

Comments for the Record

Addressed to the
U.S. Environmental Protection Agency

In response to the Proposed Rules entitled:

**“Multi-Pollutant Emissions Standards for Model
Years 2027 and Later Light-Duty and Medium-
Duty Vehicles”**

and

**“Greenhouse Gas Emissions Standards for Heavy-
Duty Vehicles—Phase 3”**

Docket ID Nos.:

EPA-HQ-OAR-2022-0829

and

EPA-HQ-OAR-2022-0985

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I am Steven G. Bradbury, a Distinguished Fellow at The Heritage Foundation,¹ and I am pleased to submit these comments in response to the following two proposed rules announced by the Environmental Protection Agency (EPA or the Agency):

1. The proposed rule entitled “*Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles*,” Docket ID No. EPA-HQ-OAR-2022-0829, published in the Federal Register on May 5, 2023;² and
2. The proposed rule entitled “*Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles—Phase 3*,” Docket ID No. EPA-HQ-OAR-2022-0985, published in the Federal Register on April 27, 2023.³

I am submitting identical copies of these comments in the two rulemaking dockets. These comments are submitted in my personal capacity, and the views I express herein should not be construed as representing the official position of The Heritage Foundation.

My comments are divided into two parts:

First, I will explain why I believe these proposed rules far exceed the EPA’s authority under section 202 of the Clean Air Act⁴ and clearly implicate the Supreme Court’s “Major Questions Doctrine” under *West Virginia v. EPA* and related cases.⁵ Thus, if finalized as proposed, these rules would be “in excess of statutory ... authority” within the meaning of the Administrative Procedure Act, or APA.⁶

Second, I will explain how the EPA has failed adequately to acknowledge and consider the true scope of the colossal costs and burdens these proposals, if finalized, would impose on American families, the U.S. economy, and our nation’s security, and how, at the

¹ Before joining The Heritage Foundation, I served under President Trump and Secretary of Transportation Elaine L. Chao as the Senate-confirmed General Counsel of the U.S. Department of Transportation (DOT), as the Acting Deputy Secretary of Transportation, and briefly as the Acting Secretary of Transportation. Previously, during the administration of George W. Bush, I served as the Acting Assistant Attorney General and Principal Deputy Assistant Attorney General for the Office of Legal Counsel in the U.S. Department of Justice.

² 88 FR 29184, <https://www.govinfo.gov/content/pkg/FR-2023-05-05/pdf/2023-07974.pdf>.

³ 88 FR 25926, <https://www.govinfo.gov/content/pkg/FR-2023-04-27/pdf/2023-07955.pdf>.

⁴ 42 U.S.C. § 7521, <https://www.law.cornell.edu/uscode/text/42/7521>.

⁵ See *West Virginia v. EPA*, No. 20-1530, 597 U.S. ____ (2022), <https://www.oyez.org/cases/2021/20-1530>.

⁶ See 5 U.S.C. § 706(2)(C) (“The reviewing court shall ... hold unlawful and set aside agency action, findings, and conclusions found to be ... in excess of statutory ... authority.”).

same time, the Agency has wildly overestimated the benefits it claims will result from these proposed rules. Because the key analyses and assumptions on which these proposals are based are so faulty and ill-considered, if the rules were finalized in the form proposed, they would be arbitrary and capricious in violation of the APA.⁷

Introduction

With these rules, EPA is proposing to interfere with and displace market forces on a massive and unprecedented scale, and the effects of these regulatory edicts on the American people and the U.S. economy will be disastrous if even one of the EPA's many key supporting assumptions turns out to be incorrect.

EPA's notices of proposed rulemaking (NPRMs) discuss the possibility of alternative adjustments to its proposed emissions limits for different pollutants, but those alternatives fall within a narrow band above and below EPA's proposed levels. They do not encompass any true alternative approaches, and they do not even leave room for automakers to rely on the various different powertrain modalities that consumers have shown a greater willingness to embrace, such as hybrid vehicle technologies and bio-fuel options, to achieve improved environmental performance.

It seems apparent that the EPA's primary goal is not to improve environmental performance of new motor vehicles, but rather to force the industry to transform its production processes and to achieve an artificially rapid transition to zero-emission-vehicle platforms, such as fully electric vehicles, to the extent and on the schedule that President Biden and the California Air Resources Board (CARB) have announced as their goals. Thus, the EPA's proposed rules seem to be guided by and aimed at hitting goals that are more aspirational and political in nature; they are not legitimate standards based on an accurate and objective assessment of technological and marketplace realities.

The Proposed Rules Exceed EPA's Statutory Authority

Congress has never voted to cede to the Administrator of the EPA the far-reaching power and discretion the Agency is claiming in these rulemakings. There has been no delegation from the people's elected representatives—let alone a clear and express delegation—of such economy-wide transformational power that could survive analysis under the Major Questions Doctrine.

If finalized as proposed, these rules would exceed the bounds of EPA's statutory authority in two fundamental respects—one relating generally to the Agency's regulation of carbon dioxide emissions from new motor vehicles; the other involving its leveraging

⁷ See *id.* § 706(2)(A) (providing that the reviewing court shall strike down a final rule found to be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law”).

of pollution-control authority to force on the American people a hyper-accelerated transition to electric vehicles.

EPA may not use carbon dioxide regulation to displace DOT's exclusive authority over fuel economy standards.

Setting limits on carbon dioxide emissions for gas-powered vehicles and prescribing fuel economy standards for those vehicles are two sides of the same regulatory coin. They cannot be separated, because there is a direct and consistent relationship between the amount of carbon dioxide a vehicle's internal-combustion engine will generate per mile traveled and the number of miles the vehicle will go on a gallon of gas.

The problem for the EPA is that ever since enactment of the Energy Policy and Conservation Act (EPCA) in 1975, which created the fuel economy program, Congress has given the Secretary of Transportation, not the EPA, the sole authority to establish fuel economy standards for new motor vehicles offered for sale to private buyers in the United States⁸—authority delegated by the Secretary to the National Highway Traffic Safety Administration (NHTSA), a component of DOT. NHTSA consults with EPA and the Energy Department in setting the standards, and EPA is tasked with measuring the auto-makers' compliance with the standards NHTSA sets, but neither EPA nor any other agency has authority to supersede or interfere with NHTSA's mandate under EPCA.

Congress assigned to DOT the exclusive authority to set fuel economy standards, rather than EPA under the Clean Air Act, because the fuel economy program is not about environmental regulation. Congress wanted to prod the automakers toward the production of more fuel-efficient vehicle models to help lessen America's strategic dependence on foreign oil in the wake of the Arab oil embargoes of the 1970s.

Congress's delegation of authority over the fuel economy program has always been carefully limited.

Initially, Congress specified mileage targets by statute and put a tight collar on DOT's regulatory authority: Any proposed fuel economy standard that fell outside the collar was subject to veto by either House of Congress—a restraint that was nullified when the Supreme Court held legislative vetoes unconstitutional in *INS v. Chadha* (1983). And from time to time, Congress has put statutory caps on the mileage standards through appropriations riders.

Ultimately, when it allowed broader standard-setting discretion to DOT under EPCA, Congress still did so in a manner designed to ensure that NHTSA's regulatory power would

⁸ See 49 U.S.C. § 32902, <https://www.law.cornell.edu/uscode/text/49/32902>.

never be used to frustrate Americans' love affair with the automobile or impose disruptions in the traditional automotive industry.

