Californians. With nearly 95% of its population living in urban areas, California is the most urban state in the nation.[553] At 35,373,606 urban residents, California's urban population is more than 1.5 times larger than the next state's (Texas, with 21,298,039).[554] Seven of the ten (including the top four) most densely populated urbanized areas are in California.[555]

The increased temperatures caused by climate change will also worsen existing smog conditions. According to the American Lung Association, California already has some of the dirtiest air in

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[548] NOAA, 2017: California State Climate Summary, Frankson, R., L. Stevens, K. Kunkel, S. Champion, D. Easterling, and W. Sweet (eds.) (2017), https://statesummaries.ncics.org/ca.

[549] NOAA, Climate change rule of thumb: cold "things" warming faster than warm things, Arndt, D. (November 24, 2015), https://www.climate.gov/news-features/blogs/beyond-data/climate-change-rule-thumb-cold-things-warming-faster-warm-things.

[550] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 5.

[551] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 9.

[552] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 7.

[553] *See* https://www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html

[554] *See* https://www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html

[555] *See* https://www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html ("The nation's most densely populated urbanized area is Los Angeles-Long Beach-Anaheim, Calif., with nearly 7,000 people per square mile. The San Francisco-Oakland, Calif., area is the second most densely populated at 6,266 people per square mile, followed by San Jose, Calif. (5,820 people per square mile) and Delano, Calif. (5,483 people per square mile))."

the U.S, with extremely high levels of smog pollution and particulate matter pollution.[556] Climate change worsens smog conditions, by increasing temperatures which drive the chemical reactions that create ground level ozone, and by fostering stagnant air, which causes pollution to settle over an area for a longer time period.[557]

Climate change has extraordinary impacts on urban areas. USGCRP's Third National Climate Assessment explained that "[p]rojected regional temperature increases, combined with the way cities amplify heat, will pose increased threats and costs to public health in southwestern cities," and that "[d]isruptions to urban electricity and water supplies will exacerbate these health problems."[558] The longer and hotter heat waves and decreasing wintertime cold air outbreaks "will directly affect urban public health through increased risk of heat stress, and urban infrastructure through increased risk of disruptions to electric power generation."[559] A USGCRP report on the Impacts of Climate Change on Human Health in the United States explained that "[u]nless offset by additional emissions reductions of ozone precursors, climate-driven increases in ozone will cause premature deaths, hospital visits, lost school days, and acute respiratory symptoms,"[560] an effect that will be seen across California's cities. And California's climate study concluded that by 2050, heat waves in cities could cause two to three times more heat-related deaths, with vulnerable populations feeling the worst effects.[561]

California's urban population – which is diverse and includes many people living in poverty – is set to experience extraordinarily intense and disastrous impacts from climate change. The USGCRP's report found race to be "an important factor in vulnerability to climate-related stress," but also acknowledged that "it can be difficult to isolate the role of race from other related socioeconomic and geographic factors," explaining that "[s]ome racial minorities are also members of low-income groups, immigrants, and people with limited English proficiency, and it is their socioeconomic status (SES) that contributes most directly to their vulnerability to climate

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[556] American Lung Association, *State of the Air 2018, https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf;* http://www.lung.org/local-content/california/documents/state-of-the-air/2018/sota-2018_ca__most-polluted.pdf

[557] Union of Concerned Scientists, *Rising Temperatures, Worsening Ozone Pollution* (June 2011) at 7; https://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/climate-change-and-ozone-pollution.pdf.

[558] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 485.

[559] USGCRP, Climate Change Impacts in the United States: The Third National Climate Assessment, Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe (eds.) (2014), http://nca2014.globalchange.gov/, at 464.

[560] USGCRP, The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment, Crimmins, A., J. Balbus, J.L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M.D. Hawkins, S.C. Herring, L. Jantarasami, D.M. Mills, S. Saha, M.C. Sarofim, J. Trtanj, and L. Ziska (eds.) (2016), https://s3.amazonaws.com/climatehealth2016/high/ClimateHealth2016_FullReport.pdf, at 9.

[561] California Natural Resources Agency, California's Changing Climate 2018, Thorne, James H., Joseph Wraithwall, Guido Franco (eds.) (2018), http://www.climateassessment.ca.gov/state/docs/20180827-SummaryBrochure.pdf, at 20.

change-related stressors."[562] California's population living in poverty (based on the Census Bureau's Supplemental Poverty Measure)[563] was the second highest in the nation, at 19%. This is well above the overall national average rate of 13.9%, and means that many Californians will be unable to handle the stresses climate change will produce.

In any event, EPA has already determined that no other state, or even group of states, experiences conditions of similar range and severity as California. 74 Fed. Reg. at 32765. Moreover, the proposal essentially ignores that climate change will exacerbate California's critical problems with ozone control -- which even the proposal admits was a main Congressional concern in enacting the preemption waiver. As EPA found in 2009, although ozone is a local or regional air pollutant, "the impacts of climate change can nevertheless exacerbate this local air pollution problem." 74 Fed. Reg. 32763. Thus, "reducing ozone levels in California cities and agricultural areas is expected to become harder with advancing climate change." *Id.* In addition, California demonstrated that the GHG standards would result in a "directional" improvement in these conditions, and this was a sufficient demonstration of nexus between the standards and the conditions, especially given that EPA is not to second-guess California policy judgments when evaluating waiver applications. *Id.* at 32766. EPA concluded that:

> There is general consensus that temperature increases from climate change will exacerbate the historic climate, topography, and population factors conducive to smog formation in California, which were the driving forces behind Congress' inclusion of the waiver provision in the Clean Air Act. There is a logical link between the local air pollution problem of ozone and California's desire to reduce GHGs as one way to address the adverse impact that climate change may have on local ozone conditions. Given the clear deference that Congress intended to provide California on the mechanisms it chooses to use to address its air pollution problems, it would be appropriate to consider its GHG standards as designed in part to help address a local air pollution problem, and, thus, a waiver should not be denied even under the narrow interpretation employed in the March 6, 2008 Denial.

Id. These conclusions remain just as applicable now.

As discussed above, the range and depth of the climate change related problems faced by California is incredibly broad and incredibly serious. Even if one accepts EPA's alternative test for compelling and extraordinary conditions, comparing the impacts of climate change in

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[562] USGCRP, The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment, Crimmins, A., J. Balbus, J.L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M.D. Hawkins, S.C. Herring, L. Jantarasami, D.M. Mills, S. Saha, M.C. Sarofim, J. Trtanj, and L. Ziska (eds.) (2016), https://s3.amazonaws.com/climatehealth2016/high/ClimateHealth2016_FullReport.pdf, at 252.

[563] The Supplemental Poverty Measure extends the official poverty measure by taking account of many of the government programs designed to assist low-income families and individuals that are not included in the official poverty measure. *See* https://www.census.gov/content/dam/Census/library/publications/2018/demo/p60-265.pdf.

California to the rest of the country, the basis provided by EPA for revoking California's waiver is wholly inadequate.

In finding that waiver is not warranted due to the absence of "compelling and extraordinary" conditions related to climate change, EPA would have to address a number of factors and show why they are not present in California. The factors EPA would have to address include, but are not limited to, the following: how climate change impacts a wide variety of issues beyond those typically considered when addressing air pollution, the near-term and long-term effects and development of climate change in the state, and the specific impacts that will occur in specific geographic areas in a certain time frame.[564]

EPA has failed to address any of those factors here, and has failed to meet its burden in proving that California does not suffer from "compelling and extraordinary" conditions.

g. California's program addresses the effects of greenhouse gas emissions in the state.

The transportation sector is by far the biggest emitter of greenhouse gas emissions in California. Recent data from the California Air Resources Board shows that the transportation sector is responsible for 41% of the greenhouse gas emissions in the state.[565] As detailed elsewhere in these comments, these emissions have serious consequences for California, including highly localized impacts. Logically, curbing greenhouse gas emissions in the state would contribute to limiting the effects of climate change in the state.

Rolling back federal standards would increase air and climate pollution in the state. According to recent analysis conducted by the California Air Resources Board, if the federal rollback were to go forward, state carbon dioxide emissions would increase by 49.34 MMT by 2030, an increase of 20% from existing conditions.[566] The federal rollback would increase gasoline demand by 10.3%.[567] The federal proposal would also increase emissions of NOx, VOCs, and

[564] These factors mean that EPA is required to evaluate each of the wide number of important areas of climate change's impact in California, including those discussed above. For each area, EPA must evaluate the nature and degree of the impact in the near term, identify how this could change over time, and evaluate the likelihood of the future nature and degree of impacts. This needs to occur for every area of impact, including those areas that may or may not be likely, such as potentially catastrophic impacts. That is the only way to get a comprehensive evaluation of the impacts of climate change in California, the baseline for any comparison under EPA's proposed test. EPA then has to develop a similar evaluation for all other states or areas of the country so that the baseline evaluation of impacts in California can be meaningfully compared to other states or areas of the country. And as noted above, it is the overall comparison of the combination of impacts that is important, not just a comparison of individual impacts. EPA would also have to address any uncertainties in the science that it relies upon.

[565] California Air Resources Board, *California Greenhouse Gas Emission Inventory – 2018 Edition*; https://www.arb.ca.gov/cc/inventory/data/data.htm

[566] California Air Resources Board; Standardized Regulatory Impact Assessment (SRIA) for Proposed Amendments to the Low-Emission Vehicle III Greenhouse Gas Emission Regulation (Aug. 7, 2018) at 13; https://www.arb.ca.gov/regact/2018/leviii2018/appd.pdf

[567] SRIA at 14.

particulate matter – by approximately 10% for each pollutant by 2030.[568] Keeping California's program in place would prevent these increases, and the various negative consequences they would bring.

California's clean cars program also helps protect the state's most vulnerable communities. CARB's analysis shows that the increased emissions from the rollback will largely occur around refineries.[569] These emissions will result in increased instances of premature mortality, hospital and ER visits, and lost work days.[570] In turn, these adverse health effects will cost California residents and the state an additional $966 million by 2030.[571] The rollback would have disproportionate socioeconomic impacts – the majority of California's largest refineries are located in Bay Area and Southern California towns that are low-income communities or communities of color.[572]

Finally, as Congress and the courts have long recognized, California holds a unique role as a laboratory of innovation, pioneering practices and technologies that are now common practice, such as catalytic converters and engine warning lights. Taking away California's authority would defeat the ability to serve as that testing ground.

4. "Compelling and extraordinary" conditions justify California's ZEV program.

EPA likewise proposes that there are no "compelling and extraordinary" conditions that justify granting the waiver for California's Zero Emission Vehicle (ZEV) standards. 83 Fed. Reg. at 43245. EPA argues that the ZEV program does not impact global air pollution problems, or impact the conditions relating to climate change. *Id.* This line of argument is wrong as a matter of law, as explained above, and wrong as a matter of fact.

The rejection rests on a false premise - namely, that the ZEV program does not have criteria benefits. Through the years the ZEV program has been in place, California has found that the program would have emissions benefits.[573] This remains true today - not only does the ZEV program aim to reduce criteria emission and GHGs in the long-term, it also reduces near-term criteria air pollutant emissions. Further, California depends on the ZEV program to meet its air

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[568] *Id.*
[569] SRIA at 21-22.
[570] *Id.* at 22.
[571] *Id.* at 23.
[572] California Energy Commission, *California's Oil Refineries*, https://www.energy.ca.gov/almanac/petroleum_data/refineries.html; California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, CalEnviroScreen 3.0, https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30 (last visited Oct. 24, 2018)
[573] *See e.g.,* California Air Resources Board, *Basis for California's Request for Clean Air Act Section 209(b) Within-The-Scope and New Waiver Determinations for the 1999-2003 Amendments to the California Zero-Emission Vehicle Regulation* (September 2004), *available at* https://www.regulations.gov/document?D=EPA-HQ-OAR-2004-0437-0003; California Air Resources Board, *Clean Air Act 209(b) Waiver Support Document Submitted by the California Air Resources Board* (September 2009), *available at* https://www.regulations.gov/document?D=EPA-HQ-OAR-2009-0780-0002

quality improvement goals -- California's State Improvement Plan, and its Mobile Source Strategy, both depend on California's existing ZEV program (and the expectation that the program will continue to develop), explicitly factoring the program into the strategy for reducing NOx and ozone pollution.[574]

EPA also takes California's statement that are no criteria emissions benefits for its ZEV standards completely out of context. *C.f.,* 83 Fed. Reg. at 43242. Most obviously, EPA omits that California observed only that ZEV does not result in *near-term* tailpipe reductions, and *also* observed that the ZEV standards do not result in near-term GHG reductions either. California's observations merely highlight the obvious: the ZEV program is designed to foster technology to enable dramatic reductions in *long-term* criteria and GHG emissions. Thus, EPA's suggestion that the ZEV program is not designed to address criteria emissions is both false and contrary to decades of the agency's characterization of the program.

Moreover, EPA omits the caveat that California observed only that the ZEV program does not have *tank-to-wheel* emissions benefits. But California expressly observed that the ZEV program will result in upstream reductions, and the ZEV program is projected to yield reductions in both ozone precursors and PM.[575] These reductions are obviously related to the compelling and extraordinary conditions within California, and these criteria pollution reductions will improve local air quality. It is not EPA's province to second guess California's policy choices of how to best pursue its air quality objectives. *See, e.g.*, H.R. Rep. No. 95-294 at 302 ("The Administrator … is not to overturn California's judgment lightly. Nor is he to substitute his judgment for that of the State.")

Further, the fact that the ZEV rules allow credits for ZEV utilization and emission reduction in section 177 states provides no grounds for withdrawing the waiver. The credit mechanism is a way to encourage development and increased commercialization of this innovative, zero emission technology, facilitating the technology's deployment within California. Again, EPA cannot lawfully second-guess this type of policy decision. Moreover, the ZEV standard obviously is not being met exclusively by out-of-state reductions, given the strong figures regarding EV sales in the state.[576] The agency's remaining arguments with respect to GHG

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[574] *See e.g.,* California Air Resources Board, *Proposed 2016 State Strategy for the State Implementation Plan* (March 7, 2017); https://www.arb.ca.gov/planning/sip/2016sip/rev2016statesip.pdf; California Air Resources Board, *Mobile Source Strategy* (May 2016), https://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.pdf.

[575] *See e.g.,* California Air Resources Board, *Staff Report: Initial Statement of Reasons 2012 Proposed Amendments to the California Zero Emission Vehicle Program Regulations* (December 7, 2011) at pp. 72 - 76 (quantifying reductions of reactive organic gases, NOx, and particulate matter); *available at https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0718.*
While these reductions are from upstream sources, they are nevertheless dueto ZEV standards. And as EPA has found, in addressing the issue of consideration of upstream emission reductions in the waiver context, "[g]iven that the effects are reasonably related to the regulations, if it is appropriate to consider in-use effects it is not arbitrary and capricious for California to include such effects in its analysis." 78 Fed. Reg. at 32758-59 n. 95.

[576] *See* California Air Resources Board, 2017 Zero Emission Vehicle Credits, https://www.arb.ca.gov/msprog/zevprog/zevcredits/2017zevcredits.pdf?utm_medium=email&utm_source

reductions from ZEVs are identical to its previous arguments with respect to GHGs generally, and fail for the same reasons: there is no basis for one interpretation for criteria pollutants and GHGs; the arguments and interpretation would thwart rather than promote statutory purposes and objectives; California has demonstrated the need for its motor vehicle program due to compelling and extraordinary conditions within the State many times over; and California's circumstances are compelling and extraordinary even under EPA's proposed interpretation.

5. California "needs" GHG and ZEV standards "to meet" the state's conditions

The Proposal also suggests withdrawing California's waiver on the independent grounds that the state does not "need" its GHG and ZEV emissions standards to "meet" the extraordinary and compelling conditions presented by climate change. 42 U.S.C. § 7543(b)(1)(B). But as EPA consistently and rightly concluded for nearly a decade before it issued the Proposal, California "needs" those measures within the meaning of Clean Air Act Section 209(b) for several reasons, many of which are described at length elsewhere in these comments.

First – and as EPA has documented since well before it considered GHG emissions – the agency must defer to the state's own assessment of what is "needed" "to meet" environmental conditions in the state and should "not second-guess the wisdom or efficacy of [those] standards." 74 Fed. Reg. 32,744, 32,766 (July 8, 2009). *See also* 43 Fed. Reg. 25,720. 25,735 (June 14, 1978) ("it is EPA's practice to leave the decisions on controversial matters of public policy, such as whether to regulate [harmless] methane emissions, to California").

Second, the inquiry of California's "need" under Section 209(b) goes to whether California benefits from its motor vehicle emissions program as a whole. Because EPA does not question the utility of that program writ large – and because the GHG and ZEV standards are undisputedly part of California's overall emissions program – "there is no need to delve into the extent to which the GHG standards at issue here would address climate change or ozone problems. That is an issue appropriately left to California's judgment." 74 Fed Reg. at 32,766.

Third, and in any event, the state faces immediate and unique threats from climate change, such that even "incremental, directional improvement[s]" that California attributes to the emissions standards are "entitled . . . to great deference" when assessing California's need for those standards. *Id.*

Fourth, only deferential readings of "need" and "meet" comport with California's congressionally-designated role "as an innovative laboratory that may set standards that EPA may ultimately harmonize with." 78 Fed. Reg. 2112, 2129 (Jan. 9, 2013).

Fifth, the standards are "needed" to address problems beyond climate change, such as ozone. *See* 73 Fed. Reg. at 12,156, 12,161 (March 6, 2008) (concluding "it is not implausible to think

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=govdelivery; Rob Nikolewski, *California on Track to Exceed 2 million in new vehicle sales for four straight years,* San Diego Union Tribune, Aug. 22, 2018; *available at http://www.sandiegouniontribune.com/business/energy-green/sd-fi-cncda-vehiclesales-20180822-story.html;* Next 10, *The Road Ahead for Zero-Emission Vehicles in California* (January 2018); *available at, http://next10.org/zev; C.f.,* 83 Fed. Reg. at 43242.

. . . that the less stringent CO standards should be considered with respect to the ozone problem when evaluating compelling and extraordinary conditions, not the CO problem").

Finally, and relatedly, California's ZEV regulations have been deemed for a quarter century to fall under Section 209 as applied to long-term and relatively distant reductions in criteria pollutants, such that similarly distant effects on GHG emissions are entirely in keeping with EPA's practice. 58 Fed. Reg. 4059, 4166 (Jan. 13, 1993).

The Proposal abruptly departs from these conclusions, claiming that California does not "need" the GHG standards to "meet" threats from climate change because "GHG emissions of motor vehicles in California do not affect California's conditions related to global climate change in any way different from emissions from vehicles and other pollution sources all around the world." 83 Fed. Reg. 42,986, 43,248 (Aug. 24, 2018). To reach this finding, the Proposal breaks with EPA's decades of prior conclusions that California is entitled to deference concerning what it needs to meet GHG emissions standards; that the need for those standards should be evaluated with respect to California's emissions program as a whole; that California's predictions of incremental climate benefits from the GHG and ZEV standards suffices to demonstrate a need for those standards vis-à-vis climate change; that EPA should interpret California's need for those standards with an eye towards the state's special role as a trailblazer for emissions controls; and that the state "needs" its ZEV program is to catalyze long term investment in potentially revolutionary technologies, so as to ensure that technology becomes commercially viable on a large scale to address *both* criteria emissions and GHGs. In lieu of these well-established principles, the Proposal arbitrarily establishes an entirely new definition of "need," one requiring proposed standards to "meaningfully" "address" a discrete "problem," *id.* at 4325, in a fashion suggesting necessity, *id.* at 432848.

EPA scarcely acknowledges these sharp breaks with historical practice, resting instead on the EPA's 2008 isolated, unprecedented, and since-abrogated rejection of California's waiver application for GHG standards (which did not even adopt a heightened "meaningful" impact standard as the agency now proposes). By failing to address its departures from prior EPA findings, the Proposal's construction of "need" runs afoul of the Supreme Court's decision in *FCC v. Fox Television Stations, Inc.*, which makes clear that "[a]n agency may not . . . depart from a prior policy *sub silentio*." 556 U.S. 502, 515 (2009). That is especially true here, since EPA's "new policy rests upon factual findings that contradict those which underlay its prior policy" (as EPA now does with its determination that the GHG and ZEV standards do not suffice to militate the effects of climate change and local pollutants in California) "or when its prior policy has engendered serious reliance interests that must be taken into account" (as California's standards have with respect to California's SIP, SB32, and the many states that have adopted California emissions standards). *FCC*, 556 U.S. at 515. Thus, EPA must "provide a more detailed justification" for the Proposal's sharp break with past practice "than what would suffice for a new policy created on a blank slate." *Id*. Because it wholly lacks such discussions, the Proposal's new construction and application of "need" are invalid on their faces.[577]

[577] *See Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2127 (2016); *Air All. Hous. v. EPA*, No. 17-1155, 2018 WL 4000490, at *13 (D.C. Cir. Aug. 17, 2018).

In any event, the Proposal's construction of "need" runs directly counter to the statute's plain text, which easily encompasses California's standards. 83 Fed. Reg. at 43,248. The Proposal's novel interpretation of "need" – to "meaningfully address" a particular problem tantamount to "necessity," *id.* – does not comport with the common meaning of that word, which embraces far more than the lack of "meaningful" or "necessary" "redress" vis-a-vis a particular problem, and instead includes measures that are "useful." Thus, for example, it is equally correct for an automobile driver to indicate that, to drive, she "needs" tires and that she "needs" to inflate those tires with the correct air pressure, even though "need" in the second construction does not hinge on strict necessity. This broader understanding of "need" is the natural and most appropriate reading of Section 209, a conclusion bolstered by the Section's provision that the "need" be one to simply "*meet* compelling and extraordinary conditions," not one to "solve" or "meaningfully" affect those conditions, as the Proposal contends. 42 U.S.C. 7543(b) (emphasis added). The common definitions of "need" and "meet" easily encompass California's GHG and ZEV standards, which are designed both to achieve incremental but important reductions in GHG emissions – an effect the Proposal nowhere contests – and to helpfully drive innovation in emissions control across the state and nation, and worldwide. *See supra* section V(D)(2)(c).

Even if the plain language of Section 209 did not foreclose the Proposal's new definition of "need," that definition is inconsistent with the Clean Air Act's overall structure and purpose and is therefore unreasonable.

First, and as noted elsewhere in these comments, the text of Section 209 requires that EPA evaluate California's "need" with respect to the state's standards "in the aggregate," not, as the Proposal demands, on a standard-by-standard basis. 42 U.S.C. § 7543(b)(1); *see supra* section V(D)(1). As EPA does not dispute, California's emissions regime is necessary as a whole, and the GHG and ZEV standards are both a component of this regime and linked to important benefits from criteria pollutants, *see supra* sections V(D)(1)(b)(iv) & V(D)(4). Thus, EPA's pre-Proposal decisions rightly declined to evaluate California's GHG and ZEV standards in isolation, and approved those standards as part of a comprehensive package generated by California's unique experience and expertise.

Second, the burden is on opponents of California's proposed waiver to demonstrate why the waiver is inappropriate and to overcome the normal deference to the state's determinations concerning what is "needed" to "meet" particular environmental conditions. 42 U.S.C. § 7543(b); *see supra* section V(D)(B)(2)**.** EPA therefore may not now reject California's articulation of need on the grounds that, as EPA variously alleges, California failed *its* purported burden to explain a connection between the standards and attainment areas in the state, 83 Fed. Reg. at 43,249; that California failed to "show a causal connection between its GHG standards and reducing any adverse effects of climate change in California," *id*. (formatting omitted); or that California failed to "quantify and demonstrate climate benefits in California that may result from the GHG standards," *id*. As explained above, this burden and second-guessing of California's policy decisions is incompatible with Congress' desire to grant the state maximum latitude when fashioning its emissions-control regimes, and to enshrine the state as a laboratory for pollution control mechanisms in precisely those circumstances in which the payoff from new technologies or regulatory schemes is uncertain or difficult to quantify. *See* H.R. Rep. No. 95-294, 1977 U.S.C.C.A.N 1077, at 23 ("The amendment thus confers broad discretion on the State . . . to weigh the degree of health hazards from various pollutants and the degree of emission

reduction achievable for various pollutants with various emission control technologies and standards."). The burden imposed by the Proposal's construction of "need" is also nonsensical in this instance, insofar as California cannot possibly have "failed" to justify the continued maintenance of its waiver – as the Proposal now claims – where EPA has only asked California to do as much *in the Proposal itself*. *See, e.g.*, *Pub. Serv. Comm'n of Ky. v. FERC,* 397 F.3d 1004, 1012 (D.C. Cir. 2005).

Third, the Proposal's construction of need is inconsistent with the Clean Air Act because the Act explicitly contemplates that waivers are appropriate *even where the State's program offers no incremental improvements over operative federal standards*. Section 209(b)(2) explicitly permits waivers where the standards in question are "as stringent as the comparable applicable Federal standard," and/or where they are "as protective as applicable Federal standards," and therefore provide no incremental benefits vis-à-vis certain pollutants or pollution-related harm. The Proposal flatly ignores the implication of this provision for the agency's analysis of California's GHG and ZEV standards, but *any* attempt to parse the provisions of Section 209(b)(2) as between GHG emissions and other pollutants would, in any event, impermissibly read a single statutory term differently depending on the context. *See Clark v. Martinez*, 543 U.S. 371, 380 (2005). Thus, even if EPA were to abruptly determine that California's GHG standards implicate unique concerns relative to other pollutants regulated by the Clean Air Act, "[t]he lowest common denominator" definition of "need" – *i.e.*, the definition previously relied upon by the agency and looking to California's general need for a unique emissions program -- must nonetheless govern the Proposal's analysis of the GHG standards. *Id*.

For all these reasons, the Proposal's definition of "need" in Section 209 is unlawful. But even if that definition were permissible, EPA could not legally withdraw the waiver for ZEV and GHG emissions because, contrary to EPA's conclusion, those standards *do* meaningfully contribute to effects of climate change in California. *See supra* sections V(D)(1)(b)(iv) & V(D)(4) (describing that these standards meet long-term climate conditions). Indeed, EPA has previously found that similar data would suffice to satisfy the type of test set forth in the Proposal, which impermissibly fails to explain why these findings are no longer valid.[578] Likewise, EPA's "cause or contribut[ion]" findings under Section 202(a) of the Clean Air Act repeatedly recognize that even marginal emissions from the United States transportation sector will cause or contribute to adverse effects from climate change. 74 Fed. Reg. 66,496, 66,538 (Dec. 15, 2009).

EPA's arguments that California's GHG standards do not meet the Proposal's definition of need are essentially threefold, and are equally unavailing. First, the Proposal repeatedly concludes that California cannot "need" the standards to "meet compelling and extraordinary circumstances" because no such circumstances exist in the first instance. *See, e.g.*, 83 Fed. Reg. at 43,249 (finding lack of need because adverse effects cited by California "would also affect other parts of the United States"). This conclusion is both inaccurate, *see supra* section V(D)(3),

[578] 74 Fed. Reg. at 32,766 (GHG standards); 78 Fed. Reg. at 2131 (ZEV). *See also Mass. v. EPA*, 549 U.S. 497, 500 (2007) ("Judged by any standard, U.S. motor-vehicle emissions make a meaningful contribution to greenhouse gas concentrations and hence, according to petitioners, to global warming"); *Coal. for Responsible Reg.*, 684 F.3d 102, 128 (D.C. Cir. 2012) (approving EPA's finding that MY 2012-206 greenhouse gas standards for light duty vehicles "result in meaningful mitigation of greenhouse gas emissions").

and totally irrelevant, since the Proposal's analysis of "need" explicitly assumes that California in fact possesses such conditions. *Id*. at 43,248.

Second, EPA seeks to distance itself from the rationale in *Massachusetts v. EPA* and its own cause or contribution finding by concluding that the "evaluation of whether California's standards are necessary to meet compelling and extraordinary conditions is not contingent on or directly related to [that finding]." *Id*. at 43,249 (citing 79 Fed. Reg. 46,256, 46,262 (Aug. 7, 2014)). But the language cited by EPA for this proposition merely (and correctly) recognizes that, under Section 209, EPA must defer to *California's assessment* of "need" and "meet" over certain components of the cause or contribution finding. 79 Fed. Reg. 46,256, 46,262 (Aug. 7, 2014). If the Proposal's definition of "need" applies (which it should not) then EPA, by its own logic, must have already disclaimed any ability to defer to California's assessment of the state's needs. In that circumstance, therefore, there are no state findings to trump the logic of *Massachusetts* and the cause and contribution finding, and EPA must harmonize its assessment of California's need with EPA's prior rulemakings and decisions of the Supreme Court.

Finally, EPA claims that California cannot need its ZEV program because the program's travel provision provides for credits from out-of-state compliance. EPA overstates the breadth of the travel provision, which, after MY2018, applies only to fuel cell vehicles. Thus, if EPA is to apply its preferred "standard-by-standard" approach to Section 209(b) (which the agency must do if it is to apply its new definitions of "need" and "meet"), it may not invalidate California's entire ZEV program merely with reference to *one component* of the regulatory scheme for fuel cell vehicles, which, under any scenario envisioned by that state, account for a minority of ZEV vehicles produced for California.[579] But more to the point, those scenarios *do* point towards "meaningful" progress vis-à-vis climate change in the state, since the ZEV program's provisions for fuel cell vehicles have driven notable gains in statewide infrastructure and concomitant emissions reductions, and because this California specific progress depends in part on nationwide adoption of fuel cell technology.[580]

E. EPA's proposal to find under section 209(b)(1)(C) that California's ZEV and GHG standards are not consistent with section 202(a) is unlawful and contrary to the record and EPA's own findings.

EPA also proposes to find under CAA section 209(b)(1)(C) that California's GHG and ZEV standards are not consistent with Section 202(a). That proposed finding completely ignores the governing standards under section 209(b)(1)(C), ignores the record, and would be unlawful if adopted by the agency.

1. Statutory requirements.

Section 209(b)(1)(C) requires EPA to deny a waiver if EPA finds that "such State standards and accompanying enforcement procedures are not consistent with section 7521(a) of this title [CAA

[579] *Compare* Cal. EPA, California's Advanced Clean Cars Midterm Review at app. A (2017), https://www.arb.ca.gov/msprog/acc/mtr/appendix_a.pdf (demonstrating compliance pathways for ZEVs by technology type) *with id.* at app. L, https://www.arb.ca.gov/msprog/acc/mtr/appendix_l.pdf (documenting overall benefits from ZEV program).
[580] *Id.* at app. D, https://www.arb.ca.gov/msprog/acc/mtr/appendix_d.pdf.

Section 202(a)]" 42 U.S.C. 7543(b)(1)(C). Section 202(a) of the CAA (1) requires EPA to prescribe standards applicable to health- or welfare-endangering emissions from new motor vehicles, and (2) provides that the regulations **"**shall 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." 42 U.S.C. 7421(a).

Under longstanding EPA precedent, state standards and enforcement procedures are deemed not to be consistent with Section 202(a) only if there is inadequate lead time to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within that time frame, or if the Federal and California test procedures are inconsistent. *E.g*., 43 Fed. Reg. 998, 999 (1978); 42 Fed. Reg. 31,637, 31,640 (1977); 74 Fed. 32,744, 32767 & n.130 (2009); 76 Fed. Fed. 61,095, 61,097 (October 2011). As stated by the United States Court of Appeals for the D.C. Circuit, "[i]n the waiver context, section 202(a) 'relates in relevant part to technological feasibility and to federal certification requirements.'" *Motor & Equip. Mfrs. Ass'n v. Nichols*, 142 F.3d 449, 463 (D.C. Cir. 1998) (quoting *Ford Motor Co. v. EPA*, 606 F.2d 1293, 1296 n.17 (D.C. Cir. 1979)) and citing *MEMA I*, 627 F.2d at 1101, 1111). The 'technological feasibility; component of section 202(a) obligates California to allow sufficient lead time to permit manufacturers to develop and apply the necessary technology. *See American Motors Corp. v. Blum*, 603 F.2d 978, 981 (D.C. Cir. 1979)."); *Motor & Equip. Mfrs. Assoc. v. Envtl. Prot. Agency*, 627 F.2d 1095, 1111 (D.C. Cir. 1979); *Ford Motor Co. v. EPA*, 606 F.2d 1293, 1297 (D.C. Cir. 1979).

The proposal does not suggest that there is any inconsistency between California and federal certification procedures (there is not) or propose to withdraw California's waiver on that basis. Accordingly, only the "feasibility" aspect of Section 202(b)(1)(C) is relevant here.

2. Under longstanding administrative and judicial precedent, EPA owes California substantial deference under section 202(a)(1)(C) to adopt standards more protective than Federal standards.

In reviewing California's request for a waiver of preemption under Section 209(b), EPA owes substantial deference to the economic, technical and policy judgments reflected in California's standards, and to California's judgments about what level of pollution control is needed to "meet" California's compelling and extraordinary conditions.

This deference to California is built into the structure of Section 209(b). Prior to granting the waiver it is not necessary for the Administrator to make an affirmative finding that the three conditions exempting approval of a waiver under §209 (b) do not exist. *Motor and Equipment Mfrs. Ass'n, Inc. v. E.P.A.*, 627 F.2d at 1120. Instead, the default is for the Administrator to grant the waiver. *Id.* ("This reversal of the normal statutory structure embodies and is consistent with the congressional intent of providing deference to California to maintain its own new motor vehicle emissions program.") Accordingly, "EPA and the Court of Appeals for the District of Columbia Circuit have consistently interpreted section 209(b) as placing the burden on the opponents of a waiver to demonstrate that one of the criteria for a denial has been met." 78 Fed. Reg. 2113. EPA's longstanding precedent holds that the party opposing a waiver bears the burden of demonstrating that California does not meet the waiver requirements. Thus, were this

an initial waiver application, EPA would require that opponents of the waiver affirmatively carry their burden of proof in demonstrating that the waiver §202(a) and should not be granted. *Motor Equipment Manufacturers*, 627 F.2d at 1128.

During essentially the whole life of the waiver provision, EPA has repeatedly and in strong terms emphasized the agency's obligation to defer to the judgment of California officials. See, e.g., 36 Fed. Reg. 17458 (1971) ("[W]e must respect the judgment of California officials that public and political support in California for a program of mandatory vehicle inspection will be greater if manufacturers are required to perform an emission test on each production vehicle prior to sale."); 41 Fed. Reg. 44209 (1976) ("Arguments concerning the wisdom of California's actions with regard to motor cycles, the cost effectiveness of the motorcycle standards, the marginal improvements in air quality that will allegedly result, and the question of whether these particular standards are actually required by California all fall within the broad area of public policy. The EPA practice of leaving the decision on such controversial matters of public policy to California's judgment is entirely consistent with the Congressional intent behind the California waiver provision."); 43 Fed. Reg. 998, 1001 (1978) ("these objections fall within the discretion of California to adopt a program which it feels will best protect the public health and welfare of California's citizens. Inquiry into the wisdom behind California's judgment is beyond my province."); 43 Fed. Reg. 15490, 15492 (1978) ("While the information presented on this issue does indicate that California's emission standards may limit the number of models of light-duty trucks and medium-duty vehicles which may be sold in California in the future, it is not sufficient to require a finding that the variety of models would not satisfy basic demand in California for these vehicles.").

EPA has emphasized that it must approve waivers even in situations where EPA might consider the standards in question too burdensome or costly. See 49 Fed. Reg. 18,887 (1984) (exhaustive discussion of consistency requirement, noting that EPA has granted waivers even when some manufacturers could not meet state's requirements as long as basic market demand satisfied); 42 Fed. Reg. 1503, 1506 (1977) (emphasizing deference to technical judgments); 41 Fed. Reg. 44,209 (1976) (arguments concerning the wisdom of California's actions, the cost effectiveness of compliance with CA requirements and the degree of improvements in air quality that will result, are all outside my permissible scope of EPA's inquiry); 40 Fed. Reg. 23,102, 23,103 (1975) (emphasizing need for deference to CA even on technological feasibility, technology forcing thrust of CAA including section 209(b)); 36 Fed. Reg. 17,458 (1971) (questions of burden on consumers manufacturers irrelevant if there is adequate time for compliance; deference to CA in face of uncertainty). As the Administrator put it in granting the waiver in 2013: "California must be given substantial deference when adopting motor vehicle emission standards which may require new and/or improved technology to meet challenging levels of compliance." (quoting 1975 Waiver Decision (pre-dating the 1977 revisions intended to broaden California's authority).

Echoing the legislative history emphasizing California's prerogatives, the D.C. Circuit has explained that "California is to have 'the broadest possible discretion in selecting the best means to protect the health of its citizens.'" *Nichols*, 142 F.3d at 462-63 (quoting H.R. Rep. No. 95-294, at 301-02). Congress intended for California to receive "the broadest possible discretion in setting regulations it finds protective of the public health and welfare." *MEMA I*, 627 F.2d at

1122. "As the provisions of section 209(b) make clear, Congress has also provided that EPA 'is not to overturn California's judgment lightly.'" *Nichols,* 142 F.3d at 462-63.

This deference flows directly from the core terms and purpose of Section 209(b) itself. In the statute "Congress consciously chose to permit California to blaze its own trail with a minimum of federal oversight." *Ford Motor Co.,* 606 F.2d at 1297. This provision of the Clean Air Act was designed to ensure "continuing the national benefits that might flow from allowing California to continue to act as a pioneer in this field." *Id.* (citing 113 Cong. Rec. H 14407 (Cong. Moss) (daily ed. Nov. 2, 1967); S 16395 (daily ed. Nov. 14, 1967) (Senator Murphy)). "Even in the two areas concededly reserved for Federal judgment by this legislation—the existence of 'compelling and extraordinary' conditions and whether the standards are technologically feasible—Congress intended that the standard of EPA review of the state decision be a narrow one." *California State Motor Vehicle Pollution Control Standards,* 40 Fed. Rec. 23,102-06 at 23,103. "One Congressman indicated that a decision to deny waiver should be subject to considerably less deference on judicial review than the Administrative Procedure Act normally provides, a view which would necessarily imply that the agency discretion to deny waiver is considerably narrower than is its discretion to act or not act in other contexts." *Id.* at 23,103 (citing 113 Cong. Rec. H 14405 (Cong. Holifield) (daily ed. Nov. 2, 1967)).

In particular, this deference extends to California's judgments that the standards for which a waiver is sought do not impose excessive costs on industry. As EPA explained in 2013 in granting the waiver at issue:

> Past waiver determinations have made clear that for the cost of compliance to be found excessive it would need to be ''very high'' such that the cost to customers who purchased a complying vehicle would be doubled or tripled. Additionally, the relevance of the cost of compliance analysis is limited to the question of whether such costs will adversely affect the timing of an emission standard.'' And the agency states, "that EPA has recognized that the only relevance of costs is their impact on timing, e.g. ''Manufacturers do not contend that the cost of compliance will be significantly reduced by extending lead time beyond the minimal period required for compliance.'' (quoting 36 FR 17459 (August 31, 1971)).

78 Fed. Reg. 2112, 2132-34.

EPA has repeatedly explained that California's judgments about the costs of vehicle standards is a matter on which EPA owns especially strong deference. In an early waiver decision in 1975, Administrator Russell Train explained:

> I would feel constrained to approve a California approach to the problem which I might also feel unable to adopt at the federal level in my own capacity as a regulator. The whole approach of the Clean Air Act is to force the development of new types of emission control technology where that is needed by compelling the industry to "catch up" to some degree with newly promulgated standards. Such an approach * * * may be attended with costs, in the shaped of reduced product offering, or price or fuel economy penalties, and by risks that a wider number of vehicle classes may not be able to complete their development work in time. Since

> a balancing of these risks and costs against the potential benefits from reduced emissions is a central policy decision for any regulatory agency under the statutory scheme outlined above, I believe I am required to give very substantial deference to California's judgments on this score.

40 Fed. Reg. 23102, 23103-23104 (May 28, 1975) (quoted at 78 Fed. Reg. 2115).

As the DC Circuit has explained the consideration of cost in Section 202(a) is limited; "Congress wanted to avoid undue economic disruption in the automotive manufacturing industry and also sought to avoid doubling or tripling the cost of motor vehicles to purchasers. It, therefore, requires that the emission control regulations be technologically feasible within economic parameters." *Motor and Equipment Mfrs. Ass'n, Inc. v. E.P.A.*, 627 F.2d 1095, 1118 (D.C. Cir. 1979). See also *id.* at 1114 n. 40 ([T]he 'cost of compliance' criterion relates to the timing of standards and procedures.).[581]

EPA's waiver decisions make clear that the cost factor does not allow EPA to second-guess California's policy judgments. Rather, "the relevance of the cost of compliance analysis is limited to the question of whether such costs will adversely affect the timing of an emission standard." 78 Fed. Reg. at 2133 & n.110 (citing *MEMA I*, 627 F.2d at 1105, 1114 n. 40 ("[T]he 'cost of compliance' consideration relates to the timing of standards and procedures.").

Under longstanding precedent, EPA does not question California's judgments regarding the cost-effectiveness of the state's standards. "Thus, EPA will look at the compliance costs for manufacturers in developing and applying the technology and not at cost effectiveness when making a waiver decision." See also 40 Fed. Reg. 23102, 23104; 58 Fed. Reg. 4166 (January 7, 1993). See (36 FR 17459 (August 31, 1971)) See also 36 Fed. Reg. 17158 (August 31, 1971). EPA has historically "evaluated costs in the waiver context by looking at the actual cost of compliance in the time provided by the regulation, not the regulation's cost-effectiveness." In other words, "[t]he appropriate level of cost-effectiveness is a policy decision of California that is considered and made when California adopts the regulations, and EPA, historically, has deferred to these policy decisions. . . . The issue of whether a proposed California requirement is likely to result in only marginal improvement in air quality not commensurate with its cost or is otherwise an arguably unwise exercise of regulatory power is not legally pertinent to [the Administrator's] decision under section 209." 78 Fed. Reg. 2112, 2132-34 (2013 Waiver Grant). 1975 (40 Fed. Reg. 23102, 23103-04).

EPA is properly deferential to California's judgments because the Clean Air Act waiver provision is intended to allow California to choose more stringent standards, even if the cost is considerably higher, in order to secure the public benefits of lower-polluting vehicles. *See* 36

[581] As the D.C. Circuit emphasized in *Motor and Equipment Mfrs. Ass'n, Inc. v. E.P.A.*, 627 F.2d 1095 (D.C. Cir. 1979), the reference to "cost" in section 202(a) was not intended to provide a discretionary blank check to allow EPA to offset the health and environmental benefits from federal standards: "Every effort at pollution control exacts social costs. Congress, not the Administrator, made the decision to accept those costs. And even with respect to costs for manufacturers, Section 202(a)'s focus in on "avoid[ing] undue economic disruption in the automotive manufacturing industry and … avoid[ing] doubling or tripling the cost of motor vehicles to purchasers." 627 F. 2d at 1118.

Fed. Reg. 17458 (1971) (based on "careful consideration, "agreeing" that "that the statute does not permit me to take into account the extent of the burden placed on residents of California or on regulated interests, unless the California requirement fails to provide an adequate period of time for compliance."). Questions about whether California standards yield net benefits "fall within the discretion of California to adopt a program which it feels will best protect the public health and welfare of California's citizens. Inquiry into the wisdom behind California's judgment is beyond [the EPA Administrator's] province." 43 Fed. Reg. 998 (1978); *see id.* at 1001 (*citing* 41 Fed. Reg. 44210 (October 7 1976), HR. Rept. No. 95-294. 95th Cong, 1st Sess. 301- 302 (1977)); *see also,* 1978 (43 Fed. Reg. 1829) at 1832 ("it is reasonable to conclude that the costs of compliance are not so excessive as to warrant a denial of a waiver on these grounds given the intent of Congress to leave the decision on controversial matters of public policy to California's judgment."); *id*. at 1833 ("While California's emission standards may limit the number of models of light-duty trucks and medium-duty vehicles which may be sold in California in the future, I conclude, based on the information presented to me, that the range of models of such vehicles should, nevertheless, remain in general what it is today.").