In administering the fuel economy program, NHTSA must (i) respect the practical needs and desires of American car buyers; (ii) take into account the economic realities of supply and demand in the auto markets; (iii) protect the affordability of vehicle options for American families; (iv) preserve the vitality of the domestic auto industry, which sustains millions of good-paying American jobs; (v) maintain highway traffic safety for the country; (vi) consider the nation's need to conserve energy; and (vii) advance the goal of reducing America's strategic dependence on foreign supplies of critical inputs.

And, significantly, EPCA expressly prohibits NHTSA from considering the fuel economy of electric vehicles in setting or amending its standards.⁹

In sum, NHTSA has no authority to compel the phaseout of internal-combustion engines or to require automakers to use new technologies that are not responsive to consumer demand or that fail to align with the industry's existing production realities.

In *Massachusetts v. EPA*,¹⁰ the Supreme Court concluded that, in theory, there is no necessary conflict between the control of carbon dioxide emissions under section 202 of the Clean Air Act and NHTSA's authority to prescribe fuel economy standards under EPCA.¹¹ But, in practice, whenever EPA actually proposes to impose such emissions controls, it must do so in a manner that avoids displacing NHTSA's authority over fuel economy.

It is a basic principle of law that when there is a potential for inconsistent application of two federal statutes, the statutes must be interpreted and applied in harmony, if reasonably possible. The agencies charged with faithfully carrying out those statutory mandates are required to respect and preserve the roles and priorities assigned by Congress.

The Obama administration was the first to confront this issue when it launched the EPA into the business of regulating carbon dioxide emissions from new motor vehicles in 2012. Both the Obama administration and later the Trump administration addressed the requirement for harmonization by having NHTSA and EPA conduct joint rulemakings in the setting of common fuel economy standards and carbon dioxide emissions limits.

⁹ See *id.* § 32902(h); see also 49 U.S.C. § 32901(a)(1), (8), (9) & (10), <https://www.law.cornell.edu/uscode/text/49/32901>.

¹⁰ 549 U.S. 497 (2007), <https://www.oyez.org/cases/2006/05-1120>.

¹¹ See *id.* at 532 (“The two obligations may overlap, but there is no reason to think the two agencies cannot both administer their obligations and yet avoid inconsistency.”).

But the present administration has broken that mold, and the current proposed tailpipe rules are an egregious example. By acting on its own, in advance of NHTSA, to dictate draconian new reductions in carbon dioxide emissions limits for future model years of vehicles, EPA would render entirely irrelevant NHTSA's judgment about the appropriate fuel economy standards for those same vehicle fleets. If finalized in their current form, the proposed limits on carbon dioxide emissions from new motor vehicles (both for light- and medium-duty vehicles and for heavy-duty trucks) would be an unlawful usurpation by EPA of NHTSA's exclusive statutory role. Any determination by NHTSA to establish fuel economy standards for gas-powered vehicles that would allow for greater carbon dioxide emissions than EPA's proposed rules would have no regulatory effect—it would be a nullity.

Congress has not delegated to EPA the power to force the conversion to electric vehicles.

EPA is very candid about the goal of its proposed rules: The Agency is trying to use tailpipe emissions limits on carbon dioxide and criteria pollutants as a tool to coerce the automotive industry to build far more electric vehicles (EVs) than market demand would currently support.

Right now, EVs account for less than 6 percent of new light-duty vehicle sales in the United States and an even lower percentage of medium- and heavy-duty commercial truck sales. Following the script laid down by President Biden in an executive order,¹² the EPA is aiming to force those percentages way up—to 60 percent of light-duty vehicle sales by 2030 and 67 percent by 2032.

And through these rulemakings, the Agency is proposing to align its regulatory objectives with the zero-emission vehicle, or ZEV, mandates recently issued by CARB, the California Air Resources Board, which are designed to phase out the sale of all gas-powered passenger cars and light trucks by 2035 and all medium- and heavy-duty trucks by 2045. The EPA now appears to be committed to a similar trajectory.

It is not surprising the Agency would act to conform its policies to CARB's, since CARB was able to issue its mandates only because the EPA has granted California a special waiver from preemption under the Clean Air Act. Both sets of rules flow from the policy decisions of the EPA in accordance with directions from the White House.

Where does EPA purport to find this authority in the Clean Air Act?

The logic is as follows:

¹² See Executive Order 14037 (“Strengthening American Leadership in Clean Cars and Trucks”), August 5, 2021 (setting goal of 50 percent of U.S. new vehicle sales to be zero-emission vehicles by 2030).

Because most automakers have announced ambitious timetables for transitioning to the production of EVs going forward and have pledged to make large capital investments to finance this gradual switchover,¹³ and because Congress has recently approved generous federal subsidies for some EV purchases and charging infrastructure,¹⁴ EPA says it can now declare that battery-electric vehicle technology is a “feasible” alternative to the traditional internal-combustion engine (ICE) powertrain.¹⁵ And on that basis, EPA is proposing to treat EVs as an available “control technology” for achieving compliance with the tailpipe emissions restrictions under Clean Air Act section 202.¹⁶

This reasoning obviously depends on a kind of feedback loop. The automakers are pledging to invest in the transition to EVs because governments around the world—like China, the EU, the Biden White House, and Governor Gavin Newsom and his climate regulators in California—are demanding that they do so. But everyone knows there is a large looming impediment to this Green Dream: resistance from American consumers.

The American public is not jumping on the electric bandwagon. EVs are expensive—beyond the reach of many American families—and most Americans remain skeptical that EVs will reliably serve the full range of their needs, that quick and convenient charging stations will be widely available, that EVs will maintain their promised driving range over time or in cold weather, that they will have any significant resale or trade-in value down the road, and that insurance carriers will cover the huge costs of battery replacement when the battery wears out or is damaged in a minor accident.¹⁷

To push the automakers to convert to EV production in the absence of sufficient market demand, EPA plans to ratchet down the emissions limits for carbon dioxide and for the traditional criteria and other pollutants associated with smog (such as unburned hydrocarbons, particulate matter, oxides of nitrogen, and ozone) to super-stringent levels that are

¹³ See 88 FR at 29191, Figure 1 (reproducing a chart prepared by the Environmental Defense Fund depicting the automakers’ announced goals for future electrified vehicle sales as a percentage of total sales); *id.* at 29193-94 (summarizing automakers’ announced plans for investments in EV technology).

¹⁴ See *id.* at 29195-96; Infrastructure Investment and Jobs Act, Public Law 117–58, 135 Stat. 429 (2021), <https://www.congress.gov/117/plaws/publ58/PLAW117publ58.pdf>; Inflation Reduction Act of 2022, Public Law 117–169, 136 Stat. 1818 (2022), <https://www.congress.gov/117/bills/hr5376/BILLS117hr5376enr.pdf>.

¹⁵ See 88 FR at 29194 (light-duty and medium-duty vehicles); 88 FR at 25972 (heavy-duty trucks).

¹⁶ See 88 FR at 29284 (for light-duty and medium-duty vehicles); 88 FR at 26015 (for heavy-duty trucks).