Thus, as EPA properly noted in granting the governing waiver in 2013, judicial and EPA precedent make clear that "the cost of compliance must reach a very high level before the EPA can deny a waiver. Therefore, past decisions indicate that the costs must be excessive to find that California's standards are inconsistent with section 202(a)." 78 Fed. Reg. at 2134.

a. EPA's proposed finding that California's standards are inconsistent with section 202(a) is unsupported, arbitrary and unlawful.

In the NPRM, EPA proposes to find that "both ZEV and GHG standards for new MY 2021 through 2025 are not consistent with Section 202(a) of the Clean Air Act, as contemplated by section 209(b)(1)(C)" because "there is inadequate lead time to permit the development of technology necessary to meet those requirements, giving appropriate consideration to cost of compliance within the lead time provided in the 2013 waiver." 83 Fed. Reg. 43249-50. [582]

The NPRM relies upon EPA's analysis and reasoning concerning the existing federal Section 202 emissions standards. *See., e.g,,* 83 Fed. Reg. at 43251 ("This finding reflects the assessments in today's proposal on the technological feasibility of the Federal GHG standards for MY 2021 through 2025."); *id.* at 43250 n.586 (stating that Federal standards a "sufficiently similar to" California standards to serve as "an appropriate proxy for considering the technological feasibility" of California standards); EPA concluded that the NPRM on the federal standards "now cast [sic] significant doubts on EPA's predictions for future and timely availability of emerging technologies for compliance with Federal GHG standards for MY 2021-2025." *Id.* at 43251-52. The NPRM also asserts that "CARB's feasibility finding was "premised on a finding of reduced compliance costs and flexibility because of the deemed to comply provisions, which allowed for compliance with Federal GHG standards in lieu of California's standards."

In the NPRM's discussion of Section 209(b)(1)(C), EPA explains that in its contemporaneous proposal to weaken federal standards, it was "acting on the likelihood of increased compliance

[582] The NPRM nowhere claims that California's certification procedures are inconsistent with federal standards. This prong of the Section 209(b)(1)(C) is not at issue here.

costs as shown in today's proposal," and that **"**[t]hese are costs that will likely be passed on to consumers in most instances." It then posited that previously expected economies of scale to drive down manufacturing and technology costs for advanced engine technologies would not occur assuming a rollback of the federal standards, because "manufacturers may no longer be willing to commit to investments in a limited market as compared to a broad national market".

EPA's proposed filing is unlawful, lacking in record support, arbitrary and capricious. It abandons both the core premises of Section 209(b) and longstanding judicial and administrative precedent.

i. The statute does not authorize EPA, years after granting a waiver, to declare California standards inconsistent with section 202(a) based upon a reanalysis of EPA's own standards, particularly one that depends on legal standards and methods dramatically different from those that applied when California's waiver request was sought and approved.

As demonstrated above, EPA lacks authority to withdraw a Section 209(b) waiver after granting it. *See supra* section V(A). And if EPA has any such authority in unusual circumstances that the agency has never identified or seen fit to invoke in more than 50 years of the waiver provision's existence, no such circumstances are present here.

After having carefully reviewed and approved California's waiver application in 2013, EPA's proposal now to find that California's standards are inconsistent with Section 202(a) aptly exemplifies why Congress did not grant EPA the after-the-fact nullification power EPA now claims. Unlike a proper waiver decision of the sort contemplated by Section 209(b), EPA has before it no proposal from California supported by an administrative record and California's analysis and explanation of its policy choices. Yet EPA purports to withdraw the waiver based upon allegedly new information California has not had an opportunity to consider.

The NPRM, by relying almost exclusively on EPA's reappraisal of federal standards as the benchmark for the consistency of California's standards with Section 202(a), applies a legal test for inconsistency dramatically different than the test that applied when California submitted its waiver application when EPA acted on it, essentially a retroactive application of new legal standards. Even though one would normally expect any agency claim of novel power to strip California of an already-granted waiver would have to overcome an especially *high* burden, here EPA has done the opposite – purporting to ignore well-settled precedent requiring strong deference to California's judgments concerning cost and feasibility, even where it differs markedly from EPAs. EPA's proposed finding should be withdrawn.

Section 209(b) contemplates an ex ante assessment of consistency with Section 202(a) based upon a record submitted by California and supported by California's analysis of the relevant factors, with the burden on those challenging California's judgment, which is entitled to strong deference. EPA has turned the statutory process upside-down, thereby totally vitiating the congressional purpose to let California's expert pollution control agency form its own technical judgments that reflect the state's differing appraisal of the costs and benefits of pollution control. EPA's proposal to strip California on its waiver in these circumstances is unlawful, arbitrary and unjustified.

ii. In proposing to find inconsistency, EPA has unlawfully and arbitrarily abandoned longstanding precedent requiring that EPA respect California's judgments.

As explained above, and EPA's prior waiver decisions have emphasized, in determining whether California standards for which a waiver is sought under Section 209(a), EPA must grant very substantial deference to the judgments underlying California's standards, including judgments about costs, assessments of technological feasibility, and proper policy. As both EPA's and judicial precedents emphasize, this deference flows from the core purposes of Section 209(b) itself, including Congress's intent that California be allowed to make central policy decisions to protect its people.

In the NPRM, however, EPA ignores these well-established principles, and evinces no deference for California's policy, economic, and technical judgment. The NPRM does not even acknowledge, still less adhere to, the longstanding precedent requiring substantial deference to California's choices. Instead, it purports to override California's judgments based upon nothing more than EPA's revised appraisal of its federal standards (a new appraisal that overruled EPA's own recent judgments about them), without any serious acknowledgement of the different rules that apply when EPA reviews a request for waiver of preemption under Section 209(b).

The NPRM's proposed determination of inconsistency is unlawful. EPA must follow its own administrative precedent as well as judicial precedent. If EPA claims that the longstanding rules of deference that it and courts have applied for decades should be changed, the agency cannot simply stop applying those rules. Instead, EPA must acknowledge the change in policy;[583] provide a "reasoned explanation" for changing course,[584] and demonstrate that the new policy is itself consistent with the governing statute.[585] It must provide a reasoned explanation for "disregarding facts and circumstances that underlay" the prior rule.[586]

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[583] See *Fox*, 556 U.S. at 514-15 ("display awareness that it is changing position," and show that there are "good reasons" for the new policy). See *State Farm*; *Verizon v FCC*, 740 F.3d 623, 636 (D.C. Cir. 2014) (agency must "acknowledge" and "explain the reasons for a changed interpretation").

[584] *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962)). See also *AMB Onsite Services-West v. NLRB*, 849 F.3d 1137, 1146 (D.C. Cir. 2017) ("It is well-settled that NRLB. . . cannot 'turn[] its back on its own precedent and policy without reasoned explanation.'") (quoting *Dupuy v. NLRB*, 806 F.3d 556 563 (D.C. Cir. 2015)).

[585] See *Fox*, 556 U.S. at 514-15 (new policy must be "permissible under the statute"); *National Cable & Telecommunications Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 981(2005); *Chevron USA v. NRDC*, 467 U.S. 837, 865-66 (1984); *Public Citizen v. Fed. Motor Carrier Safety Admin.*, 374 F.3d 1209 (D.C. Cir. 2004).

[586] *FCC v. Fox*, 556 at 516 ("when . . . [a] new policy rests upon factual findings that contradict those which underlay its prior policy" agency must provide "a more detailed justification than what would suffice for a new policy created on a blank slate"; agency must supply adequate grounds "for disregarding facts and circumstances that underlay or were engendered by" prior rule); *id.* at 537 (Kennedy, J.); *Pub. Citizen*, 733 F.2d at 98 (agency must "cogently explain" basis for suspending rule) (quoting *State Farm*, 463 U.S. at 48); *Organized Village of Kake v. United States Dep't f Agric.*, 795 F.3d 956, 968-969 (9th

Because these longstanding rules reflect the core structure and purposes of Section 209(b) itself – to allow California to adopt standards more stringent than the federal ones, and to strike different balances concerning the costs and benefits of pollution control given California's particular needs – EPA must explain how the non-deferential approach it proposes here can possibly be consistent with the statute itself.

EPA's NPRM does not apply any deference to California's judgment, and does not acknowledge the long and consistent stream of EPA precedent that EPA owes strong deference to CARB's judgments on feasibility and cost. The NPRM does not even acknowledge these deference principles and their connection to the core policies of the waiver provision; far from applying them, EPA treats it as dispositive that EPA now proposes to find the federal standards too costly. The longstanding deference to California reflects an understanding of Section 209(b) and Congress's central objective in it – Congress deliberately wanted to give California wide latitude to adopt its own, more stringent emission standards, even when there is uncertainty and doubt, and even when EPA might consider the standards unwise or uneconomic for the nation as a whole. *See supra* section V(B). Congress made that choice, and numerous EPA decisions over decades have given effect to it, because Congress in Section 209(b) aimed to secure the benefits of state experimentation and innovation. EPA's NPRM completely ignores the history and fails to address the connection between deference to California and the core objectives of the statute. EPA completely fails to justify its new, no-deference approach, which would eviscerate Section 209(b) as a means to secure the benefits of experimentation.

Furthermore, EPA has completely failed to consider the broader implications and potential harms for its new non-deference approach to the Section 209(b) itself, including the ways in which EPA's new failure to defer to California could undermine the waiver program and deprive the people of California of the benefits of state innovation and leadership.

EPA's failure to defer to California is especially egregious given that California's judgment is supported by and consistent with EPA's own judgments in the 2012 federal rulemaking, the 2013 waiver decision, and the 2017 MTE. In the face of EPA's own conclusions supporting both the federal standards and California's GHG and ZEV programs, EPA has not shown California's standards are unsupported or unreasonable, let along inconsistent with the statute.

EPA must demonstrate that CARB's assessment costs are clearly unsupported by the record evidence. Instead, EPA's discussion of the inconsistency prong merely says things like that "significant doubts on EPA's predictions for future and timely availability for emerging technologies for compliance with Federal standards for MY 2021-2025" standards. EPA has not demonstrated that California's judgments, although different from EPA's proposed new judgments, are unsupported and unreasonable, particularly in light of the deference that is due to California. Under the governing law, even when confronting a waiver application in the first instance, it is not enough for EPA to profess doubts; rather, it must affirmatively show that California's standards are inconsistent with Section 202(a).

Cir. 2015); *AMB Onsite Services-West v. NLRB*, 849 F.3d 1137, 1146 (D.C. Cir. 2017); *Humane Society v. Locke*, 626 F.3d at 1051 (9th Cir).

iii. Because technology sufficient to meet the California standards is available, EPA cannot make (and has not made) a determination that lead time is inadequate.

In the NPRM, EPA departs from its longstanding interpretation of the statute, again in a way that seeks to override and reverse Congress's decision to give California leeway to adopt more protective standards. "Previous waivers of federal preemption have stated that California's standards are not consistent with section 202(a) if there is inadequate lead time to permit the development of technology necessary to meet those requirements, giving appropriate consideration to the cost of compliance within that time." 74 Fed. Reg. at 32,767; *see also Nichols*, 142 F.3d at 463 ("[Section 209(b)(1)(C)] obligates California to allow sufficient lead time to permit manufacturers to develop and apply the necessary technology."); *MEMA I*, 627 F.2d at 1118 (noting that "cost of compliance" "relates to the timing of a particular emission control"); *id.* at 1114 n.40. "Neither the court nor the agency has ever interpreted" Section 209(b)(1)(C)'s cross-reference to Section 202(a) as requiring more than "allow[ing] sufficient lead time to permit manufacturers to develop and apply the necessary technology." *Nichols*, 142 F.3d at 463.

"Lead time" refers to the "time in which the technology will have to be available"; when technology is already available, lead time is not necessary. *See NRDC v. EPA*, 655 F.2d 318, 329 (D.C. Cir. 1981) (quoting *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973)). "In the waiver context, section 202(a) 'relates in relevant part to technological feasibility.'" *MEMA v. Nichols*, 142 F.3d 449, 463 (D.C. Cir. 1998) (quoting *Ford Motor Co. v. EPA*, 606 F.2d 1293, 1296 n.17 (D.C. Cir. 1979)). Accordingly, "EPA has traditionally examined whether the necessary technology exists today, *and if not,* what is the cost of developing and implementing such technology." 78 Fed. Reg. at 2,142 (emphasis added).

Here, EPA has not even attempted to demonstrate that lead time sufficient to allow manufacturers to allow with the California standards is inadequate – for any year, let alone the model years that are still many years hence. Here, as EPA admits – and clearly found in the MTE process – the available technology to satisfy the California standards already exists. EPA concedes that the technology exists to meet California's GHG and ZEV standards. For example, EPA states: "In light of the wide range of existing technologies that have already been developed, have been commercialized, and are in-use on vehicles today, including those developed since the 2012 rule, technology availability, development and application, if it were considered in isolation, is not necessarily a limiting factor in the Administrator's selection of which standards are appropriate." 83 Fed. Reg. at 43,229. Furthermore, EPA has not demonstrated any error in CARB's own finding in its Mid-Term Review that ample technologies already exist by which manufacturers can satisfy California's Clean Cars standards. There is no proper basis for EPA to find inadequate lead time.

iv. EPA's reliance on its flawed analysis of the Federal standards as the ground for a finding of inconsistency is unlawful, arbitrary, and capricious.

Congress did not authorize EPA to deny Section 209(b) waivers whenever EPA assessed the record evidence and policy considerations differently from California. Congress provided,

instead, that EPA can deny a waiver application when California's proposed standards are "not consistent" with Section 202(a), and a strong body of law EPA has simply ignored requires substantial deference to California's policy choices.

EPA's analysis of the Section 209(b)(1)(C) "inconsistency" prong does no more than point generally to the NPRM's discussion of the federal standards, which EPA now proposes to determine are too stringent. EPA's proposed approach and analysis are contrary to the CAA waiver provisions' central premise that California should be permitted to adopt standards more stringent than those EPA Imposes Under Section 202. The entire premise of Section 209(b) is that California may adopt standards more stringent than EPA's standards – this will necessarily mean that CARB will have assessed feasibility, cost, lead time, or other factors differently than EPA and to impose standards more stringent than EPA's.

The fact that EPA would assess cost or feasibility differently from CARB logically cannot alone be a basis for finding Section a Section 202(a); such a rule would swallow Congress's entire mechanism for allowing California to adopt its own standards. At a minimum, EPA must affirmatively show that California's relevant economic and technical judgments are clearly unfounded.

EPA's proposal that its analysis of the appropriateness of the federal standards can stand as a proxy for its assessment of the CA standards statute runs counter to California's authority to make a feasibility determination that *differs* from the California determination – which would undermine the whole purpose of the waiver provision. EPA has repeatedly acknowledged California's distinct authority in this regard, as well as the differences in the feasibility test (i.e. what might be feasible for California might not be feasible for the country as a whole). EPA's reliance upon EPA's own analysis of the federal standards and its treatment of those judgements as dispositive of the question whether California's standards are consistent with Section 202(a) reflects a fundamental rejection and misinterpretation of the statutory structure and logic. It would mean that EPA could seldom or never approve standards more stringent than federal standards, thereby defeating the historic purpose of Section 209(b).

EPA's particular judgments on cost and feasibility in the NPRM – and its decision as to where revised standards should be set – do not define the bounds of what the 202(a) allows. It is only when California's proposed standards clearly exceed the statutory boundaries in Section 202(a) that define when EPA may deny a waiver under Prong (C). In the NPRM, EPA has wholly failed to demonstrate that the California standards are inconsistent with the statute.

Equally important, EPA's own thorough and extensive analysis of the federal standards as part of the 2015-2017 Mid-Term Evaluation, concluded that the federal standards were based upon available and technologies that were available at reasonable costs – and indeed in key respects would be easier and cheaper to meet than had been originally anticipated.[587]

The record of the Mid-Term Evaluation shows, at a bare minimum, that the federal standards are at least consistent with the statute, even if EPA now believes the federal standards should be

[587] Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards, EPA-420-R-17-001 at 4, 7-8, 25 (Jan. 2017) ("Final Determination").

weakened. The MTE record strongly refutes EPA's proposed decision here, and EPA has not explained, and cannot explain, why the MTE record and EPA's conclusions do not at least demonstrate that the federal standards are at least consistent with the statute. They all the more clearly demonstrate that, to the extent California's standards are in relevant respects equivalent to the existing EPA standards, the California standards are lawful under Section 209(b), given the deference properly due to California.

The fact that EPA has proposed not to rely upon its own OMEGA modeling, and that it has sought to rely upon newly structured NHTSA modeling that purports to show that the federal standards have dramatically higher costs than both agencies had previously (and recently) calculated does not begin to show that California's standards are inconsistent with Section 202(a). As demonstrated elsewhere in these comments, the new NPRM analyses are arbitrary and capricious, and improperly seek to ignore relevant information that would undercut the preferred outcomes. But even if the preferred new methodologies lawful, they would not support a finding that California's standards are inconsistent with the statute under Section 209(b)(1)(C). Nothing in Section 202(a) *mandates* the host of novel dubious analytical approaches that EPA and NHTSA seek to employ in the NPRM in order to support the claim that the existing standards are too stringent – including the new and untested NHTSA "scrappage model," arbitrary exclusions of technologies that have the effect of artificially increasing costs, and rejection of a carefully developed peer-reviewed social cost of carbon, etc. These are methodological choices that differ from EPA's own prior choices, and (even if they were defensible on their own) clearly do not implement any *mandatory statutory command*. Even if these approaches EPA has adopted in connection with its proposed weakening of the federal standards were lawful exercises of EPA's discretion (which they are not), they would not justify EPA's proposed conclusion that California's standards are inconsistent Section 202(a).

v. The record fails to support – and in fact contradicts – any claim that California's standards are too costly or otherwise infeasible.

Under Section 209(b)(1)(C), even when confronting a waiver application in the first instance, EPA must do far more than simply declare that it would strike a different balance on cost or feasibility than California has proposed to take. Instead, EPA must show that EPA's proposed approach is inconsistent with Section 202(a), notwithstanding Congress's intent to give California great leeway to pursue standards more stringent than California's.

Even if (contrary to fact) EPA had shown a permissible statutory and record basis for weakening the *federal* standards, it has not begun to demonstrate that *California*'s standards are unlawful. As is comprehensively demonstrated in our discussion of EPA's proposal to weaken the federal standards, EPA's claim that those standards are too costly infeasible is contrary to EPA's own amply supported findings. EPA has not demonstrated that either the federal standards are technically infeasible, relying instead upon a novel recalculation of costs and benefits that the agencies maintain warrants weakening of standards.

As we demonstrate in these comments, EPA has failed adequately explain or justify its rejection of its own record upholding the standards in the 2012 federal rulemaking, 2013 waiver decision, and 2017 MTE review of the federal standings. At a minimum, the fact that EPA itself, in its extensively supported January 2017 Final Determination, found the federal standards eminently

feasible and not excessively costly strongly supports the conclusion that CARB's determination regarding the California standards' feasibility is not inconsistent with Section 202(a).

And for all the reasons, the feeble and arbitrary analyses EPA and NHTSA adopt as the basis for its claims that the federal are arbitrary and capricious even as grounds for weakening the federal standards. Our demonstrations that the NPRM's treatment of the federal standard are unlawful, arbitrary and capricious are incorporated herein by reference. A fortiori, the analyses and proposed findings in the NPRM do not demonstrate that California's standards are inconsistent with Section 202(a).

EPA does not claim that the federal standards are technically infeasible -- it admits the opposite. 83 Fed. Reg. at 43,229. Its principal claim (and that of NHTSA with respect to the fuel economy standards) is that the standards are more costly than the agencies now believe is warranted in light of other policy considerations to which the agencies attach greater weight. NHTSA's analysis focuses on economic practicability – costs to manufacturers and consumers to build and buy the technology), and safety implications, not tech feasibility per se. See 83 Fed. Reg. at 43,229/1-3, 83 Fed. Reg. at 43,208/2-3, 43,216/2-3, 43,226/2.

EPA improperly attempts to decouple cost from its proper and traditional role as a component of the inquiry whether technologies not currently available can reasonably become so in the lead time California has provided. 78 Fed. Reg. at 2,142 ("EPA has traditionally examined whether the necessary technology exists today, and if not, what is the cost of developing and implementing such technology."). Instead EPA attempts to second-guess California's judgments that the costs of the California standards -- in direct conflict with longstanding precedents requiring that such choices be left to California. See *Nichols*, 142 F.3d at 453 (emphasizing Congress' intent that California have the "'broadest possible discretion'" in crafting its vehicle emissions standards) (quoting H.R. Rep. No. 95-294, at 301–02 (1977)); *Ford Motor Co.*, 606 F.2d at 1301 ("the statute does not provide for any probing substantive review of the California standards by federal officials"). But, in any event, EPA has not begun to show that costs are so great as to surpass the high levels that EPA has previously held are necessary for the standards to be inconsistent with Section 202(a). And EPA has failed to identify any reason not to deferring to California's own judgments that the health and environmental benefits, especially given EPA's observation that "[t]hese are costs that will likely be passed on to consumers in most instances." 83 Fed. Reg. at 43,252.

And as explained above, both judicial and administrative precedents emphasize that deference to California is particularly appropriate where it comes down to judgments about compliance costs – even in circumstances where costs are relevant. Moreover, EPA acknowledges that its analysis conflicts with prior agency and judicial precedent concerning the magnitude of costs that would be required before costs can be deemed excessive. 83 Fed. Reg. at 43,251. EPA wholly fails to show that its longstanding judgment that costs must be "very high" to be excessive under the statute, 78 Fed. Reg. at 2132-34 (quoting 36 Fed. Reg. at 17459), see also *Motor and Equipment Mfrs. Ass'n, Inc. v. E.P.A.*, 627 F.2d 1095, 1114 n.40, 1118 (D.C. Cir. 1979). That acknowledgement shows that California's judgment that its GHG and LEV standards are not excessively costly – which is consistent with the approach to cost EPA has taken for many decades – cannot be *inconsistent with the statute*. EPA's treatment of cost is starkly inconsistent

with the proper and traditional test under 209(b)(1)(C). As EPA's precedent shows, California is not required to assign the same weight to costs as EPA does.[588]

EPA's reliance upon highly controversial, untested metrics of costs in the federal rulemaking, see [supra] – even if it were lawful for EPA to employ in setting federal standards – would not require California to employ the same metric of cost, provided that California duly considered cost. EPA's precedent makes clear that even where well founded concern that California's standards will impose significant added cost, the statute allows California to make that choice in order to reduce air pollution hazards.

EPA's claims regarding the need to weaken the federal standards are inconsistent with the record – and do not demonstrate that California's standards are inconsistent with Section 202(a): As demonstrated, the record shows that the existing federal standards are eminently feasible within existing schedule for compliance. No after-arising information undermines EPA's determinations in 2012 and 2017 that the federal standards are feasible.

b. EPA has utterly failed to demonstrate that *California*'s standards are infeasible.

EPA has not demonstrated that California's standards are unduly costly or otherwise infeasible; it has merely relied on its (flawed) findings as to federal standards. Even if those findings were sound (and they are not), they would not answer the relevant question under Section 209(b)(1)(C), which relates to whether *California*'s standards are inconsistent with Section 202(a). Under Section 209(b)(1)(C), EPA must conduct a California-specific analysis. *See Ford Motor Co. v. EPA*, 606 F.2d 1293, 1306 (D.C. Cir. 1979) ("The statute provides for no determination at all as to the effect of the California standards on other parts of the country."); *id.* at 1302 (affirming EPA's interpretation that Administrator "grants or denies a waiver without exploring the consequences of nationwide use of the California standards or otherwise stepping beyond the responsibilities delineated by Congress"). EPA has conducted no such analysis here.

EPA states that "manufacturers may no longer be willing to commit to investments for a limited market as compared to the broader national market, which was contemplated by the federal and California GHG standards." 83 Fed. Reg. at 43252. But this conclusory statement that manufacturers "may no longer be willing" to produce serve the California market is totally unsubstantiated, and in any event is a point that could be made about any waiver application. Under the governing precedent, such a finding would not support the denial of a waiver of preemption.

[588] The language the NPRM uses demonstrates how extremely remote EPA's standard is from finding that California's standards violate the statute because of excessive costs. EPA says that it is acting "in anticipation of challenges" presented by the standards, and the "likelihood of increased compliance costs," and out of concern that "manufactures may no longer be willing to commit to investments for a limited market as compared to the limited broader national market." 83 Fed. Reg. at 43,252. If this were enough to condemn a California standard, EPA (or even just resistant automobile manufacturers) could veto California standards based upon weak evidence, mere speculation, or mere policy whim, completely undermining Congressional objectives.

EPA also suggests that the "deemed to comply" provision in California's regulations supports its finding because compliance costs will be higher if the California standards stand alone. 83 Fed. Reg. at 43252/1. But both CARB and EPA previously determined that the California standards are consistent with Section 202(a) regardless of the deemed to comply provision – as EPA's waiver grant expressly noted. See 78 Fed. Reg. at 2130 ("EPA believes that those opposing the waiver have not met their burden of showing that compliance with California's GHG standards is infeasible, even without the deemed to comply provision, based upon the current and future availability of the described technologies in the lead-time provided and considering the cost of compliance.").[589]

Even assuming EPA has the authority to revisit a waiver years after granting it, if EPA wishes to pull an about-face from its prior determination that California's GHG and ZEV programs are consistent with Section 202(a), EPA must lay out that California-specific analysis and afford California – and the broader public – the ability to review and comment on that analysis. The NPRM provides no basis for such public review and comment, because it contains no analysis of California's program. A California-specific analysis is vital to give effect to Section 209(b), which reflects Congress's decision that California should be allowed to adopt standards more stringent than national standards – despite the potentially greater cost or limited choices for consumers. *See supra* sections V(B) & V(D)(1)(b). EPA's analysis in the NPRM fundamentally fails to give effect to the waiver provision. It is arbitrary and unlawful.

c. EPA has not shown that the ZEV standards are technically infeasible or otherwise inconsistent with Section 202(a).

The proposal conflates and intermingles its discussion of the GHG and ZEV standards and does not set forth a clear analysis of either. With respect to ZEV standards, the proposal repeatedly suggests that the ZEV program is unlawful because, although technologically feasible, is too expensive. EPA accordingly proposed to withdraw the waiver "in anticipation of challenges" assertedly presented by the program. 83 Fed. Reg. at 43,252. EPA expresses concern that CARB might need to extend compliance deadlines under the ZEV program, thereby hurting "technologically advanced manufacturers who might have made major investment commitments," concluding that it better to free manufacturers of the obligation to comply with standards in advance to avoid any possibility that they will "incur any hardships." *Id.* at 43252.

This sort of speculative reasoning ignores the fact that the Clean Air Act, including both Sections 202(a) and 209(b), is intended to impose limitations on activities that cause harmful consequences for third parties and the public at large – such as production of relatively high emitting cars. The fact that these legal protections impose burdens does not make them unlawful. EPA never asserts – as it could not – that compliance with California's ZEV program is technologically infeasible, and EPA has not come close to demonstrating that the costs of the program are so high as to make it inconsistent with the statute, which was designed to allow California and its people to decide to adopt programs that impose different priorities than the federal government. See 83 Fed. Reg. at 43,252 (citing "likelihood of increased compliance

[589] EPA also, arbitrarily, suggests that the fact that California has granted extensions for emissions programs somehow supports the conclusion that the current California standards are inconsistent with Section 202(a). See 83 Fed. Reg. at 43,252 & n.592.

costs as shown in" proposal for federal standards, and noting that "These are costs that will likely be passed on to consumers in most instances.").

As EPA explained in granting the waiver in 2013, EPA found that while ZEV costs ranged from $10,000 in MY 2020 (compared to CARB's estimate of $12,900 in 2025), these costs were not inconsistent with Section 202(a) on this basis. EPA explained in the 2013 waiver decision that "[u]nder EPA's traditional analysis of cost in the waiver context, because such cost does not represent a 'doubling or tripling' of the vehicle cost, such cost is not excessive nor does it represent an infeasible standard." That remains the case and as EPA noted "manufacturers and dealers have many possible strategies available to spread the cost of the ZEV requirement beyond ZEV purchasers, but that such strategies are within the market choices of the manufacturers and dealers." 78 Fed. Reg. at 2142-43 (footnotes and citations omitted).

Not only do the state government and lead pollution control agency and regional air quality boards support maintaining California's program, so too does California's broader public that are directly affected: "Seventy-five percent of California consumers think California should require automakers to build fleets that include increasing numbers of zero emission vehicles including electric and hydrogen fuel cell cars." At the sole California public hearing on the NPRM (over the strong objection of California and its citizens), virtually all of the speakers supported California's right to keep its standards.

Even assuming EPA ever had authority to strip California of a waiver after the fact, here EPA has not begun to demonstrate grounds to find that the ZEV program is inconsistent with Section 202(a). And, once again, EPA's reasoning is directly inconsistent with a statute – and longstanding precedent – that is meant to allow California to adopt standards that reflect a relatively greater valuing of pollution control benefits, and a willingness to pursue more robust pollution control, than EPA had done for federal standards.

d. EPA's reliance on alleged difficulties in section 177 states is not a permissible basis for the proposed finding, and in any event is unsupported by the record.

The NPRM asserts that "challenges" in selling ZEVs in Section 177 states undermine "CARB's projections and assumptions that underlay its ACC program and its 2013 waiver application." 83 Fed. Reg. at 43253. The NPRM claims that these "challenges" "include lack of market penetration, consumer demand levels that are lower than projections at the time of the grant of the ACC waiver in 2013, and lack of or slow development of necessary infrastructure," meaning that "manufacturers in section 177 States are unlikely to meet CARB's projections that their sales in those States will generate the necessary credits as CARB projected to support the ZEV sales requirement mandate in the lead time provided." 83 Fed. Reg. at 43252.

First of all, the ability of automobile manufacturers to meet the standards in 177 states is not a permissible consideration under Section 209(b). The plain language of statute resolves this question: under the statute, the question is whether "such State standards and accompanying enforcement procedures are not consistent with [Section 202(a)]." "Such State standards" are the standards referred to earlier in Section 209(b) – those of California alone. The statute is unambiguous.

As EPA correctly stated in granting California's Waiver in 2013, "EPA's longstanding interpretation of section 209(b) and its relationship with section 177, is that it is not appropriate under section 209(b)(1)(C) to review California regulations, submitted by CARB, through the prism of adopted or potentially adopted regulations by section 177 states." 78 Fed. Reg. at 2143. *See also* 43 Fed. Reg. 9344, 9347 (1978) (209(b) enumerated grounds are exclusive bases for denying waiver – concerns re 177 states adopting standards not a proper basis).

EPA's claims regarding ZEV sales in 177 States are also unsupported by the record. As EPA explained in the 2013 waiver decision:

> EPA also believes it important to clarify that the record and the comments do not indicate that the CARB Board based its technological feasibility analysis, in order to determine the ability of manufacturers to meet CARB's standards within California, on the existence of any travel provisions or other regulatory provisions which may allow a manufacturer to take credit for certain ZEV sales outside of California.

78 Fed. Reg. at 2143. The NPRM identifies no valid basis in the record to the contrary. ARB's feasibility analysis was justified independently upon a large record, and EPA has not provided any basis for its summary disregard here.

Furthermore, the NPRM does not provide any adequate basis to conclude that any difficulties experienced in Section 177 states are so severe that they render California's standards inconsistent with Section 202(a).

If such a theory were a permissible basis for denying a waiver application in the first instance, at a minimum EPA would have a heavy burden to demonstrate that the Section 177 difficulties rendered California's standards inconsistent with Section 202(a). Just as it has not performed a California-specific analysis, EPA has not performed any such analysis. Such a demonstration would have to overcome the heavy deference to California's economic judgments and policy judgments that is mandated by Section 209(b), by EPA Administrative precedent, and judicial precedent. The NPRM's casual references to EPA's proposed re-analysis of the existing *federal* standards does not begin to meet this standard. And again, even if EPA could ever deny a waiver application based on such a theory – notwithstanding its incompatibility with the plain language of Section 209(b) and with consistent and longstanding EPA precedent – that would not justify what EPA's effort to *withdraw* a waiver previously granted.

F. EPA cannot rely on a revocation of California's waiver to alter provisions of states' previously approved SIPs.

Regardless of EPA's authority to revoke California's Section 209 waiver, the proposal fails to adequately address the effect of any such revocation on the State Implementation Plans of California and the Section 177 states that have adopted aspects of the California ZEV Program and GHG standards in their SIPs. The only reference in the proposal to this issue is a brief statement that such SIP provisions will remain in effect but that EPA may require their revision in the future:

> Where states have adopted CARB's ZEV and GHG standards into their SIPs, under section 177, the provisions of the SIP would continue to be enforceable until revised. If this proposal is finalized, EPA may subsequently consider whether to employ the appropriate provisions of the CAA to identify provisions in section 177 states' SIPs that may require amendment and to require submission of such amendments.

83 Fed. Reg. at 43,244. This approach of kicking the can down the road with respect to SIP revisions is utterly disingenuous in light of the harmful practical effects of revoking California's waiver when multiple states have relied on it as a key part of their Clean Air Act implementation over the last five years, and even earlier with respect to the ZEV Program. EPA cannot dodge responsibility for those effects simply by suggesting that it is not, in this proposal, actually seeking modification of any SIP. That modification is the necessary consequence of revoking the Section 209 waiver for the ZEV and GHG provisions that are part and parcel of the SIPs of California and multiple other states.

Moreover, EPA is failing to consider the full ramifications of the proposed waiver revocation by avoiding the topic of the resulting SIP revisions. In fact, there are specific statutory provisions governing modification of an approved SIP. EPA must address those application and effects of those provisions as part of its explanation for the reasonableness of any attempt to revoke California's Section 209 waiver.

Under the Clean Air Act, there are only two ways in which EPA may rescind or modify its approval of a SIP. First, Section 110(k)(5) provides that EPA may withdraw its approval of a SIP if the Administrator finds that the SIP is "substantially inadequate to attain or maintain the relevant national ambient air quality standard… or to otherwise comply with any requirement of this chapter." 42 U.S.C. § 7410(k)(5). After making such a finding, the Administrator must "notify the State of the inadequacies" in the SIP and then "establish reasonable deadlines" for the State to submit revisions to the SIP. *Id.* Alternatively, under Section 110(k)(6), when the "Administrator determines that the Administrator's action approving, disapproving, or promulgating any plan . . . was in error," the Administrator may directly "revise such action as appropriate." 42 U.S.C. § 7410(k)(6).

Courts addressing the issue of CAA State Implementation Plans have recognized that Sections 110(k)(5) and (k)(6) provide the exclusive avenues through which EPA may withdraw its prior approval of a SIP. For example, in *Alabama Environmental Council v. EPA*, the Eleventh Circuit noted that the Clean Air Act contains only "two provisions that grant the EPA authority to revise a SIP: Sections 110(k)(5) and (k)(6)." 711 F.3d 1277, 1290 (11th Cir. 2013). The court explicitly rejected the argument that EPA had the inherent authority to revise a SIP without using either of these two provisions, finding that "the Clean Air Act's express statutory provisions for revising and correcting a SIP preclude the EPA's reliance on any claim of inherent authority here." *Id.* at 1291. The court concluded that because "EPA is a creature of statute" and may exercise "only those authorities conferred upon it by Congress," the agency can only revise a SIP through Sections 110(k)(5) or (k)(6). *Id.*

Section 110(k)(6) is not applicable to these circumstances. In order to revise a SIP through Section 110(k)(6), EPA must first make a formal determination that there "was" an error in the

original approval of the SIP. This formal determination requirement is strictly enforced. In *Association of Irritated Residents v. EPA*, the Ninth Circuit noted that, under the plain language of the statute, in order "to correct an error, the EPA must first determine that it, in fact, made an error." 790 F.3d 934, 948 (9th Cir. 2015); *see also Alabama Envtl. Council*, 711 F.3d at 1288. In that case, the court decided that the "error determination requirement was met" only because the agency had "clearly articulated its alleged error and the basis thereof in the Federal Register" and had "received and replied to comments on the matter." 790 F.3d at 948. Here, by contrast, EPA has not identified any such error. Indeed, the agency would likely be hard-pressed to do so given that any problem with SIPs incorporating the ZEV and GHG provisions is due to EPA's current proposed waiver revocation, not any error that "was" in existence at the time the relevant SIPs were approved.

EPA must therefore follow the requirements for calling for SIP revisions under section 110(k)(5) (commonly termed a "SIP call") in order to effectuate the proposed revocation of California's waiver. However, EPA has not provided any detail as to when it would issue such a SIP call, nor what deadlines states would confront for submitting required SIP revisions. Since the maximum time period for submitting SIP revisions under section 110(k)(5) is 18 months, states subject to any SIP call are likely to face the prospect of having to significantly overhaul their SIPs with respect to mobile and stationary source emissions of multiple pollutants within a short timeframe. Yet EPA has provided no detail as to how this process can be carried out without throwing a serious wrench in SIP development and implementation by affected states. Unless and until EPA actually proposes a viable plan for following section 110(k)(6), its explanation for why revoking California's waiver at this late date is reasonable cannot be considered adequate.

G. Clean Air Act Section 177 provides no independent basis for denying state adoption of California's GHG emission standards.

Clean Air Act section 177 provides an exception to the preemption of section 209(a) for states with nonattainment areas that choose to adopt California standards. To date, twelve states have adopted California's Advanced Clean Car standards, including California's GHG emission standards, and others plan to adopt these standards soon.[590] Collectively, these states represent over a third of the nation's new car sales and have a population of more than 113 million.[591] Many other states include areas that violate national ambient air quality standards and could benefit from adoption of the California standards. The ability of these states to address vehicle emissions, and to choose between the federal standards and California's more protective standards, is an important tool granted by Congress for those states to protect their populations.

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[590] *See* Press Release, Cal. Air Res. Bd., "CARB Finds Vehicle Standards Are Achievable and Cost-Effective (Mar. 24, 2017) (available at: https://ww2.arb.ca.gov/news/carb-finds-vehicle-standards-are-achievable-and-cost-effective). In addition to the current "section 177 states" of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington, Colorado and the District of Columbia have committed to adopt California standards. *See, e.g.*, https://www.denverpost.com/2018/06/19/colorado-california-emission-vehicle-standards/.

[591] Press Release, Cal. Air Res. Bd., "CARB Finds Vehicle Standards Are Achievable and Cost-Effective" (Mar. 24, 2017) (available at: https://ww2.arb.ca.gov/news/carb-finds-vehicle-standards-are-achievable-and-cost-effective).

Notwithstanding the importance of section 177, EPA proposes to "determine" that section 177 does not allow other states to adopt or enforce California's GHG standards. 83 Fed. Reg. at 43253. EPA proposes to conclude that section 177 only allows states to adopt and enforce California standards "designed to control criteria pollutants to address NAAQS nonattainment." *Id.* Notably, EPA does not propose to make the same determination for state adoption of California's ZEV mandate, nor could it because the ZEV mandate is clearly connected to reducing criteria air pollutants.[592]

EPA, however, has no authority to make any such determination. Section 177 removes the preemption of Clean Air Act section 209(a) for states other than California provided the statutory criteria are met. These other States are either preempted, or they are not, according to the statutory language. EPA has no role in this determination, in contrast to its initial gatekeeping role under Section 209(b) with respect to California standards.[593] If the Clean Air Act permits California to adopt specific emission standards, section 177 allows specified states to adopt and enforce those same standards. Section 177 does not provide an independent basis for precluding other states from adopting or enforcing California standards that have been granted a waiver under section 209(b). In other words, there is no scenario wherein Clean Air Act section 209(b) authorizes California to adopt emission standards, but section 177 still precludes states that meet the statutory criteria from adopting identical standards.

The Clean Air Act is unambiguous regarding the conditions for states to adopt and enforce California standards that have been granted a waiver. The section provides in full:

> Notwithstanding section [209(a)], any State which has plan provisions approved under this part may adopt and enforce for any model year standards relating to control of emissions from new motor vehicles or new motor vehicle engines and take such other actions as are referred to in section [209(a)] respecting such vehicles if—
>
> (1) Such standards are identical to the California standards for which a waiver has been granted for such model year, and
>
> (2) California and such State adopt such standards at least two years before commencement of such model year (as determined by regulations of the Administrator).
>
> Nothing in this section or in subchapter II of this chapter shall be construed as authorizing any such State to prohibit or limit, directly or indirectly, the manufacture or sale of a new motor vehicle or motor vehicle engine that is certified in California as

[592] Unlike NHTSA's arguments under EPCA, EPA makes no claim here that standards that reduce both criteria and non-criteria pollutants are somehow precluded under section 177 solely because of their co-pollutant benefits.

[593] *See, e.g.*, *Ford Motor Co. v. EPA*, 606 F.2d 1293, 1298 (D.C. Cir. 1979) (noting: "The Act does not require that the EPA Administrator conduct a separate waiver proceeding for each state that chooses to do so. Rather, it states simply that any state which has federally approved plans to bring itself into compliance with national air quality standards may adopt and enforce auto emission standards provided those standards are identical to the California ones for which a waiver has already been obtained and provided both California and the adopting state have given manufacturers a two-year lead time.").

> meeting California standards, or to take action of any kind to create, or have the effect of creating, a motor vehicle or engine different than a motor vehicle of motor vehicle engine certified in California under California standards (a "third vehicle") or otherwise create such a "third vehicle".

The conditions under which the preemption of section 202(a) is removed by section 177 are plain. First, a state must have plan provisions approved under Part D of title I of the Clean Air Act. These plan provisions refer to plans required to attain and maintain compliance with the national ambient air quality standards. *See* 42 U.S.C. §§ 7501 *et seq.* Most states satisfy this condition.[594]

Second, the standards the state seeks to adopt and enforce "must be identical to the California standards for which a waiver has been granted for such model year." In other words, California must have received a waiver for its standards, and the other state's standards must be identical.

Finally, both California and the state must provide at least two years of lead-time for manufacturers. Standards must be adopted at least two years before the manufacturer commences production of the regulated model year. This is the only condition where the Act authorizes EPA to add regulatory conditions to assist in implementation. The power to add regulatory conditions does not constitute the power to preempt state law.

If these conditions are met, a state may adopt and enforce any California standard that has received a waiver under section 209(b). EPA's proposal points to no ambiguity in this statutory language. Nor could it.

Instead, EPA tries to claim that the heading of section 177 and the placement of section 177 within the nonattainment provisions of the Act suggest a limit on the types of standards that other States can adopt. These arguments are specious.

It is well established that statutory headings cannot be used to create ambiguity where none exists.[595] Here there is no suggestion in the statutory language that Congress meant to second-guess what vehicle standards states could adopt in accordance with section 177. While Congress limited *which* states could adopt California standards, it did not include any limitations on *what* standards states can adopt. There is no requirement that states demonstrate that the standards are necessary for attainment or maintenance. Thus, a state with ozone or carbon monoxide nonattainment problems is not precluded from adopting standards for particulate matter, GHGs, or any other emitted pollutant. EPA has never read into the statute (nor could it) an obligation for states to align the vehicle standards they are adopting with a particular nonattainment need.

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[594] *See* EPA, "Nonattainment Areas for Criteria Pollutants (Green Book) (available at: https://www.epa.gov/green-book).