¹⁷ See Nick Carey, Paul Lienert, and Sarah McFarlane, “Scatched EV battery? Your insurer may have to junk the whole car,” *Reuters*, March 20, 2023, <https://www.reuters.com/business/autos-transportation/scratched-ev-battery-your-insurer-may-have-junk-whole-car-2023-03-20/> (“For many electric vehicles, there is no way to repair or assess even slightly damaged battery packs after accidents, forcing insurance companies to write off cars with few miles—leading to higher premiums and under-cutting gains from going electric.”).

technologically impossible for gas-powered vehicles (even hybrids) to satisfy.¹⁸ At the same time, EPA is proposing to phase out certain regulatory buffers that allow automakers to report better emissions compliance results, such as “off-cycle credits” for the addition of onboard technologies that improve the fuel efficiency of ICE vehicles.¹⁹

The automakers’ only recourse will be to replace more and more of the ICE vehicles in their fleets (including hybrids) with the “alternative control technology” of battery-electric vehicles.

And here is the trick: For enforcement purposes, EPA applies the emissions limits to each automaker on a fleetwide average basis, and it proposes to reduce these fleetwide averages dramatically each model year from 2027 through 2032 on a ramp rate calculated to achieve the Biden administration’s desired percentage mix of EVs in the U.S. auto fleets.

In other words, EPA is now proposing to set fleetwide average tailpipe pollution limits that are intended by design to apply increasingly over time to vehicles that have no tailpipes and that EPA says emit none of the pollutants covered by the regulations.²⁰

This scheme bears no resemblance to EPA’s past approach to the regulation of vehicle emissions under the Clean Air Act.

Previously, when EPA has set emissions limits for criteria pollutants under section 202, the available control technologies that EPA has recognized as feasible for achieving compliance have involved cleaner fuels and discrete types of equipment added to the ICE vehicle. This equipment includes, for example, enhanced catalytic converters to capture certain types of pollutants and scrub them out of the vehicle’s exhaust, onboard computers to control more precisely the fuel mixture burned by the vehicle’s engine, vapor-capture systems for refueling, and fuel-injection systems to recycle unburned fuel back into the cylinders.

The use of these types of discrete control technologies has already achieved impressive reductions in smog-producing criteria pollutants. As EPA itself acknowledges, existing control technologies applied under previous regulations have enabled automakers to

¹⁸ See, e.g., 88 FR at 29237-38; *id.* at 29257-61.

¹⁹ See *id.* at 29249-50.

²⁰ Automakers can avoid violating the average emissions limits in certain circumstances with regulatory “credits,” earned by producing vehicles, like EVs, that outperform the limits. Under the EPA’s rules, credits can be “banked” from one model year to another within limits, “transferred” from one fleet to another (for example, from the automaker’s light truck fleet to its passenger car fleet), or “traded” between automakers, which usually involves a privately negotiated purchase. Tesla, which manufactures nothing but EVs and accounts for approximately 70 percent of the U.S. EV market, receives a large portion of its income from selling emissions credits to the other automakers. Predictably, the EPA is proposing to retain this credit system to continue the subsidization of EV manufacturing. See 88 FR at 26245-46.

attain “reductions of up to 80 percent in tailpipe criteria pollutant emissions” from ICE vehicles.²¹

But now, in these rules, EPA is proposing to do something radically different. The so-called control technology here is not some discrete equipment added to the ICE vehicle to achieve lower emissions; it is entirely separate replacement technology that uses a new and different powertrain. These are replacement vehicles, not true control technology; they are different vehicles from bumper to bumper, built on entirely different production lines.

The EPA’s current proposals are thus closely analogous to the Clean Power Plan that was struck down by the Supreme Court last year in *West Virginia v. EPA*:

There, EPA was relying on its Clean Air Act authority to regulate power plant emissions based on the “best system of emission reduction” available to the plant operator. EPA had previously exercised that authority by setting emissions standards that required individual plants to take measures “to operate more cleanly.” But in the Clean Power Plan, EPA concluded that coal-fired power plants could not eliminate enough carbon dioxide emissions to satisfy EPA simply by employing additional measures at the plant. Instead, EPA proposed to require them to choose between greatly reducing their own electricity production (potentially even shutting down the plant) or paying to subsidize increased electricity generation from alternative sources, including natural gas, wind, and solar power (the so-called “generation shifting” concept). The overall goal was to reduce the percentage of national electricity generation supplied by coal and increase the percentage contribution from wind and solar.

The Supreme Court held that the Clean Power Plan implicated the Major Questions Doctrine because EPA was claiming the power to “restructure the American energy market,” and this represented a “transformative expansion” in the Agency’s exercise of its regulatory authority. The Court was unconvinced that Congress had “implicitly tasked” the EPA “with balancing the many vital considerations of national policy implicated in deciding how Americans will get their energy,” or with the authority to decide “how much of a switch from coal to natural gas is practically feasible” for the nation. There was “little reason to think Congress” had assigned matters of such economic and political significance to the EPA’s discretion. “The basic and consequential tradeoffs involved” are “ones that Congress would likely have intended for itself.”

Everything the Supreme Court said about the Clean Power Plan can be said about the EPA’s current proposals for regulating vehicle emissions. As it tried to do with the power market, EPA is now attempting to leverage its authority to set emissions limits for particular types of vehicles into a grand new scheme for shifting and rebalancing the overall mix

²¹ 88 FR at 29188.

of ICE, battery-electric, and other powertrains in the national auto fleet—an extravagant role for the Agency to play, and one with enormous economic and political implications.

Indeed, the current proposals represent an even more extreme example of regulatory overreach than the Clean Power Plan. Here, EPA is attempting to coerce the automakers into financing the entire transformation of the manufacturing base of a major industrial sector by converting their own production of ICE vehicles to EVs on a large scale, not simply contributing toward the marginal subsidization of alternative investments by others.

Moreover, in the name of ensuring that its own preferred “control technology” will actually deliver the expected performance as a suitable long-term substitute for ICE vehicles, EPA is also claiming the authority to regulate the design and functionality of battery-electric technology over the entire life cycle of EVs. Like CARB, EPA proposes to adopt and enforce “Global Technical Requirement” (GTR) No. 22, promulgated by the United Nations Economic Commission for Europe, which sets standards and requirements for validating electric battery durability.²²

Thus, EPA expects to be in the permanent business of regulating EV technologies, which involve no tailpipes at all, let alone tailpipe emissions—all under the aegis of a statute enacted by Congress to address air pollution from vehicle tailpipes.

What is clear is that EPA sees an endless horizon for its new-found power to regulate practically all aspects of the American automotive market. No doubt, for example, the Agency intends to be involved in overseeing the buildout and operation of electric vehicle charging infrastructure around the country—once again, as an incident of the regulators’ own expansive conception of their section 202 authority to ensure the adequacy of EPA’s chosen control technology.

We can easily imagine that someday this self-assumed mandate will include the power to ration the timing and extent of drivers’ access to charging networks, as EPA deems necessary to maintain the general supply of electricity for EVs. California is already doing this. Because the buildout of charging infrastructure will depend critically on government subsidies and approvals, government rationing of access to this infrastructure is a very real prospect, especially given the strains on grid reliability that I discuss below.

The bottom line under the Major Questions Doctrine is that section 202, on which the proposed rules rest, contains no clear and express delegation of any authority that could sustain these massively consequential proposals. As the Court observed in *West Virginia v. EPA*, “Congress certainly has not conferred [such] authority upon EPA anywhere ... in the Clean Air Act.”

²² See 88 FR at 29284-85; 88 FR at 26013-15.

The Analyses and Assumptions on Which the Proposed Regulatory Actions Are Based Are Arbitrary, Fundamentally Flawed, and Fail to Recognize and Account Properly for the Hugely Negative Consequences that Would Result from These Actions

EPA claims that, despite the coercive power and industry-transforming ambition behind its proposals, these rules will somehow deliver a stupendous bounty of net benefits, ranging at the high end from *\$1.5 trillion to \$2.3 trillion* for the light- and medium-duty vehicle rule,²³ plus another *\$180 billion to \$320 billion* for the heavy-duty truck rule.²⁴

This miracle of regulatory cost-benefit accounting cannot hold up under scrutiny.

EPA’s consideration of direct cost factors is inadequate and incomplete.

EPA estimates that the light- and medium-duty rule will impose an additional technology cost on automakers of between \$180 billion and \$280 billion,²⁵ which EPA asserts will translate into an average increase of \$1,200 in the purchase price of a typical vehicle, an increase EPA considers modest.²⁶ The derivation of these cost estimates is murky and fundamentally not credible.

EPA’s estimates assume that in the “no-action world” (the future world as it would exist without the proposed rules), battery-electric vehicle sales would ramp up rapidly from today’s levels and would plateau at around 40 percent of total U.S. light-duty vehicle sales by model year 2030, remaining at 39 percent through model year 2032.²⁷

This assumption depends on full implementation of the Agency’s own prior carbon dioxide emissions rule from 2021 (covering model years 2023 through 2026),²⁸ which is currently facing legal challenge in the U.S. Court of Appeals for the D.C. Circuit. It also appears to depend on implementation of CARB’s previously finalized ZEV mandates and carbon dioxide emissions restrictions (those that preceded CARB’s Advanced Clean Car II proposals).²⁹ Once again, these CARB rules are only in effect because EPA approved them in a special waiver for California, another EPA action under challenge in the D.C. Circuit.

²³ *Id.* at 29200.

²⁴ 88 FR at 25937.

²⁵ 88 FR at 29200.

²⁶ *Id.* at 29201.

²⁷ *See id.* at 29296-97, Figure 20.

²⁸ *See id.* at 29296.

²⁹ *See id.* at 29296-97.

The combined effects of all three sets of regulatory edicts—the current proposals, EPA’s 2021 rule, and the CARB rules—are closely interrelated and flow from the same policy choices of the Biden administration. An accurate accounting of cost would recognize that these three regulatory actions are part of a single integrated policy implemented through EPA. They are intended to build upon each other, and in fact they do. EPA is presenting a deceptively compartmented picture of the regulatory costs of its actions by treating the effects of its own 2021 rule and the CARB rules that it authorized through its waiver decision as if they were exogenous background facts. They are not.

The 39-40 percent no-action baseline also assumes that American car buyers will suddenly drop their resistance to EVs. In effect, EPA is banking on a near-term future in which market demand for the new fleet of EVs will be just as high as it currently is for the most popular brands of ICE and hybrid vehicles, like the Ford F-150 pickup, the Chevy Silverado pickup, or the Toyota Camry. That assumption is highly suspect: the average price of an EV today is \$61,000 (24 percent higher than the average ICE vehicle),³⁰ and EVs come with limitations and question marks that concern many buyers.³¹ EPA is untroubled; it casually predicts that the price of EVs will fall and buyer demand will rise greatly in the years ahead, assumptions that are critical to EPA’s ability to minimize the true cost effects of its proposals.

In the real world of the marketplace, the automakers cannot manage the huge capital costs of EPA’s assumed production switchover to battery-electric technology unless consumer demand for EVs is strong. Without sufficient market demand, at levels far more robust than currently seen, the effective costs of these rules will be much higher than EPA recognizes and will not be sustainable for the automakers. It is not always true that “if you build it, they will come”—just ask Facebook about the Metaverse.

EPA is confident that generous federal subsidies for EV purchases will help consumers overcome their reluctance, but that confidence is questionable at best. EPA’s calculations assume that the current subsidies promised in the Inflation Reduction Act will apply to all EV purchases in the U.S., which they do not and never will, and that these subsidies will remain available going forward, which will not be the case if a future Congress changes course and repeals these costly subsidies.

³⁰ See <https://www.kbb.com/car-news/average-new-car-price-tops-49500/>.

³¹ For example, reports suggest that some electric pickups may have a greatly reduced effective range when towing heavy loads—a limitation likely to be of concern to prospective pickup buyers. See <https://www.motortrend.com/reviews/ford-f150-lightning-electric-truck-towing-test/>.

Finally, the \$1,200-per-vehicle cost figure touted by EPA is simply borrowed and carried over from the EPA's 2021 rulemaking without additional substantive analysis.³² It is not reasonable to assume that the per-vehicle cost of the current proposal for model years 2027 through 2032 would be anywhere close to the same as the estimated cost figure for the 2021 rule covering model years 2023 through 2026 (even if the figure was accurate for the 2021 rule). The current proposal is far more expansive and involves much more draconian reductions in emissions limits.

The true per-vehicle technology costs of the proposed rules must be far higher than the figure thrown out by EPA. Even accepting the thoroughly implausible “no action” baseline that EPA has posited for future EV sales, EPA is projecting that the regulatory force of the current proposal, considered in isolation, will by itself cause the overall percentage of EV sales nationally to go from 39 percent to 67 percent—a huge increase, nearly a doubling in EV production and sales. Notably, based on EPA's own assumptions, this regulation-forced increase would have to come *after all the early adopters have already purchased their EVs*. Such an industry-wide transformation in production volumes and sales of EVs to non-early-adopters would involve a massive capital investment and marketing surge, and all the costs associated with that transformation would be attributable to the EPA's administrative rule, if the rule were indeed expected to be the forcing action.

In addition, the comparative lifecycle costs of owning and operating an EV versus an ICE vehicle are not nearly so different as EPA's NPRMs assert. EPA claims huge cost savings for EV owners over ICE owners from the avoided costs of fuel and maintenance and repairs over the life of the vehicle,³³ but EPA's analysis fails to include the full costs of owning an EV:

For one thing, EPA ignores the cost of battery replacements for EV owners.³⁴ EV batteries degrade over time with each charge and discharge, and this degradation will be accelerated if the EV gets heavy use, if it is driven through cold winters, or if the owner uses rapid recharging.³⁵ Battery degradation reduces significantly the

³² See 86 FR 74434, 74497, <https://www.federalregister.gov/documents/2021/12/30/2021-27854/revised-2023-and-later-model-year-light-duty-vehicle-greenhouse-gas-emissions-standards>.

³³ See 88 FR at 29200.

³⁴ Section 3.1 of the EPA's draft regulatory impact analysis (DRIA) for the proposed light- and medium-duty rule, for example, does not include any estimate for the cost of battery replacement.