[595] *See, e.g., Brotherhood of R.R. Trainmen v. Baltimore & O.R. Co.*, 331 U.S. 519, 528-29 (1947) (reiterating "the wise rule that the title of a statute and the heading of a section cannot limit the plain meaning of the text"); *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 483 (2001) (explaining that a heading "may only she[d] light on some ambiguous word or phrase in the statute itself") (internal quotation omitted).

EPA's historical approach is entirely consistent with the structure of the Act. "The Act gives EPA no authority to question the wisdom of a State's choices of emission limitations if they are part of a plan which satisfies the standards of § 110(a)(2)." *Train v. NRDC*, 421 U.S. 60, 79 (1975); *see also Union Electric Co. v. EPA*, 427 U.S. 246, 265-66 (1976) ("[I]f a State makes a legislative determination that it desires a particular air quality by a certain date that it is willing to force technology to attain it . . . such a determination is fully consistent with the structure and purpose of the [Clean Air Act] . . . ."). Nothing in section 177 requires states to explain why they are adopting California's emission standards. If California has received a waiver, it means that no one could show those standards were unnecessary. *See* 42 U.S.C. § 7543(b)(1). Section 177 allows other states to pursue those same benefits, and EPA cannot "determine" that the adoption of those California standards is unjustified or unwise. For GHG standards, in particular, it is beyond dispute that there is a connection between climate change and criteria pollution formation.[596] EPA may currently be of the opinion that this connection is too small to justify controls, but the Act gives EPA no authority to question a state's assessment of that connection. If the conditions for removing preemption are met, States are free to adopt whatever standards or control requirements they choose. 42 U.S.C. § 7416. The nonattainment references and placement of section 177 within the statute do nothing to change this fundamental design of the Act.

Even if section 177 were ambiguous, which it is not, EPA would be entitled to no deference in resolving that imagined ambiguity because EPA has no relevant role in implementing the provision. Section 177 allows States to adopt and enforce standards "[n]otwithstanding" the preemption in section 209 if the statutory conditions have been met. The section gives EPA no role or authority to approve, determine, or even assess whether the substantive conditions for the section 177 exception to preemption have been met.[597] EPA's only authority is to adopt regulations guiding the lead-time requirement in section 177(2). EPA's proposal here, however, does not purport to be an exercise of that authority or to change those regulations.

Indeed, it is unclear what EPA's conclusion that section 177 should be limited to criteria pollutant standards even means. The statute does not authorize EPA to adopt such regulations to implement section 177 and there is no obvious scenario where anyone would ask EPA to weigh in on the meaning of section 177. EPA's request for comment on how and when this new interpretation should be adopted and implemented is nonsensical. There is nothing to implement and EPA has no authority to adopt anything.

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[596] *See, e.g.*, 81 Fed. Reg. 95982, 95986 n.32 (Dec. 29, 2016) (observing that climate change "can also increase the formation of ground-level ozone"); California's Fourth Climate Change Assessment, California's Changing Climate 2018: Statewide Summary Report, at 40 and 71 (Aug. 2018) (describing connection between criteria pollution and climate change, and finding that "[t]he public health savings of deep GHG emission reductions in California in isolation or in combination with global action are comparable to the potential cost of GHG reductions.") (available at: http://www.climateassessment.ca.gov/state/docs/20180827-statewidesummary.pdf).

[597] By contrast, Clean Air Act section 209(e)(2)(B), requires States adopting California standards for nonroad engines or vehicles to provide notice to EPA and authorizes EPA to issue regulations to implement the subsection. Section 177 provides no similar role for EPA.

Where, as here, the terms of the statute give no indication that Congress meant to delegate legislative authority to the agency, the agency has no claim to be able to speak with the force of law and is not entitled to *Chevron* deference.[598] Even if EPA were to claim that its opinion is entitled to some respect (i.e., *Skidmore* deference) if a court were evaluating a preemption challenge as to whether the conditions of section 177 have been met, that claim for respect would be unmerited here.[599]

First, EPA is reading into an otherwise unambiguous statutory provision new requirements that EPA has never identified before. States have previously adopted California standards for non-criteria pollutants without any objection from EPA.[600] EPA makes no attempt to reconcile its "new" interpretation with EPA's prior position.

Second, EPA's new interpretation undermines the clear policy directives of section 177. Congress' express goal was to protect manufacturers from a "third vehicle" set of standards, i.e., states adopting and enforcing standards that are neither identical to the California standards nor to the federal standards. But this is exactly what EPA's "new" interpretation would do by picking which of California's emission standards other states may adopt and enforce. EPA's interpretation would mean that manufacturers would have to certify that individual cars sold in these other states meet a hybrid set of standards – part California standards for criteria pollutants and part federal standards for non-criteria pollutants. The certification process would match neither the California program nor the federal program, and enforcement would be equally confounded. EPA has not explained what those hybrid standards would look like or whether compliance would even be feasible. EPA makes no policy argument to support its new interpretation and cannot explain how this interpretation would advance the policies expressly announced by Congress. A "throw away" interpretation that reflects no exercise of agency expertise in the policy or technical realm is entitled to no respect even under *Skidmore*.

EPA's proposed conclusion lacks any statutory basis and is inconsistent with Congress's policy objectives under section 177. EPA should abandon any effort to make any final determination or conclusion regarding the types of California emission standards that other states can adopt or enforce under section 177. EPA has no role in implementing section 177 and no authority to add to or interpret the statutory conditions. If California is entitled to a waiver of preemption under section 209(b), other states meeting the conditions under section 177 are as well. Section 177 provides no alternative basis for denying state adoption of California standards allowed under section 209(b).

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[598] *U.S. v. Mead*, 533 U.S. 218, 231-32 (2001).

[599] The related discussion and citations regarding NHTSA's lack of authority to interpret EPCA's preemption provision are incorporated by reference here as well.

[600] For example, California's program regulates formaldehyde emissions. *See* Cal. Code Regs. tit. 13, § 1961(a). EPA granted a waiver for these non-criteria pollutant emission standards in 1992. 57 Fed. Reg. 38503 (Aug. 25, 1992).

H. EPCA does not preempt California's program.

1. NHTSA's interpretation of EPCA preemption lacks legal effect and should not be published in the Code of Federal Regulations.

"As a creature of statute," NHTSA "has only those powers endowed upon it by statute." *Emera Maine v. Fed. Energy Regulatory Comm'n*, 854 F.3d 9, 24 (D.C. Cir. 2017). That principle limits an agency's "authority to pronounce on preemption" of state law to circumstances in which Congress delegates that authority. *Wyeth v. Levine*, 555 U.S. 555, 577 (2009). EPCA's preemption provision, 49 U.S.C. § 32919, does not delegate to any entity legislative authority to pronounce on the scope of preemption. There is no mention at all of NHTSA, the Department of Transportation, or any other agency in Section 32919. Nor do any other provisions of EPCA expressly or impliedly delegate the authority to preempt state law. Furthermore, NHTSA here "s[eeks] to interpret [a] statute in a way that limits the work of a second statute … it does not administer," *Epic Sys. Corp. v. Lewis*, 138 S. Ct. 1612, 1629 (2018), namely, Section 209(b) of the CAA, a statute in which Congress "previously [and subsequently] sought to foster" the state laws in question. *Cal. Div. of Labor Stds. Enforcement v. Dillingham Constr., N.A., Inc.*, 519 U.S. 316, 331 n.7 (1997) (*Dillingham*). NHTSA has no power whatsoever to "make a decision" on how those two statutes interrelate. 83 Fed. Reg. 42,239.

Because NHTSA lacks authority to decide whether EPCA preempts emission standards that have received a waiver of preemption under Section 209(b) of the CAA, NHTSA's views on the scope of EPCA preemption lack "legal effect." 44 U.S.C. § 1510(a). And, because they lack legal effect, they do not belong in the Code of Federal Regulations. *Ibid.*; 1 C.F.R. § 8.1(a). NHTSA administers other provisions of EPCA and is authorized to "prescribe regulations to carry out [its] duties and powers" under those provisions. 49 U.S.C. § 332(a). *See also* 83 Fed. Reg. 43,236 & n.521. But those duties and powers do not include the power to preempt state law or declare the scope of preemption under EPCA. *Cf.* 49 U.S.C. § 32909 (providing for judicial review of NHTSA rules issued under numerous provisions of EPCA, but not Section 32919).

If NHTSA believes that publication in the Code of Federal Regulations lends its current opinion of Section 32919 more interpretive weight or makes it harder for a future administration to dislodge, the agency is wrong. NHTSA thus should abandon the enterprise of issuing a regulation to codify its new opinions on EPCA preemption. For the same reason, EPA cannot defer to NHTSA's opinions on that question when considering (or, as here, impermissibly *re*considering) California's eligibility for a Section 209(b) waiver. *Contra* 83 Fed. Reg. 43,240. Even assuming that NHTSA's position carried some legal effect (which it does not), that effect would not operate retroactively and thus would not be a valid basis for EPA's revocation decision. *See Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988).

2. EPCA does not expressly or impliedly preempt California's Advanced Clean Cars program.

The issue in any preemption controversy is whether Congress "confer[red] on private entities … a federal right to engage in certain conduct subject only to certain (federal) constraints." *Murphy v. Nat'l Collegiate Athletic Ass'n*, 138 S. Ct. 1461, 1480 (2018). EPCA does not grant automakers a federal right to sell vehicles in California free of the very pollution-control

standards that Congress has repeatedly taken pains to single out as *not* preempted under the CAA. The text, purpose, and history of both statutes and their amendments, as well as facts on the ground, lead to an unambiguous conclusion that EPCA does not preempt California's Advanced Clean Cars program.

a. EPCA's preemption provision has limited scope.

Section 32919 of Title 49, U.S. Code, preempts a state "law or regulation related to fuel economy standards or average fuel economy standards for automobiles covered by an average fuel economy standard under [EPCA]." An "average fuel economy standard" is a term of art meaning "a minimum level of average fuel economy applicable to a manufacturer in a model year." 49 U.S.C. § 32901(6). It is different than "average fuel economy," which means the *actual* average fuel economy of a fleet of vehicles sold by a manufacturer in a model year. *Id.* §§ 32901(5), 32904. Relation to *fuel economy* is not sufficient for preemption; the state law at issue must relate to the *fuel-economy standard* itself. *Id.* § 32919. To honor Congress's careful choice of words, EPCA preemption must be limited to the "area" of state law related to NHTSA's standard itself. S. Rep. 94-516, at 151–52 (Conf. Rep.) (Dec. 18, 1975).

The statutory term *related to*, while broad, cannot be read to the outer reaches of interpretational possibility, where "everything is related to everything else." *Dillingham*, 519 U.S. at 335 (Scalia, J., concurring). *See also Egelhoff v. Egelhoff ex rel. Breiner*, 532 U.S. 141, 153 (Scalia, J., concurring); *id.* at 153–54 (Breyer, J., dissenting). To be sure, state laws that expressly "reference" the subject of the preemption provision may be preempted, *Coventry Health Care of Missouri, Inc. v. Nevils*, 137 S. Ct. 1190, 1197 (2017), as may laws that meet the normal tests for conflict preemption--whether a state law renders it impossible to comply with some federal law or else "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." *Sickle v. Torres Adv. Enter. Solutions, LLC*, 884 F.3d 338, 347 (D.C. Cir. 2018). *See also Egelhoff*, 532 U.S. at 153 (Scalia, J., concurring) (observing that the most coherent reading of "related to" is that it codifies "ordinary [implied] pre-emption jurisprudence"). But the notice of proposed rulemaking does not and cannot argue for impossibility preemption because a fleet complying with California's Advanced Clean Cars program necessarily will comply with the relaxed federal fuel-economy standards that NHTSA is proposing. The question therefore is whether California's Advanced Clean Cars program "undermines the intended purpose and 'natural effect' of" federal law. *Crosby v. Nat'l Foreign Trade Council*, 530 U.S. 363, 373 (2000). A mere "impact on" average fuel-economy levels is insufficient, as NHTSA concedes, 83 Fed. Reg. 43,235; otherwise, any number of state laws--setting speed limits, requiring child-safety seats, limiting idling--would be preempted. There is instead a "high threshold" for preemption under Section 32919, *Chamber of Commerce v. Whiting*, 563 U.S. 582, 607 (2011), and the notice of proposed rulemaking fails to show that California's Advanced Clean Cars program clears that threshold.

b. EPCA did not impliedly amend Section 209(b) of the CAA.

In deciding whether California's emission standards undermine the intended purpose and natural effect of federal laws, it is imperative to consider the CAA as well as EPCA. The CAA was enacted first, and before "displac[ing]" or "suspend[ing] the normal operations" of an existing federal statute, Congress will "clearly express[]" an "intention that such a result should follow."

Epic, 138 S. Ct. at 1624 (quotation marks and citations omitted). NHTSA now proposes that EPCA preempts California air-pollutant emission standards for which EPA otherwise would be duty-bound to issue a waiver of preemption under Section 209(b) of the CAA, and EPA proposes that it is warranted in revoking an existing waiver on that ground. For the agencies to be correct, EPCA would have to "displace[]" the "earlier, inconsistent command[]" of Section 209(b), *Nat'l Ass'n of Home Builders v. Defenders of Wildlife*, 551 U.S. 644, 664 n.8 (2007), that EPA "shall" award California a waiver of preemption for emission standards that satisfy all the criteria set forth in that provision. 42 U.S.C. § 7543(b)(1). But such a reading of EPCA is strongly disfavored and can only be reached if (1) "there exists a 'positive repugnancy' between [its] provisions … and those of the [CAA] that cannot be reconciled," *Reg'l Rail Reorg. Cases*, 419 U.S. 102, 134 (1974) (citation omitted); and (2) Congress used "language manifesting [its] considered determination of the ostensible change." *U.S. Ass'n of Reptile Keepers, Inc. v. Zinke*, 852 F.3d 1131, 1141 (D.C. Cir. 2017). Neither of those conditions is met here.

The dual preemption schemes of EPCA and the CAA are readily reconciled by the principle that California emission standards that are sanctioned by the CAA through a Section 209(b) preemption waiver are not preempted by EPCA. In addition to the presumption against implied amendment, that result makes sense for at least four reasons. First, Section 209(b) of the CAA "is a specific provision applying to a very specific situation." *Morton v. Mancari*, 417 U.S. 535, 550 (1974). After extensive debate and consideration, Congress opted to allow California, and only California, to continue to set its own air-pollutant emission standards. *See* 42 U.S.C. § 7543(b)(1)(B). A statute that sanctions one specific type of law in one specific State must take precedence over a general preemption clause that addresses what the Supreme Court deemed a "wholly independent" subject. *Massachusetts*, 549 U.S. at 532. *See Morton*, 417 U.S. at 550.

Second, whereas EPA may develop CAA emission standards without regard to NHTSA's average fuel-economy standards, EPCA mandates that NHTSA account for "other motor vehicle standards of the Government" when establishing average fuel-economy standards. 49 U.S.C. § 32902(f). NHTSA admits that such standards "obviously" include CAA emission standards set by EPA. 83 Fed. Reg. 43,209. That asymmetry in obligations confirms Congress's intent that EPCA be subordinated to the CAA to the extent the two interact. Moreover, legislators expressly contemplated and condoned the primacy of California emission standards for which EPA issued preemption waivers under Section 209(b) of the CAA over average fuel-economy standards under EPCA. *See infra* section (V)(H)(2)(d). That evidence fortifies the inference that Congress did not intend to preempt state law that it "previously [and subsequently] sought to foster." *Dillingham*, 519 U.S. at 331 n.7.

Third, as addressed *infra* section V(H)(2)(g), Congress in 2007 substantially amended EPCA while pointedly declining to disturb the statutory interpretation of the only two courts to address the question, both of which had upheld California emission standards against a preemption challenge.

Fourth, the bright-line rule that EPCA does not preempt California emission standards for which EPA has issued a waiver of preemption under Section 209(b) of the CAA is far more administrable than the elusive test NHTSA proposes. The agency never explains what makes an emission standard "directly," as opposed to "incidental[ly]," related to an average fuel-economy standard. 83 Fed. Reg. 43,234-35. That bifurcation is not grounded in either statutory text or

traditional conflict-preemption jurisprudence, and in this circumstance, it seems contrived (*e.g.*, it is hard to see how a mandate for vehicles that are incapable of burning fuel "directly relate[s] to fuel economy," 83 Fed. Reg. 43,238). NHTSA's new approach is sure to lead to litigation each time EPA issues a waiver for a standard that might have some effect on average fuel economy, and/or create conflict between the two agencies on the preemption question.

c. Congress did not preempt California emission standards that it anticipated might significantly affect automakers' maximum feasible average fuel-economy level.

The original version of EPCA included both the express-preemption provision, which has never been substantively amended, and a provision allowing automakers to petition for interim relief on an individual basis from average-fuel economy standards that Congress itself had fixed for model years 1978-1980. *See* 15 U.S.C. § 2002(a)(1) (1976). Congress did not authorize NHTSA to make general adjustments to the standards for those model years, but it recognized that changes in other laws in the interim might make it too difficult for one or more manufacturers to meet the minimum standards that Congress was setting in stone in 1975. EPCA therefore allowed a manufacturer to petition "for modification of an average fuel economy standard," 15 U.S.C. § 2002(d)(1) (1976), in the event that a significant "reduction in a manufacturer's average fuel economy in a model year ... result[ed] from the application of a category of Federal standards … which would not have occurred had [standards] applicable to model year 1975 remained … in effect." *Id.* § 2002(d)(3)(C)(i).

Congress was acutely aware that "effects of *emission controls* on fuel economy are particularly difficult to assess" and could adversely impact maximum feasible average fuel-economy levels. H.R. Rep. 94-430, at 86 (1975) (emphasis added). In particular, "[t]he more stringent California emission standards had a measurable impact upon average 50-State vehicle fuel economy in 1975," the year EPCA was enacted. 42 Fed. Reg. 58,942 (Nov. 14, 1977). Congress could have expressly preempted those California standards using its authority under the Supremacy Clause.

But, having just carved out an exclusive exception to preemption for California in the CAA, legislators opted not to preempt. They instead defined the term "Federal standards" to include not only emission standards issued by EPA under Section 202(a) of the CAA but also "emission standards applicable by reason of section 209(b)," *i.e.*, standards issued by California and granted a preemption waiver by EPA. 15 U.S.C. § 2002(d)(3)(D) (1976). In other words, Congress allowed an automaker to invoke a post-1975 change in California emission standards that "result[ed]" in a "reduction" of its maximum feasible average fuel-economy level as grounds for a reduced minimum average fuel economy. *Id.* § 2002(d)(3)(C)(i).

EPCA's preemption clause means the same thing now as it did at the time of its enactment. *See United States v. O'Brien*, 560 U.S. 218, 231 (2010) ("Congress does not enact substantive changes *sub silentio*."). The interim-relief provision demonstrates that now, just as at the time of enactment, a California emission standard for which EPA issues a preemption waiver under Section 209(b) of the CAA is *not* preempted by Section 32919 even if that California standard alone constrains the ability of automakers to achieve a given average fuel-economy level. As that is so, it is absurd to think that the same preemption clause *does* preempt a state law (California's Advanced Clean Cars program) that does absolutely nothing to hinder the ability of

automakers to achieve a given "minimum level of average fuel economy." 49 U.S.C. § 32901(6). In fact, "[t]he improved technology required to meet emission standards may assist in *improving* fuel economy." H.R. Rep. 95-294, at 247 (1977) (emphasis added). The term "related to" may express a broad preemptive purpose, but it does not turn bedrock preemption jurisprudence on its head by permitting state laws that frustrate the aims of Congress while preempting state laws that further those aims.

d. California laws with a CAA preemption waiver are "other motor vehicle standards of the Government" that inform NHTSA's average fuel-economy standard.

EPCA's downward-modification provision discussed in the previous section was time-limited because, after model year 1980, Congress did not fix average fuel-economy standards but instead allowed NHTSA to establish them itself. *See* 15 U.S.C. § 2002(a)(1) (1976). Congress mandated that, before establishing those standards, NHTSA must consider the effect of "other Federal motor vehicle standards" -- the same phrase discussed in the previous section, which included California standards that have a waiver under CAA Section 209(b). 15 U.S.C. § 2002(e)(3) (1976). Thus, after model year 1980, since NHTSA remained obliged to consider the effect of those California standards on average fuel economy when setting federal fuel-economy standards, it logically must be the case that those California standards were "Federal" and thus not preempted by EPCA.

In 1994, Congress passed what the notice of proposed rulemaking agrees was a non-substantive recodification of EPCA. *See* 83 Fed. Reg. 43,237 & n.32. Those amendments changed the phrase "other Federal motor vehicle standards" to "other motor vehicle standards of the Government on fuel economy." 49 U.S.C. § 32902(f). As the 1994 recodification made no substantive amendments, the current phrase must be understood to have the same meaning as the former one. As noted earlier, "Federal standards" was deliberately defined to include "emission standards applicable by reason of section 209(b)." *Id.* § 2002(d)(3)(D). The CAA itself also declares "compliance with [California's] standards" to be "compliance with applicable Federal standards." 42 U.S.C. § 7543(b)(3).

The Congressional policy of accommodating both EPA and California emission standards in the application of average fuel-economy standards remained constant throughout. Through model year 1980, Congress prescribed fuel-economy standards at fixed values, and NHTSA's job was to account for the effect of EPA and California emission standards on the back end when granting case-specific exemptions to automakers. Beginning in model year 1980, NHTSA's job was to account for EPA and California emission standards on the front end when setting average fuel-economy standards. Neither the non-substantive change to "other motor vehicle standards of the Government" nor the withdrawal of the already defunct interim provision in 1994 changed anything; NHTSA's need to account for the effect California emission standards remained the same.

That is precisely how NHTSA construed its authority as it transitioned from granting exemptions to setting average fuel-economy standards in the first instance. *See, e.g.*, 47 Fed. Reg. 20,649 (May 13, 1982) (applying 7% adjustment to average fuel-economy standards for small manufacturers on the basis of more stringent California emission standards). NHTSA has

repeatedly made adjustments to its maximum feasible average fuel-economy level to account for the effects of various California emission standards. *See, e.g.*, 56 Fed. Reg. 13,779 (Apr. 4, 1991); 53 Fed. Reg. 11078 (Apr. 5, 1988). It is only in recent years, under leadership hostile to energy-conservation and pollution-control goals, that NHTSA has articulated the view that California emission standards are preempted and have no effect on average fuel-economy standards. The agency's failure to recognize this inconsistency and explain its change in position is arbitrary and capricious.

The notice of proposed rulemaking dismisses both the downward-modification provision and its definition of "Federal standards" as irrelevant to the question whether California emission standards authorized by Section 209(b) were "Federal motor vehicle standards" to be considered by NHTSA. The linchpin of NHTSA's argument is the observation that the definitional section was denominated "[f]or purposes of this subsection," 15 U.S.C. § 2002(d)(3) (1976), rather than "for purposes of this Act." The distinction NHTSA attempts to draw is not well founded. EPCA supplied no competing definition of "Federal standards" elsewhere in the Act and, to reiterate, it would have been irrational for Congress to require NHTSA to account for the interplay--even possible inconsistency--between California emission standards and average fuel-economy standards, if Congress thought those state standards were preempted by Section 32919. California's emission standards did not become more or less "related to" average fuel-economy standards after model year 1980. The notice of proposed rulemaking does not explain this discrepancy or ground its current view – which departs from its contemporaneous and longstanding view – in the text, purpose, or legislative history of EPCA.

The only reasonable view is that California emission standards authorized by Section 209(b) of the CAA, no less than EPA emission standards authorized under Section 202(a) of the CAA, are the baseline emission "standards of the Government" which NHTSA must respect and take into account in determining fuel-economy standards under EPCA. 49 U.S.C. § 32902(f).

e. NHTSA's average fuel-economy standard is not "related to" advanced clean cars.

EPCA tasks NHTSA with establishing "average fuel economy standards" for each manufacturer of new automobiles on a model-year basis. 49 U.S.C. § 32902(a). While this standard must be "the maximum feasible average fuel economy level that [NHTSA] decides the manufacturer can achieve" as determined using specified statutory criteria, *ibid.*; *see also id.* § 32902(f), EPCA does not prevent or discourage auto manufacturers from exceeding that standard, whether voluntarily or as a result of other laws. An average fuel-economy standard is simply "a *minimum* level of average fuel economy applicable to a manufacturer in a model year." *Id.* § 32901(6) (emphasis added). Nothing in EPCA makes it a violation for an automaker to exceed the minimum required standard. Thus, there can be no inconsistency between this standard and a state law that has the effect of improving fuel economy. State emission standards or other state laws that have the effect of *improving* average fuel economy do not conflict with federal minimum fuel economy standards because they do not intrude upon NHTSA's prerogative to decide the appropriate level ("the maximum feasible average fuel economy level," 49 U.S.C. § 32902(a) at which to set those standards. Improvement in average fuel economy does not frustrate any countervailing purpose of EPCA.

Moreover, statutory constraints ensure that NHTSA does not--indeed, cannot--evaluate the level of average fuel economy that is truly "maximum feasible." For one thing, Congress blinded NHTSA to the improvements in a manufacturer's average fuel economy level from sales of vehicles that use fuels other than gasoline or diesel. 49 U.S.C. § 32902(h)(1), (2); *see also id.* § 32901(1), (2), (8), (9), (10). EPCA establishes a weighting system to incentivize manufacturers to develop and sell vehicles using alternative fuels, including electric vehicles. *Id.* §§ 32904(a)(2), 32905. When setting average fuel-economy standards, NHTSA must ignore those vehicles and credits that accrue to automakers that choose to deploy them. *Id.* §§ 32902(h)(3), 32903. As a result of these statutory constraints, an automaker may drop below the "minimum" standards that NHTSA sets for gas- and diesel-powered vehicles without accruing any penalty. *Id.* § 32901(6).

To understand how all this relates to preemption, one need look no further than California's ZEV mandate. A requirement that manufacturers produce a minimum volume of vehicles that consume no fuel will increase *actual* fuel economy--because ZEVs add "miles traveled" but not "gallon[s] of gasoline (or equivalent amount of other fuel) used," 49 U.S.C. § 32901(11)--but it cannot affect NHTSA's average fuel-economy *standard*. For purposes of calculating its standard, NHTSA must counterfactually assume a world in which all vehicles sold are powered exclusively by gasoline or diesel fuel. *See id.* § 32902(h). A state law addressed solely to vehicles powered by other means is not "related to" that world at all and thus cannot be preempted by EPCA.[601] *Id.* § 32919.

Title II of the CAA does not impose comparable statutory constraints. EPA under Section 202(a) and California under Section 209(b) of that Act establish maximum levels of air-pollutant emissions for *all* new motor vehicles, regardless of power source. Advanced clean cars reduce (drastically, in some cases) levels of emissions of CO2 and other GHGs as compared to vehicles powered solely by gasoline and diesel fuel. But that "pool of technologies" is not available to NHTSA as a way to boost average fuel-economy standards. 83 Fed. Reg. 43,234. As advanced clean cars come to dominate the new-automobile market, NHTSA's average fuel-economy standard will, absent legislative change, become more and more decoupled from any GHG emission standard set by EPA or California. *See* M.J. Bradley & Assocs., *New Vehicle GHG Emissions Estimates Under Deep Decarbonization Strategies* (Oct. 2018).

That is precisely what Congress hoped for when it introduced weighted fuel economy and credits for advanced clean cars into EPCA. The definition of an "automobile" in the original statute in 1975 was restricted to gas- and diesel-powered vehicles. 15 U.S.C. § 2001(1), (5). EPCA thus plainly did not preempt state regulation of vehicles powered by other means. In 1980, Congress added electric vehicles to the EPCA regime for the sole purpose of promoting "industrial engineering development and initial commercialization of electric vehicles." Pub. L. No. 96-185, § 18, 93 Stat. 1336, *codified at* 15 U.S.C. § 2512(c) (1982). NHTSA was not allowed to account for electric vehicles when setting an average fuel-economy *standard*, but electric

[601] Even the requisite calculation of "fuel" economy for vehicles that do not burn fuel (*i.e.*, electric vehicles) decouples fuel economy from actual well-to-wheel emissions of those vehicles. *See* 49 U.S.C. § 32904(a)(2)(B). To the extent the "common measurement" argument in the notice of proposed rulemaking has any legs (which it does not, for reasons explained elsewhere), the argument clearly does not apply for the nontraditional vehicles encouraged by the Advanced Clean Cars program.

vehicles would count toward a manufacturer's *actual* average fuel economy following application of an "equivalent petroleum based fuel economy" factor calculated by the Department of Energy. 49 U.S.C. § 32904(a)(2)(B). *See* 10 C.F.R. § 474.3. In 1988, EPCA was further amended to add vehicles powered by fuels with lower carbon content--methanol, ethanol, and natural gas--to the calculation of actual average fuel economy. Pub. L. No. 100-494, § 6, 102 Stat. 2448, *codified at* 15 U.S.C. § 2513 (1988). A series of other amendments added other fuels to the mix. *See* 49 U.S.C. § 32901(1) (current definition of "alternative fuel").

"'The purpose of Congress is the ultimate touchstone' in every preemption case," *Medtronic, Inc. v. Lohr*, 518 U.S. 470, 485 (1996) (citation omitted), and Congress's singular purpose in the acts that added advanced clean cars onto the CAFE program was to incentivize their deployment. California's Advanced Clean Cars program obviously furthers that purpose and thus is not preempted by the Act.

f. The same preemption analysis applies to California emission standards for any pollutant.

The notice of proposed rulemaking seems to suggest that the EPCA preemption analysis applies differently to GHG emission standards because EPCA was originally enacted "at a time when only conventional pollutants were regulated." 83 Fed. Reg. 43,237. There is no reason to think that GHG emission standards bear a closer "relat[ion] to" average fuel-economy standards than do emission standards for conventional pollutants. Both classes of standards may affect the maximum feasible average fuel-economy level for automakers in a given model year, as Congress recognized when it established the interim-relief and "other motor vehicle standards of the Government" provisions of EPCA.

Nothing in the text or history of EPCA even hints at a distinction in the way that Section 32919 applies to emission standards for different pollutants. The "sweeping definition of 'air pollutant'" in Section 202(a) of the CAA "embrace[d] all airborne compounds of whatever stripe," *Massachusetts*, 549 U.S. at 529, beginning in 1970, so Section 209(b)--which encompasses "emission standards" of whatever stripe--"*always*" had authorized EPA to issue preemption waivers to California for GHG emission standards, notwithstanding that the Supreme Court only "finally decided" that issue after EPCA was enacted. *Rivers v. Roadway Express, Inc.*, 511 U.S. 298, 313 n.12 (1994). *See generally DIRECTV, Inc. v. Imburgia*, 136 S. Ct. 463, 469 (2015) (observing that a "judicial construction of a statute ordinarily applies retroactively").

There is, moreover, contemporaneous evidence that legislators understood when they originally carved out the Section 209(b) preemption waiver that CO2 was a pollutant whose motor-vehicle emissions could be controlled by EPA and/or California. *See* S. Rep. 90-403, at 18 (1967) (listing "carbon dioxide" as a pollutant subject to regulation under the CAA). Regardless, in 2007, months after the Supreme Court clarified that GHGs were pollutants subject to regulation under the CAA, Congress substantially amended EPCA without changing the scope of Section 32919 or otherwise suggesting that GHG emission standards promulgated by California would be preempted by EPCA.

g. EISA confirms that GHG emission standards with a preemption waiver under Section 209(b) are not preempted by EPCA.

In 2007, Congress substantially amended EPCA through the Energy Independence and Security Act, Pub. L. No. 110-140, but made no change in EPCA's preemption provision. In fact, Congress *rejected* proposed amendments that would have abrogated the Supreme Court's recent decision in *Massachusetts v. EPA*--which had rejected claims that EPCA displaces EPA authority to set GHG emission standards--and expanded the scope of Section 32919 so as to preempt California emission standards for GHGs. Instead, Congress adopted a savings clause that expressly preserved preexisting regulatory authority over GHGs provided by, among other things, Section 209(b) of the CAA. *See* Pub. L. No. 110-140, § 3 ("Except to the extent expressly provided in this Act or an amendment made by this Act, nothing in this Act or an amendment made by this Act supersedes, limits the authority provided or responsibility conferred by, or authorizes any violation of any provision of law (including a regulation), including any energy or environmental law or regulation."); *see also id.*, § 210(b), *codified at* 42 U.S.C. § 7545(o)(12) (preserving "the regulatory status of carbon dioxide or any other greenhouse gas" under the CAA).

As further explained in the comments of Professor Gregory Dotson, EISA's savings clause marked the definitive failure of a sustained effort by the George W. Bush Administration and many legislators to revoke California's authority to establish GHG emission standards through amendments to EPCA. The EISA amendments thus reaffirmed the policy in preexisting law, upheld in the Supreme Court's and the decisions of the only two district courts to have addressed the question, that California may regulate GHG emissions from vehicles with a Section 209(b) waiver. Reflecting this ongoing policy, EISA added a provision for federal fleet procurement that generally required acquisition of vehicles that are "low greenhouse gas emitting vehicle[s]," 42 U.S.C. § 13212(f)(2)(A), a term that Congress defined by reference to "the *most stringent standards* for ... greenhouse gas emissions applicable to and enforceable against ... manufacturers for vehicles sold anywhere in the United States." *Id.* § 13212(f)(3)(B) (emphasis added). Had Congress intended to preempt California's GHG emission standards under that same law, there would only have been *one* possible standard for GHG emissions in the United States—the standard issued by EPA.

h. Fuel economy and GHG emissions are not functional equivalents.

The proposed rule incorrectly states that "fuel economy and tailpipe CO_2 emissions [are] two sides of the same coin." 83 Fed. Reg. 43,209. First of all, California's emission standards encompass more than tailpipe CO_2 emissions; they cover GHG emissions generally, as well as nonfuel (ZEV) vehicles. In any event, while it is true that reduction in fuel consumption is a reliable way to reduce tailpipe CO_2 emissions, reducing fuel consumption has never been the sole means of reducing those emissions, and the suite of options for reducing CO_2 and other GHG emissions continues to expand well beyond technologies that improve fuel economy.

The notice of proposed rulemaking acknowledges as much when it concedes that "regulating the carbon intensity of fuels" is "not preempted by EPCA." 83 Fed. Reg. 43,234 n.507. Carbon intensity decouples GHG emissions from fuel consumption and belies the assertion in the notice of proposed rulemaking that the two are "functional equivalent[s]." *Id.* at 43,236. For instance,

powering a diesel-powered vehicle with biodiesel blends, as opposed to traditional diesel fuel, can increase tailpipe GHG emissions (and decrease lifecycle GHG emissions) without significantly affecting fuel economy. *See* Thomas Durbin et al., CARB Assessment of the Emissions from the Use of Biodiesel as a Motor Vehicle Fuel in California: Biodiesel Characterization and NOx Mitigation Study, at xl (Oct. 2011). A switch from traditional diesel to renewable diesel would have an even more profound difference in impact on GHG emissions and average fuel-economy standards, as tailpipe emissions from renewable diesel would be offset by the absorption of CO_2 by feedstock plants or algae used to make the diesel; the emissions would result from upstream processes such as fertilizing and growing the feedstock and transforming it into a fuel. These facts undermine the assertion in the notice of proposed rulemaking that the fuel economy and CO_2 emission standards are "directly correlate[d]," 83 Fed. Reg. 43,234.[602]

It is also possible to reduce GHG emissions from gasoline without a corresponding reduction in fuel economy. In fact, EPA's Tier 3 motor vehicle emission and fuel standards, adopted in 2014, lower CO_2 tailpipe emissions while at the same time consuming *more* fuel as compared to the previous Tier 2 standards. The prospect that tighter emission controls enacted by EPA or California might *reduce* maximum feasible fuel-economy standards therefore is not a "limited concern[]" unique to the era in EPCA was enacted. 83 Fed. Reg. 43,237. *Contra id.* at 43,238 ("If a state were to establish standards that have the effect of requiring a lower level of fuel economy than CAFE standards, those standards would be meaningless since they would not reduce CO_2 emissions.").

Switching from gasoline to diesel fuel also yields a differential impact on fuel economy and vehicle GHG emissions. Diesel is a more carbon-intensive fuel than gasoline, but diesel engines achieve significantly better fuel economy than gasoline engines. *See* 45 Fed. Reg. 5506 (Jan. 23, 1980) ("[I]t is EPA's technical judgment that fuel economy potential is the overwhelming reason for any manufacturer to investigate Diesel engine technology."). Once again, GHG emissions--even tailpipe CO_2 emissions specifically--are not functionally equivalent to fuel economy, much less the average fuel-economy *standard* referenced in Section 32919.

There are multiple ways to comply with California's GHG emission standard that do not impact fuel consumption at all. For example, automakers can make substantial progress toward meeting the state standard by reducing air-conditioning refrigerant leakage and using alternative refrigerants with lower global-warming potential. *See* 77 Fed. Reg. 62,649-67. Such improvements "reduce GHGs but do not affect fuel economy." *Id.* at 62,639. Methane emissions vary not only with fuel composition but also the quantity of uncombusted hydrocarbons passing through the engine and the application of post-combustion controls like catalytic converters. *Id.* at 62,770. Nitrous oxide emissions depend on the type of vehicle,

[602] Other examples abound. Vehicles fueled by compressed natural gas have comparable fuel economy but substantially lower tailpipe GHG emissions relative to gas-powered vehicles. 77 Fed. Reg. 62,815-16. And vehicles running on ethanol blends like E85 have lower fuel economy but also lower GHG emissions when considering lifecycle emissions. *See* U.S. Dep't of Energy, Alternative Fuels Data Center, Ethanol Vehicle Emissions, *available at* https://www.afdc.energy.gov/vehicles/flexible_fuel_emissions.html (last visited Oct. 25, 2018); Michael Wang et al., *Well-to-Wheels Energy Use and Greenhouse Gas Emissions of Ethanol from Corn, Sugarcane, and Cellulosic Biomass for U.S. Use*, 7 Envtl. Research Letters 045905 (2012).

driving conditions, catalyst temperature, and emission-control technologies. *Ibid; see also* Arthur M. Winer et al., *Estimates of Nitrous Oxide Emissions from Motor Vehicles and the Effects of Catalyst Composition and Aging* 8-1 (2005). The notice of proposed rulemaking concedes that methane and nitrous oxide emissions "do not impact fuel economy." 83 Fed. Reg. 43,197 n.380.

These other GHGs are emitted in lower quantities than CO_2, but they have an outsized impact on public health and welfare due to their greater global warming potential. For example, HFC-134a, a common air-conditioning refrigerant, carries a global warming potential (GWP) 1,430 times that of CO_2. From NHTSA's perspective, however, non-CO_2 GHG emissions have a much smaller effect on the average fuel-economy standard, which is not correlated to global warming potential. *See* 83 Fed. Reg. 43,209.

Onboard carbon capture and storage (CCS) is a hypothetical technology meant to capture a vehicle's CO_2 emissions at the site of combustion. Although that technology is in early stages of demonstrating feasibility, researchers have estimated that a vehicle with employing on-board CCS technology could reduce CO_2 emissions by 20 percent independent of fuel economy. Brandon Schoettle et al., *An Overview of CAFE Credits and Incorporation of On-Board Carbon Capture* (2014). In 2017, Fiat-Chrysler Automobiles (FCA) entered into an agreement with an oil and gas company to explore "technologies and devices for the capture and temporary storage of part of CO_2 produced by internal combustion engines." Green Car Congress, *Eni, FCA Partner on R&D to Cut Road Vehicle CO2 Emissions; Methanol/Ethanol Blends, Renewable Diesel, ANG, On-Board CO2 Capture* (2017). Though still theoretical, such technologies illustrate that automakers are seeking alternative compliance pathways in which CO_2 emissions reductions are completely detached from fuel economy.

More broadly, there are several ways that automakers and policymakers can alter the carbon intensity of *driving* without a corresponding change in the maximum feasible average fuel-economy level. An example is deployment of non-fuel vehicles like electric vehicles (EVs), whose tailpipe GHG emissions are nil but whose CAA-compliance emissions are primarily the result of upstream electricity generation. The proposed rule incorrectly--and contrary to the facts on the ground--states that it is not feasible for auto manufacturers to now deploy zero-emission vehicles (ZEVs), and it does not dispute that GHG emissions can thereby be decoupled from fuel economy. EPCA itself acknowledges as much by prescribing a multi-factor balancing test—including nonquantitative considerations like "the need of the United States to conserve all forms of energy and the relative scarcity and value … of all fuel used to generate electricity," 49 U.S.C. § 32904(a)(2)(B)(iii)—that the Department of Energy uses to translate "fuel economy" for electric vehicles.

For non-EVs, EPA's "equivalent" fuel-economy calculation under EPCA does not account for any upstream emissions (emissions associated with the production, processing, and transport of fuels) or upstream GHG absorption (by feedstock plants and algae as they grow), whereas those lifecycle emissions are of primary importance for compliance with EPA and California GHG emission standards. It is the lifecycle emissions of a fuel that matter for mitigating pollution. *See* 77 Fed. Reg. 62,890. A reduction in purely upstream emissions is thus another means to comply with California's GHG emission standards without impacting average fuel economy.

i. California's ZEV program is not preempted for the additional reason that it is and has long been targeted to reductions in emissions of criteria pollutants.

The notice of proposed rulemaking bases its conclusions on preemption on a distinction between California standards designed to reduce emissions of GHGs as opposed to criteria pollutants. That is an unwarranted distinction, for reasons already discussed, but even if the distinction were valid, the ZEV mandate still would not be preempted. The mandate has been in place since 1990, long before California proposed to regulate GHG emissions. (Indeed, Congress first used EPCA to incentivize EVs in 1980, as discussed earlier.) The ZEV mandate is and always has been expressly targeted to criteria pollutants. Tying the ZEV mandate to regulation of tailpipe CO_2 emissions is thus anachronistic in addition to being wrong as a matter of law. The mandate did not suddenly become preempted under EPCA when California began to regulate emissions of *other* pollutants (GHGs) also impacted by the mandate. Put another way, California's decision to regulate emissions of additional air pollutants had no impact at all on whether a preexisting state law "relate[d] to" average fuel-economy standards set by NHTSA. 49 U.S.C. § 32919.

j. NHTSA's conclusions on conflict preemption are speculative and premature.

Any determination of preemption under EPCA is also premature. Conflict preemption—the only form of implied preemption that NHTSA has invoked—depends on "the relationship between state and federal laws as they are interpreted and applied, not merely as they are written." *Jones v. Rath Packing Co.*, 430 U.S. 519, 526 (1977). The notice of proposed rulemaking does not dispute that California's Advanced Clean Cars program is now interpreted and applied consistent with federal law as part of the One National Program begun in 2010. Unless and until the law changes and an actual conflict arises *in practice*, there is no basis upon which NHTSA (or EPA) could conclude that California's program is impliedly preempted. Although it is true that the final rule could introduce a conflict in theory, the proposed rule's prejudgment of such a conflict is improper and further shows that the agencies are more concerned with eliminating California's existing waiver under Section 209(b) of the CAA as a policy matter than they are with sensitivity to the federalism concerns inherent in any preemption analysis—especially one conducted after the relevant state laws have been in place for several years.

VI. Finalizing this proposal is arbitrary and capricious for additional reasons.

A. The agencies are statutorily prohibited from imposing artificial constraints on their feasibility and cost analyses

In an error common to both the GHG and CAFE standards, the Proposal frequently considers and determines "feasibility" under 49 U.S.C. § 32902 and the "cost of compliance" under 42 U.S.C. § 7521(a)(2) not with reference to what manufacturers are *actually* capable of achieving, but with reference to what the agencies determine manufacturers will do in practice if left to their own devices. Thus, for example, the Proposal generally does not consider how manufacturers could plausibly alter their behavior to comply with stricter standards, is based on models whose assumptions do not permit manufacturers (as described in the Volpe model) to seek compliance through cost-effective technology pathways, *see* Comment of Union of Concerned Scientists;

and assumes that fuel economy technologies will be applied to performance enhancement rather than to fuel economy improvements.[603] *See generally* 83 Fed. Reg. 43229-30 (documenting alleged cost of compliance under Clean Air Act Section 202). As we describe elsewhere, these aspects of the Proposal are hopelessly incompatible with EPCA and the Clean Air Act because they rely on faulty data, modeling, or consider factors Congress did not intend when it drafted the statutes. Here, we identify an additional flaw in the Proposal's estimates of compliance costs and feasibility, *i.e.*, the text and structures of EPCA, the Clean Air Act, and the APA each prohibit the agencies' artificially constrained analyses as a matter of law. In particular, the statutes (1) compel the agencies to examine reasonable means by which manufacturers *could* comply with the standards (and not simply discrete ways in which NHTSA *believes* manufacturers will comply if they are free to do so), and; (2) prohibits the agencies from delegating certain feasibility assumptions to manufacturers themselves.

1. EPCA and the Clean Air Act compel the agencies to examine feasible means for manufacturer compliance with GHG and fuel economy standards.

The NPRM conspicuously predicts that manufacturers will respond to stricter standards by means that appear to be arbitrarily selected by the agencies themselves, and hard-wires the Volpe model to prevent it from selecting technologies that would achieve compliance with the standards more cost-effectively but that the agencies assume manufacturers will not choose to adopt (as distinct from *cannot* adopt). In addition to the illustrations set forth above, for example, the NPRM irrationally assumes that manufacturers who did not adopt HCR1 in 2016 will never adopt that technology.[604] Likewise, the NPRM inexplicably refuses to consider or model deployment of HCCI, despite the fact that that technology will be in production in 2019. ICCT Comment.

EPCA and the Clean Air Act prohibit the analysis of technological deployment by means of these hidebound and zero-sum predictions. Instead, the statutes compel the agencies to evaluate technology adoption with reference to the entire universe of feasible compliance pathways. EPCA requires NHTSA to set fuel economy standards at the "maximum feasible" level, 49 U.S.C. § 32902(a), and further directs NHTSA to determine such level with reference to four discrete factors, including "technological feasibility" and "economic practicability." *Id.* § 32902(f). By constraining its models to reflect only narrow, often unexplained compliance pathways selected by NHTSA, the agency has ignored Congress' instructions to evaluate standards -- and associated manufacturer behavior -- by asking what is *actually* "maximum feasible" and "practicable." The statute's use of the phrase "maximum feasible" simply does not allow for an analysis based on the agency-intuited preferences of the regulated industry. And NHTSA has unlawfully modified its analysis to contain constraints (*i.e.*, the exclusion of all feasible compliance pathways not favored by NHTSA) that Congress did not permit. NHTSA's analysis also runs counter to Congress' intent when promulgating EPCA, which, as we have noted, was to drive energy savings. The agency's stubborn decision to evaluate "maximum

[603] *See* Comment submitted to these dockets by the California Air Resources Board.
[604] *See* Comment submitted to these dockets by the International Council on Clean Transportation ("ICCT Comment"); *see also* comment submitted to these dockets entitled: Meszler Engineering Services (October 2018), Technical Memorandum I: The NPRM CAFE Model's Treatment of Technology Benefits and Costs.

feasibility" via an artificially small handful of compliance pathways it chooses based solely on subjective assessments as to what automakers are likely to do -- at the arbitrary exclusion of other pathways that demonstrate what it is *possible* for automakers to do -- impermissibly subordinates that goal to the agency's whims.

The Clean Air Act likewise requires that EPA "give appropriate consideration to the cost of compliance" when evaluating emissions standards, 42 U.S.C. § 7521(a)(2), but plainly does not allow the agency to manipulate those costs by viewing agency compliance through an arbitrary keyhole. But EPA has modeled only narrow pathways plucked from the galaxy of technologically and economically feasible options based on the agencies' apparently subjective, entirely unacknowledged, and unexplained judgment as to what automakers are likely to do. This is not EPA's obligation. EPA's obligation is to consider what costs will be necessary for automakers to comply—which necessitates modeling of what is possible, not what is probable.

Apart from its specific conflicts with EPCA and the Clean Air Act, the Proposal's instances of uncritical deference to manufacturers' characterizations of compliance costs and technological feasibility runs afoul of the APA's general requirement of reasoned decision-making. That is because the NPRM's embrace of manufacturer assertions has produced analyses with no "rational relationship to the real world." *W. Virginia v. EPA*, 362 F.3d 861, 866–67 (D.C. Cir. 2004). Moreover, the agencies' analysis is arbitrary under any lens: they have failed to reasonably model what automakers will, in fact, do (for example, by uncritically adopting automakers' assertions that they will adopt any technology that pays for itself within 30-months even absent regulation, contrary historical evidence notwithstanding); and they have failed to model what the agencies can, in fact, do (for example, by accepting manufacturers' assertions that certain technologies must be removed from the model, contrary evidence of the availability of those technologies notwithstanding). It is no defense to observe that technological forecasts ought not to devolve into a "crystal ball inquiry," 83 Fed. Reg. at 43228 (discussing cost of compliance under Clean Air Act Section 202), or that NHTSA need not "account for every technology that might conceivably be applied to improve fuel economy," *id.* at 43208 (discussing technological feasibility). While the agencies are free to acknowledge the real uncertainties presented by real world data, the APA precludes the NPRM from using mere subjectivity or uncritical analysis, particularly when contradicted by real-world facts, as a pretext to abdicate their statutory obligations to drive energy conservation and protection of human health and the environment forward.

2. EPCA and the Clean Air Act prohibit NHTSA from delegating analyses to regulated parties.

The agencies also credit implausible manufacturer assertions without scrutiny, as in the agencies' removal of HCR2 at manufacturers' request, 83 Fed. Reg. at 43038; the updates to Tier 3 engine maps, apparently also updated to manufacturers' preferred specifications, and the unsupported assumption that manufacturers will select technology that pays for itself in only 30 months without any regulatory impetus, based solely on manufacturers' assertions that it will be so, *id.* at 43,179. These and other instances of credulous reliance on the manufacturers' assertions – without scrutiny or analysis to determine that those assertions represent the world as it is – are arbitrary and capricious under the Clean Air Act, EPCA, and the APA.

This approach is incompatible with EPCA, which provides that "*the Secretary of Transportation* shall consider technological feasibility [and] economic practicability," when determining maximum feasible fuel economy. 49 U.S.C. § 32902(f) (emphasis added). By vesting authority for these considerations in NHTSA (via the Secretary) EPCA's plain language forecloses the Proposal's instances of unquestioning reliance on the regulated entities' assertions of feasibility and costs: "Federal agencies may not sub-delegate their decision-making authority to outside entities – private or sovereign – absent affirmative evidence of authority to do so[,]" and violate that prohibition when, as here, they decline to apply their "own judgment" to a matter. *La. Pub. Serv. Comm'n v. FERC*, 860 F.3d 691, 696 (D.C. Cir. 2017) (quotation omitted).

Even were EPCA not clear on this point, the statute's structure and purpose would preclude the NPRM's dispositive reliance on the very entities it is called by Congress to regulate. "[D]elegation to outside entities increases the risk that these parties will not share the agency's national vision and perspective, and thus may pursue goals inconsistent with those of the agency and the underlying statutory scheme." *U.S. Telecom Ass'n v. FCC*, 359 F.3d 554, 565-66 (D.C. Cir. 2004). That is true here, because EPCA's animating goal – the conservation of energy – is expressly designed to counter industry-driven outcomes—indeed, automakers have not historically improved fuel economy levels absent regulation, *see* ICCT Comment, and EPCA itself would be unnecessary if manufacturers had proven to be the final word on what fuel-efficient technology is feasible and at what particular costs. Accordingly, EPCA generally *does not* permit deference to manufacturers' unsupported assertions of technological feasibility, as, for example, when the Act sets forth specific requirements for manufacturer recordkeeping, reporting, and testing, 49 U.S.C. § 32907, rather than deferring wholesale to manufacturers' discretion on that score. Likewise, manufacturer estimates of feasibility are not entitled to special weight in EPCA rulemakings, much less the controlling weight accorded in certain instances by the NPRM.

For similar reasons, the agencies' approach is also incompatible with the Clean Air Act. Standards promulgated under CAA Section 202(a) "shall 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." 42 U.S.C. § 7521(a)(2) (emphasis added). *See Motor & Equip. Mfrs. Ass'n. v. EPA*, 627 F.2d 1095, 1118 (D.C. Cir. 1979). Like EPCA, therefore, the CAA entrusts ultimate decision-making authority to the agency's Administrator, not to entities regulated by the Administrator. And like EPCA, the CAA embraces a nationwide mandate – the preservation of public health and welfare through emissions controls – that cautions *against* undue deference to the parties that, acting absent federal oversight, "may pursue goals inconsistent with those of the agency and the underlying statutory scheme." *U.S. Telecom Ass'n*, 359 F.3d at 565-66; *see also* 42 U.S.C. § 7521(a)(1); 42 U.S.C. § 7525 (providing for periodic testing of manufacturer compliance with Section 202 standards). *See also, supra,* Section II(A) (discussing EPA's unlawful delegation.)

B. The agencies' "turnover" analysis is an unjustified and dramatic departure from previous agency analysis, is fundamentally flawed, and is inconsistent with the agencies' analysis of all other rules and policies. Reliance on this analysis for rolling back the GHG emission standards and for failing to require any improvements in fuel economy would be arbitrary and capricious.

In the 2012 rulemaking for fuel economy and GHG standards, both NHTSA and EPA stated that analysis of the standards' impact on new vehicles sales and on the "scrappage" of used vehicles was too uncertain to be used in the rulemaking. The agencies reiterated this position in their 2016 technical assessment of the standards.

Now, just two years later, the agencies emerge with two new models – a "sales" model that they claim predicts the standards' impact on new vehicle sales, and a "scrappage" model that they claim predicts the standards' impact on the retention and use of used vehicles. The results of these models are not simply included in the rulemaking – they play a dominant role in dramatically skewing the cost-benefit analysis and are central to the agencies' justification for weakening the standards. Neither of these models has ever been used in policy-making before, been published in any journal, been subject to peer review or even been publicly released until this NPRM.

The fundamental uncertainties that previously prevented EPA and NHTSA from providing quantified estimates of these effects have not been resolved. Both models are fundamentally flawed. As noted here and elsewhere, they misinterpret and/or misapply the relevant economic literature, utilize insufficient or erroneous inputs, and generate results that are inconsistent with economic theory, common sense, and observed real-world dynamics, among other issues.[605] The agencies themselves note that the models "face some limitations,"[606] and in inter-agency comments, EPA noted remaining uncertainty about these issues, as well as significant problems with the models' outputs and doubts about their predictive capabilities.

The way in which the agencies conducted these analyses is also inconsistent with the way in which they, and the federal government generally, evaluate other rules and policies, further adding to the arbitrariness of including the analyses in this way here, as a bar to fulfilling the agencies' statutory obligations.

Given all of the above, the use of these models and the agencies' reliance on them to justify a weakening of the fuel economy and GHG standards would be arbitrary and capricious.

[605] See comments submitted to these dockets by: the Institute for Policy Integrity at NYU School of Law; Consumers Union (CU), Consumer Federation of America (CFA), and American Council for an Energy-Efficient Economy (ACEEE), "Joint Comments on Vehicle Sales, Ownership Costs, and Consumer Willingness to Pay for Fuel Economy"; the Environmental Defense Fund; David Bunch (August 2018), An Evaluation of NHTSA's Economics-based Modeling, appended to comments filed by the California Air Resources Board; Ken Gillingham; Mark Jacobsen, NHTSA-2018-0067-7788.
[606] 83 Fed. Reg. at 43,099.

1. The agencies have previously and consistently concluded that the impact of the standards on fleet turnover are so uncertain that they cannot serve as a justification for weakening or strengthening fuel economy and GHG standards.

In the 2012 rule for light-duty fuel economy and GHG standards, NHTSA and EPA made two things clear: (1) the analysis of the standards' impact on new car sales and on retention of existing cars is highly uncertain, so much so that the agencies would not use such an analysis in their rulemakings; and (2) the standards' effect on the retention of used cars is inextricably linked with new car sales. In the new rulemaking proposal, the agencies reverse course on both fronts – and do so with non-existent or deeply flawed justifications.

In the 2012 final rule, NHTSA explained the situation as follows:

> The effect of this rule on the use and scrappage of older vehicles will be related to its effects on new vehicle prices, the fuel efficiency of new vehicle models, and the total sales of new vehicles. If the value of fuel savings resulting from improved fuel efficiency to the typical potential buyer of a new vehicle outweighs the average increase in new models' prices, sales of new vehicles will rise, while scrappage rates of used vehicles will increase slightly. This will cause the "turnover" of the vehicle fleet—that is, the retirement of used vehicles and their replacement by new models—to accelerate slightly, thus accentuating the anticipated effect of the rule on fleet-wide fuel consumption and CO2 emissions. However, if potential buyers value future fuel savings resulting from the increased fuel efficiency of new models at less than the increase in their average selling price, sales of new vehicles will decline, as will the rate at which used vehicles are retired from service. This effect will slow the replacement of used vehicles by new models, and thus partly offset the anticipated effects of the final rules on fuel use and emissions. *Because the agencies are uncertain about how the value of projected fuel savings from the final rules to potential buyers will compare to their estimates of increases in new vehicle prices, we have not attempted to estimate explicitly the effects of the rule on scrappage of older vehicles and the turnover of the vehicle fleet.*[607]

EPA provided virtually identical reasoning, concluding, "Because we do not have good estimates of the relationships between the new and used vehicle markets, we have not attempted to estimate explicitly the effects of the rule on the used vehicle market, scrappage of older vehicles, and the turnover of the vehicle fleet."[608]

EPA explained that it had been developing a consumer-choice model to provide a quantitative estimate of the standards' effect on vehicle sales, but that the model was not ready for use in policy-making and would continue to be refined. EPA had conducted a peer-review of the model, and stated that reviewers had generally found the model "reasonable, while pointing out,

[607] 77 Fed. Reg. 62,623, 63,112-13 (emphasis added); *see also*, 77 Fed. Reg. at 63,109 (NHTSA concluding that, "There is great uncertainty about how consumers value fuel economy, and for this reason, the impact of this fuel economy proposal on sales is uncertain.").
[608] 77 Fed. Reg. at 62,949.

first, that its use in policy analysis depended on its integration with EPA's OMEGA [the agency's Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles], and second, that conducting uncertainty analysis would be important given the uncertainties around the model's parameters."[609] EPA further noted that the "quality of the information that would come from a vehicle choice model is not well understood."[610]

The agencies noted that a key element to understanding the standards' impact on sales was consumer valuation of fuel savings. EPA had commissioned a review on this topic and found "great variability in estimates of the role of fuel economy in consumers' vehicle purchase decisions."[611] Specifically, the review included 27 studies, some of which found that consumers undervalue the fuel savings that they would receive from improved fuel economy, while others found that consumers overvalue such savings, and yet others found that consumers value such savings approximately correctly.[612] EPA found the variation "so high that it appears to be inappropriate to identify one central estimate of this value from the literature," and called the issue of consumer response to higher fuel economy "unsettled science."[613] As a result, EPA stated that it did not have "sufficient confidence in the estimates of the role of fuel economy in consumers' vehicle purchases to come to definitive conclusions about the impacts of the rule on vehicle sales."[614]

The agencies reiterated this uncertainty and concerns regarding the predictive ability of the consumer-choice model in the 2016 Draft Technical Assessment Report. They noted that it was "difficult, if not impossible, to disentangle the effects of the standards on vehicle sales from the effects of macroeconomic or other conditions on sales,"[615] and that they had not identified "any sound way to separately estimate the effect of the standards on sales."[616] They noted the strong correlation between production in the auto industry and per capita GDP.[617] With respect to EPA's consumer choice model, the report states that EPA had done some further testing of the model, but concluded that it still would not use the model in its current modeling work.[618] The

[609] 77 Fed. Reg. at 62,916; *see also*, EPA, *Regulatory Impact Analysis: Final Rulemaking for 2017-2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards* (EPA-420-R-12-016) (Aug. 2012), at 8-14 (noting that "concerns remain that vehicle choice models have rarely been validated against real-world data. In response to these concerns, we would expect any use of the model to involve, at the least, a number of sensitivity analyses to examine the robustness of results to key parameters.").
[610] 77 Fed. Reg. at 62,916.
[611] 77 Fed. Reg. at 62,914 (citing Greene, David L. "How Consumers Value Fuel Economy: A Literature Review." EPA Report EPA– 420–R–10–008, March 2010 (Docket EPA–HQ– OAR–2010–0799–0711)).
[612] *Id.*
[613] *Id.*
[614] 77 Fed. Reg. at 62,949.
[615] EPA, NHTSA, and California Air Resources Board, *Draft Technical Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025* (EPA-420-D-16-900) (July 2016), at 6-1.
[616] *Id.* at 6-2.
[617] *Id.* at 6-1.
[618] *Id.* at 6-5.

agencies encouraged further research in the validation of consumer choice models for policy analysis.[619]

EPA's continuing uncertainty regarding the impact on sales is noted again in its November 2016 Proposed Determination, stating that, "A reasonable qualitative assessment is preferable to a quantitative estimate lacking sufficient basis, or (due to uncertainties like those here) having such an enormous range as to be without substantial value."[620] With respect to scrappage, EPA again drew a connection to sales, noting that "the effect of the standards on the use and scrappage of older vehicles will be related to their effects on new vehicle prices, the fuel efficiency of new vehicle models, the fuel efficiency of used vehicles, and the total sales of new vehicles."[621] EPA also rejected the use of one scrappage model from "one of the few studies of the used vehicle market," finding it insufficiently tested.[622]

EPA again reiterated this position in January 2017 when it issued the Final Determination for the Midterm Evaluation of the standards, stating, "We do not attempt to quantitatively estimate the total effects of the standards on the automobile industry, due to the significant uncertainties underlying any estimate of the impacts of the standards on vehicle sales."[623]

2. The new "sales" and "scrappage" models that the agencies rely upon are significantly flawed and, as noted in previous agency analyses, the analysis is too uncertain to serve as the justification for rolling back the GHG emission standards and failing to require any improvements in fuel economy.

Despite the agencies' previous positions, they now claim to have sufficient certainty concerning the standards' impact on both new vehicle sales and the scrappage of used cars to rely on these analyses to justify weakening the standards. They present two models – the "sales" model and the "scrappage" model – that they claim are capable of accurately predicting these impacts. However, as is pointed out here and elsewhere, these models have significant flaws, and the reliability of their predictions is highly uncertain.

The models are brand new, developed by NHTSA on its own, and wholly unvetted by any relevant experts. The sales model the agencies use is not the consumer-choice model that EPA has been developing and refining for almost a decade. Rather, both it and the scrappage model

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[619] *Id.*
[620] EPA, *Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation* (EPA-420-R-16-020) (Nov. 2016), at A-42.
[621] *Id.*
[622] *Id*. at A-43.
[623] EPA, *Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation* (EPA-420-R-17-001) (Jan. 2017), at 26; *see also,* EPA, *Technical Support Document for Proposed Determination* (EPA-420-16-R-021) (Nov. 2016), at p. 4-20 ("The empirical literature does not provide clear evidence on how much of the value of fuel savings consumers consider at the time of purchase. It also generally does not speak to the efficiency of manufacturing and dealer pricing decisions… Thus, we do not provide quantified estimates of potential sales impacts.").

appear to have been developed by NHTSA in just the last two years. Neither model has been peer-reviewed, nor even released publicly until the publication of this NPRM.[624] Moreover, they have not been properly validated, and the reliability of their outputs is highly uncertain.

These issues are covered at greater length elsewhere, but we highlight some of the more significant issues:

- Contrary to how the agencies previously viewed the relationship between sales and scrappage, the two new models for these dynamics are not connected. In other words, the sales model works independently to project the impact of the standards on new vehicle sales, and the scrappage model works independently to project the number of cars people will scrap based on the projected changes in the prices of new vehicles and fuel economy, without any consideration of the number of new cars being sold. This is diametrically opposed to the agencies' previous position that the two issues are closely interrelated, with the number of new cars sold directly influencing the total number of used cars remaining, as well as the use of those cars – a position that also comports with reality, common sense and economic theory, as opposed to the one the agencies now embrace. The disconnect between the modeling of the new vehicles entering the fleet and the modeling of the existing vehicles exiting the fleet leads to bizarre results that simply are not credible. Notably, based on these models, the agencies predict that under the existing GHG and augural fuel economy standards (relative to the preferred alternative), new vehicle sales will *slow* by about 1 million vehicles, but inexplicably, the total vehicle fleet size will *increase* by roughly 190 million vehicles due to the augural CAFE standards and 235 million vehicles due to the existing GHG standards.[625] Essentially, the model absurdly predicts that the scrappage of existing vehicles will slow well beyond what would be needed to "make up for" the new vehicles that are no longer entering the fleet. These results are contrary to common sense and economic theory, under which one would expect (and we daily observe) that when prices for a good increase (as the agencies assert will happen under the current/augural standards, as they project the prices of both new and existing vehicles will rise), the demand for and consumption of that good would decrease (meaning fleet size would decrease under the current/augural standards). Yet the agencies' models predict fleet size will increase significantly as vehicles become more expensive.

- In addition, the scrappage model arbitrarily and incorrectly leads to a dramatic increase in "vehicle miles traveled" (VMT) under the current/augural standards, leading to significant safety and cost-benefit implications. When the fleet size under the scrappage model increases, the additional cars in the fleet are assigned VMT based on the VMT

[624] Note that while NHTSA did conduct a peer review of the CAFE Model in 2017, neither the sales nor the scrappage models were yet included. *See* NHTSA, *CAFE Model Peer Review* (DOT HS 812 590) (July 2018), at 303 (responding to one reviewer that the model "has been updated to including (sic) procedures to estimate impacts on new vehicle sales, and on older vehicle scrappage"). *See infra* section VI(D).

[625] 83 Fed. Reg. at 43,315 and 43,320 (Tables VII-55 and VII-65, showing increases in sales (millions) under the preferred alternative for the CAFE program and CO2 program, respectively), and 43,351 and 43,352 (Tables VII-88 and VII-89, showing reductions in fleet size (millions) under the preferred alternative for the CAFE program and CO2 program, respectively).

schedules (based on age and body style) the agencies use in the overall rule analysis. In other words, not only does the fleet size increase dramatically under the current/augural standards, relative to the proposed rule, but the total amount of VMT also automatically – and indefensibly – suddenly increases, too. And when the total amount of travel increases, the total number of accidents increases, as does the number of injuries and fatalities, even where the overall fatality risk (fatalities per vehicle mile travelled) is unaffected. In other words, these safety consequences are not driven by any effect of the standards on the design of cars or overall fatality risk (fatalities *per vehicle mile traveled*); they are driven by the dramatic increase in travel resulting from the absurdly burgeoning predicted size of the vehicle fleet. And the agencies provide no plausible justification for this dramatic increase in travel due to the scrappage model. It is simply hardwired to the number of vehicles in the fleet. The total number of VMT should be determined based on demand for travel, not arbitrarily driven by fleet size – jiggered to increase or decrease dramatically based on the scrappage model. The agencies try to argue that the overall increase is "small" and that there "likely" would be "some small resulting increase in VMT." That is not a justification or a rationale; it is a wild guess. And the agencies themselves undermine just how "likely" it would be -- they state that where consumers delay purchasing a new vehicle due to increased price, they will drive existing vehicles to the extent needed, not increase the amount their existing vehicles are driven, much less increase the number of used vehicles they own. 83 Fed. Reg. at 43,135 ("[i]n a scenario where CAFE standards become more stringent causing vehicle sales prices to increase, this household chooses to delay buying a new car and each of their three existing cars gets a year older. In both cases, all three vehicles … have to serve the family's travel demand"). Furthermore, when considered over the full time period of the agencies' analysis, even a small percentage increase has dramatic effects – namely, as explained in more detail below, the baseless increase in VMT via the scrappage model is responsible for virtually all of the fatalities that the agencies attribute to the current/augural standards, as well as at least 2/3 of the net benefits of the proposed rule.

- The agencies do not include consumer valuation of fuel savings (i.e., "willingness to pay") in either model, although this was central to their consideration of these issues previously. With respect to the sales model, the agencies acknowledge the omission, stating that "[d]espite the evidence in the literature … that consumers value most, if not all, of the fuel economy improvements when purchasing new vehicles, the model described here operates at too high a level of aggregation to capture these preferences."[626] But they fail to explain why, in such an aggregate approach, ignoring WTP is reasonable. They likewise admit that "[e]stimating the sales response at the level of total new vehicle sales likely fails to address valid concerns about changes to the quality or attributes of new vehicles sold – both over time and in response to price increases resulting from CAFE standards."[627] In addition, the agencies rely heavily on work by Howard Gruenspecht regarding the scrappage effect, and the NPRM acknowledges that Gruenspecht considered the effect of an increase in price "net of the portion of reduced

[626] 83 Fed. Reg. at 43,075.
[627] *Id.*

fuel savings valued by consumers."[628] Yet consumer valuation of fuel savings is excluded from the scrappage model, as well.

- The agencies have implemented an incoherent methodology for their sales model that contradicts their own assessment of consumers' willingness to pay for fuel economy.[629]

- The scrappage model is poorly constructed, and its results are not statistically insignificant.[630] It is also inconsistent with economic theory on multiple measures, including that, in the context of the existing standards, fleet size should decrease under NHTSA's assumptions regarding technology costs and consumer valuation of fuel savings, rather than increase.[631]

- The scrappage model was not properly validated, as the agencies used in-sample data (i.e., data that they used to construct the model) to test it, and the increase in VMT the agencies project under the existing standards is contrary to economic theory.[632]

It is unsurprising that the new models face "limitations," as the agencies concede.[633] They represent a rapid, dramatic departure from the agencies' previous analyses, without time for careful review and consideration. It is also important to note that in none of the agencies' previous discussions of the standards' impacts on sales and scrappage, described above, did they talk about the effects of new vehicle price changes on VMT, or even directly on existing vehicle scrappage rates (rather than as a consequence of increases or decreases in new car sales). It seems those connections were not even contemplated in prior discussions of these impacts. Yet this is precisely the relationship the agencies now claim to model - the direct effect of increased vehicle prices (as a proxy for used vehicle prices) on used cars and the impact of that on VMT.

In addition, and most fundamentally, the models are attempting to evaluate the small and uncertain effects of changes in vehicle standards on certain dynamics—vehicle sales, scrappage rates, and vehicle usage—which are largely determined by much stronger forces, such as the state of the economy. Yet, as is discussed more fully below, the models are central to the agencies' decision to weaken the fuel economy and GHG standards. Promulgation of standards in reliance on these flawed and untested models would be arbitrary and capricious.

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[628] 83 Fed. Reg. at 43,093.
[629] Consumers' Willingness to Pay for Fuel Economy and Implications for Sales of New Vehicles and Scrappage of Used Vehicles: An Analysis of Deficiencies in the Benefit-Cost Analysis of 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), by David Greene, appended to comments filed by the California Air Resources Board ("David Greene Comment").
[630] *See* comments submitted to these dockets: David Bunch (August 2018), An Evaluation of NHTSA's Economics-based Modeling, appended to comments filed by the California Air Resources Board ("David Bunch Comment"); David Greene Comment.
[631] *See* David Bunch Comment; Comment submitted by Mark Jacobsen, NHTSA-2018-0067-7788.
[632] *See* Comment submitted to these dockets by the Institute for Policy Integrity at NYU School of Law.
[633] 83 Fed. Reg. at 43,099.

3. The agencies do not sufficiently justify the dramatic change in their position or their newly found confidence in their ability to model "sales" and "scrappage" dynamics.

The agencies have not provided a meaningful rationale or justification for the change in position regarding their ability to present quantified estimates of the impact of the standards on new vehicle sales and the scrappage of used vehicles, not to mention the projected change in VMT resulting from these alleged impacts. Their purported confidence in the sales and scrappage models – and their reliance on the models' outputs to weaken the standards – is belied by comments from the inter-agency review process, as well as by the language in the NPRM itself.

Throughout the inter-agency review process, EPA pointed out numerous issues with NHTSA's analysis of sales and scrappage – primarily noting that EPA continued to see considerable uncertainty on these issues and questioning the predictive capability of the new sales and scrappage models and what EPA considered to be illogical results.[634]

In reviewing a draft of the Preamble, EPA pointed out several concerns related to these topics. In a section where NHTSA concluded that the average buyer appears to value differences in fuel economy correctly or very nearly so, EPA noted that it did "not endorse this conclusion," stating that they found the "evidence far too varied."[635] In another section, where NHTSA stated that the agencies believed that changes in price, fuel economy, and other attributes under the proposed rule were likely to lead to an increase in total sales, EPA noted that it did "not agree with this conclusion," pointing out that it was also inconsistent with NHTSA's previous statement that consumers fully value fuel economy savings in their purchase decisions.[636] EPA also pointed out how some commenters had discouraged the use of sales models because they were unproven in their validity.[637]

EPA also questioned the validity and predictive abilities of the models themselves. With respect to the sales model, EPA noted that the model should "be tested for its validity," as "[r]easonable models can predict badly, and Haaf et al. suggest that some models with unreasonable coefficients predict better."[638] With respect to the scrappage model, where NHTSA discussed which variables it included to make the "best fit model," EPA noted, "Best fit models are not always the best for prediction. How has this model been tested for its predictive ability?"[639] EPA

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[634] An agency may not blindly adopt the conclusions of another agency, and an agency's reliance on a facially flawed analysis is arbitrary and capricious. *Ergon-West Va., Inc. v. EPA*, 896 F.3d 600, 610-12. In addition, staff analysis is a relevant factor in determining whether an agency has "adequately addressed the relevant considerations and reasonably reached its conclusions." *Am. Farm Bureau Fedn. v. EPA*, 559 F.3d 512, 521 (D.C. Cir. 2009) (citations omitted).

[635] E.O. 12866 Review Materials, File: "Review EPA comments on the NPRM sent to OMB, June 29, 2018" at 124 (June 29, 2018).

[636] *Id*. at 130.

[637] *Id*. at 122. NHTSA did not address this comment, and the statement remains the same in the published NPRM. 83 Fed. Reg. at 43,071.

[638] EO12866 Review Materials, File: "Review EPA comments on the NPRM sent to OMB, June 29, 2018" at 122.

[639] *Id*. at 168.

noted that, "[m]any of the policy conclusions of this proposal, especially regarding safety, rely on the new scrappage model's findings," and asked, "How has the model been reviewed and validated?"[640] EPA also noted that "over 90% of the net benefits" of the proposed rule appeared to be driven by the scrappage model and stated that this "highlights concerns that have already been raised."[641]

EPA strongly criticized the outcomes of the scrappage model – both the dramatic increase in fleet size, as well as the accompanying increase in VMT, that the model predicted under the existing GHG and augural fuel economy standards relative to the proposed rule.

In a June 18, 2018 memo discussing several of the flaws it found with NHTSA's modeling, EPA noted as its first issue that "the scrappage model produces vastly unrealistic growth in the overall fleet size, which in turn causes an unrealistic over-inflation of the fatalities estimated for the Augural standards."[642] EPA explained how the sales and scrappage models "operate completely independently, and there is no mechanism within the CAFE model to reconcile the combined effects of the sales and scrappage models in order to produce a realistic total fleet of registered vehicles."[643]

EPA noted that under the models, both the new sales fleet and the used fleet generally increased year-over-year in the augural and proposed cases. For the used fleet, EPA saw this as "an expected trend since new vehicle prices and GDP increase for both the Augural and Proposed cases, resulting in the model's prediction of delayed scrappage."[644] And they noted that the "new vehicle sales model has increasing sales for all but a few years, indicating that the positive effects of GDP growth generally outweigh the negative effect of increased vehicle prices."[645]

EPA found that, "While directionally those trends are logical, the difference in the magnitude of impact the Augural standards have on the new sales and scrappage models is difficult to justify."[646] Specifically, EPA stated:

> The As-Received model estimates that the Augural standards will reduce the year-over-year annual increase sales of new vehicles by approximately 8,000 vehicles on average between CY2021 and CY2032. However, during the same period, the As-Received model estimates that the used fleet will grow by an average of 512,000 vehicles per year, far exceeding the decrease in new vehicle sales. It's hard to imagine any real-world scenario under which over 60 additional used vehicles are retained for each new vehicle that the sales model predicts will be unsold as a result of the higher new vehicle prices.[647]

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[640] *Id*. at 160.
[641] *Id*. at 119 and 480.
[642] EO12866 Review Materials, File: "Email 5 - Email from William Charmley to Chandana Achanta - June 18, 2018," at 1 (June 18, 2018).
[643] *Id.* at 4.
[644] *Id*. at 4-5.
[645] *Id*. at 5.
[646] *Id*. at 5.
[647] *Id*.

EPA further noted the problematic result this had on VMT and fatalities:

> A change in the overall fleet size due to the Augural standards might not in and of itself be problematic, as long as the VMT schedules are adjusted to account for overall travel activity that is distributed over a larger number of vehicles. However, the As-Received version of the model does not adjust VMT schedules, with the result that the additional unscrapped vehicles inflate total VMT proportionately. During the period over which the summary statistics for fatalities are reported in the draft NPRM (CYs 2036-2045), the difference in the estimated fleet sizes between the Augural and Proposed standards is approximately 7 million vehicles, or over 2% of the roughly 300 million vehicles in the fleet. The effect of this error is to erroneously inflate the total VMT, and thus increase the estimated fatalities due to the Augural standards by many hundreds of lives.[648]

To our knowledge, NHTSA did not make any changes to the model in response to these criticisms and concerns, and the serious issues that EPA highlighted remain in the model and NPRM analysis today. NHTSA responded to EPA by adding several paragraphs to the Preamble to try to explain these results. However, the reasoning – as initially added and as finally included in the NPRM – fails to provide a coherent response to EPA's criticisms. It does not cite any economic literature, nor any other sources at all, and it includes statements about which EPA had already expressed its disagreement. And with respect to the critical issue of changing VMT, it reveals the continuing uncertainty of the analysis and of the dramatic impacts that it has on the costs and benefits of this rule. The NPRM states that, as a result of the increased fleet size under the Clean Car Standards, as predicted by the models:

> … total non-rebound VMT for CY 2050 is 0.4% larger in the augural baseline than in the proposed standards. This small increase in VMT is consistent with a larger fleet size; if more used vehicles are supplied, there likely is some small resulting increase in VMT.[649]

In other words, NHTSA tries to downplay the significance of the increase in VMT, calling it "small" and "likely" – without any further justification. There is no modeling that shows an increase in demand for travel, nor other rationale for why people would be driving more. While 0.4% sounds small, when the scrappage model's effect it is multiplied by all of the VMT that NHTSA includes in its analysis, spanning decades, it becomes highly significant – at least 692 billion additional VMT under the CAFE standards and 894 billion under the CO2 program, both relative to the preferred alternative.[650] As explained more below, it becomes the source of

[648] *Id.* at 5-6 (footnotes omitted). Note that the NPRM includes both a CY2036-2045 analysis, as well as an analysis for the lifetime of MY1977-2029 vehicles, which is the basis for the overall cost-benefit analysis. The fatalities numbers for the MY1977-2029 analysis are significantly higher than the CY2036-2045 analysis EPA discusses here.
[649] 83 Fed. Reg. at 43,099.
[650] 83 Fed. 43,351-52 (Tables VII-88 and VII-89, for the CAFE program and CO2 program, respectively, adding rows for "VMT, without rebound" for MY2017-2029 and MY1977-2016).

virtually all the fatalities that NHTSA attributes to the current GHG and augural fuel economy standards, as well as more than 2/3 of the purported net benefits of the proposed rule.

Inter-agency reviewers raised concerns, as well, including a recommendation that NHTSA conduct a peer review of the new models concurrent with the publication of the NPRM and before the development of the final rule, and they drafted specific charge instructions for the peer reviewers regarding the increases in fleet size and VMT.[651]

What is more, the agencies' statements in the NPRM make it clear that significant levels of uncertainty remain, fatally undermining the reliability of any of the sales, scrappage, or related fleet size and VMT projections. For example:

- "NHTSA recognizes predicting future fatality impacts, as well as sales impacts that cause them, is *a difficult and imprecise task*. NHTSA will continue to investigate this issue, and we seek comment on these estimates as well as alternate methods for predicting the safety effects associated with delayed new vehicle purchases."[652]

- Regarding the sales model, the agencies state, "...at the industry level, it is reasonable to assume that all incremental technology costs can be captured by the average price of a new vehicle. *To the extent that this factor influences the total number of new vehicles sold in a given model year*, it can be included in an empirical model of annual sales. However, *there is limited historical evidence that the average price of a new vehicle is a strong determining factor in the total number of annual new vehicle sales*."[653]

- "Because the values of changes in fuel economy and other features to potential buyers are not completely understood; (sic) however, *the magnitude, and possibly even the direction, of their effect on sales of new vehicles is difficult to anticipate*."[654]

- "Developing a procedure to predict the effects of changes in prices and attributes of new vehicles is complicated by the fact that their sales are highly pro-cyclical – that is, they are very sensitive to changes in macroeconomic conditions – and also statistically "noisy," because they reflect the transient effects of other factors such as consumers' confidence in the future, which can be difficult to observe and measure accurately. At the same time, their average sales price tends to move in parallel with changes in economic growth…"[655]

- "Estimating the sales response at the level of total new vehicle sales likely *fails to address valid concerns about changes to the quality or attributes of new vehicles sold—*

[651] EO12866 Review Materials, File: "EO 12866 Review Interagency review comments sent by OMB to EPA and NHTSA, Part 3 of 4 July 12," at 804-06 (July 12, 2018).
[652] 83 Fed. Reg. at 43,145 (emphasis added).
[653] 83 Fed. Reg. at 43,186 (emphasis added).
[654] 83 Fed. Reg. at 43,075 (emphasis added).
[655] NHTSA and EPA, Preliminary Regulatory Impact Analysis (PRIA), The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021 – 2026 Passenger Cars and Light Trucks, at 947 (July 2018, updated Aug. 23, 2018).

both over time and in response to price increases resulting from CAFE standards. However, attempts to address such concerns would require significant additional data, new statistical approaches, and structural changes to the CAFE model over several years."[656]

- "While the decision to scrap a vehicle is made atomically, the data available to NHTSA on scrappage rates and variables that influence these scrappage rates are aggregate measures. This influences the best available methods to measure the impacts of new vehicle prices on existing vehicle scrappage."[657]

- "Our models face some limitations, and work will continue toward developing methods for estimating vehicle sales, scrappage, and mileage accumulation." They agencies specifically note the lack of integration between the scrappage model and VMT schedules, as well as between sales and scrappage, noting that the model of vehicle sales does not respond to the size and age profile of the on-road fleet, and the model of vehicle scrappage rates does not respond to the quantity of new vehicles sold.[658]

Not only do the agencies not justify their change in position regarding their ability to quantify the impacts of the standards on sales and scrappage, it is clear from the inter-agency record, not to mention the NPRM itself, that enormous levels of uncertainty still remain. Any reliance on the outputs of these models would be arbitrary and capricious.

4. The agencies' inclusion of the "scrappage" analysis and the attribution of reduced fatalities from decreased VMT to the standards is wholly inconsistent with any federal regulatory or policy analysis of which we are aware. Using it to justify the proposed rollback is arbitrary and flouts the statutory direction of Congress.

As noted above, the scrappage model projects that as the price of new vehicles increases under the GHG and augural standards, the price of existing vehicles will increase in tandem and the rate of scrappage will rapidly decline, leading to an increase in the total vehicle fleet of 190-235 million vehicles. (In other words, it predicts that as the price of new vehicles goes up, fewer people will buy them, but as the price of existing vehicles goes up, more people will buy and keep them.) The agencies then arbitrarily assume that the owners of these used vehicles will choose to drive more miles. The assumed additional driving automatically leads to more assumed accidents, injuries, and fatalities. The agencies assert that avoiding these accidents and fatalities—which stem solely from the additional VMT—is a primary benefit of rolling back the standards. This line of reasoning and justification for the proposed rollback is contrary to any regulatory or policy analysis of which we are aware, and, as noted, none is offered by the agencies as support.

Essentially, the agencies predict that people will drive less under the proposed rollback as compared to the GHG and augural standards, and that that will save lives. (We dispute the accuracy and reliability of this prediction, as discussed elsewhere.) Conversely, the agencies'

[656] 83 Fed. Reg. at 43,075 (emphasis added).
[657] 83 Fed. Reg. at 43,094.
[658] 83 Fed. Reg. at 43,099.

models project that the current and augural standards would increase driving – and thus are responsible for fatalities and must be rescinded. These conclusions are novel and contrary to all previous analyses. Many government actions lead to increases in driving; yet the government does not decline to take these steps because of the increased accidents likely to occur from increased driving. To the contrary, increased mobility is generally seen as a societal good. Highway funding would be one example of a government action that increases driving (and speed of driving). Under the agencies' reasoning even personal income tax cuts could increase driving and therefore kill people by putting additional money in people's pockets.

Moreover, under the agencies' approach for analyzing scrappage, any change that would add to the price of vehicles would lead to fatalities attributable to that rule. Any safety rules that NHTSA evaluates would presumably have some fatalities consequence to them then – as the increased cost due to the safety feature would (under NHTSA's analysis) increase the price of new vehicles, slow the scrappage of old vehicles, and lead to increases in the number and VMT of existing vehicles.[659] However, this is not the way NHTSA has considered these costs – nor should it. In both that context and this, Congress has directed NHTSA to implement regulations that will change the features of the vehicles that auto manufacturers introduce into the market—to make those vehicles safer and more fuel efficient. These changes—such as seatbelts, anti-lock brakes, rear view cameras, blind spot alerts, air bags—will generally have some effect on the price of these vehicles. If the assumed slowing of fleet turnover were allowed to be a bar to implementing these requirements, these improvements would never enter the vehicle fleet. This result is contrary to NHTSA's statutory mandates.

It is also inconsistent with the way the federal government generally evaluates policy changes. As one example, the revised North American Free Trade Agreement (NAFTA) is expected to increase the prices of domestic vehicles. But, to our knowledge, the government has not considered any possible adverse safety implications of this outcome, such as those that would be predicted under NHTSA and EPA's scrappage analysis.[660]

The agencies' handling of the additional VMT that the models project is also inconsistent with their own handling of other additional VMT *in this very same rulemaking*. The agencies' analysis includes consideration of the "rebound" effect, which finds that people will drive more when driving is made less expensive. Under the agencies' analysis, this increases the VMT of the fleet when fuel economy standards are adopted – as improved fuel economy makes the cost of driving cheaper per mile. The agencies, however, explicitly exclude the fatalities and non-

[659] NHTSA notes that the total cost of safety technologies linked to the Federal Motor Vehicle Safety Standards (attributable to a specific standard or voluntarily added in advance of the standard) added an average of $1,929 (in 2012 dollars) to passenger cars in MY2012 and an average $1,808 for light trucks in MY2012. *PRIA* at 412.