³⁵ See Jacqueline S. Edge, et al., “Lithium ion battery degradation: what you need to know,” *Royal Society of Chemistry*, March 22, 2021, <https://pubs.rsc.org/en/content/articlehtml/2021/cp/d1cp00359c> (identifying 5 principal and 13 secondary mechanisms causing degradation of lithium-ion batteries in EVs, and explaining that degradation will be exacerbated by, among other things, usage profile, outside temperature, and the use of fast charging); Niall Kirkaldy, et al., “Lithium-Ion Battery Degradation: Measuring Rapid Loss of Active Silicon in Silicon-Graphite Composite Electrodes,” *American Chemical Society*

power and range of the EV and will eventually lead to an unacceptable risk of thermal runaway and fire.³⁶ At a certain point in the life of the EV, depending on the nature of its use, the type of recharging, and the environment where the vehicle is driven, the owner will need to replace the battery (if replacement is even feasible)—just to maintain or restore the utility of the vehicle or for safety reasons. Further, independent of use, if the battery is scratched or suffers other forms of damage in a relatively minor traffic accident, the battery may need to be replaced prematurely (or the vehicle may be considered a total loss).³⁷

Battery replacement, when available, will undoubtedly be very expensive. For an EV battery pack with a capacity of 100 kWh (the capacity level assumed by the EPA in its models), the replacement battery alone (not including labor, any fee for disposing of the old battery, and any other associated expenses) would cost at least \$15,300. That figure is based on the Energy Department’s 2022 estimated cost of manufacturing the battery—\$153 per kWh of capacity.

Uncertainty about the remaining life and capacity of the vehicle’s battery, combined with the high cost of any potential replacement, will likely mean that a used EV will have much lower resale or trade-in value relative to a comparable used ICE vehicle. This loss in value will be a significant cost disadvantage of EV ownership.

EPA also undercounts the cost of electricity charging over the life of the EV. EPA relies on a pricing model that claims to show that electricity prices will somehow not rise significantly in a world where EVs comprise more than half of new cars sold in the U.S., but that claim is wholly unrealistic. Even absent high EV penetration, the Bureau of Labor Statistics reports that electricity prices are steadily rising in the U.S.³⁸ Increased EV charging demand will only cause those prices to rise even faster. Driving a single EV 15,000 miles per year and charging it at home could raise the annual electricity bill for the average family by 50 percent or more.³⁹ If the nation

Applied Energy Materials, November 3, 2022, <https://pubs.acs.org/doi/10.1021/acsaem.2c02047> (similar).

³⁶ Significant loss in battery capacity and range over the life of the EV is expected and allowed for even within the parameters of the UN’s GTR No. 22 standard for EV battery durability cited by the EPA.

³⁷ See <https://www.reuters.com/business/autos-transportation/scratched-ev-battery-your-insurer-may-have-junk-whole-car-2023-03-20/> (full citation in footnote 17 above).

³⁸ See generally <https://data.bls.gov/pdq/SurveyOutputServlet> (allowing user to generate graph showing the rise from 2003 to the present in the average price of electricity in the U.S.).

³⁹ The Energy Information Agency reports that the average American household uses about 886 kilowatt hours of electricity per month, <https://www.eia.gov/tools/faqs/faq.php>, and the EPA says the average EV consumes 36 kilowatt hours of electricity per every 100 miles driven, <https://www.epa.gov/greenvehicles/comparison-your-car-vs-electric-vehicle>. If the family’s EV is driven

converts to EV ownership at the rates EPA is aiming for, such a large increase in overall electricity demand will inevitably cause electricity rates to rise significantly.

The EPA's glib premise that car buyers in the U.S. will respond with strong demand for the supposed flood of future EVs (notwithstanding the practical concerns, cost considerations, and other uncertainties that surround EVs in the minds of American consumers), is typical of the consistently rosy—almost relentlessly rosy—assumptions about cost factors and consequential risks that underlie all parts of EPA's supporting analysis.

EPA fails to consider the negative societal consequences and second-order cost effects of its proposals.

In putting forward regulatory proposals designed to force upon the American people a vast and rapid industrial transformation, EPA has an obligation to go further than just considering the direct cost effects of its proposals (which are themselves woefully underestimated, as highlighted above); it must also consider the broader indirect economic consequences and negative societal costs that would follow if these rules are finalized as proposed. So far in these rulemakings, the Agency has either ignored or deliberately downplayed these second-order effects.

Some of the most consequential burdens and negative ramifications of the proposed rules that EPA hides, disregards, or minimizes include the following:

- **Stifling consumer choice at the dealership.** Many of the vehicle models most popular with American families will no longer be sustainable under the EPA's proposed rules. Automobiles have long been America's favorite freedom machines. When the models of ICE vehicles Americans love the most disappear from dealerships, that will represent an enormous drop in consumer welfare (in basic happiness and well-being) for the average American family and for the U.S. economy as a whole. For many of these ICE vehicle models, there is no EV option likely to be available that could provide the same performance, utility, or recreational value at a comparable price (or at all). EPA makes no real effort to quantify this generational loss of consumer welfare.
- **Increasing the purchase price of all new vehicles.** Notwithstanding EPA's gaming of the numbers, the true costs of the industrial transformation forced by the EPA's proposed rules will be spread across the automakers' fleets, resulting in a significant increase in the prices of all new vehicles, with greater price increases concentrated on those vehicles for which the demand is highest relative to supply. All Americans will be harmed by these price increases, but the biggest losers will

15,000 miles per year, or 1,250 miles per month, it would consume 450 kilowatt hours of electricity every month.

be lower-income Americans who cannot afford to buy an EV or to pay more for a gas-powered vehicle at the dealership, as well as those who live in rural areas and need to drive longer distances and for whom EVs are impractical.

- **Destroying jobs in the U.S. auto industry.** The loss of popular new vehicle options and the significant price increases at the dealership will mean that fewer new vehicles will be purchased—almost certainly far fewer than EPA is predicting. This drop-off in demand will challenge the profitability of the auto industry and lead to a loss of jobs for tens of thousands of America’s autoworkers, as well as a loss of jobs in the many U.S. companies that supply inputs for the production of automobiles and heavy trucks.⁴⁰ The United Auto Workers union has warned of the potential for job losses from the transition to EVs,⁴¹ as automakers announce more plant closures and layoffs due to the costs of electrification.⁴²
- **Causing more deaths and serious injuries on America’s highways.** As new vehicle models become unaffordable or unappealing, many American families will be left driving older and older used cars, and the age of the nation’s auto fleet will rise dramatically. Already, the average age of a car on the road in the United States is approaching 13 years, and many cars are on their fifth or sixth owners. The aging of the American fleet has very negative safety consequences, as NHTSA statistics show that older vehicles are much less safe than newer models in an accident.⁴³

In the current rulemaking, EPA is downplaying and minimizing the loss of lives on U.S. highways that its proposals will cause by estimating them on a per-distance-traveled basis, and is ignoring altogether the many more serious injuries that will be attributable to these regulations.⁴⁴ In contrast, NHTSA was more candid in acknowledging these negative safety effects just last year when it promulgated stringent fuel

⁴⁰ See Technality, “Ford Just Proved How Far Ahead Tesla Really Is: Profitability May Continue to Be a Struggle for All Legacy Automakers,” May 10, 2023, <https://medium.com/tech-topics/ford-just-proved-how-far-ahead-tesla-really-is-6a4d95cff519> (“Despite wanting to be a fully-electric brand by 2035, as of Q4 2022, Ford’s average net margin on the Mustang Mach-E was -40.4%. Unfortunately, that’s a figure that’s only gotten worse since, to the point where Ford is now losing an average of \$58,000 for every EV sold.”).