[660] *See* National Public Radio Morning Edition (Oct. 2, 2018) at 7:15 AM (Presidential counselor Peter Navarro noting that prices of domestic vehicles will likely increase, but that he believes "everybody listening to this program would be more than happy to have higher wages and a secure job so that they can pay a few hundred bucks more for a car than the alternative 15 years we've had of artificially low prices").

fatal crash costs that result from this additional rebound VMT from the final cost-benefit accounting. They state:

> Increased driving associated with rebound is a consumer choice. Improved CAFE will reduce driving costs, but nothing in the higher CAFE standards compels consumers to drive additional miles. If consumers choose to do so, they are making a decision that the utility of more driving exceeds the marginal operating costs as well as the added crash risk it entails.[661]

There is no rationale for why the additional VMT generated via the scrappage model should be treated any differently. To the extent it will exist at all (which we dispute), it is also a consumer choice, not something that the standards compel.

The agencies' inconsistency in the application of their analysis, as well as the inconsistency in the NPRM with how they handle additional VMT, is further evidence of the arbitrariness of their approach.

5. The inclusion of the agencies' sales and scrappage analyses is arbitrary and capricious, yet it is the linchpin of the agencies' rationale for weakening the fuel economy and GHG standards.

In light of the foregoing, the agencies' use of the "sales" and "scrappage" analysis would be arbitrary and capricious.[662] The modeling here is an unjustified and dramatic departure from previous agency analysis, is fundamentally flawed, and is inconsistent with the agencies' analysis of all other rules and policies, as well as its handling of other additional VMT in the NPRM. And yet, this modeling and analysis is the linchpin of the agencies' justification for weakening the fuel economy and GHG standards.

Unfortunately, the agencies have failed to provide a meaningful sensitivity analysis to allow a genuine understanding of the impact of their models on the cost-benefit analysis for the standards. The agencies provide a sensitivity analysis that disables only the scrappage model's "price effect," by keeping average new vehicle prices constant at MY2016 levels. Given that the cost-per-mile to drive a vehicle also affects the scrappage model, the provided sensitivity analysis will not show what would happen if the scrappage model were disabled entirely. But just turning off the price effect shows dramatic results – for both the CAFE and CO2 programs, it negates at least 2/3 of the net benefits from the proposed rollback.[663] In addition, the scrappage

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[661] 83 Fed. Reg. at 43,107.

[662] *See API v. EPA*, 862 F. 3d 50, 69 (D.C. Cir. 2017) (agency action based on use of a theoretical study is insufficiently justified where there is failure to provide data to support its view that the study's predictions will actually occur); *Columbia Falls Aluminum Co. v. EPA*, 139 F. 3d 914, 923 (D.C. Cir. 1998) (use of model is arbitrary and capricious where the model "'bears no rational relationship to the reality it purports to represent'" or if the agency fails to "'provide a full analytical defense'" when the model is challenged) (citations omitted).

[663] 83 Fed. Reg. at 43,367 (Table VII-97, showing Net Benefits of the proposed CAFE standards being reduced from $176.3 billion to $59.2 billion when the scrappage model price effect is turned off, a reduction of 66%) and at 43,368 (Table VII-98, showing Net Benefits of the proposed CO2 standards

model is responsible for the overwhelming majority of non-rebound fatalities. When the scrappage model price effect is turned off, the reduction in fatalities attributed to the proposed CAFE standards drops from 6,340 to 1,490.[664] In addition, additional CO2 emissions attributed to the proposed rollback increase from 809 million metric tons (mmt) to 986 mmt, and fuel consumption (without including the rebound effect) increases from 98 billion gallons to 114 billion gallons.[665] All of these differences would be even more dramatic if the entire scrappage model were turned off, instead of just the model's "price effect." Indeed, one expert found that when the scrappage model is turned off, the existing GHG standards cost $12 billion *less* than the proposed standards.[666]

In addition, the agencies have framed this as an issue of fleet "turnover" -- the idea that when new vehicle prices increase, some people will not be able to afford new cars, and will instead stay in older, less safe cars longer.[667] But that is not what the agencies have modeled, and, consequently, it is not the source of any of the fatalities they project. The agencies now, irrationally, decouple those two effects, such that the number of new vehicles sold (or left unsold) has no effect on the number of vehicles scrapped. Relying on the deeply flawed scrappage model, the agencies have predicted a massive ballooning of fleet size under the existing standards that leads, automatically under their model, to a massive increase in VMT. This is the source of virtually all of the fatalities that they attribute to the standards. Moreover, even if the agencies attempted to properly model the influence of the standards on fleet turnover, their sales model is also so rife with errors and unsupported assumptions that it could not properly be relied upon for such an analysis. As noted above, various experts have criticized the models for being inconsistent with economic theory, erroneously constructed, improperly validated, and for producing results that are statistically insignificant.

In light of all the foregoing, any reliance on the models to justify a weakening of the existing fuel economy and GHG standards would be arbitrary and capricious.

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being reduced from $197.2 billion to $62 billion when the scrappage model price effect is turned off, a reduction of 68%).

[664] 83 Fed. Reg. at 43,362 (Table VII-94).

[665] *Id.* Similar comparisons for the CO2 standards are not possible as the agencies duplicated the CAFE standards information in the table that was supposed to provide CO2 program information. *See* 83 Fed. Reg. at 43,364 (Table VII-95, with all data the same as Table VII-94 except the last two rows, even though everywhere else in the NPRM the information for the "reference case" is different).

[666] *See* David Bunch Comment.

[667] 83 Fed. Reg. at 43,212 (NHTSA describing "the likelihood that increased standards will result in consumers being priced out of the new vehicle market and choosing to keep their existing vehicle or purchase a used vehicle," which "significantly affects the safety of the United States light duty fleet"); and 83 Fed. Reg. at 42,995 (EPA describing how "Today's proposed rule is anticipated to prevent more than 12,700 on-road fatalities 38 and significantly more injuries as compared to the standards set forth in the 2012 final rule over the lifetimes of vehicles as more new, safer vehicles are purchased than the current (and augural) standards. A large portion of these safety benefits will come from improved fleet turnover as more consumers will be able to afford newer and safer vehicles.").

C. The proposal does not address concerns raised by agency experts during the interagency review process.

In issuing the NPRM, it appears that NHTSA has steamrolled forward without fully considering EPA's input, or addressing many of the concerns expressed by EPA during the rulemaking process. This renders the NPRM fatally flawed, and the proposal and supporting documents must be revised and released for public comment before the agencies can finalize the rule.

An agency's rule will be overturned as arbitrary and capricious, if it has "entirely failed to consider an important aspect of the problem," or "offer[s] an explanation for its decision that runs counter to the evidence before the agency." *Motor Vehicles Mfgrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). Such a failure can occur where an agency fails to heed the concerns of agency experts, or reaches a policy outcome contrary to the analysis offered by agency experts.[668] Here, it appears that this is precisely what has occurred.[669]

The treatment of EPA's concerns about NHTSA's Preliminary Regulatory Impact Analysis (PRIA) illustrates how NHTSA failed to consider input from EPA, or provide in the NPRM explanations for the concerns raised by EPA. Technical staff at EPA did not see a draft of NHTSA's PRIA until May 31, 2018, although NHTSA sought technical documents and reports from EPA earlier in the year as it developed the proposal and regulatory impact analysis.[670] In a June 14, 2018 email to the Office of Information and Regulatory Affairs (OIRA) during interagency review, EPA staff stated: "Now that we have had the opportunity to review the Draft PRIA, we can say that EPA's technical issues have not been addressed, and the analysis performed for the joint NPRM does not represent what EPA considers to be the best, or the most up-to-date, information available to EPA."[671]

EPA concerns remained unaddressed, and in commenting on the proposal in July 2018, EPA forcefully stated:

> This Preliminary RIA is a work product of DOT and NHTSA and was not authored by EPA. The Preliminary RIA is based on the independent technical assessment from DOT-NHTSA, and the document should reflect appropriately who has authored the Preliminary

[668] *See e.g., Defenders of Wildlife v. Salazar*, 842 F.Supp.2d 181, 188-89 (D.D.C. 2012); *see also, Guindon v. Pritzker*, 31 F.Supp.3d 169, 189 (D.D.C. 2014).
[669] Due to the short 60-day comment period, and the denial of various entities' requests for extension, it was not possible to conduct a thorough review of all interagency review materials. It may be that a full review of these materials will show that NHTSA responded to more of EPA's concerns during the interagency review process. Nevertheless, a selected comparison of interagency review materials with the published NPRM shows that not all of the concerns raised or data presented by EPA were addressed.
[670] E.O. 12866 Review Materials, File: "National Highway Traffic Safety Administration (NHTSA) Report- June 13, 2018."
[671] *Id.* at 13 (Email from William Charmley, EPA, to OIRA staff, dated June 14, 2018).

RIA. EPA's name and logo should be removed from the DOT-NHTSA Preliminary Regulatory Impact Analysis document.[672]

Yet the final PRIA is attributed to both EPA and NHTSA, and fails to address the concerns raised by EPA, or explain how and why those concerns were resolved.[673] This is but one of the many instances where NHTSA has disregarded input from EPA.

There are numerous other examples of NHTSA failing to consider input from EPA, or failing to provide an explanation for contrary evidence cited by EPA. Such examples include, but are not limited to:

- **Methodology for calculating technological feasibility and technology costs.**

    - EPA disagreed with how NHTSA arrived at the conclusion that meeting existing standards through model year 2025 would increase average prices by $1,500 to $1,800.[674] Yet the proposal contains essentially the same language EPA objected to, without addressing EPA's concerns about how such price increases were calculated. *See* 83 Fed. Reg. at 42,994.

    - EPA critiqued NHTSA's reliance on an Auto Alliance study, which EPA had previously shown incorrectly characterized EPA's ALPHA/LPM/OMEGA model.[675] Earlier, during the Midterm Evaluation process, EPA submitted a memorandum addressing the flaws in the Alliance study, and why the conclusions in that study are unsubstantiated.[676] Yet in the proposal, NHTSA continues to rely on the Alliance study, and does not address EPA's rebuttal of that study. 83 Fed. Reg. at 43,022.

    - EPA critiqued NHTSA's decision to exclude HCR2/Atkinson cycle engine technology from its modeling of compliance pathways, stating that similar technology is already on the roads, and it would be appropriate to continue using

[672] E.O. 12866 Review Materials, File: "EO 12866 Review: EPA Comments on the Preliminary RIA sent to OMB, July 12, 2018" at 3 (July 12, 2018)("EPA July 12, 2018 Comments").
[673]U.S. Department of Transportation, National Highway Traffic Safety Administration, U.S. Environmental Protection Agency, *Preliminary Regulatory Impact Analysis: The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021 – 2026 Passenger Cars and Light Trucks* (July 2018, updated Aug. 23, 2018, Oct. 16, 2018), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld_cafe_co2_nhtsa_2127-al76_epa_pria_181016.pdf
[674] E.O. 12866 Review Materials, File: "EPA comments on the NPRM sent to OMB, June 29, 2018," ("EPA June 29, 2018 Comments") at 13.
[675] EPA June 29, 2018 Comments at 60.
[676] Environmental Protection Agency, *Memorandum re: Stakeholder Meeting with Auto Alliance and Global Automakers, and their contractor, Novation Analytics, and EPA Technical Response to Assertions of 'ALPHA-to-OMEGA Bias'* (November 24, 2017); https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0827-10988; *see also,* Environmental Protection Agency, *EPA Comments on Reported 'High Efficiency (low C02) bias' of ALPHA results by LPM/OMEGA* (November 8, 2017); https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0827-10995

such technology in modeling.[677] Yet the proposal continues to exclude modeling how such technology would help achieve compliance, and does not fully explain its reasons for disregarding the concerns expressed by EPA. 83 Fed. Reg. at 43,038.

- EPA critiqued NHTSA's characterization of research on aerodynamic drag coefficients.[678] However, the proposal does not appear to incorporate or respond to EPA's input. 83 Fed. Reg. at 43,047.

- Recent analysis by EPA on industry trends and component teardowns from October 2018 shows that costs from 200 mile range battery electric vehicles is expected to decline.[679] This would be expected to reduce costs for manufacturers and consumers alike. However, it does not appear that the proposal incorporates or considers this information, and it must in order to fully address the information before the agencies.

- Over the course of the past year, EPA authored a number of papers for the Society of Automotive Engineers, on developments in engine technology, hybrid and electric vehicles, and other technologies.[680] These materials are in the docket. Yet, it is unclear whether the proposal incorporates and addresses this information. The proposal should address this information, especially if the agencies now disagree about technology trends, in order to address the information before the agencies.

- As detailed in a July 16, 2018 presentation to the National Academies of Science, EPA has engaged in extensive analysis and modeling on engine technologies, the VMT rebound effect, consumer issues, and other subjects.[681] EPA's analysis on these topics should be considered in the proposal.

- **Methodology for estimating consumer choice, consumer "willingness-to-pay," consumer welfare.**

[677] EPA June 29, 2018 Comments at 83; EPA July 12, 2018 Comments at 238.
[678] EPA June 29, 2018 Comments at 93.
[679] *See* Environmental Protection Agency, *Predicting Powertrain Costs for Battery Electric Vehicles Based on Industry Trends and Component Teardowns* (October 3, 2018); https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-1790
[680] Environmental Protection Agency, *EPA Authored SAE Papers for CY 2018,* https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0028
[681] Environmental Protection Agency, *Presentation to the National Academies of Science, Committee on the Assessment of Technologies for Improving Fuel Economy of Light Duty Vehicles* (July 16, 2018); https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0771

- During the interagency review process, EPA disagreed with NHTSA's conclusion that buyers correctly value differences in vehicle fuel economy, stating that EPA reached a different conclusion based on the evidence.[682]

- In the interagency review process, EPA vehemently disagreed with how NHTSA evaluated consumer welfare losses and consumer willingness to pay.[683]

- During the Final Determination reconsideration process, EPA submitted a memorandum covering research on consumer willingness-to-pay.[684]

- However, the proposal does not address EPA's concerns, or fully address the research that EPA has conducted and/or compiled. 83 Fed. Reg. at 43,082-83. It must do so to in order to fully consider the information before the agencies.

- **Methodology for calculating safety risks, including scrappage and rebound models**

  - EPA forcefully disagreed with how NHTSA calculated and characterized safety risks, including disagreeing with how NHTSA characterized the output of the CAFE/Volpe model.[685] Despite this forceful disagreement, the proposal does not address EPA's concerns. 83 Fed. Reg. at 43,066.

  - EPA questioned whether NHTSA's scrappage model had been properly reviewed or validated, and also questioned whether NHTSA had done a full analysis of the literature on scrappage, and how it characterized certain literature: "[t]he comment about Jacobsen & Van Bentham's finding is the opposite of what they find."[686] NHTSA does not appear to have addressed these concerns, including the characterization of Jacobsen & Van Bentham's work. 83 Fed. Reg. at 43,095.

  - EPA recommended consideration of a number of additional studies in analyzing the rebound effect – including several Greene studies, and a Hymel and Small study.[687] NHTSA does not appear to evaluate these studies in the proposal, though it cursorily lists the studies in a table. *See* 83 Fed. Reg. at 43,101.

  - EPA pointed out inconsistencies in how NHTSA is interpreting safety trends.[688] Yet NHTSA does not address these inconsistencies in the proposal. 83 Fed. Reg. at 43,136.

- **Methodology for calculating macroeconomic effects, including net benefits**

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[682] EPA June 29, 2018 Comments at 125.
[683] EPA June 29, 2018 Comments at 144-45.
[684] Environmental Protection Agency, *Memorandum: Society for Benefit-Cost Analysis Annual Meeting* (May 11, 2017), https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0827-6323
[685] EPA June 29, 2018 Comments at 118.
[686] EPA June 29, 2018 Comments at 161, 163, 167.
[687] EPA June 29, 2018 Comments at 173-81.
[688] EPA June 29, 2018 Comments at 217.

- EPA strongly disagreed with how NHTSA reached its conclusion that reducing the stringency of standards would create "significant net economic benefits." In particular, EPA disagreed with how NHTSA evaluated vehicle use, fuel consumption, and safety implications of more stringent standards.[689] However, the proposal does nothing to address those concerns. 83 Fed. Reg. at 43,067.

- **Excluding the HFC program from the proposed GHG standards**.

  - EPA disagreed with NHTSA about excluding the program component allowing adjustments for use of more efficient refrigerants, when accounting for compliance with $C0_2$ standards.[690] Nonetheless, the proposed rule excludes the adjustments for automotive refrigerants. *See* 83 Fed. Reg. at 42,988-90. Further, it suggests without explanation that EPA supports such a change, when EPA had objected on multiple occasions to excluding the HFC program. *Id.*

- **Reliance on confidential business information, and failure to release information to allow for comment**

  - EPA on multiple occasions critiqued NHTSA for citing to, or relying upon, confidential business information, because doing so deprives the public of an opportunity to provide meaningful comment.[691] EPA noted that much of the data relied upon is available from publicly available sources, or that data could be anonymized.

  - The proposal, however, continues to rely on such confidential information. 83 Fed. Reg. at 43,008. NHTSA does not appear to have explained its rationale for continuing to rely on such information in the face of EPA's criticism.[692]

D. The Agencies have failed to conduct a thorough peer review.

1. NHTSA's and EPA's failure to peer review certain new modules is contrary to law and arbitrary and capricious.

The proposal's rationale and consideration of the alternative scenarios is grounded in the modeling results. Yet even though the modeling is deeply consequential to this rulemaking, numerous precedent-setting modules that play central roles in the modeling have not been peer reviewed. Much of the agencies' rationale for the preferred alternative comes from estimated

[689] EPA June 29, 2018 Comments at 120; *see also, id.* at 481.
[690] *See e.g.*, EPA June 29, 2018 Comments at 7, 293-311, 660; *see also*, EPA Technical Memorandum to Docket, *Air Conditioning Leakage Credits and Corresponding C02 Target Offsets* (August 2018), https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0248.
[691] EPA June 29, 2018 Comments at 37, 147; EPA July 12, 2018 Comments at 422.
[692] EO12866 Review Materials, File: "Documentation of Changes Made During the EO 12866 Review," at 50.

traffic fatalities projected by two modules used for the first time in this proceeding.[693] The first module ("sales response module") makes quantitative estimates of the change in total sales of new cars and light trucks during future model years using an econometric model that purports to capture the historical relationship of sales to their average price and other macroeconomic conditions.[694] The second ("scrappage module") endeavors to estimate the effect of potential standards on the used car and light truck fleets, considering new vehicle prices, fuel costs, and vehicle durability.[695] Similarly, the proposal touts the value of its new fleet share module,[696] and the new treatment of the safety of old versus new vehicles.[697] Although these modules are highly consequential and precedent-setting in this rulemaking, none has been peer reviewed.[698]

Neither agency provides an explanation for this striking absence of peer review. This unexplained failure to conduct peer review violates applicable peer review requirements, and is contrary to law, arbitrary, and prejudicial to stakeholders. Before the agencies may proceed further in this rulemaking, all new modules must be subject to peer review, underlying analysis redone, and a reproposal issued to allow for public comment.

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[693] *See, e.g.*, 83 Fed. Reg. at 43,231 (noting that "EPA views the potential impacts of emission standards on safety as an important consideration in determining the appropriate standards under section 202" and citing to the results of fatality analyses run using NHTSA's new suite of modeling tools, e.g. PRIA Table VII-89); *id.* at 43,212 (noting that "[i]n this rulemaking, NHTSA is considering the effect of additional expenses in fuel savings technology on the affordability of vehicles[,]" which "significantly affects the safety" of the vehicle fleet, citing to analysis conducted using NHTSA's new suite of modeling tools). *See also* Comment submitted to these dockets by the American Council for an Energy-Efficient Economy (ACEEE) (delineating number of fatalities attributable to each of the sales and scrappage effects).

[694] PRIA at 946-53.

[695] PRIA at 1005-34.

[696] *See, e.g.*, 83 Fed. Reg. at 43,076.

[697] *Id.* at 43,135-45.

[698] *See* NHTSA, CAFE Model Peer Review, at 175-76 (July 2018), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812590-cafe-peer-review.pdf (stating in response to reviewers' comments regarding vehicle survival lifetimes that "the model's approach to vehicle survival has been updated," but not stating how, or otherwise supplying either the new module or any other material pertinent to the new module to the peer reviewers); *id.* at 223, 228 (stating that "the model has been revised to estimate impacts on industry sales," again without supplying the new module or any of its supporting materials to the peer reviewers); *see also id.* at 303 ("The model has been updated to including [sic] impacts on new vehicle sales and on older vehicle scrappage. Model documentation will be revised to document the new methods, and a new Regulatory Impact Analysis will discuss the development of corresponding model inputs" again without supplying relevant materials). In contrast, other components of the modeling applied in this rulemaking was subject to peer review. *See generally id. See also, e.g.*, PRIA at 186 (describing peer review of battery cost estimates).

a. The agencies' rules mandate peer review.

As mandated by the Information Quality Act,[699] OMB has issued general guidance regarding agencies' dissemination of information[700]; OMB has also issued guidance specifically focused on peer review, which requires that "each agency shall have a peer review conducted on all influential scientific information that the agency intends to disseminate."[701] OMB's guidance establishes heightened requirements for peer review of "highly influential scientific assessments" (HISAs), for example mandating certain steps to assure reviewers' independence as well as "whenever feasible," public review and comment.[702]

Consistent with OMB's guidance, EPA and DOT have each adopted strong policies regarding peer review of influential scientific information and highly influential scientific assessments.

Thus, EPA's Peer Review Handbook states that "[i]nfluential scientific information, including highly influential scientific assessments, should be peer reviewed in accordance with the Agency's *Peer Review Handbook*. . . . For influential scientific information intended to support important decisions . . . external peer review is the approach of choice. . . . For highly influential scientific assessments, external peer review is the expected procedure."[703]

DOT has also incorporated OMB's information quality control guidelines into its own information dissemination policies.[704] Mirroring the OMB guidelines on information

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[699] Information Quality Act, 44 U.S.C. § 3516 note 2000: enacted Dec. 21, 2000 by Pub. L. No. 106-554, § 515, 114 Stat. 2763, 2763 A-153 (requiring OMB to issue guidelines "that provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies").

[700] OMB's Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, 67 Fed. Reg. 8452 (Feb. 22, 2002) [hereinafter OMB Information Dissemination Guidelines].

[701] OMB, Final Information Quality Bulletin for Peer Review, 70 Fed. Reg. 2664, 2675 (Jan. 15, 2005) [hereinafter OMB Peer Review Bulletin].

[702] *Id.* at 2675-76.

[703] EPA, Peer Review Handbook, at 20 (4th ed., 2015), https://www.epa.gov/osa/peer-review-handbook-4th-edition-2015 [hereinafter EPA Peer Review Handbook] (quoting EPA Peer Review Policy Statement (2006) (Appendix A to EPA Peer Review Handbook)). *See also* EPA, Scientific Integrity Policy, at 8 (2012), https://www.epa.gov/sites/production/files/2014-02/documents/scientific_integrity_policy_2012.pdf ("Independent peer review of Agency science is a crucial aspect of scientific integrity. To ensure that scientific products undergo appropriate peer review by qualified experts, the EPA relies on its Peer Review Policy and Peer Review Handbook."). EPA's Peer Review Handbook details certain circumstances where peer review of a highly influential scientific assessment is not required, but none of these exceptions are pertinent here. *See* EPA Peer Review Handbook at 44-45 (listing exceptions for assessments related to national security, foreign affairs, international trade, time sensitive health or safety emergencies, individual adjudicatory proceedings, routine statistical information, or where peer review has already been conducted, or where the methodology in the assessment is commonly accepted).

[704] *See* DOT, Information Dissemination Quality Guidelines at 1, 11 (Aug. 2002), https://www.transportation.gov/regulations/dot-information-dissemination-quality-guidelines (issuing information quality guidelines consistent with OMB Information Dissemination Guidelines); *see also*

dissemination, DOT's Information Dissemination Quality Guidelines adopt the standard from the Safe Drinking Water Act, 42 U.S.C. § 300g-1(b)(3), stating that when disseminating influential scientific information relating to human health, safety, and the environment, the agency must use "the best available, peer-reviewed science."[705] Further, DOT has acknowledged that "[t]he [OMB] Bulletin . . . imposes the strictest requirements on highly influential scientific assessments."[706] Indeed, just last year the agency reaffirmed its commitment to subject "[d]ata and research used to support DOT policy decisions [to] independent peer review by qualified experts when required and consistent with law."[707]

b. The new modules are "highly influential scientific assessments."

A "scientific assessment" is "an evaluation of a body of scientific or technical knowledge which typically synthesizes multiple factual inputs, data, models, assumptions, and/or applies best professional judgment to bridge uncertainties in the available information."[708] A highly influential scientific assessment is a scientific assessment that "could have a potential impact of more than $500 million in any year" or "is novel, controversial, or precedent-setting, or has significant interagency interest."[709]

It is important to recognize that the criteria for classifying a scientific assessment as influential or highly influential are not related to the underlying merits or scientific strength of an assessment. Just the opposite—they identify any assessments that have significant influence on the decision makers, irrespective of their scientific merit. The resulting obligation to conduct peer review is aimed at ensuring that their scientific merits are fully evaluated before the assessments influence the agency decision making. Peer review provides critical information to the agency about the scientific merits of the assessment, allowing the agency to make appropriate changes and evaluate what weight to place on the assessment, including whether to place no reliance on it. The public plays a role in this process as well, especially for highly influential assessments. Thus determining that a scientific assessment is influential or highly influential provides no indication at all of the scientific merits of an assessment, just the need for the assessment to be properly peer reviewed before the agency relies on it.

The sales, scrappage, safety, and fleet mix modules all qualify as highly influential scientific assessments. During the proposal's interagency review process, interagency interest in—and

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DOT, Secretary's Policy Statement on Information Quality (Aug. 2002) (affirming DOT's commitment to implement OMB's guidelines and noting that "[a]s public servants, [DOT is] obligated to ensure that all DOT information products consistently meet or exceed high standards of quality.").

[705] *See* DOT Information Dissemination Quality Guidelines at 16 (mirroring OMB Information Dissemination Guidelines, 67 Fed. Reg. at 8457, 8460).

[706] DOT, Peer Review Reports & Agendas (Jan. 7, 2015).

[707] DOT, Memorandum—Implementation of Departmental Scientific Integrity Policy (June 7, 2017), https://www.transportation.gov/administrations/assistant-secretary-research-and-technology/memorandum-implementation-departmental.

[708] OMB Peer Review Bulletin, 70 Fed. Reg. at 2665. *See also* EPA Peer Review Handbook at 43 (adopting OMB's definition of the term).

[709] *See* OMB Peer Review Bulletin, 70 Fed. Reg. at 2665; *see also* EPA, Peer Review Handbook at 43 (quoting OMB Peer Review Bulletin).

concerns regarding—these new modules was raised repeatedly; indeed, interagency reviewers specifically and recommended a peer review of these modules, with an accompanying public notice process.[710] Additional specific details underscoring why these modules qualify as highly influential scientific assessments are included below.

Sales and Scrappage Modules. The sales response and scrappage modules are scientific assessments because they evaluate and synthesize the body of information relating to impact of new vehicle price on sales and fleet turnover, including the large bodies of literature on the so-called Gruenspecht effect and on vehicle scrappage.[711] These syntheses are undertaken to provide a quantitative estimate of these effects (*i.e.* "bridge [the] uncertainties").[712] As the NPRM notes, "[p]revious versions of the CAFE model, and the accompanying regulatory analyses relying on it, did not carry a representation of the full on-road vehicle population" even though "there are several mechanisms by which CAFE standards can affect the existing vehicle population[,] . . . most significant of these is deferred retirement of older vehicles."[713] The NPRM includes a theoretical description of these effects, and then explains how the sales and scrappage modules attempt to bridge uncertainties to incorporate these effects into the proposal's underlying regulatory analyses. As the proposal explains, the new sales module "dynamically modif[ies] the total number of new vehicles sold" and the new scrappage module provides "a dynamic model of vehicle retirement, or scrappage."[714]

Providing more detail on how development of the scrappage module, the PRIA explains that:

> Changes in the number of used vehicles in service and how much they are driven have important consequences for fuel consumption, emissions of GHGs and criteria air pollutants, and safety, so it is important that this effect on the existing vehicle fleet is considered.[715]

The PRIA further describes how the scrappage module bridges an uncertainty in assessing the impact of the standards:

> Previous estimates of vehicle scrappage used in prior CAFE and GHG rulemaking did not incorporate a quantitative response to changes in new vehicle prices, but recent research has continued to illustrate that the consequences of this likely effect could rival

[710] E.O. 12866 Review Materials, File: "EO 12866 Review Interagency review comments sent by OMB to EPA and NHTSA, Part 3 of 4 July 12," at 804-06 (July 12, 2018) ("Interagency commenters recommended that DOT conduct a peer review of the new models concurrent with the publication of the NPRM and before the development of the final rule. Commenters recommend that DOT include the following draft charge questions for peer review of the new models in the Preamble of the rule. Commenters also recommend including these in any notice that DOT might publish for the peer review of the models.").
[711] *See, e.g.*, PRIA at 999-1002 (synthesizing previous research on vehicle scrappage); *id.* at 934-938 (synthesizing research on consumer evaluation of improved fuel economy).
[712] EPA Peer Review Handbook at 43.
[713] 83 Fed. Reg. at 43,134-35.
[714] *Id.* at 43,186.
[715] PRIA at 994.

> the rebound effect in importance. For this reason, an econometric survival model that captures the effect of increasing the price of new vehicles on the survival rate of used vehicles was developed for this analysis.[716]

These two new modules are highly influential because they are "novel, controversial . . . precedent-setting . . . [and of] significant interagency interest." NHTSA itself touts their novelty.[717] And as detailed elsewhere, these modules received significant feedback and raised significant concerns during the course of inter-agency review—in particular, interagency commenters specifically flagged that the modules should be subject to peer review.[718]

Moreover, these two new modules are highly influential because they have an impact of greater than $500 million per year. These modules play a significant role in the development of standards with much higher annual impacts.

New vs. Old Vehicle Safety Module. As part of the analysis underlying the proposal, the Department of Transportation performed new statistical modeling to construct per-mile fatality rates that varied by vehicle vintage. The resulting module reflected a synthesis of fatality statistics, vehicle registration data, and derived per-vehicle mileage rates—bridging uncertainties to develop a module that could apply "the combination of VMT per vehicle and the distribution of ages and model years present in the on-road fleet [to] determine the number of fatalities in a given calendar year."[719] The proposal underscores that "the relationship between vehicle age and fatality risk is an important one," particularly in light of the integrated fleet model applied during the proposal development.[720] This scientific assessment is highly influential: the analysis poses numerous novel challenges as detailed by the agencies[721]; received feedback and input during the interagency review process[722]; and plays a significant role in the analysis of standards with

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[716] *Id.* at 999.
[717] *See, e.g.*, 83 Fed. Reg. at 43,134-35.
[718] E.O. 12866 Review Materials, File: "EO 12866 Review Interagency review comments sent by OMB to EPA and NHTSA, Part 3 of 4 July 12," at 804-06 (July 12, 2018) ("Interagency commenters recommended that DOT conduct a peer review of the new models concurrent with the publication of the NPRM and before the development of the final rule. Commenters recommend that DOT include the following draft charge questions for peer review of the new models in the Preamble of the rule. Commenters also recommend including these in any notice that DOT might publish for the peer review of the models.").
[719] 83 Fed. Reg. at 43,126, 43,139.
[720] *Id.* at 43,135.
[721] *Id.* at 43-135-45.
[722] *See* E.O. 12866 Review Materials, File: "EO 12866 Review Interagency review comments sent by OMB to EPA and NHTSA, Part 3 of 4 July 12," at 804-06 (July 12, 2018) ("Interagency commenters recommended that DOT conduct a peer review of the new models concurrent with the publication of the NPRM and before the development of the final rule. Commenters recommend that DOT include the following draft charge questions for peer review of the new models in the Preamble of the rule. Commenters also recommend including these in any notice that DOT might publish for the peer review of the models.").

annual impacts far above $500 million a year, in particular the fatality estimates that comprise a major portion of the hypothesized monetized impacts.[723]

Fleet Share Module. Similarly, the fleet share module is a highly influential scientific assessment. The proposal "reflects a dynamically responsive fleet mix in the new vehicle market"[724]—a scientific assessment of the relationship between different market factors and the share of the market captured by cars vs. light-duty trucks. This assessment qualifies as highly influential due to the novelty of the model and precedent-setting role it plays in the current rulemaking as well as the complexities of the underlying issues of sales and consumer modeling.[725] The module plays a significant role in the analysis of standards with annual impacts far above $500 million a year.

c. At minimum, the modules are "influential scientific information."

"Influential scientific information" (ISI) is defined as "scientific information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private-sector decisions."[726] Given the modules' central role in setting these deeply consequential standards, they clearly qualify as influential scientific information.

d. The agencies unlawfully failed to peer review these modules.

Under OMB, EPA, and DOT protocol, these modules are "highly influential scientific assessments" or, at minimum, "influential scientific information" that properly should have been subject to peer review. Yet the agencies have signally failed to abide by their own peer review provisions. Both agencies have abandoned any pretense of commitment to these guidelines, principles, and procedures. Indeed, the agencies do not appear to recognize that they are disseminating highly influential scientific assessments without peer review. Far from documenting the "unusual and compelling situations" that potentially could justify absence of peer review,[727] no explanation of any type is provided.

This failure is unlawful. Agencies are bound to follow their own internal rules, including rules that limit their own discretion.[728] In particular, agencies are required to comply with their own

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[723] *See supra* section VI(B)(5).
[724] 83 Fed. Reg. at 43,186.
[725] *See* Comment submitted to these dockets by Consumers Union (CU), Consumer Federation of America (CFA), and American Council for an Energy-Efficient Economy (ACEEE), "Joint Comments on Vehicle Sales, Ownership Costs, and Consumer Willingness to Pay for Fuel Economy."
[726] OMB Peer Review Bulletin, 70 Fed. Reg. at 2667; *see also* EPA Peer Review Handbook at 42.
[727] EPA Peer Review Handbook at 45-46 (stating that in "unusual and compelling circumstances" the EPA Administrator may defer or waive peer review of ISIs and HISAs so long as he or she documents the reasons for that decision).
[728] *See, e.g.*, *Steenholdt v. FAA*, 314 F.3d 633, 639 (D.C. Cir. 2003) (noting the longstanding principle that federal agencies must "follow their own rules, even gratuitous procedural rules that limit otherwise discretionary actions"); *Nat'l Envtl. Dev. Assoc.'s Clean Air Project v. EPA*, 752 F.3d 999, 1009 (D.C. Cir. 2014) (quoting *Environmentel, LLC v. FCC*, 661 F.3d 80, 85 (D.C. Cir. 2011) ("[A]n agency action may be set aside as arbitrary and capricious if the agency fails to comply with its own regulations.")).

procedural rules where those rules are "intended to confer important procedural benefits upon individuals."[729] The agencies' rules regarding peer review of highly influential scientific assessments, as well as the Information Quality Act itself, provide important procedural benefits to private parties by helping ensure the integrity and accuracy of information the agencies disseminate—a value whose absence is particularly manifest in this proceeding.

Even in the case of non-binding internal procedures, agencies are required to provide some type of reasoned explanation for deviations from typical practice.[730] No explanation is provided in this proposal. This myopia exemplifies a lack of reasoned decision-making.[731]

Finally, the agencies fail to resolve or even answer the concerns raised during the interagency review process, wherein comments pressed for peer review and public notice of these new modules.[732] As detailed elsewhere, the failure to address these reasoned concerns renders the proposal arbitrary and capricious.[733]

The irrational output from these modules confirms that the failure to conduct peer review is prejudicial. Most notably, the modules' phantom VMT accounts for the overwhelming majority of the purported 12,700 traffic fatalities attributed to the existing standards.[734] As explained in detail in separate comments, these results are irrational, unfounded, and clearly erroneous.[735] Any meaningful peer review would have immediately flagged this unreasonable result and demanded a justification or, more likely, a reanalysis. The agencies' failure to follow their own rules regarding peer review unlawfully deprives stakeholders of the benefit of closer, higher quality scrutiny of these highly consequential analyses.

e. The agencies have not met their independent peer review obligations.

In this case, there are different standards under different statutory provisions under consideration by EPA and NHTSA (GHG standards under the CAA and CAFE standards under EPCA, respectively). There are various legal restrictions and requirements in the CAFE standard setting provisions that do not apply in the CAA standard setting provision, and vice versa. Accordingly,

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The Information Quality Act does not itself create rights in third parties. *Mississippi Comm'n on Envtl. Quality v. EPA*, 790 F.3d 128, 184-86 (D.C. Cir. 2015).

[729] *See Vitarelli v. Seaton*, 359 U.S. 535, 539-40 (1959) (holding that the Secretary of the Interior was obligated to conform to self-promulgated procedural standards giving greater procedural protections to petitioner than petitioner would have otherwise had).

[730] *Edison Elec. Inst. v. EPA*, 391 F.3d 1267, 1269 (D.C. Cir. 2004) (saying that the critical question was whether the agency adequately accounted for any departures from its usual criteria and procedures).

[731] *See State Farm*, 463 U.S. at 43 (failure to consider an important aspect of the problem is arbitrary); *see id.* at 48 (lack of explanation for why discretion is exercised in a particular manner is arbitrary).

[732] E.O. 12866 Review Materials, File: "EO 12866 Review Interagency review comments sent by OMB to EPA and NHTSA, Part 3 of 4 July 12," at 804-06 (July 12, 2018),

[733] *See* section VI(C), *supra*.

[734] *See* comment submitted to these dockets by the American Council for an Energy-Efficient Economy (ACEEE) (delineating number of fatalities attributable to each of the sales and scrappage effects).

[735] *See* comments submitted to these dockets on this proposal by Consumers Union; Natural Resources Defense Council (October 2018), Appendix A: Evaluation of Mass Reduction Assumptions in NHTSA Volpe Model; American Council for an Energy-Efficient Economy; Environmental Defense Fund.

each agency has the separate burden to ensure that whatever peer review is conducted is appropriate for purposes of the specific statutory provisions applicable to that agency.

For EPA, the obligation to conduct an appropriate peer review applies to more than just the sales response, scrappage, fleet share, and safety modules discussed above—it applies to all ISI and HISA relied upon by EPA.[736] EPA has proposed to base its GHG standards on information produced by the overall NHTSA modeling in this rulemaking, not just its sales and scrappage modules, giving EPA a broader peer review obligation. Yet EPA has failed to conduct any peer review of the modeling tools applied here—individually or as a whole—for purposes of setting GHG standards under the CAA.

NHTSA's peer review of the CAFE model—already inadequate due to the lack of peer review of critical elements—cannot serve as a proxy for EPA peer review of a model used to accomplish a different statutory purpose. Although NHTSA conducted a prior peer review of the CAFE model for its purposes under EPCA, this does not address EPA's obligation to conduct a peer review of the model for its use under the CAA. The CAFE model was developed to meet NHTSA's need to adopt model year CAFE standards, subject to various standard setting restrictions. The CAA has provisions for standard setting that differ from NHTSA's—omitting any year-by-year obligation, for example, and providing specific direction on treatment of safety issues. Although NHTSA has added various changes to its CAFE model to try and address the differences in standard setting between EPCA and the CAA, EPA has never conducted a peer review of using the CAFE model to develop the analytical basis for setting GHG standards under the CAA.

Among other issues, there are least two aspects of the CAFE model that would need to be addressed in an EPA peer review. First, peer review should address the functionality and appropriateness of NHTSA's modifications to the CAFE model that attempt to make the model relevant for CAA standard setting. Notably, NHTSA's peer review included charge questions specifically requesting feedback on the CAFE model's "representation of CAFE regulations"—no comparable question is posed with respect to the model's representation of EPA's regulations, a disparity that underscores the unlawful failure to review this aspect of the model and the inadequacy of the existing peer review.[737] Second, EPA specifically developed the OMEGA, ALPHA, and related models as the best models for EPA to use for purposes of developing CAA standards for GHGs. EPA has relied upon this modeling and its results in several rulemakings, and has extensively peer reviewed the models for their use under the CAA.[738] While the joint preamble attempts to explain why the GHG standards are being set based on NHTSA's modeling tools in this rulemaking, that does not satisfy EPA's obligation to seek input and advice from

[736] *See* EPA Peer Review Handbook at 42-43.
[737] NHTSA, CAFE Model Peer Review at 2 (July 2018), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812590-cafe-peer-review.pdf.
[738] *See, e.g.*, Draft TAR at 5-256 describing peer review of the ALPHA simulation model, as well as its validation through "vehicle benchmarking, stakeholder data, and industry literature"; *see also* EPA, Optimization Model for Reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases.

peer reviewers on the consequential decision to forgo use of the OMEGA, ALPHA, and related modeling and rely solely on NHTSA's suite of modeling tools.

f. The agencies must subject to the modules to peer review and issue a reproposal.

The agencies' unexplained failure to conduct peer review violates peer review requirements and is contrary to law, arbitrary, and prejudicial to stakeholders. Before the agencies may proceed further in this rulemaking, all new modules must be subject to appropriate peer review, EPA also must conduct the additional peer review described above, the underlying analysis must be redone, and a reproposal issued to allow for public comment.

2. EPA violated the Environmental Research Development Demonstration Act (ERDDA) by failing to notify the Science Advisory Board (SAB) of its pending proposal.

When EPA provides a "proposed criteria document, standard, limitation, or regulation under the Clean Air Act . . . to any other Federal agency for formal review and comment," ERDDA requires the Administrator to submit to the SAB "such proposed criteria document, standard, limitation, or regulation, together with relevant scientific and technical information in the possession of the [EPA] . . . on which the proposed action is based."[739] The SAB is then to review the proposal and provide comment to aid the Administrator's decision, though the Administrator is not required to obtain SAB approval for any final action.[740] EPA and the SAB have adopted procedures to implement this statutory requirement, whereby EPA provides SAB with a description of planned major actions not yet proposed (including a pertinent summary of potential issues of scientific concern), and the SAB determines, in a public forum, which of these actions merits its consideration and comment.[741]

It appears that no notice of the proposal or any of its underlying materials was provided to the SAB before the proposal was shared with an "other Federal agency.[742] The regulation was developed jointly with NHTSA, the underlying analyses were wholly developed by NHTSA,[743] and the package was subject to inter-agency review coordinated by the Office of Management and Budget—and thus submitted to another Federal agency "for formal review and comment."[744] EPA has thus ignored both the law and its own internal implementing procedures.

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[739] 42 U.S.C. § 4365(c)(1).
[740] *American Petroleum Institute v. Costle*, 665 F.2d 1176, 1188 (D.C. Cir. 1981).
[741] *See* Memorandum from Michael Goo, Glenn Paulsen, and Vanessa Vu, *Identifying EPA Planned Actions for Science Advisory Board (SAB) Consideration of the Underlying Science — Semi-annual Process* (Dec. 27, 2012); Memorandum from Science Advisory Board Chair James Mihelcic to Members of the Chartered Science Advisory Board and Liaisons, at 1 (Nov. 12, 2013).
[742] Letter from Dr. Michael Honeycutt, SAB Chairman, to Administrator Scott Pruitt, at 2 (June 21, 2018) (recommending review of the revised Final Determination but providing no indication of receipt of the proposed rule, nearly one month after commencement of formal interagency review of the proposal).
[743] *See* Sections III(A) and VI(C), *supra*.
[744] 42 U.S.C. § 4365(c)(1).