⁴¹ See Press statement, United Auto Workers, “UAW Statement on Job Cuts at Stellantis,” April 26, 2023, <https://uaw.org/uaw-statement-job-cuts-stellantis>.

⁴² See Michael Wayland, “Stellantis to indefinitely idle Jeep plant, lay off workers to cut costs for EVs,” CNBC.com, December 9, 2022, <https://www.cnbc.com/2022/12/09/stellantis-to-idle-jeep-plant-lay-off-workers-to-cut-costs-for-evs.html>.

⁴³ See https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/newer-cars-safer-cars_fact-sheet_010320-tag.pdf.

⁴⁴ See 88 FR at 29345, 29386.

economy standards through model year 2026 in lockstep with EPA's 2021 emissions rule.⁴⁵ Meanwhile, EPA is playing up and magnifying the economic value of the lives it claims will be saved in the long run from the reduction of toxic pollutants.⁴⁶ EPA's starkly different accounting treatment for the lives lost from less safe vehicles versus those saved by improved air quality is telling.

- **Worsening air quality and increasing global carbon emissions.** As the EPA touts the environmental benefits it hopes to achieve from the production of more EVs, it ignores the fact that as consumers turn away from new models and the overall U.S. fleet ages, the older cars left on America's highways will produce more smog and other traditional air pollutants that degrade local air quality. And if there truly were an explosion in the sale of EVs, those EVs would need to be charged using electricity produced mostly from fossil-fuel-fired power plants, increasing the national emissions of carbon dioxide.⁴⁷ EPA largely dismisses this reality based on the wishful claim that America's future power generation will soon shift *en masse* to wind and solar.⁴⁸

Furthermore, EPA has deliberately left out of its cost-benefit equation entirely the upstream carbon dioxide emissions associated with EV production.⁴⁹ The minerals and components used in EV batteries are mostly processed or manufactured in China using power generated from coal. While the U.S. has achieved huge reductions in carbon dioxide emissions by converting coal-fired power plants to natural gas, China's and other Asian nations' carbon emissions are growing rapidly because of their heavy reliance on coal, and EPA's rules will only accelerate that dynamic.⁵⁰ An automotive engineering analysis published in 2022 estimated that the carbon dioxide emissions from producing the battery used in one small EV (the Nissan Leaf) were equivalent to driving an ICE vehicle 24,000 miles (two years of driving), and those from producing the battery used in a large EV (the Tesla Model S) were

⁴⁵ See 87 FR 25710, 25895, <https://www.govinfo.gov/content/pkg/FR-2022-05-02/pdf/2022-07200.pdf>.

⁴⁶ See 88 FR at 29345, 29379-82.

⁴⁷ See Roger Pielke Jr., "The Energy Transition Has Not Yet Started: Global fossil fuel consumption is still increasing," *The Honest Broker*, June 29, 2023, <https://rogerpielkejr.substack.com/p/the-energy-transition-has-not-yet>; Robert Bryce, "The Energy Transition Isn't: Despite \$4.1 trillion spent on wind and solar, they aren't even keeping pace with the growth in hydrocarbons," July 1, 2023, <https://robertbryce.substack.com/p/the-energy-transition-isnt>.

⁴⁸ See 88 FR at 29303-04.

⁴⁹ See *id.* at 29197, 29254.

⁵⁰ See Robert Bryce, "The Iron Law of Electricity Strikes Again as Vietnam Boosts Coal Burn," June 17, 2023, <https://robertbryce.substack.com/p/the-iron-law-of-electricity-strikes>.

equivalent to driving an ICE vehicle 60,000 miles (five years of driving).⁵¹ In these rulemaking proposals, EPA has completely ignored the fact that EVs start out their lives on the road with such a huge head start (two to five years worth) in carbon dioxide emissions over their ICE counterparts.

- **Requiring massive expenditures in electric charging infrastructure.** If finalized as proposed, the EPA’s emissions rules will hold America’s automotive freedom hostage to the need for huge new investments in electric infrastructure throughout the U.S. Again, EPA largely minimizes the portion of these infrastructure costs that would appropriately be attributable to its regulatory actions and downplays the impact.
- **Straining America’s power grid and raising the price of electricity.** EPA pretends that its rules will not put a colossal additional strain on our already vulnerable national power grid. But that is fantasy, if the forecasted EV sales actually were to materialize. To accommodate EPA’s future fleet of EVs, our national electric grid capacity would need to grow 60 percent or so by 2030 and much more over the long term,⁵² and that is growth in infrastructure alone, not in power generation. This buildout is simply not practicable in the timeframe EPA is contemplating.⁵³ Even if it could happen, it will have to be paid for, and those costs will inevitably be reflected in higher electricity rates for all users of electricity across the U.S. and higher EV charging fees in particular. EPA says not to worry about grid reliability—utilities and the government will be able to manage the EV charging draw on the grid by rationing the hours for charging.⁵⁴ American drivers will not tolerate that.

At the same time that EPA is proposing to force the electrification of the American auto fleet, it has just proposed separate rules under the Clean Air Act aimed at forcing power generators to phase out 90 percent of America’s fossil-fuel-powered electric generating capacity.⁵⁵ Conveniently for the Agency’s cost accounting estimates, EPA’s newly proposed power plan ignores the extra electricity draw that would be required by EPA’s proposed vehicle rules, and the vehicle rules, in turn,

⁵¹ See Tristan Burton, et al., Convergent Science, Inc., “A Data-Driven Greenhouse Gas Emission Rate Analysis for Vehicle Comparisons,” *SAE Int’l Journal of Electrified Vehicles*, April 13, 2022, <https://doi.org/10.4271/14-12-01-0006> (also available at <https://www.sae.org/publications/technical-papers/content/14-12-01-0006/>).

⁵² See <https://www.energy.gov/policy/queued-need-transmission>.

⁵³ See Robert Bryce, “47,300 Gigawatt-Miles from Nowhere,” May 26, 2023, <https://robertbryce.substack.com/p/47300-gigawatt-miles-from-nowhere>.

⁵⁴ See 88 FR at 29312.

⁵⁵ See <https://www.epa.gov/newsreleases/epa-proposes-new-carbon-pollution-standards-fossil-fuel-fired-power-plants-tackle>.

fail to account for the electricity supply crunch that would be caused by EPA's own power plan—a perfect concert of coordinated regulatory analysis, orchestrated to make the costs on Americans appear lower.

- **Putting the Highway Trust Fund at risk.** The Highway Trust Fund, which covers a large percentage of the costs of state and local highway improvements and maintenance in the U.S., is currently funded through a gas tax. The gas tax is relatively easy to administer because it is paid at the level of wholesale gasoline and diesel fuel distribution by a small number of large distributors. If more than half of new vehicles sold in the U.S. were EVs, as contemplated in the EPA's proposals, the gas-tax revenues for the Fund would drop dramatically, and the solvency and utility of the Fund would collapse. That would threaten the viability of the national highway system and the capacity of states to maintain highways in good repair.