Especially given the lack of peer review here, this is a consequential error.[745] ERDDA is intended to provide public benefits in the form of heightened scientific scrutiny of EPA science-based regulations[746]; these benefits have been forgone. Moreover, the SAB is likely to wish to review and comment on the proposal, the novel and precedent-setting sales and scrappage modules in particular. In fact, the SAB has already voted to review the Administrator's mid-term evaluation finding that the existing standards are inappropriate—the legal predicate for the current rulemaking[747]—specifically noting its desire to review (among other issues) the exact issues addressed by the new, un-peer reviewed modules:

> What are the barriers (e.g., price, foregone power or safety) to consumer acceptance of redesigned or advanced technology vehicles, and how might such barriers be overcome?
>
> Would requirements for more fuel efficient 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?[748]

EPA's violation of its statutory duties under the ERDDA denies the SAB the opportunity to review and advise the Administrator on the new science and analysis reflected in the proposal and particularly in these modules—depriving the public of the benefit of expert scrutiny warranted here. This forgone expert review is further indicia of lack of reasoned decision-making and arbitrariness—compounding the failure to peer review critical and novel parts of the proposal.

E. The Agencies' rulemaking process is flawed and has deprived the public of an appropriate opportunity to review and comment on the proposal.

In multiple respects, the agencies' rulemaking process has deprived the public of a meaningful opportunity to participate, to access necessary information on the proposal, and to provide comment on the proposed rule—violating the agencies' duties under the law. Before proceeding, the agencies must offer additional opportunity for public comment on a complete record.

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[745] *See Coal. for Responsible Regulation*, 684 F.3d at 124 (reviewing claim of failure to adhere to ERDDA under prejudicial error standard), *aff'd in part, rev'd in part sub nom. Util. Air Regulatory Grp. v. EPA*, 573 U.S. 302 (2014), and *amended sub nom. Coal. for Responsible Regulation v. EPA*, 606 F.App'x 6 (D.C. Cir. 2015).

[746] *See* H.R. Rep. No. 95-722, at 17 (1977) (Conf. Rep.) (noting that ERDDAA's intent "is to insure [sic] that the Board is able to comment in a well-informed manner on any regulation that it so desires").

[747] 40 C.F.R. § 86.1818-12(h) (establishing the mid-term review of the EPA clean car standards and requiring that "[i]f the Administrator determines [the existing EPA clean car standards] are not appropriate, the Administrator *shall* initiate a rulemaking to revise the standards." (emphasis added)).

[748] Letter from Dr. Michael Honeycutt, SAB Chairman, to Administrator Scott Pruitt, at 2 (June 21, 2018).

1. The agencies have unlawfully failed to make critical record material available for public review and comment.

The Administrative Procedure Act,[749] the Clean Air Act,[750] and a long-standing executive directive[751] all make plain that agencies must share relevant rulemaking materials with the public concurrently with the release of a rulemaking proposal. Yet the agencies have, even now, failed to release critical information concerning the proposed rule—information that is necessary to allow for meaningful public comment. The omission of these materials from the record renders the public comment process hopelessly flawed and the proposal unlawful.

a. Information concerning the OMEGA model.

Documents and data related to EPA's OMEGA model and related EPA modeling tools are particularly critical to meaningful analysis of, and comment upon, the agencies' proposal. Stakeholders, including signatories to these comments, have on several occasions (beginning well before the proposed rule issued) submitted specific requests for these materials. Yet at the close of the comment period, these materials still had not added to the docket. This omission alone renders the proposal unlawful and mandates a reproposal before the agencies can proceed with this rulemaking.

EPA's OMEGA model provides estimates of the technology cost for manufacturers to achieve variable fleet-wide levels of vehicle greenhouse gas emissions and has served as EPA's primary tool in evaluating and setting a range of vehicle GHG standards.[752] EPA regularly updates and refines the model.[753] EPA developed the model as part of EPA's Phase 1 (MY2012-2016) GHG rulemaking and used the model to develop, test and justify EPA's choice of standards finalized in that rule.[754] EPA again applied the OMEGA model as it developed the Phase 2 (MY2017-2025) GHG rulemaking and conducted the Midterm Evaluation of the MY2022-2025 standards.[755]

On March 20, 2018, EDF, NRDC, Safe Climate Campaign, and UCS submitted a letter to EPA requesting that the agency make publicly available a range of materials relating to the OMEGA

[749] 5 U.S.C. § 553(b).
[750] 42 U.S.C. § 7607(d)(3).
[751] Executive Order 12,866 § 6(a)(3)(E), 58 Fed. Reg. 57,735 (Sept. 30, 1993) (requiring agencies to make relevant rulemaking information available to the public in an accessible manner).
[752] EPA, Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases.
[753] *Id.*
[754] Phase 1 Light-Duty Vehicle GHG and CAFE Standards Final Rule, 75 Fed. Reg. 25,324, 25,446 (May 7, 2010); *see also* EPA, Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases.
[755] EPA, Optimization Model for reducing Emissions of Greenhouse Gases from Automobiles (OMEGA), https://www.epa.gov/regulations-emissions-vehicles-and-engines/optimization-model-reducing-emissions-greenhouse-gases.

model;[756] the request was an effort to obtain these documents with sufficient time to provide informed comment on the anticipated upcoming rulemaking. The letter specifically recognized that these materials were of "central importance" to the upcoming rulemaking; underscored the necessity of EPA sharing with the public the most recent OMEGA materials and "provid[ing] stakeholders with sufficient time to examine, understand, and provide comment on any changes"; and accordingly called on the agency to make "each responsive document publicly available as soon as is practicable without awaiting finalization of any other responsive documents requested herein."[757] No response was received.

EDF and NRDC subsequently submitted a FOIA request for these materials in July.[758] The deadline passed without a statutorily required response. On Sept. 20, 2018, EDF, NRDC, Safe Climate Campaign and UCS also submitted an updated version of their letter to EPA requesting OMEGA materials, noting the continued absence of these documents from the public record and reiterating the urgent need to release them to the public.[759] The request again underscored that the information "is necessary to afford . . . the public a meaningful opportunity to assess and comment upon the agencies' pending proposal to weaken greenhouse gas emissions standards under the Clean Air Act."[760]

The Sept. 20 request highlighted that documents published in the rulemaking docket and elsewhere show that EPA staff continued to develop and conduct runs of the OMEGA model to assess alternative standards and vehicle technology developments during the interagency review process of the current proposal—further reinforcing the central relevance of these materials to the proceeding at hand.[761] Any results from EPA's assessment of the alternative standards would

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[756] The signatories transmitted this request to EPA via email in March 2018, and submitted it to EPA's Mid-Term Evaluation docket in July 2018. *See* Letter of EDF, NRDC, Safe Climate Campaign, and UCS to EPA Assistant Administrator Wehrum, March 20, 2018, Docket ID No. EPA-HQ-OAR-2015-0827-11456, https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0827-11456.

[757] *Id.*

[758] FOIA Request No. EPA-HQ-2018-010465.

[759] Letter of EDF, NRDC, Safe Climate Campaign, and UCS to EPA Assistant Administrator Wehrum, Sept. 20, 2018, Docket No. NHTSA-2018-0067-5648, submitted to EPA docket.

[760] *Id.*

[761] EPA review of CAFE model with "GHG" settings (08-Mar ver.), Meeting with Office of Management and Budget/OIRA at Slide 24, found at PDF page 113 (Apr. 16, 2018), available under the file titled "Email 5" at https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0453; see also Presentation to the National Academies of Science, Committee on the Assessment of Technologies for Improving Fuel Economy of Light-duty Vehicles - Phase 3 at Slides 6-7 (July 16, 2018), Docket ID No. EPA-HQ-OAR-2018-0283-0771, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0771; EPA Science Advisory Board Work Group on EPA Planned Actions for SAB Consideration of the Underlying Science, Memorandum: Preparations for Chartered Science Advisory Board (SAB) Discussions of EPA Planned Agency Actions and their Supporting Science in the Fall 2017 Regulatory Agenda at B-12 (May 18, 2018) (explaining that EPA would utilize its ALPHA and OMEGA models during the reconsideration of the Mid-Term Evaluation), https://yosemite.epa.gov/sab/sabproduct.nsf/9263940BB05B89A885258291006AC017/$File/WG_Memo_Fall17_R egRevAttsABC.pdf; End-to-End Use of ALPHA Vehicle Simulation in EPA's GHG Standards Assessments: From Baseline to Future Fleets at Slides 4-6, 17 (Jan. 25, 2018), http://sites.nationalacademies.org/cs/groups/depssite/documents/webpage/deps_188766.pdf; Peer Review

provide keen insight, from the very agency whose standards the notice proposes to amend, into the cost and feasibility of these standards. Information in the docket suggests these results found costs *half* those found by NHTSA's modeling.[762] The centrality of the modeling to assessment of the proposal makes the agency's failure to place these clearly relevant materials in the public docket or otherwise disclose them when the proposal was released inexplicable and inexcusable.

As of the close of the comment period, none of these requests has received a response[763] and the requested information has not been made available for public review and comment. The omission of these centrally relevant materials, encompassing a well-established, peer-reviewed model that has served as the primary tool for evaluating GHG standards in numerous past rulemaking proceedings, significantly hinders the public's ability to critically evaluate and provide feedback on the proposed alternative standards.

The California Air Resources Board (CARB) also submitted a request for OMEGA materials on Sept. 11, 2018, citing FOIA and the Administrative Procedure Act.[764] The request noted that "CARB is a co-regulator of motor vehicle emissions with U.S. EPA, and has coordinated with U.S. EPA and NHTSA on the regulations that the agencies are proposing to change. CARB has a significant interest in the proposed action, and the requested information will enable CARB to evaluate the potential impacts of the proposed rule."[765]

To the extent EPA believes that its refusal to disclose or even acknowledge its own sophisticated model designed to address the issue at hand means that it will not be part of the administrative record for judicial review of any final rule, the agency is mistaken. *See James Madison Ltd. by Hecht v. Ludwig*, 82 F.3d 1085, 1095 (D.C. Cir. 1996) (allowing for supplementation of the record when "the agency deliberately or negligently excluded documents that may have been adverse to its decision"). Not only must the OMEGA model be disclosed—and an additional period for comment provided to the public—EPA must also explain why the agency has thus far refused to use its own, best-available modeling tool for conducting this rulemaking. The failure to provide such an explanation, as well as an explanation for EPA's departure from past practice, is arbitrary and capricious.

b. Other information necessary to evaluate the proposal.

The agencies have also failed to put other pertinent information into the public docket. In particular, CARB's Sept. 11 letter detailed a long list of data and other materials essential to unpacking, understanding, and properly critiquing the modeling and analysis reflected in the

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of EPA's Response Surface Equation Report (May 2018), Docket ID No. EPA-HQ-OAR-2018-0283-0025, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0025.

[762] E.O. 12866 Review Materials, File: "Email 5- Email from William Charmley to Chandana Achanta," at 113 -- Memo: "EPA review of CAFE model with 'GHG' settings (08-Mar ver.)," (Apr. 16, 2018).

[763] EPA has confirmed receipt of the FOIA request but has not released any documents in response, despite the passage of FOIA's statutory deadline.

[764] Letter from Ellen Peter of CARB to EPA Acting Administrator Wheeler and NHTSA Deputy Administrator King, Sept. 11, 2018 (requesting "12. Modeling tools developed by U.S. EPA" including OMEGA materials) (hereinafter "CARB Sept. 11 letter"), submitted to NHTSA and EPA dockets.

[765] *Id.*

current proposal.[766] The letter noted that "CARB is unable fully to evaluate the federal proposal based on the information made available to date and other stakeholders are likely to encounter similar difficulties."[767] In addition to information related to the OMEGA model, the letter requested "[i]nformation about the models and data used to estimate battery costs"; information "required to replicate and evaluate whether the modeling underlying the proposal is appropriate"; as well as a range of data "necessary to evaluate the proposal's predictions for fleet population, size, sales, and fatalities."[768] This information still is not available to the public, despite its central relevance to the proceeding at hand.

The agencies failed to share numerous other important materials and pieces of information with the public concurrent with release of the proposal, and are even still these resources are not available. A non-comprehensive list of rulemaking materials that were not shared with the public is included below. (Due to the unduly truncated comment period and the numerous instances of missing information, compiling a comprehensive list is infeasible, and instead these omissions are detailed in separate technical comments.) The failure to release these materials to the public concurrent with the proposal release is unlawful and requires remedy and a reproposal before the agencies may move ahead with this rulemaking.

- NHTSA's "fleet share" model projects the ratio of car and light truck sales by model year. The proposal trumpets this new module.[769] The rulemaking materials state that NHTSA used a fleet share model from EIA, but modified its application. EIA's model estimates the ratio of light-duty vehicle to light-duty truck sales. One of NHTSA's modification was to convert the model to estimating the ratio of passenger car to light truck sales. NHTSA does not provide any detail on how it accomplished this task, nor any other modifications that may have been made to EIA's fleet share model. NHTSA also did not provide any of the data used to construct this model. Thus, this model should be discarded or the proposal re-proposed with the necessary information concerning this model.

- The data which NHTSA used to develop its VMT by age schedules were not made available for review. The procedures used to process the data were only summarily described.[770] Thus, little can be said about their appropriateness and accuracy.

- Non-battery cost development information for EVs has not been disclosed. In contrast, see the comparable discussion from the 2012 rulemaking: Joint Technical Support Document: Final Rulemaking for 2017-2025 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, EPA and NHTSA, EPA-420-R-12-901 (August 2012),

[766] CARB Sept. 11 letter.
[767] *Id.*
[768] *Id.*
[769] *See, e.g.,* 83 Fed. Reg. at 43,076.
[770] *See* comment submitted to these dockets: Rick Rykowski, Supporting Report for Environmental Defense Fund Comment, *Review of the Agencies' Technical Analysis Supporting the SAFE Vehicle NPRM* (October 2018) (section discussing Mileage Accumulation Schedules).

https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/joint_final_tsd.pdf (see Table 3-116 at page 3-203).

- The NPRM analysis is missing information about the BatPaC model that is vital to assess how the battery technology was modeled and costed. Previously, the agencies released the ANL BatPaC model files that were used to develop the battery specifications and costs—for example, one file set is located at Draft TAR EPA Battery Analysis Workbooks: NMC-WR7.5, Docket No. EPA-HQ-OAR-2015-0827-0678, https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0827-0678. This time around, however, the BatPaC model version and files used for the NPRM have not been posted to either of the agencies' docket or otherwise been made available for review. Notably, EPA raised this concern during the course of interagency review, without any apparent resolution: "Overall, battery costs included in this analysis are higher than what EPA has obtained from the most recent version of the BatPaC model. There is not enough detail provided for EPA to determine what is contributing to these higher costs, but two potential factors are notable. First, the text refers to both ANL/ESD-15/28 and the BatPac model, so there are potentially inconsistencies in the application of assumptions from one of these sources to the other. Second, the text frequently refers to the BatPaC model to lend authority to the battery cost estimates, without providing sufficient information on the much more significant issue of how battery sizing or other model inputs were determined, much less the battery sizings or cost estimates that resulted."[771]

- There is no transparency as to whether the cost of engine downsizing in the turbocharge engine pathways is reflected, or properly assessed. This is because the turbocharging and downsizing costs are aggregated without notice as to the proportions of each component.

c. These omissions would render adoption of the proposal unlawful.

EPA and NHTSA have failed to provide information necessary for the public to meaningfully evaluate the proposal, violating their obligations under the law.[772]

The Administrative Procedure Act and long-standing executive guidance require that an agency disclose relevant rulemaking materials to the public.[773] These obligations extend to the studies and data relevant to the rulemaking.[774]

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[771] EPA Comments on the Preliminary RIA (July 12, 2018), p. 347, available at https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0453.

[772] *Conn. Light Power Co. v. Nuclear Regulatory Comm'n*, 673 F.2d 525, 530-31 (D.C. Cir. 1982) ("An agency commits serious procedural error when it fails to reveal portions of the technical basis for a proposed rule in time to allow for meaningful commentary.").

[773] 5 U.S.C. § 553(b); E.O. 12,866 § 6(a)(3)(E).

[774] *Solite Corp. v. EPA*, 952 F.2d 473, 484 (D.C. Cir. 1991) ("Among the information that must be revealed for public evaluation [under the APA] are the 'technical studies and data' upon which the agency

Clean Air Act Section 307(d)(3) of the Act requires that EPA provide notice in a proposed rule of "the factual data on which the proposed rule is based"; "the methodology used in obtaining the data and in analyzing the data"; and the "major . . . policy considerations underlying the proposed rule."[775] All these data and documents are to be included in the docket on the date of proposal. Section 307(d)(6) provides that a regulation "may not be based (in part or whole) on any information or data which has not been placed in the docket as of the date of promulgation."[776]

Absent such disclosure, the public's ability to participate in the rulemaking process is undermined. Public notice of, and comment regarding, technical analysis that informs a rulemaking are the "safety valves in the use of . . . sophisticated methodology."[777] Particularly in light of the deeply technical rulemaking at hand, and the weighty impacts at stake, EPA's and NHTSA's flouting of these foundational requirements is deeply damaging to the integrity of the current proceeding and prejudicial to stakeholders. The public has been hampered and deprived of a full review of the technical materials and analysis that forms the foundation of this rulemaking—information that has been misused to justify a deeply harmful rollback of these win-win public protections. These missing materials are properly part of the current record.[778] The public must have an opportunity to review and comment on these materials; accordingly, to comply with the law, the agencies must release these materials and reopen the comment period before proceeding further.

2. The agencies have afforded a wholly inadequate public comment period.

The SAFE Proposal is sweeping in coverage. The proposal constitutes multiple major rulemakings in one: a proposal to roll back EPA emissions standards and hold standards flat for six years; a proposal to forgo any improvements in fuel economy over a six-year period (affecting years beyond the 5-year statutory limit for CAFE rulemakings); and a proposal to withdraw and nullify state authorities to implement a more protective vehicle emissions program.

Furthermore, the proposal involves an extensive, wide-ranging array of deeply technical and complex analyses. In many respects the proposals rely upon modeling that has not previously been available for public scrutiny or peer review.[779] The modeling, for example, relies on an

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relies."); *see also Chamber of Commerce v. SEC*, 443 F.3d 890, 899 (D.C. Cir. 2006) (explaining requirement).

[775] 42 U.S.C. § 7607(d)(3).

[776] *Id.* § 7607(d)(6).

[777] *American Radio Relay League, Inc. v. FCC*, 524 F.3d 227, 236 (D.C. Cir. 2008), quoting *Sierra Club v. Costle*, 657 F.2d 298, 334 (D.C. Cir. 1981); *see also Chamber of Commerce*, 443 F.3d at 900 ("By requiring the 'most critical factual material' used by the agency be subjected to informed comment, the [Administrative Procedure Act] provides a procedural device to ensure that agency regulations are tested through exposure to public comment, to afford affected parties an opportunity to present comment and evidence to support their positions, and thereby to enhance the quality of judicial review.").

[778] *See James Madison Ltd. by Hecht v. Ludwig*, 82 F.3d 1085, 1095 (D.C. Cir. 1996) (allowing for supplementation of the record when "the agency deliberately or negligently excluded documents that may have been adverse to its decision").

[779] *See supra* section VI(D).

updated Volpe model that was not released to the public until the day of the proposal's release (despite explicit requests to release it in advance[780]), as well as brand new sales, scrappage, dynamic fleet share, and per-mile fatality rate models that have never before been shared with the public or peer reviewed in any form. Commenting on multiple rulemakings involving such complex, technical analysis is particularly time-consuming. As just one example, CARB's Sept. 11 letter enumerates a tremendous range of materials the agency required to provide informed comments on the proposal.[781] This list, moreover, is far from comprehensive—rather, the Sept. 11 list only includes necessary information that has not been shared with the public. Unpacking and understanding these materials takes time—let alone evaluating and providing informed critique.

Accordingly, numerous stakeholders including states and municipalities, pollution control agencies, interstate organizations, industry groups whose concerns purportedly motivated the rulemaking,[782] and public health and environmental groups requested extensions of the comment period of at least sixty days. In all, the agencies received eighteen extension requests, signed by entities and organizations representing innumerable stakeholders.[783]

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[780] Letter of EDF, NRDC, Safe Climate Campaign, and UCS to Deputy Administrator King, March 20, 2018 (seeking the release of the most recent Volpe model and related materials as soon as practicable),; Letter of Deputy Administrator King to EDF, NRDC, Safe Climate Campaign, and UCS, April 2, 2018 (denying said request until proposal is issued); Letter of EDF, NRDC, Safe Climate Campaign, and UCS to Deputy Administrator King, May 7, 2018 (noting that the April 2 letter serves as a denial of the organizations' request), Docket ID No. NHTSA-2018-0067-5685, submitted to EPA docket, https://www.regulations.gov/document?D=NHTSA-2018-0067-5685 (see also Docket ID No. EPA-HQ-OAR-2015-0827-11456, https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0827-11456).

[781] CARB Sept. 11 letter.

[782] *See, e,g.*, 83 Fed. Reg. at 42,987 (highlighting presidential commitment to change the standards if necessary to protect the U.S. automotive industry); Alliance of Automobile Manufacturers, Letter to Scott Pruitt (Feb. 17, 2017), https://autoalliance.org/wp-content/uploads/2017/02/Letter-to-EPA-Admin.-Pruitt-Feb.-21-2016-Signed.pdf.

[783] The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks; Extension of Comment Period, 83 Fed. Reg. 48,578, 48,579-50 (Sept. 26, 2018) (noting that the parties that requested extensions of at least 60 days were: Northeast States for Coordinated Air Use Management (NESCAUM); Attorneys General of the States of California, Connecticut, Delaware, Iowa, Illinois, Maine, Maryland, Massachusetts, Minnesota, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, Vermont, Washington, and the District of Columbia, and the Secretary of the Pennsylvania Department of Environmental Protection; National Coalition for Advanced Transportation (NCAT); Environmental Law and Policy Center; Center for Biological Diversity (CBD), Conservation Law Foundation, Earthjustice, Environmental Defense Fund (EDF), Natural Resources Defense Council (NRDC), Public Citizen, Sierra Club, and Union of Concerned Scientists (UCS); Minnesota Pollution Control Agency and Minnesota Department of Transportation; Consumer Federation of America; National Governors Association (NGA), Environmental Council of the States (ECOS), National Association of Clean Air Agencies (NACAA), Association of Air Pollution Control Agencies (AAPCA), National Association of State Energy Officials (NASEO); National Governors Association (NGA), Environmental Council of the States (ECOS), National Association of Clean Air Agencies (NACAA), Association of Air Pollution Control Agencies

In a decision signed on September 21, 2018, and published on September 26, the agencies denied all of these requests.[784] The one-sentence explanation for the denial simply asserts that: "Automakers will need maximum lead time to respond to the final rule, and extending the comment period . . . [is] inconsistent with provision of maximum lead time."[785]

This meager justification fails in two obvious respects. First, the minimal justification provided is unsubstantiated and in fact contradicted by automaker interests' own requests for an extension. Second, it fails to provide any explanation why the "maximum lead time" interest outweighed the many other concerns raised by a wide range of additional stakeholders.

a. The agencies' justification is unsupported and contradicted by the record.

The notice fails to explain how its justification for rejecting the comment period extension requests—that "[a]utomakers will need maximum lead time"—is rational, given that the only record input from automakers called for an extension of the comment period.[786]

The Alliance of Automobile Manufacturers—a trade association representing twelve major auto manufacturers—requested that the comment period be extended to "not less than 120 days," noting that:

> "As part of its formal comments on the NPRM for this important rulemaking, the Alliance will submit several detailed technical and economic analyses and reports. Due to extensive changes to NHTSA's model, developed by the Volpe National Transportation Systems Center, and the numerous supporting documents released by the Agencies, some of the Alliance's analyses and reports cannot be completed within the current 60-day comment period."[787]

(AAPCA), National Association of State Energy Officials (NASEO); Georgetown Climate Center; Alliance of Automobile Manufacturers (Alliance); City of Los Angeles; American Lung Association; 32 U.S. Senators; New York Department of Environmental Conservation; South Coast Air Quality Management District (SCAQMD); Edison Electric Institute (EEI), National Rural Electric Cooperative Association (NRECA), National Association of Manufacturers (NAM), Electric Drive Transportation Association (EDTA), and American Public Power Association (APPA); New York University School of Law Institute for Policy Integrity; and Alliance to Save Energy).

[784] In denying the extension requests, the agencies did extend the rulemaking comment period by three days to comply with a Clean Air Act requirement that the docket be held open for thirty days after completion of any oral proceeding. *Id.* at 48,581.

[785] *Id.*

[786] Comment submitted by Chris Nevers, Vice President, Energy and Environment, Alliance of Automobile Manufacturers, Sept. 6, 2018, Docket No. NHTSA-2018-0067-3619 & EPA-HQ-OAR-2018-0283-0876 (noting that its members are BMW Group, FCA US LLC, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche Cars North America, Toyota, Volkswagen Group of America and Volvo Car USA).

[787] *Id.*

Similarly, the National Coalition for Advanced Transportation, whose members include auto manufacturers Tesla and Workhorse, [788] requested a 60-day extension of the comment period, noting that:

> "It is critically important that NCAT and its members have the additional time requested in order to properly analyze and meaningfully comment on the wide range of complex technical and legal issues presented in the more than 500-page Proposed Rule accompanied by an over 1,600-page Preliminary Regulatory Impact Analysis. The proposal incorporates new proposed CAFE standards for MY 2022-2022 [sic], major revisions to existing CAFE standards for MY 2021, major revisions to GHG standards for MY 2021-2025, new GHG standards for MY 2026, a first-ever proposal to rescind an existing waiver of preemption under Section 209(b) of the Clean Air Act, as well as a novel and highly consequential proposed interpretation of the preemption provisions of the Energy Policy and Conservation Act. The modeling, technical and legal analysis underpinning the proposed rule departs significantly from prior analyses and presents extensive, highly complex, and novel information and analytical approaches. Further, this rulemaking could have dramatic effects on the U.S. economy, NCAT members' business interests, and federal-state relations.

The agencies' minimal justification for denying an extension cannot rationally be reconciled with these submissions. The agencies provide no citation or substantiation for their claim that auto manufacturers' need for "maximum lead time" demands a truncated comment period. They nowhere attempt to reconcile their assertions regarding auto manufacturers' need for maximum lead time with the only submissions on this point from auto manufacturers, which request an extension of 60 days or more and aver that without an extension, "reports and analysis cannot be completed" and the automakers will face challenges in "properly analyz[ing] and meaningfully comment[ing]" on the proposal. Nor do the agencies explain how their concern for automaker lead time, above all other considerations, accords with NHTSA's assertion that that there is no lead time requirement for amendments to the existing MY2021 standards that make the standards less stringent.[789] This irrational, unsupported explanation cannot justify the agencies' denial of requests for extension of the comment period.

b. The agencies failed to explain why the need for lead-time superseded all other requests.

Even further, the agencies did not respond at all to the many arguments incorporated in extension requests from other stakeholders. The notice provided no explanation of why automakers' purported need for "maximum lead time" outweighed these concerns. For example:

- A range of state and local agencies observed that "Title II of the Clean Air Act is built upon a central role for state and local governments" in requesting at least a 60-day extension of the comment period. The signatories noted that "[t]he rule itself, coupled

[788] Comment submitted by Robert A. Wyman, and Devin O'Connor, Latham & Watkins LLP, on behalf of National Coalition for Advanced Transportation, Aug. 29, 2018, NHTSA-2018-0067-2872; EPA-HQ-OAR-2018-0283-0794.
[789] 83 Fed. Reg. at 34,207; *see also* Section IV(B), *supra*.

with its Regulatory Impact Analysis and Environmental Impact Statement, comprises over 3,000 pages of deeply technical content. Agencies and decisionmakers in each of the 50 states and D.C., as well as the 116 local clean-air agencies, must have time to do a thorough technical review and coordinate internally and externally to assure that their comments are sufficiently informed to provide meaningful analysis and input."[790] NHTSA and EPA's denial notice included no specific response to these state and local agencies' request.

- A submission from eighteen state Attorneys General and two state agencies requested at least a 60-day extension, noting that "[e]ach of the three actions proposed here—EPA's rollback, NHTSA's rollback, and the waiver revocation—is tremendously significant and would call for a minimum 60-day comment period on their own."[791] The request underscored the challenge of reviewing the deeply technical material at issue, highlighting the "enormous volume of technical information to be reviewed, including models and data, some of which is not currently available"; NHTSA's "numerous, significant changes to the CAFE model, identifying at least eleven 'key changes,' including multiple new 'modules' to the CAFE model as well as many substantial changes in the inputs, analysis, assumptions, and approaches taken in past rulemakings"; as well as the fact that "EPA itself had more than five months (from January to June 2018) to review the changes NHTSA made to the CAFE model, yet still had enough questions and concerns to fill more than a hundred pages."[792] Moreover, the request underscored that "[t]hese proposed actions put our States and our people at risk, and the enormity of the consequences of these proposals alone warrants ensuring that States, and other members of the interested public, have sufficient time to conduct meaningful review and analysis of the available information and to respond fully and completely."[793] NHTSA and EPA's denial notice included no specific response to the state and local agencies' request.

- A request from the Edison Electric Institute (EEI), the National Rural Electric Cooperative Association (NRECA), the National Association of Manufacturers (NAM), the Electric Drive Transportation Association (EDTA), and the American Public Power Association (APPA) sought a 60-day extension of the comment period, highlighting the

[790] Letter of National Governors Association (NGA), Environmental Council of the States (ECOS), National Association of Clean Air Agencies (NACAA), Association of Air Pollution Control Agencies (AAPCA), National Association of State Energy Officials (NASEO), Sept. 5, 2018, Docket No. EPA-HQ-OAR-2018-0283-0871.
[791] Letter of the States of California, Connecticut, Delaware, Iowa, Illinois, Maine, Maryland, Massachusetts, Minnesota, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, Vermont, Washington, and the District of Columbia to Andrew K. Wheeler and Heidi King, Aug. 27, 2018, Docket No. EPA-HQ-OAR-2018-0283-0792.
[792] *Id.*
[793] *Id.*

proceeding's "numerous novel and complex technical and environmental impact analyses" to review and evaluate.[794]

- Several requests made comparisons to other rulemakings, such as the proposal to repeal the Clean Power Plan, which had a 191-day comment period.

These are a just a selection of the numerous requests for additional time—which repeatedly highlighted the severe harm at stake, the numerous distinct rulemakings at issue, and the deeply complex technical materials to review and evaluate.

NHTSA and EPA's one-sentence justification for denying all these requests fails to provide any explanation for elevating an unsubstantiated need for lead-time over these repeated concerns from a wide range of stakeholders. The agencies did not address—let alone refute—the commenters' explanations of why more time was required. NHTSA and EPA did not address concerns about commenters' ability to review and analyze the novel modeling, or ability to access key information that would allow them meaningfully to review and comment upon the proposals.

c. The agencies' rejection of these requests impaired the public's ability to comment meaningfully on the proposal.

The agencies' cursory denial of this chorus of demand from stakeholders impaired the public's ability to comment meaningfully on the proposal.

The inadequate comment period has impaired stakeholders' ability to review and provide informed comment on the proposal. In particular, the truncated comment period has shortchanged stakeholders' ability review and critique the agencies' technical analyses. Examples of the challenges faced include:

- In the supporting technical analyses, design constraints result in a model that has extremely limited freedom with regard to technology selection. Instead, technology availability, as well as a substantial portion of technology selectability (the ability to adopt or not adopt an available technology), is determined *a priori* during the model design process by NHTSA. The offline decision-making that goes into this design process is not well documented, and therefore is not easily critiqued. It would take considerable effort and substantially more time than NHTSA and EPA have provided under the NPRM comment period to restructure model code to allow for the efficient evaluation of alternative technologies or alternative technology paths. Examples of

[794] Letter of Edison Electric Institute (EEI), the National Rural Electric Cooperative Association (NRECA), the National Association of Manufacturers (NAM), the Electric Drive Transportation Association (EDTA), and the American Public Power Association (APPA) to Elaine L. Chao and Andrew Wheeler, Sept. 18, 2018, Docket No. EPA-HQ-OAR-2018-0283-0903, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0903.

the specific impact of shortcomings in current model design are identified and discussed in more detail in separate technical comments.[795]

- Inability to determine inputs into the ANL data base used to simulate performance (which in turn generates outputs for the Volpe model). Much of the ANL data appears to be invalid across both vehicle classes and technology combinations. Unfortunately, it is not possible to isolate the cause of the apparent discrepancies without considerably more detailed investigation than is possible in the timeframe available for NPRM review.[796]

- Although it is clear that many of the technical algorithms to the Volpe model are flawed, there is inadequate time to reverse engineer these algorithms to determine the magnitude of the flaws and the full implications of these errors. The lack of time together with lack of notice makes it next to impossible to quantify the net impact of the errors in the Volpe model. To do so would require adequate time to modify algorithms and resolve cost data discrepancies.[797]

3. The agencies inadequately provided for public hearings.

In the signed proposal made public on August 3, 2018, the agencies initially announced that public hearings would be provided for in Washington, D.C., Detroit, and Los Angeles. The Federal Register publication of the proposal similarly announced these three hearing locations.[798] Yet in a separate notice published on August 24, the agencies announced without explanation that public hearings would be held in different locations: Fresno, California; Pittsburgh, Pennsylvania; and Dearborn, Michigan.[799]

In response, many stakeholders requested that the agencies hold additional hearings.[800] In addition, Los Angeles and the Attorneys General letter asked that the originally scheduled Los Angeles hearing be held, and that EPA provide for a hearing especially devoted to allowing

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[795] *See* comment submitted to these dockets: Rick Rykowski, Supporting Report for Environmental Defense Fund Comment, *Review of the Agencies' Technical Analysis Supporting the SAFE Vehicle NPRM* (October 2018)

[796] *See* comment submitted to these dockets by of the International Council on Clean Transportation.

[797] *See id*.; comment submitted to these dockets: Meszler Engineering Services (October 2018), Technical Memorandum I: The NPRM CAFE Model's Treatment of Technology Benefits and Costs, appended to comments filed by Natural Resources Defense Council.

[798] The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, Notice of Proposed Rulemaking, 83 Fed. Reg. 42,986, 42,986 (Aug. 24, 2018).

[799] The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks, Announcement of Public Hearings, 83 Fed. Reg. 42,817 (Aug. 24, 2018), https://www.govinfo.gov/content/pkg/FR-2018-08-24/pdf/2018-18418.pdf.

[800] 83 Fed. Reg. at 48,580 (noting that Northeast States for Coordinated Air Use Management, the Attorneys General letter, Georgetown Climate Center, the City of Los Angeles, the Minnesota Pollution Control
Agency and Minnesota Department of Transportation, the South Coast Air Quality Management District, and the Oregon congressional delegation requested additional hearings and/or workshops).

public comment upon the unprecedented waiver-revocation proposal.[801] Organizations in Section 177 states similarly requested a hearing to hear directly from their citizens.[802]

The agencies denied these requests. No reasoning was offered other than the same claim that providing additional hearings would be inconsistent with the agencies' unsubstantiated claim of urgency to provide "maximal lead time" for auto manufacturers[803]—which again, ignored the fact that auto manufacturer representatives had themselves requested at least a 60-day extension of the comment period.

The result was a set of hearings that was not reasonably calculated to provide the public with the ability to be heard. The inadequacy was particularly noticeable as to California, where the agencies, after having announced that a hearing would be held in the State's most populous city and region—Los Angeles—reversed course and held only a single hearing in a city removed from Los Angeles and the states' other largest population centers. EPA and NHTSA never provided any reasons for or even acknowledgement of reversing course, although the decision had the effect of depriving many members of the public the ability to present in-person testimony on the proposal.

More generally, the agencies did not provide an adequate opportunity for the public to be heard on the whole suite of dramatically consequential actions in the proposal. In particular, the agencies should have provided, as requested, a public hearing focused on the unprecedented proposed attacks on authority for state clean cars regulation. As just one example, three minutes' podium time at the Fresno hearing was manifestly inadequate for California voices to be heard on the proposed waiver revocation—a blanket decision that could cripple the State's efforts to address GHG emissions from mobile sources to meet compelling and extraordinary conditions in the State—together with the proposed rollbacks of federal standards.

The hearings provided here were inadequate, and the agencies offered no good reason for rejecting the requests for hearings in states particularly affected by the proposed withdrawal of the waiver and section 177 states' ability to apply the California GHG and ZEV programs. Because the unlawful proposal must be withdrawn, the agencies should ensure than opportunities for public participation, including hearings, on any further proposals are reasonable and are not calculated to minimize public input. Going forward, the opportunity for additional hearings should be appropriate to the scale and scope of this dramatic and deeply harmful proposal.

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[801] *Id.*

[802] *Id.*; *See also, e.g.*, Letter from Northeast States for Coordinated Air Use Management, Aug. 24, 2018, Docket No. EPA-HQ-OAR-2018-0283-0790, https://www.regulations.gov/document?D=EPA-HQ-OAR-2018-0283-0790.

[803] 83 Fed. Reg. at 48,581 ("[H]olding additional public hearings (which would also cause the comment period to be extended) [is] inconsistent with provision of maximum lead time.").

F. EPA's Revised Final Determination for the Mid-Term Evaluation is unlawful.

In the Revised Final Determination,[804] EPA violated the MTE regulations by failing to provide for public review the information on which EPA relied on in assessing the existing regulations; failing to provide an opportunity for comment thereon as required by the governing regulations; withdrawing the lawful January 2017 Final Determination[805] without a reasoned analysis or record basis for doing so; failing to make required detailed assessments of the factors set out in the regulations; and failing to provide a reasoned analysis of the record facts EPA found in its January 2017 Final Determination. The Revised Final Determination made a highly consequential decision – that the emission standards on the books governing the 2022-25 period were not "appropriate" and need to be made less stringent – on a basis of reasoning, evidence, and procedures that do not measure up to the most basic requirements of reasoned decision-making and public participation.

The Revised Final Determination ignores and violates the requirements that EPA must comply with under its own mid-term evaluation regulations, 40 C.F.R. § 86.1818-12(h); its evidentiary basis was never made available for public review and comment. Despite having before the agency an extensive, detailed record that had been subject to multiple rounds of public review and comment, in the Revised Final Determination, the EPA disregarded that record on the basis that new information arising since January 2017 that purportedly rendered it obsolete. However, the purported new information was not itself made available for public review and comment (and in most instances is not presented in the Revised Final Determination itself). This procedure was completely inconsistent with the MTE regulations, with their provisions for an agency-prepared Technical Assessment Report, and with notice-and-public- comment requirements.

In response to petitions for review in the D.C. Circuit challenging the Revised Final Determination, EPA says that the April 2018 Revised Final Determination is not a final action, and therefore is not subject to judicial review.[806] We disagree. But assuming EPA were correct that the Revised Final Determination is not a reviewable final action and that review of EPA's errors therein must await a final action on the current NPRM, we hereby note our objections to EPA's Revised Final Determination, including EPA's flagrant disregard of the governing regulations and failure to adhere to basic reasoned decisionmaking requirements in the Mid-Term Evaluation.[807] Those violations taint the integrity of the resulting rulemaking and would render any rule altering the MY 2022-25 standards as a result of this flawed process arbitrary and capricious and contrary to law. Moreover, to the extent the agencies' proposed rule reflects conclusions and findings contrary to those in the 2017 Final Determination, the agency's failure to adequately explain its change in position either in the Revised Final Determination or in the

[804] "Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles," 83 Fed. Reg. 16,077 (Apr. 13, 2018).
[805] Letter from Administrator Gina McCarthy to Stakeholders (Jan. 12, 2017), https://www.epa.gov/regulations-emissions-vehicles-and-engines/epa-administrators-signed-cover-letter-final.
[806] Respondents' Motion to Dismiss Petitions for Lack of Jurisdiction, *State of California v. EPA*, D.C. Cir. Nos. 18-1114, et al., ECF No. 1739996 at 7-18 (filed July 10, 2018).
[807] *See* 5 U.S.C. § 704.

resulting rulemaking would likewise make adoption of the proposed rollback of the standards arbitrary and capricious.

1. Background.

The 2012 final rule, 77 Fed. Reg. 62,624 (Oct. 15, 2012), bound EPA to undertake a Mid-Term Evaluation to decide whether to initiate any rulemaking to change the MY2022-2025 standards. 40 C.F.R. § 86.1818-12(h) ("§12(h)"). The Mid-Term Evaluation regulations balance automakers' desire for a one-time systematic and exhaustive review of the MY2022-2025 standards by a date certain (April 2018) with the interest of many other stakeholders in safeguarding the emission reductions projected to result from the standards established in 2012. EPA reconciled these interests by binding itself to make any decision – whether to retain the standards as "appropriate" or to start a rulemaking to change them after a finding that they were "not appropriate" – based on detailed findings on specific, enumerated factors and a "comprehensive and robust evaluation." § 12(h).

Consequently, the 2012 rule established a special process to govern the evaluation. EPA committed itself to prepare a draft Technical Assessment Report (TAR) addressing issues relevant to the MY2022-2025 standards, §12(h)(3); solicit public comment on the TAR and other relevant materials, §12(h)(2); and determine by April 2018 "whether the [existing MY2022-2025] standards" remained "appropriate," §12(h). Further, that determination must be "based upon a record that includes" the TAR and public comments thereon, §12(h)(2)(ii)-(iii), and EPA must "set forth in detail the bases for [its] determination …, including [EPA's] assessment of [enumerated] factors." §12(h)(4); *see also* §12(h)(1).

If EPA determined that the existing MY2022-2025 standards remained "appropriate," those standards would remain in place. But if it found the existing standards "not appropriate," the regulations required that EPA "shall initiate a rulemaking to revise [them]." § 12(h). This regime reflected the consensus of the federal and state agencies, automakers, and other stakeholders that any decision to retain or change the standards would have to be made through what the preamble repeatedly called a "collaborative, robust and transparent process," including opportunity for public review and comment on technical information and explicit, detailed agency findings, before EPA could propose any changes to the regulations.

The Mid-Term Evaluation was to reflect close coordination between EPA, NHTSA, and the California Air Resources Board ("CARB"). The "decision making required of the Administrator" in the Mid-Term Evaluation was "intended to be *as robust and comprehensive as that in the original setting of the MY2017-2025 standards,*" 77 Fed. Reg. 62,784 (emphasis added), with "analyses and projections" that would be "similar" in rigor to the 2012 rulemaking itself, including "appropriate peer review," and modeling "available to the public to the extent consistent with law," *id*. at 62,964.

In July 2016, EPA published a 1,215-page draft Technical Assessment Report ("TAR") jointly with NHTSA and CARB. *See* EPA-HQ-OAR-2015-0827-0926. Employing "a collaborative, data-driven, and transparent process," the three agencies assembled updated data and analysis from a "wide range of sources," including "research projects initiated by the agencies, input from stakeholders, and information from technical conferences, published literature, and studies

published by various organizations." TAR 2-2. "[W]here possible, each agency . . . made the results of a variety of projects available to the public." TAR 2-2. EPA contributed "a major research benchmarking program for advanced engine and transmission technologies," and studies employing EPA's vehicle emissions model, both of which generated multiple peer-reviewed research papers and studies. TAR 2-2 to 2-3. NHTSA and CARB similarly conducted their own new research. TAR 2-3 to 2-10. The TAR also incorporated the results of a 2015 National Academy of Sciences study "timed to inform the mid-term evaluation by considering technologies applicable in the 2020 to 2030 timeframe." TAR 2-4.

Based on this thorough and public analytical process, the TAR found that "a wider range of technologies exist[s] for manufacturers to use to meet the MY2022-2025 standards, and at costs that are similar or lower than those projected" when those standards were promulgated. TAR ES-2. After considering 200,000 public comments on the TAR, EPA issued a Proposed Determination that the MY2022-2025 standards remained "appropriate." 81 Fed. Reg. 87,927 (Dec. 6, 2016). This proposal was supported by an additional 718-page technical support document, drawn from the TAR and comments thereon. *See* EPA-HQ-OAR-2015-0827-5941.

On January 12, 2017, after considering more than 100,000 additional comments, EPA issued a Final Determination that the MY2022-2025 standards remained "appropriate under section 202(a)(1) of the Clean Air Act." *Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards Under the Midterm Evaluation*, EPA-420-R-17-01 ("Final Determination"). EPA explained that: the auto industry was "thriving," *id*. at 7, with seven uninterrupted years of growth including "record sales in 2016," *id.* at 15; technologies to reduce emissions had advanced more rapidly than anticipated in 2012, and at "reasonable cost – less than projected in the 2012 rulemaking" (*id*. at 13); "technology adoption rates and the pace of innovation have accelerated even beyond what EPA expected" in 2012 (*id*. at 23); the standards could be met "through a number of different technology pathways reflecting predominantly the application of technologies already in commercial production" (*id*. at 4); the standards had not impaired industry growth, and the standards would impose only reasonable consumer costs that would be more than offset by decreased fuel costs, *id*. 29-30. "[T]he record clearly establishes," EPA concluded, that "it will be practical and feasible for automakers to meet the MY2022-2025 standards at reasonable cost that will achieve the significant GHG emissions reduction goals of the program, while delivering . . . significant benefits to public health and welfare, and without having material adverse impact on the industry, safety, or consumers." *Id*. at 29. The agency also responded to comments on the TAR and Proposed Determination, including responses to all technical concerns raised by manufacturers. See, *e.g*., Proposed Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation: Technical Support Document EPA-420-R-16-021 (Nov. 2016) at App. A (response to comments of Alliance of Automobile Manufacturers' Contractor Reports Titled "Final Report for Technology Effectiveness (Phase I and II)").

Following the presidential transition, EPA and NHTSA jointly announced in March 2017 that EPA planned to reconsider the 2017 Final Determination. 82 Fed. Reg. 14,671 (Mar. 22, 2017). In August 2017, the agencies explained that the reconsideration would be "conducted in accordance with the regulations EPA established for the Mid-Term Evaluation," and sought

public comment. 82 Fed. Reg. 39,553. But the notice stated that the TAR – the technical report supporting the 2017 Final Determination –was "not being reopened for comment." *Id.*

On April 13, 2018, EPA Administrator Scott Pruitt published an 11-page decision that reversed and withdrew the 2017 Final Determination. 83 Fed. Reg. 16,077 ("Revised Final Determination"). The Revised Final Determination came without any technical report or other supporting analysis.

The Revised Final Determination represented a largely unexplained turnabout from the 2017 Final Determination. The Administrator pronounced that "many of the key assumptions EPA had relied upon" the previous year were "optimistic or have significantly changed and thus no longer represented realistic assumptions," and that existing emissions standards for MY2022-2025 "present[ed] challenges for auto manufacturers due to feasibility and practicability," and raised "potential concerns" on safety and consumer costs. 83 Fed. Reg. at 16,078, 16,087. EPA declared that unspecified and undisclosed new information – a "significant record … developed since the January 2017 Determination" – had undermined its prior decision. *Id.* at 16,078.

The Revised Final Determination did not explain the rationale for departing from the detailed data and technical analysis that formed the basis of the 2017 Final Determination. *See* § 12(h)(2). For example, while the Revised Final Determination briefly asserts that gas prices were lower than had been anticipated in 2012, it nowhere acknowledges that the TAR and the 2017 Final Determination had determined that the current MY2022-2025 standards would continue to be effective and cost-beneficial even under fuel-price scenarios substantially *lower* than those considered in the Revised Final Determination, *see* Final Determination 13, 23; TAR 3-4 to 3-5, nor did it provide a reasoned basis for reaching a different conclusion.

Similarly, the Revised Final Determination adverted to new information or possible doubts about other factors such as technology, costs, and safety, but provided virtually no explanation why the contrary conclusions in the 2017 Final Determination – which were far more extensive and were subjected to peer and public review – were flawed. Nonetheless, the Revised Final Determination declared that "the current GHG program for MY2022-2025 vehicles presents difficult challenges for auto manufacturers and adverse impacts on consumers," and that the "standards are not appropriate," thereby "conclud[ing] EPA's [Mid-Term Evaluation] under [§] 12(h)." 83 Fed. Reg. at 16,087.[808]

2. The MTE regulations were designed to provide a fair and transparent process for the entire public, not just "regulated parties."

In the D.C. Circuit litigation in which states, environmental groups, and industry participants challenge the Revised Final Determination, EPA has taken the position that the MTE process was a one-way affair, *i.e.*, that EPA was obligated to comply with the MTE regulatory requirements if it decided to retain the standards adopted in 2012, but if EPA decided to weaken

[808] Referring to the just-issued Revised Final Determination on his official Twitter account, former Administrator Pruitt explained that EPA "plans to roll back Obama Admin fuel standards," which were "not appropriate & needed to be revised" and were "too high." https://web.archive.org/web/20180608153304/https:/twitter.com/epascottpruitt/status/981239876971565056; https://web.archive.org/web/20180404003625/https://twitter.com/EPAScottPruitt.

the standards, the agency could ignore the MTE regulations and need not answer to the public or a court. Thus, EPA argues in its D.C. Circuit motion to dismiss that the MTE regulations were designed to benefit only directly "regulated parties." See EPA Reply in Support of Motion to Dismiss, *California v. EPA*, D.C. Cir. No. 18-1114, at 9-10, Doc. 1751968 ("EPA constructed the regulation governing the [Mid-Term] Evaluation so that regulated parties would have assurance that EPA would take at least one hard look at potentially revising the standards in view of unanticipated circumstances, and if EPA decided not to revise the standards, regulated parties would have the opportunity to challenge that decision."). EPA also claims to have exercised its authority to revisit existing regulations, appearing to claim that it is not bound by the requirements of the MTE regulations.

But that position is irreconcilable with EPA's behavior (in purporting to follow the MTE regulations) and the text of the regulations, which do not say they are intended only to benefit regulated industry or to limit the ability to enforce MTE requirement to particular parties or to advocates of weaker regulation. The regulations set forth various mandatory requirements that on their face apply without regard to the identity of the parties advocating changing or retaining them – including requirements that EPA set forth the technical basis for its determination and provide a "detailed assessment" on the record of enumerated factors regardless of the nature of its determination.

EPA should clarify whether it is relying upon the proposition asserted in its litigation filing that the MTE regulations protect only regulated entities. Despite recent suggestions in litigation that it is exercising independent authority to change the regulations outside and independent of the MTE process, EPA has taken no action to rescind the MTE regulations. Hence it is obligated to follow them. *See Nat'l Envtl. Dev. Ass'ns Clean Air Project v. EPA*, 752 F.3d 999, 1009 (D.C. Cir. 2014) ("[A]n agency is not free to ignore or violate its regulations while they remain in effect.") (citation omitted). EPA should explain whether it regards the MTE regulations as impliedly rescinded by the present proposal, or whether the MTE regulations continue to be effective.

3. EPA violated the regulatory requirements that the technical basis for the EPA's Final Determination be made available for public review and comment.

The MTE regulations contemplate that the technical information upon which the Administrator's "appropriateness" determination is based must be set out for public review and comment: "The Administrator shall make the determination required by this paragraph (h) based upon a record that includes . . . A draft Technical Assessment Report addressing issues relevant to the standard for the 2022 through 2025 model years" and "Public comment on the draft Technical Assessment Report." 40 C.F.R. § 86.1818–12(h)(2). Under those regulations, a draft TAR must be issued months before any final determination. 40 C.F.R. § 86.1818–12(h)(3)(ii) ("No later than November 15, 2017, the Administrator shall issue a draft Technical Assessment Report addressing issues relevant to the standards for the 2022 through 2025 model years."). These requirements make clear that with respect to any "issues relevant to the standard for the 2022 through 2025 model years," 40 C.F.R. § 86.1818–12(h)(2)(ii), EPA must publish any technical findings in proposed form in a draft TAR, and allow for public input on them before relying upon them to support a Final Determination.

The 2017 Final Determination rested upon a detailed draft TAR that was made available for public review and comment, as well as a Proposed Determination that incorporated updates to the draft TAR, responded to public comments on the draft TAR, and was also subject to public review and comment. This course of action properly followed the procedures in the MTE regulations, which recognize that updates to the analyses in the draft TAR might occur based on this comment process as well as comments on the appropriateness of the standards. But at its core, the regulatory scheme starts with a draft TAR that contains all of the technical analyses and assessments that the Administrator intends to rely on in his or her final determination.

In contrast, the April 2018 Revised Final Determination followed no presentation of supporting evidence and proposed findings for public review and comment. No draft TAR preceded the 2018 Revised Final Determination laying out the ostensibly new information that was not considered in the 2016 draft TAR. The April 2018 determination thus refers to unspecified new information that supposedly warrants a 180-degree reversal of the 2017 determination, but that the public had no opportunity to comment on. This reliance upon unspecified information that has not been identified or evaluated, and not made available for public comment, violates the MTE regulations.

In the Revised Final Determination, EPA relied almost exclusively on the largely undocumented new information and analyses that had not been available in the TAR or in any other materials that were made available for public review and comment. Rather, EPA simply asserted that this new information existed and warranted a "not appropriate" finding. This procedure violated the MTE regulations and foreclosed the ability of the public and all stakeholders to review and comment on the basis of EPA's proposed determination regarding the appropriateness of the existing regulations. EPA converted what was supposed to be an open and transparent process into an opaque one in which EPA's determination was based on undisclosed information and cherry-picked assertions in industry comments (and even then, ignored that the agency had already addressed many of those industry comments).

In the process leading up to the Revised Final Determination, EPA flouted both the letter of these regulations and their broader purpose of giving stakeholders and the general public the opportunity to review and comment upon the technical information and analyses upon which EPA proposed to make its determination of the "appropriateness" of the standards. In 2016, EPA prepared an extensive TAR for the MTE, solicited and received comment, and relied upon that TAR and the public comment in its January 2017 decision finding the existing standards appropriate. In the 2017-2018 reconsideration of that finding, however, EPA did not issue any new or amended TAR. Nor did EPA call for further comment on the existing TAR. 82 Fed. Reg. 39,553 (stating that TAR was "not being reopened for comment"). Yet, EPA did not use this or any other TAR to support its Revised Final Determination--nor explain why it did not--and instead relied extensively upon claimed new technical information about a broad variety of topics, including gasoline prices, the feasibility and cost of various automotive technologies, safety concerns, and others. Without further elaboration, EPA summarily declared that new information – a "significant record … developed since the January 2017 Determination" – had undermined its prior decision. *Id.* at 16,078.

In the Revised Final Determination, EPA announced, again without evidence or analysis, that "many of the key assumptions EPA had relied upon" the previous year were "optimistic or have

significantly changed and thus no longer represented realistic assumptions," and that existing emissions standards for MY 2022-2025 "present challenges for auto manufacturers due to feasibility and practicability," raise "potential concerns" on safety, and increase consumer costs. *Id.* at 16,078. Because the Revised Final Determination never attempts to refute the findings in the January 2017 Final Determination as inconsistent with the record, the claimed new information forms the entire basis for the Revised Final Determination and for rejecting and withdrawing the January 2017 decision.[809] But none of this alluded-to information was incorporated into a technical assessment report, analyzed, compared to the existing TAR or made available for public review and comment. EPA's reliance on this information – and the Revised Final Determination itself – were accordingly unlawful.

EPA's failure to compile a TAR (or supplement the 2016 TAR) setting forth for public review and comment the ostensibly new information underlying the Revised Final Determination was a plain violation of the MTE regulations, to say nothing of the agency's obligation to closely examine and address the existing factual record when revising agency action.[810] EPA's violation meant that EPA did not have the benefit of either a formal, public compilation of underlying technical information or comment thereon, and it rendered EPA's Revised Final Determination unlawful.

It also deprived stakeholders including supporters of the existing regulations of access to a resource – a TAR compiling the information assertedly favoring a weakening of the standards – to which they were entitled by law and that would allow them more effectively to comment on the current proposal. That legal error has not been cured by the proposal, which itself fails to engage with the TAR and supply the "detailed" agency findings required by the MTE regulations that commenters could use to enhance their participation in the ongoing rulemaking. Compare 42 U.S.C. § 7607(d)(3) (disclosure requirements for proposed rule under the CAA), with 40 C.F.R. 86.1818-12(h)(4) (disclosure requirements for MTE final determination). In contrast to the first MTE process, EPA also did not provide the public with a proposed final determination – a failure that compounded the agency's unlawful failure to provide for a technical assessment report and public comment on EPA's allegedly decisive new information that had come to light

[809] *See, e.g.*, 83 Fed. Reg. at 16,079 ("The Administrator finds, based on the record, including new data and information provided since January 2017, that the January 2017 Determination was optimistic in its assumptions and projections with respect to the availability and effectiveness of technology and the feasibility and practicability of the standards."); *id.* at 16,079 (relying on "EPA's latest data" and "new reports and data submitted by stakeholders" relating to companies reliance on credits in MYs 2016 and 2017); *id.* at 16,079 (citing alleged new information that "calls into question EPA assumptions for the 2012 rulemaking and the January 2017 Determination" concerning EV sales); *id.* at 16,080 (citing alleged "information received since the January 2017 Determination" relating to technology); *id*. at 16,084 (citing claimed new information that fuel cost savings that "supports EPA's determination that the current standards are inappropriate"); *id.* at 16,085 ("Based on the information provided above, the Administrator believes that there is strong basis for concern that the current emission standards from MY 2022—2025 may not produce the same level of benefits that was projected in the January 2017 Determination"); *id.* at 16,087 ("it is clear that many of the key assumptions EPA relied upon in its January 2017 Determination, including gas prices, and the consumer acceptance of advanced technology vehicles, were optimistic or have significantly changed").

[810] *See, e.g., infra* section II(A).

since January 2017.

The information EPA did rely on the Revised Final Determination consisted largely of materials submitted by auto manufacturers and other proponents of weakening the existing standards. While these parties had every right to participate in the rulemaking and submit any relevant information, the regulations required that other parties have an opportunity to review and comment on the basis for EPA's determination. This procedure set out in the regulations serves to ensure that all stakeholders would have the opportunity to review and comment upon the informational basis for EPA's proposed determination. In the Revised Final Determination, EPA converted a process designed to provide a fair opportunity for all stakeholders to review and comment on the technical basis for MTE into a process designed to benefit only "regulated parties." This fundamental alteration of the process contemplated by the regulations was unlawful.

Nor is it any excuse that EPA did prepare and invite comment on a TAR as part of the MTE that ended in January 2017. EPA's subsequent process thoroughly disregarded and directly overruled that process, "withdrawing" EPA's prior conclusion, based upon information that had not been made part of any TAR or made available for public review and comment. The procedure EPA followed in reconsidering the January 2017 Final Determination ignored the regulations and purported to reach the opposite result, but without allowing the public to review and comment on the new information that allegedly rendered the old determination incorrectly.

The April 2018 Revised Final Determination was unlawful. The regulations require a multi-stage, multi-agency process with several rounds of public comment; detailed technical analysis with peer review and public vetting of a formal agency technical report; and a "detailed" explanation by the Administrator of the basis for his ultimate determination as to "each of the factors" set forth in the regulation. § 12(h). This process was meant to ensure that *any* decision – whether to retain the 2012 standards, to weaken them, or to strengthen them – would be based upon that full, publicly-vetted technical record and formal, explicit findings. That EPA is now conducting notice and comment on the proposed changes to the standards does not redress the unlawfulness of the Revise Final Determination. The detailed process and assessment that the 2012 MTE regulations require must occur *before* a revisory rulemaking can begin. The Revised Final Determination itself violates EPA's obligations timely to provide the public with that information, independent of further rulemaking proceedings. *See* § 12(h)(4).

Similarly, the revised Final Determination flouted the APA's notice and comment requirements. The APA's notice and comment requirements, 5 U.S.C. § 553, apply to CAA rulemaking that, like the MTE proceeding, is not among the specific categories of actions enumerated in section 307(d), 42 U.S.C. § 7607(d)(1). Here EPA failed to present, analyze and take comment on alleged "game-changing" new information precluding comment on technical issues that the Administrator would later determine to warrant an "inappropriateness" finding. This failure deprived the public of an opportunity to comment upon new information that EPA claimed to warrant reversing an agency judgment reached only a year before.

The MTE regulations contemplate that the technical basis for EPA's determination be made public and available for public review and comment before the Administrator makes a final determination on the "appropriateness" of standards. This process was unlawfully ignored.

4. The withdrawal of the January 2017 Determination was unsupported and unlawful.

In the April 2018 Revised Final Determination, EPA withdrew the January 2017 Final Determination. But EPA not only failed to make the technical information assertedly supporting such withdrawal available for public review and comment as required by the regulations, but also failed to provide any reasoned explanation for such withdrawal.[811] EPA failed to explain why the extensive findings in the January 2017 findings were incorrect.[812]

In withdrawing the January 2017 Final Determination, without a serious analysis of the findings therein, EPA has treated the MTE regulations as a one-way proposition in which record-building requirements and public review and reasonable explanation requirements are only there to benefit "regulated parties," and may be ignored so long as the regulated parties are satisfied with EPA's course of action. EPA failed to provide the requisite reasoned, record-based explanation for withdrawing the January 2017 final determination. Accordingly, EPA should reinstate its January 2017 determination and conduct any reconsideration of it in accordance with the MTE regulations and basic principles of administrative law.

The Revised Final Determination violated basic principles of administrative law and failed to abide by the Mid-Term Evaluation regulations EPA purported to be following. The EPA was free to reconsider the 2017 Final Determination, but in doing so he was required to examine all of the relevant evidence, analyze the issues, respond to technical and other objections raised, and provide a reasoned justification for rejecting prior technical, scientific and policy judgments made by EPA. Such reasoned decision-making is required as a matter of general administrative law, *see, e.g.*, *Motor Vehicles Manufacturers Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983), but it is additionally required under the regulations governing the Midterm Evaluation requiring that the agency provide a "detailed" assessment of each of the enumerated factors and base its decision upon a publicly vetted evidentiary record.

The original Final Determination followed upon multiple rounds of public comment on EPA's technical record and proposed determination, and was based on 1500 pages of agency technical analysis and carefully supported findings by the prior EPA. The Revised Final Determination makes no effort to engage with the massive technical record supporting the original Final Determination, contains no technical analysis and fails to provide any substantiated reasons or any evidence for its determination that the standards are not appropriate. It is an unexplained about-face without any record support apart from unexamined references to industry comments, and is based upon an unfounded claim that ostensibly new information since January 2017 obviates the need to explain the reversals of position.

The April 2018 Revised Final Determination finds that the standards are "inappropriate," in doing so rejecting the opposite finding in EPA's January 2017 Final Determination. In addition to reaching a different "bottom line" conclusion, the April 2018 Revised Final Determination concludes that the various factors required to be considered in the MTE regulations require an

[811] *E.g.*, *Motor Vehicle Mfrs. Ass'n. v. State Farm Mut. Auto. Ins. Co*., 463 U.S. 29 (1983); *FCC v. Fox Television Stations, Inc*., 556 U.S. 502 (2009).

[812] *See, e.g.*, *Fox,* 556 U.S. at 516 (agency changing course must provide reasoned explanation for "disregarding facts and circumstances that underlay or were engendered by the prior policy").

"inappropriateness" finding – the opposite of EPA's findings on these same issues in January 2017 finding.

While reaching opposite conclusions, the April 2018 Revised Final Determination pays only minimal attention to the January 2017 determination and extensive factual record. And the Revised Final Determination "withdraws" the January 2017 determination, but does not explain why either its "appropriateness" finding or its supporting determinations as to the specific enumerated factors, based on the extensive technical record, are wrong.

The Administrator's about-face on the precise same issues addressed just over a year before does not meet basic administrative law requirements for such agency reversals, which require a reasoned explanation for a change of position, including an explanation for why EPA is repudiating the detailed findings it made in the earlier Final Determination.[813]

But the Revised Final Determination is all the more unlawful because it also violates the regulations that govern the MTE process. The MTE Regulations require the Final Determination be based upon a factual record that has been subjected to public review and comment, rest on consideration of certain enumerated factors, and that the Administrator set forth "in detail the bases" for his determination as to whether the standards for Model Years 20122-25 are "appropriate," "including the Administrator's assessment of each of the factors listed in paragraph (h)(1) of this section."

In the Revised Final Determination, EPA flouted these requirements. The agency failed to make the required detailed assessments of the enumerated factors. The fact that his Revised Final Determination rejects contrary findings that the agency made, based on extensive technical analysis, on the identical issues exacerbates the agency's failure to make an adequate explanation.

EPA's unexplained reversals of determinations on the precise same issues addressed just over a year before are unlawful under general principles of administrative law and are equally clearly violative of the "detailed" assessment requirement in the MTE regulations. Similarly, EPA's threadbare explanations for its finding of "inappropriateness" and its assessment of the various factors – which often consist of little more than uncritical summaries of industry comments or assertions of a need for further analysis – would not have met the regulatory requirement for a "detailed" and record-based assessment of the factors even if the agency had been writing on a blank slate, rather than rejecting express, elaborately explained and documented agency findings set out in January 2017 Final Determination.

Rather than showing why the January 2017 determination was incorrect or unsupported, the Administrator primarily relied upon claims that *new* developments in the auto industry or broader economy have undermined the January 2017 Final Determination, revealing that the

[813] See *Fox*, 556 U.S. at 515 (When an agency's "new policy rests upon factual findings that contradict those which underlay its prior policy," the agency must "provide a more detailed justification than what would suffice for a new policy created on a blank slate."). An agency may not "disregard contrary or inconvenient factual determinations that it made in the past, any more than it can ignore inconvenient facts when it writes on a blank slate." *Id*. at 537 (Kennedy, J. concurring).

predicates for the standards "were optimistic or have significantly changed." 83 Fed. Reg. at 16,078; s*ee also id.* 16,079, 16,082, 16,084, 16,087.

But while the Revised Final Determination relies on the claim that new information has rendered EPA's 2017 Final Determination obsolete, it abjectly fails to demonstrate that this is so. The Revised Final Determination fails to identify new evidence that warrants conclusions different from those in the January 2017 Final Determination – or new developments that are so radically different from the world that confronted EPA in January 2017 that they warrant simply ignoring the pre-January 2017 record and the original Final Determination's reasoning. The Revised Final Determination never reviews or refutes, and in many instances never even mentions, the detailed reasoning and evidence offered in the 2017 Final Determination and the extensive technical analyses on which it was based, and never explains why those considerations no longer obtain.

The Revised Final Determination fails to deliver on its claim that changes in the year-plus since January 2017 warrant opposite determinations on each of the various relevant factors and on the overall conclusion regarding "appropriateness." It completely fails to demonstrate how the ostensibly new information warrants rejection of EPA's prior determinations on the same points reached just 15 months earlier.

The Revised Final Determination's treatment of particular factors suffers in each instance from a failure to address EPA's contrary findings from just a year before, and fails to provide the "detailed" assessments required under the regulations. For example, the Revised Final Determination leads off with a claim that lower-than-expected gas prices undermine the standards as adopted, asserting that gas prices are lower than was anticipated when the standards were adopted in 2012.[814] But it ignores the updated analysis provided in the January 2017 final determination and fails to explain why that analysis was wrong. The Revised Final Determination overlooks that EPA in 2016-2017 exhaustively considered changes in gas prices in the Draft TAR, the Proposed Final Determination, and in the January 2017 Final Determination, concluding—based on analyzing the program's feasibility given a wide range of gas price scenarios--that the program "is working even at low fuel prices" (Final Determination at 8); and that the program would continue to be effective and cost-beneficial under a wide variety of fuel price scenarios including prices substantially lower than have been observed. *See also* Final Determination at 13, 23; TSD 3-4 to 3-5. The Revised Final Determination does not even acknowledge these analyses, let alone explain why they are wrong.

While the 2018 Revised Final Determination complains EPA did not take into account lower gas prices, in fact the gas prices EPA used in the 2017 Final Determination were lower than the gas

[814] 83 Fed. Reg. at 16,078 ("Many of the key assumptions EPA relied upon in its January 2017 Determination, including gas prices and the consumer acceptance of advanced technology vehicles, were optimistic or have significantly changed and thus no longer represent realistic assumptions. For example, fuel price estimates used by EPA in the original rulemaking are very different from recent EIA forecasts."); *id.* at 16, 084 ("Thus, the projections for fuel cost savings in the 2012 rule may have been optimistic, which increases the challenge manufacturers face in making fuel-efficient vehicles attractive to consumers. This consideration supports EPA's determination that the current standards are inappropriate and should be reconsidered in a new rulemaking.").

prices used in the 2018 Revised Economic Impact Analysis (EIA 2018), at least prior to about 2032. 83 Fed. Reg. at 16,085, Figure 3.[815] The Revised Final Determination undertakes no analysis of how much gas prices differ from prior assumptions, why and how lower gas prices might affect the standards, or the extent of any such impact; gives no insight into its predictions of how gas prices will change in the future or of the effect of any such changes; does not consider how such impacts on the standards could be mitigated by other technology paths; and contains no estimate of a range of alternative future gas prices or of their likely effect.

The Revised Final Determination's treatment of other key factors follows a similar, arbitrary pattern. EPA contends that "changes in trends of electrification since the January 2017 Determination" undermine EPA's prior conclusion that the standards remain appropriate. Citing a figure included in industry comments, EPA states: "The figure below shows that since a peak in 2013, electrified light-vehicle (LV) sales have decreased both as a total and as a percentage of all light-vehicle sales. This calls into question EPA assumptions for the 2012 rulemaking and the January 2017 Determination that sales of electrified LVs will be sufficient to support compliance with the MY 2022–2025 standards." 83 Fed. Reg. at 16,079. But this assertion fails to address EPA's prior finding in the January 2017 Finding (not an "assumption") that very low levels of electrification would be required to comply with the standards, documenting in detail two compliance pathways to meeting the 2025 standards involving improved efficiency of internal combustion engines, rather than extensive electrification. *See* Final Determination at 25 and sources cited; *see also* National Research Council of the National Academies of Science, *Cost, Effectiveness and Deployment of Fuel Economy Technologies for Light Duty Vehicles* (June 2015) (reaching same conclusion). Furthermore, the Revised Final Determination truncates the data on electrification, cutting off data since 2015, which was readily available before the Revised Final Determination was issued, which shows recovering electric vehicle sales.[816] The Revised Final Determination provides no analysis of how much the supposed decrease differs from what EPA assumed before, no analysis of the effect of the assumed decrease, of coming trends or of alternative tech pathways under which the standards would still remain feasible, and no refutation of the agency's prior conclusion.

In several instances, the Revised Final Determination relies on the mere fact that industry commenters had *submitted* new information.[817] But an unquestioning recitation of the

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[815] Indeed gas prices have *increased* significantly since January 2017.

[816] *See* Bethany Davis Noll, *et al*., Institute for Policy Integrity, *Analyzing EPA's Vehicle Emissions Decisions: Why Withdrawing the 2022-2025 Standards Is Economically Flawed* at 3 (Inst. Policy Integrity May 2018) (later version of report from same industry group, issued prior to the Revised Final Determination, shows "that electrified vehicle sales have actually grown for the last two years, both in absolute terms and as a fraction of overall new vehicle sales …."), https://policyintegrity.org/files/publications/Analyzing_EPAs_Fuel-Efficiency_Decisions_Policy_Brief.pdf.

[817] *See* 83 Fed. Reg. at 16,081 ("New information from Global Automakers provided that "it is difficult to maintain confidence in the agency's optimism about the wide consumer acceptance, supply availability, safety and learning for new, unproven technologies such as the broad application of naturally aspirated Atkinson cycle engines"); 16,081 ("Both the Alliance and Global Automakers submitted detailed information regarding various aspects of EPA modeling, raising several technical issues, and submitted several new studies in support of their comments.").

submissions of commenters with no analysis or evaluation of the merits of the comments does not constitute a reasoned agency explanation of why EPA is rejecting its own prior comprehensive and in-depth analyses on these issues, analyses which were supported by extensive, publicly vetted technical evidence in the MTE process. The Revised Final Determination also ignores EPA's prior response to many of these same comments.[818]

Merely pointing to public comments does not constitute a reasoned explanation for an agency change of view, nor does it constitute EPA's own "detailed assessment" as required under the MTE regulations. Again, EPA has made a determination that the standards are not "appropriate" and need to be made less stringent – that final determination cannot reasonably be based upon unexamined commenter arguments that the standards are defective. Had EPA, for example, grounded a decision to *strengthen* the standards upon mere argument in public comments, car manufacturers would have correctly observed that such a justification would be inconsistent with the MTE regulations' requirements that EPA make its own expert judgments based upon the evidentiary record. That concern is no less serious when the agency concludes that deregulation is warranted.

The original Final Determination rested upon an exhaustive and detailed analysis of the standards' technical feasibility in light of information that had developed since 2012. EPA did not even invite renewed comment on that technical assessment, or set out any ostensibly new evidence for public review or comment or incorporation into a supplemental technical report. The Revised Final Determination provides no reason to depart from EPA's findings in the January 2017 Final Determination that the standards remain technically sound.

Similarly, the Revised Final determination contains cursory discussions of various other issues – including consumer acceptance, rebound, and safety – without pointing to any firm evidence, relying largely on industry comments, failing to engage with the evidence in the TAR, and utterly failing to show any basis for disturbing EPA's earlier findings on these issues. For example, on safety, EPA devoted an entire chapter of the draft TAR to an examination of whether vehicle emissions and fuel economy standards had an effect on vehicle safety, and further refined this analysis in the Proposed Final Determination. EPA determined that "that the Draft TAR analysis represents the most up-to-date safety analysis," and found that effects on safety were marginal but "on net, the EPA analysis shows small net fatality decreases over the lifetimes of MY2021 through 2025 vehicles." Final Determination at 29. In the Revised Final Determination, the Administrator cited a need to perform additional safety analysis as "an additional reason" to revise the standards. 83 Fed. Reg. 16,086. There was no discussion of EPA's prior detailed analysis, entire chapters of the draft TAR (on which EPA did not even request comment) or TSD – let alone any detailed assessment of any safety effects. Under the MTE regulations, any such "additional safety analysis" had to be performed, documented in a new TAR, and published for notice and comment, and those comments responded to, before safety could be cited as a factor allowing the MTE to be withdrawn.

[818] *See, e.g.*, App. A to TSD; Final Determination Response to Comment Document pp. 20-24 and sources there cited.

5. EPA failed to provide the requisite detailed assessment of the factors enumerated in the MTE regulations.

Under the MTE Regulations, the Administrator was required to provide the public with a "detailed" assessment of each of the enumerated factors as part of his final determination on the "appropriateness" of the existing standards. § 12(h)(4). EPA failed to provide that required assessment, instead providing a very cursory discussion of the factors, without providing factual support, and without addressing EPA's recent findings in the January 2017 Revised Final Determination. EPA indicated that it intended to review various of the factors further, but the regulations require a detailed assessment as a prelude to the agency's determination of appropriateness. EPA's failure to provide the required detailed assessment deprived the public of vital information concerning the basis for EPA's decision.

On numerous points in the Revised Final Determination, the Administrator merely declares that more study is warranted, and cites this as the ground for finding that the current standards are inappropriate.[819] The MTE regulations do not permit a finding of inappropriateness to be based on a mere purported desire for more information. Instead, they contemplate that EPA would assemble, present, analyze, take comment upon, and carefully review a comprehensive factual record, and on the basis of that record and public input, "set forth in detail" the bases for the Administrator's final determination, including assessment of each of the enumerated factors. Particularly given that the Administrator did not provide for public input on the ostensibly new information and did not explain his rejection of the Final Determination's contrary determinations on each of these points, the numerous "punts" in the Revised Final Determination are further proof of its illegality.

To avoid the MTE regulations' requirements the Administrator would need to propose to rescind them, which he has not done. If EPA wished to throw out the regulatory framework – a framework the auto manufacturers insisted EPA must comply with – the agency needed to propose, take comment on, and finalize a rescission of the MTE regulations.

The MTE regulations establish a special, carefully structured process that was designed to provide all stakeholders an opportunity to review and comment on information relevant to whether to change the standards, and structured to accommodate the distinct considerations applicable to review of standards for which long lead time is required and which depend upon analysis of an extensive technical record. EPA's failure to include a detailed assessment of the enumerated factors explaining the basis for EPA's finding that the existing standards are not "appropriate," like its failure to provide the technical basis for public review and comment,

[819] 83 Fed. Reg. at 16,084 ("EPA concludes that affordability concerns and their impact on new vehicle sales should be more thoroughly assessed, further supporting its determination to initiate a new rulemaking for the 2022–2025 standards."); *id*. at 16,086 ("EPA finds that a more rigorous analysis of job gains and losses is needed to determine the net effects of alternate levels of the standards on employment and believes this is an important factor to consider in adopting appropriate standards. EPA intends to include such an analysis as part of the basis for the new rule."); *id*. ("EPA intends to further assess the scope of its safety analysis in the upcoming rulemaking to examine the possible impacts of fleet turnover on safety. The Administrator finds that this safety analysis is an additional reason to undertake the forthcoming rulemaking.").

deprived stakeholders supporting the existing standards of critical information, including information necessary to address EPA's new position in this rulemaking. Had EPA complied with the MTE regulations -- even if it had concluded that the existing standards are not appropriate -- stakeholders would have had the benefit of a technical basis for that determination, as well as the Administrator's "detailed assessment" of the enumerated factors, as required by the regulations. This vital information was critical to stakeholders' evaluation of EPA's basis for revising the regulations, particularly given EPA's proposal to rely on novel technical analyses from NHTSA and its rejection of requests from stakeholders from states to NGOs to the auto industry for additional time to evaluate the proposal.

EPA's violations of the MTE regulations in the Revised Final Determination injured stakeholders and the public and harmed the integrity of the rulemaking process. EPA must withdraw its Revised Final Determination, revisit the MTE record, disclose and provide an opportunity for comment on its technical analyses, and make the "detailed" findings required by agency regulations before making the determination as to appropriateness of the existing standards that is a prerequisite to undertaking any rulemaking to consider revising its 2022-25 standards. Absent compliance with these requirements, this rulemaking proceeding is improper, and any resulting final rule purporting to revise the standards will be arbitrary and capricious, an abuse of discretion, and contrary to law,

G. The Agencies' proposal is inconsistent with Executive Order 12898.

1. The proposal is inconsistent with the Agencies' obligation to assess and address adverse impacts on minority and low-income populations.

In the Proposal, EPA and NHTSA conclude that the proposed rollback will not have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. 83 Fed. Reg. at 43,474-75. The agencies have failed to provide an adequate justification for their position. As explained below, this conclusion is inconsistent with Executive Order 12,898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.

Executive Order 12898 provides that "[t]o the greatest extent practicable and permitted by law … each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States." Exec. Order No. 12898, § 1-101. Under the Order, all federal agencies, including EPA and NHTSA, "shall collect, maintain, and analyze information assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income … [and] shall use this information to determine whether their programs, policies, and activities have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations." *Id*. § 3-302(a).

The language of §§ 1-101 and 3-302 indicates that the agencies are required to perform an analysis to identify and address adverse impacts on people of color and low-income populations from their proposed action, "to the greatest extent practicable and permitted by law." Id. § 1-101. *See Coal. for Advancement of Reg'l Transp. v. Fed. Highway Admin.*, 576 Fed.Appx. 477, 494

(6th Cir. 2014) (recognizing compliance with the "procedural and substantive requirements for evaluating environmental justice impacts in Executive Order 12898"); *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 541 (8th Cir. 2003) ("[t]he purpose of an environmental justice analysis is to determine whether a project will have a disproportionately adverse effect on minority and low income populations.").

Incorporating environmental justice into rulemaking processes is one of EPA's goals under its EJ2020 Action Agenda, which aims to institutionalize "rigorous assessments of environmental justice analyses in rules."[820] The Department of Transportation also has a policy that "promote[s] the principles of environmental justice (as embodied in the Executive Order) through the incorporation of those principles in all DOT programs, policies, and activities." Order 5610.2(a), 77 Fed. Reg. 27,534 (May 10, 2012).

In the Proposal, EPA and NHTSA have failed to meet their mandate to assess and address the environmental justice implications of their proposed rollback under EO 12898 and their own policies. EPA makes a cursory description of its conclusions on environmental justice in the preamble, and NHTSA provides its relevant analysis in the Draft Environmental Impact Statement.[821] Both agencies also provide a brief discussion of environmental justice issues in the Preliminary Environmental Impact Analysis ("PRIA").[822] As we discuss below and in our Joint Comments on NHTSA's DEIS, these conclusions are wrong and do not fulfil the analysis required under EO 12898.

2. The agencies' conclusion that the proposal will not have disproportionately adverse climate pollution impacts on environmental justice communities is incorrect.

In the preamble, EPA concludes that, with respect to greenhouse gases, the proposal will not have disproportionate impacts on communities of color and low-income communities because the final rule will affect the level of environmental protection for all affected populations, without regard to specific populations. 83 Fed. Reg. at 43,474. This statement contradicts EPA's own conclusion in its Endangerment Finding that certain populations, including poor people, are most vulnerable to climate-related effects and, therefore, deserve special attention. 74 Fed. Reg. 66,496, 66,526 (Dec. 15, 2009). In addition, as we explain in other comments to the docket, the PRIA omits nearly any discussion of climate impacts,[823] and the analysis has deeply discounted

[820] EPA, EJ2020 Action Agenda, The U.S. EPA's Environmental Justice Strategic Plan for 2016-2020, at iii, available at https://www.epa.gov/sites/production/files/2016-05/documents/052216_ej_2020_strategic_plan_final_0.pdf

[821] *See* Joint Comments on The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021-2026 Passenger Cars and Light Trucks: Draft Environmental Impact Statement, submitted to this docket and docket No. NHTSA-2017-0069.

[822] *See generally* NHTSA and EPA, Preliminary Regulatory Impact Analysis: The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021 – 2026 Passenger Cars and Light Trucks (July 2018), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld-cafe-co2-nhtsa-2127-al76-epa-pria-180823.pdf

[823] PRIA, at Section 10.2 on Energy and Environmental Impacts, deferring any meaningful discussion of GHGs to the Draft EIS.

the forgone public health and environmental benefits by using faulty economics and junk science.[824]

EPA also concludes that the potential increases in climate change impacts resulting from this proposal are so small that cannot be considered "disproportionately high" and "adverse" on EJ communities. 83 Fed. Reg. at 43,474.[825] In *Massachusetts v. EPA*, 549 U.S. 497, 523 (2007), the Supreme Court rejected this very same argument--that incremental greenhouse gas emission reductions make no difference. The Supreme Court had this to say about EPA's claims:

> EPA ... maintains that its decision not to regulate greenhouse gas emissions from new motor vehicles contributes so insignificantly to petitioners' injuries that the Agency cannot be haled into federal court to answer for them. For the same reason, EPA does not believe that any realistic possibility exists that the relief petitioners seek would mitigate global climate change and remedy their injuries. That is especially so because predicted increases in greenhouse gas emissions from developing nations, particularly China and India, are likely to offset any marginal domestic decrease. [¶] But EPA overstates its case. Its argument rests on the erroneous assumption that a small incremental step, because it is incremental, can never be attacked in a federal judicial forum. Yet accepting that premise would doom most challenges to regulatory action ... [¶¶] ... Nor is it dispositive that developing countries such as China and India are poised to increase greenhouse gas emissions substantially over the next century: A reduction in domestic emissions would slow the pace of global emissions increases, no matter what happens elsewhere.

In the DEIS, NHTSA acknowledges that people of color and low-income populations are disproportionately vulnerable to the effects of climate change.[826] Yet, the agency claims that "[t]he increases in adverse health impacts [for low-income and minority populations] under the action alternatives compared to the No Action Alternative would range from 0.3 percent (under Alternative 8 in 2025) to 5.2 percent (under Alternative 1 in 2050). These increases would be incremental in magnitude and would not be characterized as high."[827] The 0.3% to 5.2% figure (which is a methodological error related to the flawed characterization of fuel use and miles traveled, as we explained above) cannot be considered in isolation; on the contrary, since low-income and minority populations are more vulnerable to the effects of the adverse health impacts, the effects would indeed be *disproportionately* adverse and high.

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[824] *See* Institute for Policy Integrity, Comments on Quantifying and Monetizing Greenhouse Gas Emissions in the Draft Environmental Impact Statement for the Safer Affordable Fuel-Efficient Vehicles Rule for Model Year 2022-2026 Passenger Cars and Light Trucks, submitted to this docket.

[825] In our joint comments on NHTSA's Draft Environmental Impact Statement, we explain the agencies' (in that case, NHTSA) proposal to freeze the standards from 2021 to 2026 increase greenhouse gases. NHTSA's assessment of climate impacts as immaterial relates to the fact that the agency wrongly compares these emissions to total worldwide emissions by 2100.

[826] DEIS at 7-11.

[827] *Id*. at 7-12.

Among the groups that are particularly vulnerable to the health impacts of climate change are the elderly, children, the sick, the poor, the socially isolated, and people of color.[828] The stresses associated with being part of these populations are exacerbated by climate change, affecting health outcomes, access to food and quality water, and exposure to extreme heat.[829] Increases in extreme heat events in cities in conjunction with the increase in toxic air pollution to which low-income and minority populations are disproportionately exposed are expected to be drivers of increased morbidity and mortality.[830] Non-urban populations are adversely affected by climate change impacts as well. Coastal tribal communities are rapidly having to relocate due to sea-level rise, erosion, and permafrost thaw, all of which are contributing to a loss of cultural heritage, negative health impacts, and further impoverishment.[831]

3. The agencies' conclusion that the proposal will not have disproportionately adverse conventional pollution impacts on environmental justice communities is incorrect.

With respect to conventional air pollutants, EPA and NHTSA conclude that the proposal will not have adverse human or environmental effects on people of color and low-income communities. 83 Fed. Reg. at 43,474.[832] First, even though NHTSA acknowledges in the DEIS that the potential increase in fuel production and consumption as a result of the proposal would result in higher emissions of conventional and toxic air pollutants, the agency concludes that disproportionate impacts on these communities are not foreseeable because "a correlation between proximity to oil refineries and the prevalence of low-income and minority populations has not been established in the scientific literature."[833] NHTSA makes this incorrect conclusion, despite the fact that in the PRIA, the agencies acknowledge a correlation between proximity to oil refineries and roadways, and the prevalence of low-income and minority populations.[834] Second, NHTSA claims that the magnitude of the increase in upstream emissions from oil production and distribution from the proposal is "very minor" and cannot be characterized as disproportionate.[835] Third, both agencies claim that downstream emissions under the proposal will decrease, and thus benefit communities of color and low-income communities.[836] 83 Fed. Reg. at 43,475. As we explain below, each of these claims is incorrect.

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[828] Global Change Research Program, *Climate Change Impacts in the US* (2014), at 9; *see also* Harlan and Ruddell, *Climate Change and Health in Cities: Impacts of Heat and Air Pollution and Potential Co-Benefits from Mitigation and Adaptation* (2011), at 128.
[829] *Id*. at 14; 36.
[830] Harlan and Ruddell, *Climate Change and Health in Cities: Impacts of Heat and Air Pollution and Potential Co-Benefits from Mitigation and Adaptation* (2011), at 131.
[831] Maldonado et al., *The Impact of Climate Change on Tribal Communities in the US: Displacement, Relocation, and Human Rights* (2013), at 601.
[832] DEIS, at 7-11 - 7-12.
[833] *Id*. at 7-11.
[834] PRIA at 1317-1318.
[835] *Id*.
[836] *Id*.

a. The correlation between proximity to oil refineries and the prevalence of low-income people and people of color is well established in the scientific literature.