If the Fund were to be retained in some form, it would require a new source of revenue, such as a tax on all vehicle miles traveled, or VMT. The idea behind a VMT tax is that it would equitably capture the VMT of EVs, just as well as ICE vehicles. However, a VMT tax is likely to be more complicated and costly to administer than the gas tax. There are significant questions about the design and administrability of a VMT tax that would need to be worked out and proven—for example, through one or more state-wide pilot programs—before implementation. Since EPA is proposing to adopt rules that would cause a national shift to EVs, which in turn would undermine the revenue basis for the Highway Trust Fund, EPA should recognize and consider as part of these rulemakings the upfront costs and dislocations that would be involved in transitioning to a new revenue basis for the Highway Trust Fund, as well as the ongoing higher costs of administering such an alternative tax.

- **Increasing highway infrastructure costs.** Similarly, the cost of increased wear and tear on highway infrastructure, including the cost of increased frequency of required repairs, should also be recognized in the proposals. If, as EPA envisions, EVs were to comprise more than half of new light-duty vehicle sales, and if a large percentage of new medium- and heavy-duty trucks were battery powered, that would have a definite negative impact on highway infrastructure. The batteries in EVs are heavy, and, as a consequence, EVs tend to be considerably heavier than comparably sized ICE vehicles. The greater weight of EVs would cause faster wear and tear on highways if the number of EVs on the road were to increase significantly.
- **Increasing the costs and burdens of first responders.** There is no mention in EPA's NPRMs or in the accompanying DRIs of the impact these rules would have on first responders. If EVs come to comprise a greatly increased percentage of the nation's auto fleet, as EPA's proposals are intended to achieve, state and local first

responders will inevitably incur significantly higher costs and burdens in the form of specialized fire-suppression chemicals and equipment and additional hazardous-response training requirements. Lithium-ion battery fires are a common occurrence with EVs, and these fires generate intense heat and toxic fluoride gas emissions, making them more difficult to extinguish than conventional vehicle fires and increasing the costs and management challenges of maintaining effective first responder capabilities.⁵⁶

- **Harming our national security.** Finally, EPA minimizes the fact that forcing a faster switchover to EVs will threaten America’s national security by making us more dependent on China and other unfriendly foreign nations for the production and processing of critical inputs required for EVs. China controls nearly 70 percent of global EV battery manufacturing capacity—including 70 percent of the world’s lithium supply; 80 percent of the necessary rare earth minerals; and approximately 75 percent of the magnets needed for EV motors—and it boasts 107 of the 142 lithium-ion battery mega-factories planned or under construction in the world today (with only 9 planned for the U.S.).⁵⁷

The average EV battery uses about 8-10 kilograms of lithium (even more for higher performance batteries), and the world today mines a total of about 130,000 tons of lithium per year. That means if the EPA succeeds in converting 60 percent of annual U.S. car sales to EVs (about 7.8 million vehicles), those EVs (just for the U.S. market) would require 60 percent of the entire world’s current production of lithium.⁵⁸

Similarly, each EV battery requires about 10 kilograms of cobalt, which translates into one metric ton for each 100 EVs and 10,000 tons of cobalt for one million new EVs. There are only between 150,000 and 190,000 tons of cobalt mined every year worldwide (the lion’s share from the Democratic Republic of the Congo). Here again, if 60 percent of annual U.S. auto sales were EVs by 2030 (7.8 million vehicles), those EVs (just in the U.S.) would consume about 78,000 tons of cobalt—half the world’s supply.⁵⁹

⁵⁶ See Fredrik Larsson, et al., “Toxic fluoride gas emissions from lithium-ion battery fires,” *Scientific Reports, Nature*, August 30, 2017, <https://www.nature.com/articles/s41598-017-09784-z> (corrected March 22, 2018) (also available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5577247/>).

⁵⁷ See <https://secureenergy.org/safe-urges-bipartisan-coordinated-policy-to-lead-new-tech-in-auto-industry-and-protect-against-chinese-supply-chain-dominance-in-new-report/>.

⁵⁸ See <https://pubs.usgs.gov/periodicals/mcs2023/mcs2023-lithium.pdf>.

⁵⁹ See <https://pubs.usgs.gov/periodicals/mcs2020/mcs2020-cobalt.pdf>.

To put these percentages in perspective, according to the International Energy Agency (IEA), “In 2022, about 60% of lithium, 30% of cobalt and 10% of nickel demand was for EV batteries” worldwide.⁶⁰ Because the U.S. market accounts for less than 20 percent of new vehicle sales globally,⁶¹ and other governments, particularly China and the EU, are pushing for similar rapid transitions to EVs, the overall worldwide supply of the critical minerals needed to produce EV batteries will have to increase at a truly astounding rate in the next several years to meet the EPA’s assumptions.⁶²

EPA predicts all of our strategic dependencies for these inputs will vanish quickly over time, with the assist of government subsidies, as new mines open up in the U.S. and Canada and new factories are built here and production capacity is brought to our shores.⁶³ The reality, of course, is that there is little prospect that the Biden administration or local permitting authorities will fast-track the environmental approvals needed for all of these new mining operations and production facilities, even if the projects were otherwise shovel ready.

On each of these points, EPA blithely asserts that the current problems, challenges, supply constraints, security risks, and limitations will all miraculously resolve themselves as the United States collectively marches forward into a happy future of EVs. Taken together, the EPA’s long string of sunny assumptions, each one designed to minimize the costs and challenges of the new rules, adds up to a wholly arbitrary set of regulatory analyses.

If U.S. consumers do not embrace EVs as quickly and enthusiastically as the EPA assumes they will, or if even one of the EPA’s other overly optimistic assumptions comes a cropper, the consequences of these rules will be catastrophic—for America’s industrial base, our nation’s workforce, and the safety and wellbeing of Americans, particularly medium- and lower-income Americans.

EPA should withdraw and reconsider these rulemaking proposals.

In light of the deficiencies in the cost analyses and underlying assumptions laid out above, EPA should withdraw and reconsider both of its proposed tailpipe rules. If EPA had

⁶⁰ IEA, Global EV Outlook 2023: Trends in batteries, <https://www.iea.org/reports/global-ev-outlook-2023/trends-in-batteries>.

⁶¹ See Alex Kopestinsky, “20 In-Depth Global and US Auto Sales Statistics for 2023,” *Policy Advice*, March 23, 2023, <https://policyadvice.net/insurance/insights/us-auto-sales-statistics/>.

⁶² See Doomberg, “Separation Anxiety,” June 27, 2023, <https://doomberg.substack.com/p/separation-anxiety> (explaining why it is doubtful “the world can mine a sufficient amount of the necessary battery materials to meet anticipated demand”).

⁶³ See 88 FR at 29318-24.

more carefully considered its legal authorities under the Clean Air Act and more thoroughly accounted for the market realities and facts relevant to these proposals, I am confident EPA would not have proposed the radical and far-reaching approach to emissions control reflected in the current proposals.

Even if EPA persists in proposing something along the same lines, at a minimum, it should put these concepts out for public comment in a much more preliminary form—for example, in an advanced notice of proposed rulemaking, or ANPRM. By setting out the general ideas it plans to consider in an ANPRM, EPA could suggest its own preliminary supporting analysis and view of the relevant facts and considerations and then ask for meaningful input on all aspects of the issues, seeking recommendations for alternative approaches from interested parties and the public. That would be more respectful of the American people and all interested stakeholders and would be more accommodating of the need for and the value of greater public input and deliberation.