In the DEIS, NHTSA acknowledges that the expected increase in fuel production and consumption associated with the action alternatives could lead to an increase in the emissions of criteria and toxic air pollutants from several sources, including refineries. Nonetheless, the agency misrepresents several academic studies to support its claim that there is only "mixed" and "anecdotal" evidence to support a correlation between low-income and minority populations and proximity to refineries. [837] NHTSA itself undermines its conclusion when it acknowledges that low-income people and people of color are more exposed to environmental hazards from refinery and roadway pollution[838] and are more vulnerable to the effects of climate change. [839]

i. Studies on the environmental justice implications of proximity to refineries.

NHTSA cites scientific literature to conclude that "disproportionate impacts on minority and low-income populations due to proximity to refineries are not predicted." [840] However, the agency misrepresents and cites these studies out of context. NHTSA relies on the United Church of Christ's *Toxic Wastes and Race at Twenty: 1987 – 2007*[841] and Fischbeck et al's *Using GIS to Explore Environmental Justice Issues: The Case of US Petroleum Refineries*[842] studies to conclude that the evidence is "mixed." It also uses Kay and Katz's *Pollution, Poverty and People of Color: Living with Industry* and O'Rourke and Connolly's *Just Oil? The Distribution of Environmental and Social Impacts of Oil Production and Consumption* studies to conclude that the evidence is only "anecdotal."

The *Toxic Wastes and Race at Twenty* report provides concrete evidence that contradicts NHTSA's interpretation of the study regarding the location of refineries and marginalized communities. According to the report, "[m]ore than nine million people (9,222,000) are estimated to live in circular host neighborhoods within 3 kilometers of the nation's 413 commercial hazardous waste facilities [which includes around 140 oil refineries]." [843] The report explains that 5.1 million of the roughly 9 million people living near hazardous waste facilities are people of color. [844] The report also notes that refineries have contaminated the local environment and increased the incidences of lung cancer and respiratory illnesses in tribal communities. [845] Further, the report highlights several case studies of communities of color and low-income communities that were, and still are, disproportionately affected by the pollution from oil

[837] *Id*. at 7-10.
[838] PRIA, at 1317-1318, *see also* DEIS, at 7-10.
[839] DEIS, at 7-11.
[840] *Id*. at 7-10.
[841] *Id*.
[842] *Id*.
[843] United Church of Christ, *Toxic Wastes and Race at Twenty: 1987 – 2007* (2007), at X.
[844] *Id*.
[845] *Id*. at 121.

refineries.[846] In *Using GIS to Explore Environmental Justice Issues*, the authors explain the limits of their study, which only evaluated a small fraction of the refineries in the U.S:

> "[B]oth the individual maps and the descriptive statistics suggest there are *systematic differences for populations immediately adjacent to these industrial facilities and a control group in the surrounding area*. Our conclusion is certainly that our results warrant further investigation into environmental justice around refineries and other industrial facilities," (emphasis added).[847]

Pollution, Poverty and People of Color evaluates the issue of environmental justice and refineries through a case study of Richmond, CA. In the DEIS, NHTSA claims that this article offers mere anecdotal evidence, but, in fact, it presents several quantitative data points that prove the environmental injustice occurring in Richmond. People of color constitute 82.9% of the population in Richmond. In North Richmond, people of color make up 97% of residents and, in 2010, the median household income was $36,875 [compared to the median household income in California of $54,283]. Not only are the residents almost entirely people of color and low-income populations, but they also live close to 5 major oil refineries and dozens of other toxic waste sites and facilities. In *Just Oil?*, the authors combined data from the EPA's Sector Facility Indexing Project and the Toxic Release Inventory. The study found that "56% of people living within 3 miles of refineries in the United States are minorities--almost double the national average."[848] The authors noted that "[a]necdotal evidence from areas surrounding particularly polluting refineries seems to confirm [the quantitative data] that low-income and communities of color are disproportionately affected by these facilities,"[849] a statement that NHTSA cites out of context to support its "anecdotal" evidence claim.[850]

Numerous studies (not cited in the DEIS or the PRIA) highlight the prevalence of people of color and low-income populations in proximity to refineries. The percentage of African Americans living in "refinery counties" is itself indicative of the adverse and disproportionate impact of refineries' location and pollution on these communities. On average, the African American population in refinery counties makes up 17% of the total population--5% above the national African American population.[851] In Tennessee, Louisiana, and Michigan--the states with the highest percentages of African Americans in refinery counties--the African American population in those counties is 54%, 40%, and 40%, respectively.[852] Further, a study evaluating the distribution of health risks from the oil refining process found that the minority share of health risks is 51.3%, approximately twice the population percentage of minorities in the U.S.[853] Additionally, the low-income share of health risk from refining is 19%, which is 6 percentage

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[846] *Id*. at 30; 36; 102-103; 119-121.
[847] Fishbeck et al., *Using GIS to Explore Environmental Justice Issues* (2006), at 17.
[848] O'Rourke and Connolly, *Just Oil? The Distribution of Environmental and Social Impacts of Oil Production and Consumption* (2003), at 606.
[849] *Id*.
[850] DEIS, at 7-10.
[851] Clean Air Task Force and NAACP, *Fumes Across the Fence-Line* (2017), at 22.
[852] *Id*.
[853] Pastor et al., *Justice in the Air* (2009), at 14.

points above the national low-income population percentage of 12.9%.[854] African Americans, in particular, share 27.9% of the health risks from refineries while only constituting 11.8% of the U.S. population.[855]

ii. Studies on the environmental justice implications of proximity to roadways.

Studies have amply documented the correlation between traffic-related air pollution exposure and the increased risk of respiratory and neurological illnesses and other adverse impacts in adults[856] and children.[857] They have also concluded that low-income populations and populations of color are disproportionately affected by this pollution.[858]

In the PRIA, NHTSA and EPA describe that they conducted an evaluation of two national datasets--the U.S. Census Bureau's American Housing Survey for calendar year 2009 and the U.S. Department of Education's database of school locations.[859] The agencies conclude that more people of color than white people live and go to school close to roadways. NHTSA also acknowledges this fact in the DEIS, but refrains from concluding that these facts will lead to an adverse and disproportionate impact on low-income people and people of color under the proposal.

Rowangould's *A Census of the US Near-Roadway Population: Public Health and Environmental Justice Considerations*, which NHTSA cites in the DEIS, used demographic data and Average Annual Daily Traffic (AADT) volume data for 2008 from the Highway Performance Monitoring system (HPMS) road network included in the DOT's 2010 National Transportation Atlas Database to determine disparities in residential proximity to highways.[860] The study found that people of color and low-income communities are more likely to live near roads with high volumes of traffic.[861] For roads with the highest volumes of traffic, the non-white population living within 200-300m of the road averages 65.3%.[862]

Not only do people of color and low-income populations live in close proximity to mobile sources of pollution, but children in these communities attend schools within close proximity of these sources, too. In major metropolitan areas, approximately 30% of public schools are located within 300m of a major roadway and have significantly higher populations of students of

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[854] *Id*. at 15.
[855] *Id*.
[856] Bowatte et al., *Traffic-Related Air Pollution Exposure is Associated with Allergic Sensitization, Asthma, and Poor Lung Function in Middle Age* (2016).
[857] Khreis et al., *Exposure to Traffic-Related Air Pollution and Risk of Development of Childhood Asthma: A Systematic Review and Meta-Analysis* (2017).
[858] Kweon et al., *Proximity of Public Schools to Major Highways and Industrial Facilities, and Students' School Performance and Health Hazards* (2018).
[859] PRIA, at 1317.
[860] Rowangould, *A Census of the US Near-Roadway Population: Public Health and Environmental Justice Considerations* (2014), at 59-60.
[861] *Id*. at 61.
[862] *Id*.

color.[863] Students of color are therefore exposed to high levels of respiratory risks and other effects of frequent exposure to toxic air pollutants, including, but not limited to, neurobehavioral health problems, DNA damage, autism, and poor academic performance.[864] A report of the United States Center for Disease Control (CDC) confirms these findings and adds that there is a causal relationship between exposure to traffic-related air pollution and morbidity and mortality.[865] People of color and low-income populations share a disproportionate burden of exposure and risk from traffic related air pollution and the health risks from said exposure.[866]

Using EPA's environmental justice mapping tool, EJScreen, we pulled data highlighting the percentile rankings for the populations of people of color, low-income households, and PM2.5 pollution within 3 miles of 10 major refineries in the U.S. Table 1 shows the vexing results of this data collection. Not only do the communities surrounding these refineries rank high in their respective states for population of people of color, but also are amongst the highest percentiles for people of color nationally. Further, particularly in the national context, the surrounding communities have high low-income populations. The surrounding communities are exposed to exorbitant amounts of toxic air pollution, several ranking as high as the 96th percentile nationally. In conjunction, these facts reveal clear trends in the disproportionate impact of refineries on people of color and low-income populations.

[863] Kweon et al., *Proximity of Public Schools to Major Highways and Industrial Facilities, and Students' School Performance and Health Hazards* (2018), at 314-315.
[864] *Id*. at 315-316; 326.
[865] Boehmer et al. *Residential Proximity to Major Highways — United States CDC Report* (2010), at 46.
[866] *Id*.

People of Color Population, Low-Income Population, and $PM_{2.5}$ Pollution Percentiles

Plant	City	State	PoC Population Percentile in State	Low-income Population Percentile in State	Nat'l PoC Percentile	Nat'l LI Percentile	State PM 2.5	Nat'l PM 2.5
Marathon	Detroit	MI	85th	86th	70th	86th	88th	79th
Valero	Houston	TX	85th	76th	92nd	83rd	90th	84th
Lyondell Basell	Houston	TX	83rd	74th	91st	81st	89th	82nd
Pasadena	Pasadena	TX	78th	74th	88th	81st	86th	80th
Valero	Wilmington	CA	81st	79th	91st	83rd	76th	96th
Andeavor	Wilmington	CA	82nd	75th	91st	79th	76th	96th
Valero	Wilmington	CA	84th	72nd	92nd	76th	76th	96th
ConocoPhillips	Carson	CA	83rd	63rd	91st	67th	76th	96th
BP	Carson	CA	83rd	67th	91st	70th	77th	96th
Bayway	Linden	NJ	81st	81st	85th	68th	71st	50th

In addition, using EJSCREEN we pulled demographic and pollution burden reports for the communities within 3 miles of two of the largest refineries in the US--the Valero refinery in Houston, Texas, and the Andeavor refinery in Wilmington, CA. First, for the Valero refinery, the surrounding community is in the 92nd percentile nationally and in the 85th percentile of the state of Texas for the population of color. Additionally, the surrounding community is in the 83rd percentile nationally and in the 76th percentile of the state of Texas for the population of low-income residents. (See Figure 1.) Particulate matter, which is a common pollutant emitted from oil refineries known to cause myriad health impacts, is prevalent in this area, too. The community is in the 84th percentile nationally and 90th percentile within Texas for $PM_{2.5}$ pollution. (See Figure 2.) There are two additional refineries within the same 3-mile radius that also contribute to the severe pollution in this area.

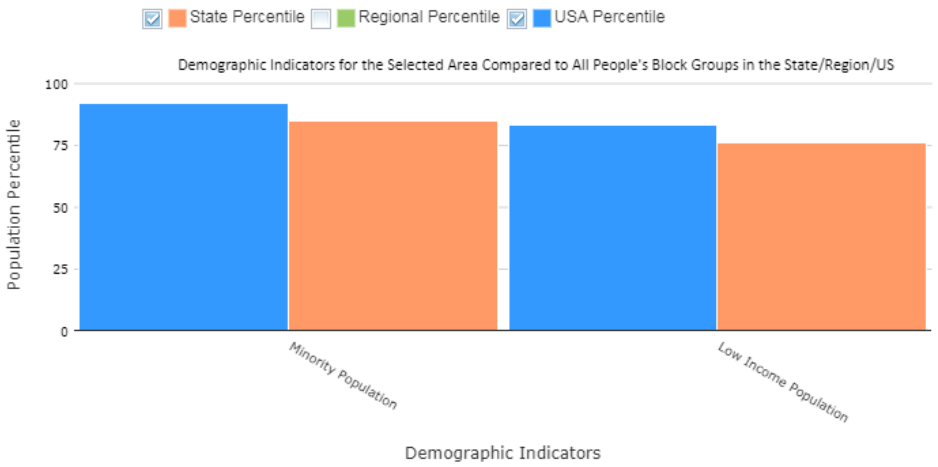

Figure 1: Demographic percentiles for the community within 3 miles of the Valero oil refinery in Houston, TX. Generated using EJScreen.

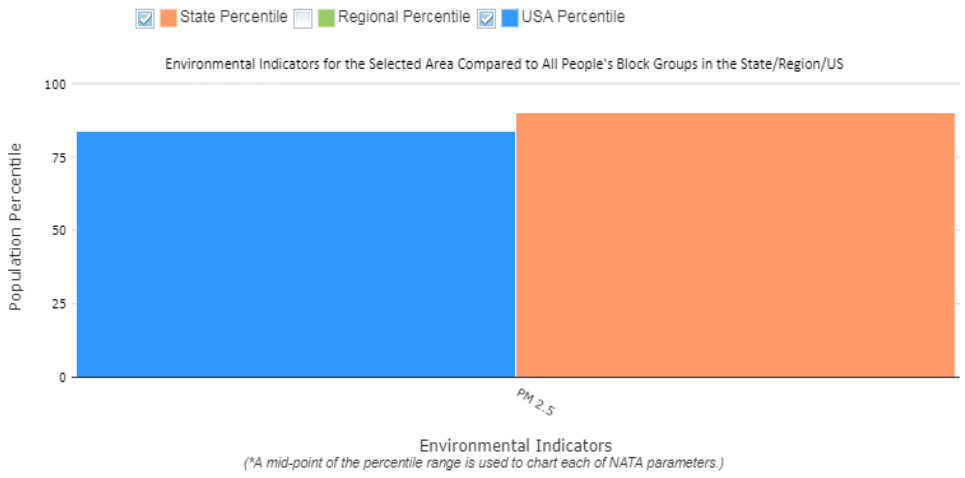

Figure 2: $PM_{2.5}$ pollution percentiles for the community within 3 miles of the Valero oil refinery in Houston, TX. Generated using EJScreen.

Affected population and pollution impacts 3 miles of Andeavor's refinery in Wilmington, CA are similar. The population of people of color in the surrounding community is in the 91st percentile nationally and in the 82nd percentile in California. The low-income population ranks in the 79th percentile nationally and in the 75th percentile in California (See Figure 3). As with the Valero refinery, the $PM_{2.5}$ concentrations are alarming, particularly the national percentile ranking. The community surrounding the Andeavor refinery ranks in the 96th percentile nationally and in the 76th percentile in California (See Figure 4). There are 4 additional refineries within 3 miles of the

Andeavor facility, and the cumulative impact of the pollution from these refineries has resulted in troubling health issues in the community.[867]

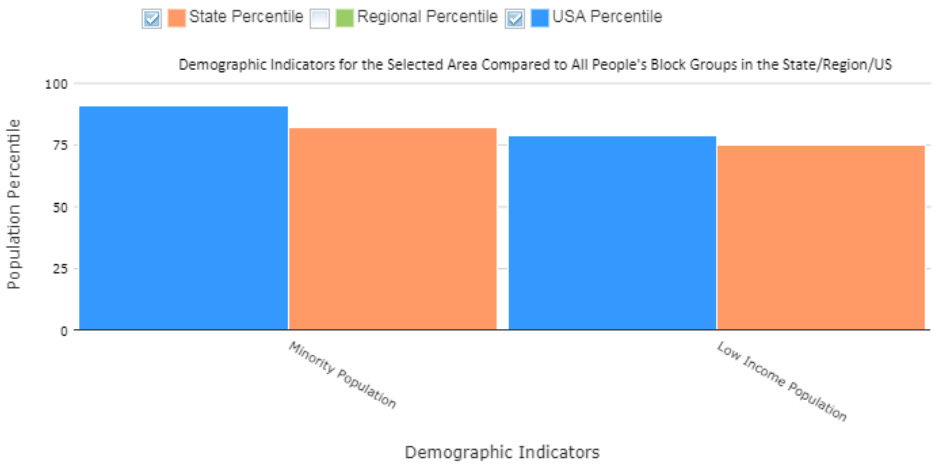

Figure 3: Demographic percentiles for the community within 3 miles of the Andeavor oil refinery in Wilmington, CA. Generated using EJScreen.

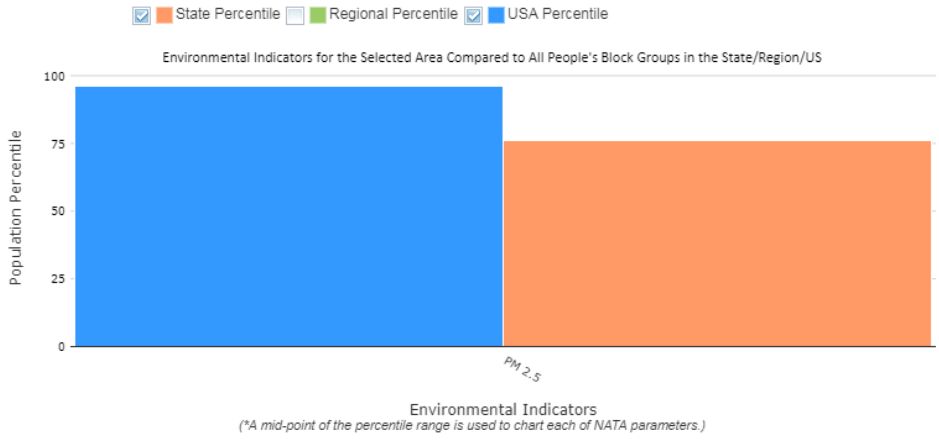

Figure 4: $PM_{2.5}$ pollution percentiles for the community within 3 miles of the Andeavor oil refinery in Wilmington, CA Generated using EJSCREEN.

In addition, as explained in other comments submitted to this docket, NHTSA's highly dubious modeling assumptions used to derive the proposal provide an incorrect evaluation of the environmental and health impacts of the agencies' proposal. Those effects are likely to be much

[867] Morris, *'The Fear of Dying' Pervades Southern California's Oil-Polluted Enclaves* (2017), available at https://psmag.com/environment/southern-californias-oil-polluted-enclaves

worse than depicted in the proposal and the DEIS and are likely to affect communities of color and low-income communities to a greater degree.

In sum, the agencies' discussion of environmental justice impacts is based on incorrect data and incorrect interpretation of the relevant literature, and is missing a robust analysis pertinent to these issues. If they finalize the standards as they have proposed, the agencies will be in violation of Executive Order 12,898.

Attachment 3

David J. Friedman's Response to Questions for the Record dated August 29, 2019

Consumer Reports | Advocacy

Summary for Policymakers

"The Un-SAFE Rule: How a Fuel Economy Rollback Costs Americans Billions in Fuel Savings and Does Not Improve Safety"

Authors:
Chris Harto and Shannon Baker-Branstetter - Consumer Reports
Jamie Hall - Synapse Energy Economics

Key Takeaways

Overall economic effects during the lifetime of Model Year 2021-2035 vehicles:

- The existing fuel economy standards, which affect vehicles from MY 2017-2025, would net Americans $660B in savings relative to the standards in place for MY 2016.
- $460B of that $660B in consumer savings would be lost if DOT and EPA's preferred rollback is put in place for MY 2021-2026.
- Alternatively, strengthening standards through MY 2025 could save Americans an additional $40B on top of existing benefits.

Effect on consumers:

- The DOT and EPA's preferred rollback would cost each MY 2026 vehicle buyer an average of $3,300 over the life of the vehicle.
- Their preferred rollback would be the equivalent of a $0.63/gallon gas tax on each MY2026 vehicle owner.
- The rollback would cost buyers who finance their vehicles more starting from the first month they own their vehicles.
- Over 70% of the costs of the rollback would fall on drivers of light trucks. [14]
- About 50% of the costs of the rollback would fall on used vehicle buyers.

A rollback costs consumers

A projected

$460 billion

in **additional** costs for consumers

That's an average of

$3300 MORE per vehicle.

70% of the **cost** of weaker fuel economy standards will **fall on pickup truck and SUV owners**.

HOW CONSUMERS BENEFIT FROM FUEL-SAVING TECHNOLOGY:

$1 tech investment = $3 fuel savings

Fuel-saving innovations provide a terrific 3-to-1 return on investment.

Other economic and safety effects during the lifetime of Model Year 2021-2035 vehicles:

- The rollback would increase oil consumption by 320 billion gallons, the equivalent to 20% of the country's proven oil reserves.
- The rollback will increase greenhouse gas emissions by nearly 3 gigatonnes of CO2, equivalent to almost 2 years of current emissions from the entire transportation sector. [15]
- The rollback would harm the auto industry, decreasing sales by more than 2 million vehicles between MY 2021 and 2035.
- Fuel savings of the existing rule are three times the technology investment costs needed to implement it.
- The rollback would not improve auto safety, and may have a small negative impact.

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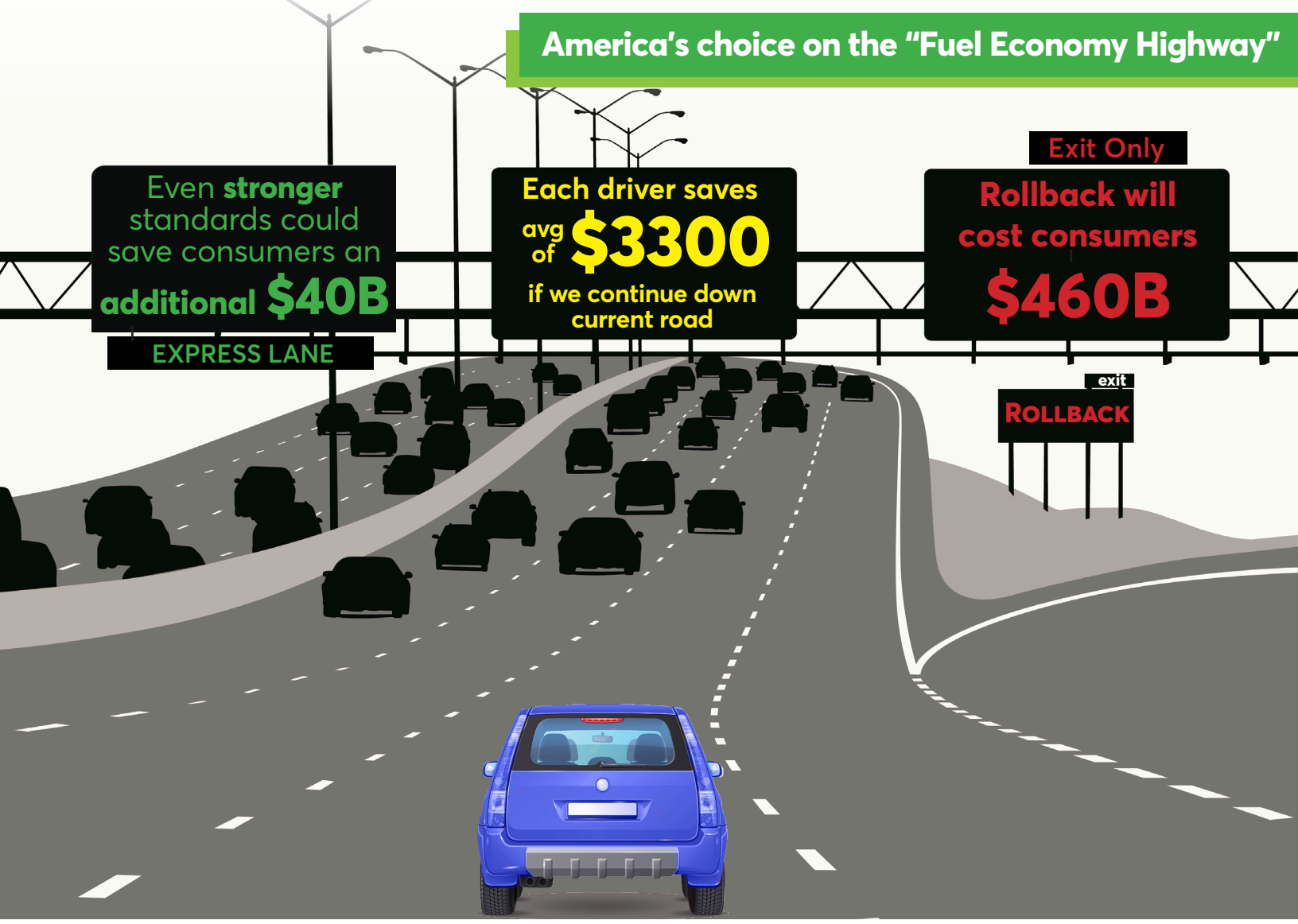


Table es1 - Change in Fuel Economy Standards Scenarios

Scenario Name	Annual Fuel Economy Increase 2021-2026	Estimated Real World Fleetwide Fuel Economy in 2026 [8]	Net Cost to Consumers ($2019) [9]	Increase in Highway Fatalities [10] *
Baseline	Cars: 4.9% Light Trucks: 5.6% [11]	37.5 mpg	N/A	N/A
Rollback 1 (NHTSA's preferred rollback in 2018 proposal)	Cars: 0% Light Trucks: 0%	29.1 mpg	$460 billion	450 [12]
Rollback 2	Cars: 0.5% Light Trucks: 0.5%	30.0 mpg	$410 billion	400
Rollback 3	Cars: 1% Light Trucks: 1%	30.6 mpg	$360 billion	350
Rollback 4	Cars: 2% Light Trucks: 3%	33.8 mpg	$180 billion	150
Stronger [13]	Cars: 5.5% Light Trucks: 6%	38.8 mpg	-$40 billion	-35

*This effect is quite small and is likely to be difficult to discern from other, more significant factors affecting highway safety.

Proposed rollback

Automakers are currently complying with Phase II fuel economy and greenhouse gas standards.[5] However, in 2018, the DOT and EPA proposed the "Safer Affordable Fuel-Efficient" (SAFE) Vehicles Rule to replace the current EPA standards for greenhouse gases and projected (or "augural") DOT standards for fuel economy. The draft rule proposes to freeze the standards at 2020 levels through 2026. In addition, EPA has proposed a first-ever revocation of the waiver granted to California for its own emission standards. If the waiver revocation is upheld in court, this would block the Clean Car States from maintaining the current standards.[6]

Conclusions reached

All evaluated proposals to weaken fuel-economy standards would result in hundreds of billions of dollars in losses to consumers, substantial increases in fuel consumption, and decreases in new vehicle sales. Additionally, they would not decrease—and may slightly increase—traffic fatalities.

In contrast, if fuel economy and greenhouse standards were strengthened, consumers would save an additional 33 billion gallons of fuel and save an additional $40 billion on top of the already large benefits of the existing standards. Meanwhile, new vehicle sales would increase, and highway safety may slightly improve.[1]

Key Findings

All rollbacks contemplated by DOT and EPA would result in significant setbacks compared to the current standard in three major categories: (1) increased overall oil consumption and fuel costs for consumers, (2) higher vehicle ownership costs (net present value) for consumers, especially SUV and pickup truck owners, and (3) lower auto sales for automakers and dealers. Further, a rollback could harm, but certainly would not improve, highway safety, contrary to the misleading "SAFE Rule" title used for the proposal.

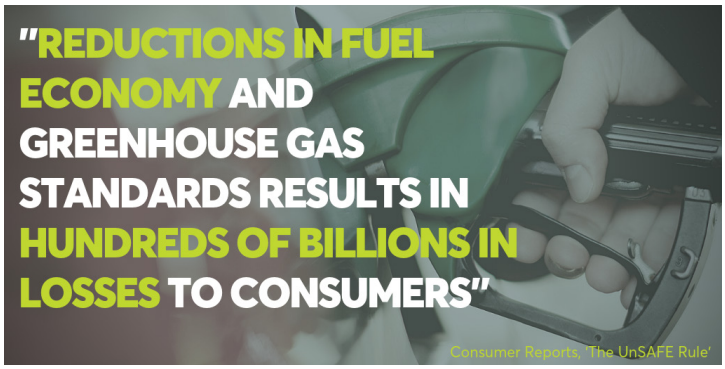
History of Fuel Economy and Greenhouse Standards for Vehicles

Fuel economy: In response to the 1973 oil crisis, Congress passed the Energy Policy and Conservation Act (EPCA) of 1975, directing the Department of Transportation (DOT) to set fuel economy standards for passenger vehicles and light trucks.[2] Fleetwide average fuel economy improved for about a decade following implementation of the standards. However, the standards were mostly stagnant starting in 1990, until the nation faced another oil price shock, spurring passage of the Energy Independence and Security Act (EISA) of 2007. That law required automakers to reach a fleetwide average of at least 35 miles per gallon by 2020. Based on that law and developments regarding greenhouse gas pollution regulation (see below), final fuel economy standards were put in place through MY 2021 and augural standards were established through MY 2025.

Purpose of analysis

This report estimates effects from different fuel economy and greenhouse gas (GHG) emission standards on consumer spending on fuel, gasoline use, vehicle sales, and highway safety.

The effects associated with the current standards through Model Year (MY) 2026 vehicles are compared to the effects of the possible new, lower standards that are being finalized by the Department of Transportation (DOT) and Environmental Protection Agency (EPA), the agencies responsible for setting the corporate average fuel economy (or CAFE) and GHG emission standards for cars and light trucks. Those same effects are also evaluated for a scenario in which those standards are strengthened beyond current requirements.



This report expands upon a 2018 analysis also conducted by Consumer Reports and Synapse Energy Economics evaluating the impact of the proposed rollback of fuel economy standards.[7] The new report evaluates effects for a range of scenarios including four different alternatives proposed by DOT and EPA, and one case of strengthened fuel economy/greenhouse gas standards, given the significant amount of technology still left untapped by current standards. The report also evaluates potential changes in vehicle safety due to the rollback.

History of Fuel Economy and Greenhouse Standards for Vehicles

Greenhouse gas pollution: In 2007 the Supreme Court held in Massachusetts v. EPA that the U.S. Environmental Protection Agency (EPA) has authority under the 1970 Clean Air Act to regulate greenhouse gases as "air pollutants."[3] In 2009, EPA issued a science-based finding that greenhouse gases endanger public health and welfare and therefore would be regulated as pollutants.[4] Subsequently, DOT and EPA jointly issued two new rules to strengthen fuel economy and establish new greenhouse gas emission standards for Model Year (MY) 2012-2016 (Phase I) and MY 2017-2025 (Phase II). These new standards were harmonized to allow manufacturers to comply with both simultaneously.

Mid-term review. Included as part of the Phase II rulemaking was a "mid-term review," in which EPA was to determine whether the standards were still "appropriate" or whether new standards were needed. Building off an extensive and meticulous record of technology costs and penetration, EPA issued in January 2017 its determination that the MY 2022-2025 standards remained appropriate under section 202 (a) (1) of the Clean Air Act. However, in April 2018, under a new administration and without a similar comprehensive process, EPA reversed its finding, indicating it would establish new standards.

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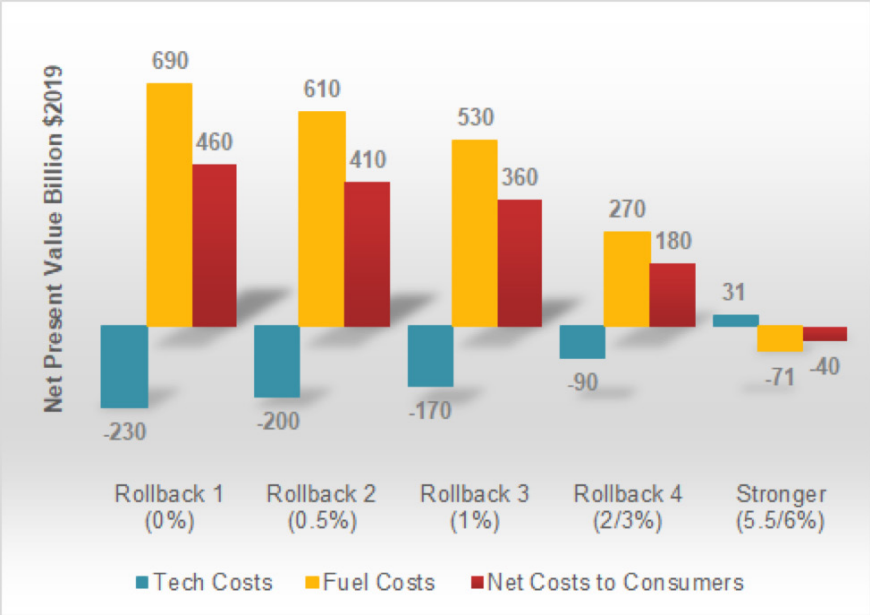
Key Figures

1. DOT and EPA's Rollback Scenarios Result in Higher Costs (NPV) for Consumers.

Figure ES-1 summarizes the cost-benefit results for scenarios relative to the existing standards, which improve fuel economy by 29% between MY2021 and MY2025.

Figure ES-1 - Costs of Changes to Standards Relative to Existing Standards [16]



It illustrates that all reductions in fuel economy/GHG standards result in hundreds of billions in losses to consumers as the increased fuel spending from the less efficient vehicles overwhelms the small reductions in upfront technology costs.

However, the one scenario that looks at increasing fuel economy by 33% (5.5%/year for cars and 6%/year for light trucks from MY 2022-2025) cut vehicle owner costs by $40B, indicating that more technology is still available to improve fuel economy with high positive returns on investment.

2. NHTSA and EPA's Preferred and Alternative Rollback Scenarios Result in Lower Auto Sales.

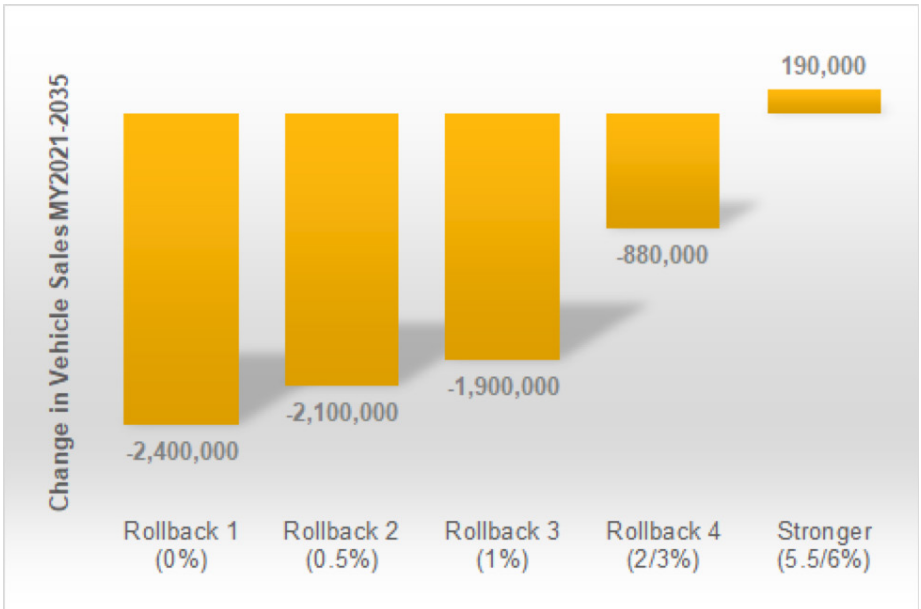
Vehicle sales are projected to decline by an average of around 1% for MY 2026-2035, or more than 2 million vehicles, as a result of the rollback of fuel economy.

These lower sales projections reflect two important factors:

1) that the fuel cost savings of new fuel-efficient technology exceeds the additional cost of the technology itself, thus lowering available discretionary resources and therefore a consumer's ability to purchase a new car, among other expenses; and

2) that lower fuel economy reduces the attractiveness and affordability of new vehicles. [17]

Figure ES-2 shows the effect of changes to the standards on new light duty vehicle sales.

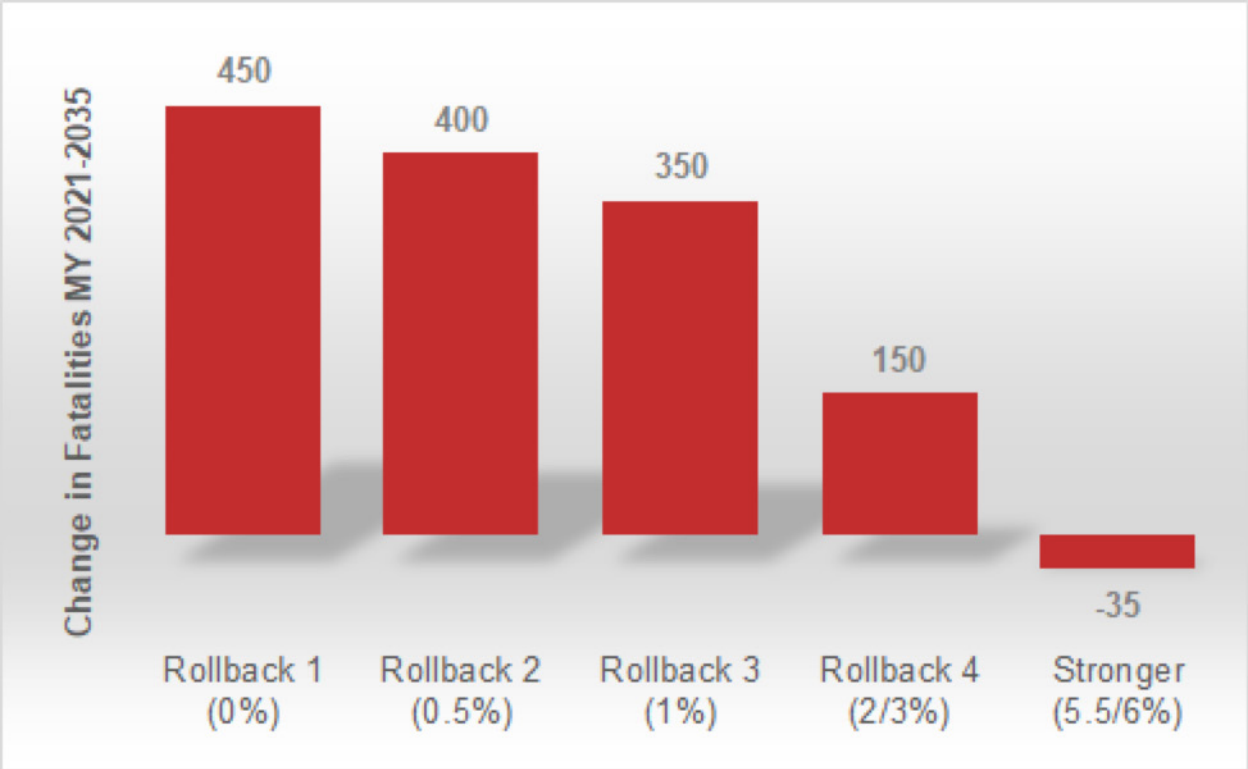


Key Figures

3. NHTSA and EPA's Preferred and Alternative Rollback Scenarios Do Not Improve and May Even Harm Highway Safety.

The projected effect on highway fatalities is shown in Figure ES-3. It shows that weakening fuel-economy standards does not improve highway safety and may in fact slightly diminish it. It should be noted, however, that the effects on safety from changes in fuel-economy standards are quite small and likely not statistically different from zero. When compared with the 37,133 motor-vehicle-related fatalities in 2017, [19] the annual increase in fatalities is less than 0.1 percent in all years modeled.

Figure ES-3 - Safety Effect of Changes in Fuel Economy Relative to Existing Standards *



**This effect is quite small and is likely to be difficult to discern from other, more significant factors affecting highway safety*

More significant factors affecting highway safety include the deployment across the fleet of advanced safety technologies, such as forward collision warning with automatic emergency braking. Further, it should be noted that future safety improvements in new vehicles are not guaranteed to follow past trends and their magnitude will depend heavily on whether or not NHTSA issues any new safety regulations, which the agency has not done since 2016.

Footnotes

[1] NPV, 3%, $2019
[2] Light trucks include pickup trucks, SUVs, minivans, and some crossover utility vehicles.
[3] Massachusetts v. EPA, 549 U.S. 497 (2007).
[4] 74 FR 66495 (December 15, 2009).
[5] EPA-420-R-19-002, "The 2018 Automotive Trends Report", (March 2019), Available at https://www.epa.gov/automotive-trends/download-automotive-trends-report
[6] Under the Clean Air Act, California has the right to set more stringent emission standards than the federal standards through a waiver process and other states may elect to follow California's standards. So far, 14 other states—often referred to as "Clean Car states" or "177 states" in reference to the section of the Clean Air Act that allows states the option of following California's standards—have chosen to follow California's standards.
[7] Reference to previous Synapse/CR report.
[8] The fuel economy standards are based upon test cycle fuel economy that does not reflect real world, on road fuel economy. These values were calculated from the fuel economy standards using the breakdown of vehicle sales in 2026 of 46% cars and 54% light trucks and the commonly used factor that onroad fuel economy averages 20% less than the test cycle fuel economy.
[9] Net costs are calculated for the lifetime of MY 2021-2035 vehicles.
[10] Fatalities are calculated based on the lifetime of MY 2021-2035 vehicles.
[11] The existing standards go through 2025 and do not have a flat annual percentage increase, these values are averages over the period of 2021-2025
[12] This works out to an average of 30 fatalities over the lifetime of each model year analyzed. When compared to the 37,133 motor vehicle related fatalities in 2017, the increase in fatalities is less than 0.1%.
The Insurance Institute for Highway Safety and The Highway Loss Data Institute, Fatality Facts 2017: State by State, (Posted December 2018). Available at
https://www.iihs.org/iihs/topics/t/general-statistics/fatalityfacts/state-by-state-overview/2017.
[13] This scenario increases fuel economy from MY 2022-2025 at the rate of 5.5%/year for cars and 6%/year for light trucks.
[14] Light trucks include pickup trucks, SUVs, minivans, and some crossover utility vehicles
[15] Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks. Available at
https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks
[16] Lifetime effects for MY 2021-235 vehicles, NPV at 3% discount rate, $2019.
[17] Christine Kormos, Reuven Sussman, Auto Buyers' Valuation of Fuel Economy: A Randomized Stated Choice Experiment, (Submitted to Consumers Union June 12, 2018). Available at https://advocacy.consumerreports.org/wp-content/uploads/2018/06/FINAL-Kormos-and-Sussman-2018-%E2%80%93-Auto-buyers-valuation-of-fuel-economy-1.pdf Consumer Reports, 2018 Automotive Fuel Economy Survey Report, (July 2018). Available at
https://advocacy.consumerreports.org/wp-content/uploads/2018/07/2018-Fuel-Economy-Survey-Fact-Sheet-1-1.pdf
[18] Charles M. Farmer and Adrian K. Lund., The Effects of Vehicle Redesign on the Risk of Driver Death, (2015), Traffic Injury Prevention 16: 684-690.
Van Auken, R.M., Comments on the Preliminary Regulatory Impact Analysis of the Proposed Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021-2026 Passenger Cars and Light Trucks, Docket No. DRI-TR-18-07, (October 25, 2018).
[19] The Insurance Institute for Highway Safety and The Highway Loss Data Institute, Fatality Facts 2017: State by State, (Posted December 2018). Available at https://www.iihs.org/iihs/topics/t/general-statistics/fatalityfacts/state-by-state-overview/2017.