Such an alternative process would provide the opportunity for EPA to receive deeper and broader information on all sides of the issues raised by these regulatory proposals, as well as a more probing analysis of the scope of EPA’s authority to set emissions limits for automobiles and commercial trucks. In that way, an ANPRM process would help redirect EPA’s thinking about the true costs, market disruptions, and secondary consequences of its preferred approach and about its authority to undertake these transformational proposals.

EPA’s benefits analysis is flawed and arbitrary.

On the benefits side of the ledger, EPA claims sky-high monetized benefits from the asserted reductions in carbon dioxide emissions—to the tune of upwards of a trillion dollars.⁶⁴ These estimates are based on predicted reductions in the amount of gasoline and diesel fuel that would be burned if the U.S. auto fleet converts to EVs at the rates projected by EPA. But they completely ignore the very large *increase* in carbon dioxide emissions that would necessarily occur from the projected expansion in the production of EV batteries. They also ignore the upstream emissions of carbon dioxide from the increased electricity generation that would be needed to charge the projected fleet of EVs.

EPA’s refusal to account for these huge offsetting emissions of carbon dioxide fundamentally distorts its analysis of net benefits in a manner that arbitrarily favors the Agency’s preferred regulatory outcome. It is, in fact, false and misleading to label EVs “zero-emission vehicles” when the production of EV batteries and the charging of the batteries over the life of the vehicles both generate enormous amounts of carbon dioxide.

⁶⁴ See *id.* at 29200, 29344.

EPA’s projections of benefits from carbon dioxide reductions are primarily based on the so-called “social cost of carbon” models. However, as summarized in analyses published by my colleague from The Heritage Foundation, Kevin Dayaratna, these models are deeply flawed and unreliable. Among other things, they depend on outdated assumptions and fail to account for the positive agricultural effects of higher carbon dioxide levels. Using more appropriate assumptions, these models would show a social cost of carbon dioxide emissions that effectively approaches zero.⁶⁵

Regrettably, the EPA is not likely to adjust its “social cost of carbon” benefits estimates downward at all. In fact, the Agency may be planning to dial them way up—perhaps to as high as \$3 trillion to \$5 trillion—when it finalizes these rules. The proposals rely on the usual discount rates of 3 and 7 percent traditionally used by the Office of Management and Budget (OMB) when estimating the present value of benefits expected to accrue in the distant future. But the Biden OMB has recently proposed to amend its Circular A-4 (governing such calculations) to encourage agencies to use lower discount rates (such as the 1.7 percent rate generally applicable to interest on long-term Treasury bonds) in assessing the value of long-term or so-called “intergenerational” benefits.⁶⁶ The use of the lower rate will increase the monetized present value of claimed benefits considerably. In these proposed rules, EPA has labeled its benefits calculations “interim,” signaling that it may choose to recalculate the benefits using a lower discount rate, should OMB finalize the proposed amendments to A-4. Doing so would only exacerbate the arbitrary nature of the Agency’s inflated benefit estimates for the proposed rules.

Furthermore, EPA’s proposal to count the purported benefits of carbon dioxide reductions on a *global* basis, as opposed to confining its estimates to domestic U.S. effects, is flawed and inappropriate. Even if they were accurately estimated, which they are not, these global benefit forecasts could not properly and reasonably justify the regulatory costs that

⁶⁵ See Kevin D. Dayaratna, “Climate Change, Part IV: Moving Toward a Sustainable Future,” Testimony before Subcommittee on Environment Committee on Oversight and Reform, U.S. House of Representatives, September 24, 2020; Kevin Dayaratna and David Kreutzer, Loaded DICE: An EPA Model Not Ready for the Big Game, Backgrounder No. 2860, The Heritage Foundation, November 21, 2013, <https://www.heritage.org/environment/report/loaded-dice-epa-model-not-ready-the-big-game>; Kevin Dayaratna and David Kreutzer, “Unfounded FUND: Yet Another EPA Model Not Ready for the Big Game,” Backgrounder No. 2897, April 29, 2014, http://thf_media.s3.amazonaws.com/2014/pdf/BG2897.pdf; Kevin Dayaratna, Ross McKittrick, and David Kreutzer, “Empirically Constrained Climate Sensitivity and the Social Cost of Carbon,” *Climate Change Economics*, Vol. 8, No. 2 (2017), pp. 1750006-1-1750006-12, <https://www.worldscientific.com/doi/abs/10.1142/S2010007817500063>; and Kevin Dayaratna, Ross McKittrick, and Patrick Michaels, “Climate sensitivity, agricultural productivity and the social cost of carbon in FUND,” *Environmental Economics and Policy Studies*, 22: 433-448 (2020), <https://link.springer.com/article/10.1007/s10018-020-00263-w>.

⁶⁶ See <https://www.whitehouse.gov/wp-content/uploads/2023/04/DraftCircularA-4.pdf>.

the proposed rules would impose on businesses and individuals in the U.S. It is more appropriate and consistent with the purposes of regulatory cost-benefit analyses for federal agencies to consider only the estimated benefits that a proposed rule is expected to have domestically on the U.S. economy and on persons in the United States.⁶⁷

These estimated values are the EPA's main focus in evaluating the claimed benefits of carbon dioxide reduction. EPA pointedly avoids claiming that its proposed rules will achieve any specific reduction in global temperatures. That is not surprising. Apparently, EPA wishes to save itself the embarrassment of predicting a vanishingly small effect. Using the UN Climate Panel's model for global average temperature effects, Bjorn Lomborg has shown that if every country in the world achieved its stated EV targets by 2030, the total savings in carbon dioxide emissions would be expected to reduce global temperature by only 0.0002 degree Fahrenheit by the year 2100.⁶⁸

Conclusion

If and when the American people feel the true effects of these rules—when they lose the vehicle options they love at the local dealership and find themselves stuck driving older and less safe cars, when the bottom falls out of the job market in the U.S. auto industry, when drivers cannot find convenient charging stations for their electric vehicles—in sum, when American voters realize what the EPA's far-reaching regulatory enterprise has wrought for the nation, they will be angry.

At issue are matters of life, liberty, and prosperity, and the considerations involved are fundamentally political in nature. That is exactly why, under our constitutional republic, it is for Congress, and Congress alone, to make the monumental decisions that EPA is purporting to take upon itself in these proposed rules. For these reasons, EPA should withdraw its proposed tailpipe rules and reconsider the wisdom of these proposals.

⁶⁷ Generally, federal agencies are authorized only to promulgate rules that apply domestically, unless the federal statute under which the agency is acting clearly and expressly authorizes the agency to issue rules to achieve benefits outside the territorial reach of the United States. Correspondingly, absent such a clear statutory mandate, the requirement of a regulatory cost-benefit analysis imposed under Executive Order 12,866 and administered by OMB's Office of Information and Regulatory Affairs (OIRA) is properly limited to considering only the benefits the rule is expected to produce for the American people in the U.S.

⁶⁸ See Bjorn Lomborg, "If Electric Vehicles Are So Great, Why Mandate Them?," *Wall Street Journal*, September 10, 2022, <https://www.wsj.com/articles/policies-pushing-electric-vehicles-show-why-few-people-want-one-cars-clean-energy-gasoline-emissions-co2-carbon-electricity-11662746452>.