February 27, 2024

Via Federal eRulemaking Portal

Attn: EPA-HQ-OAR-2023-0292

U.S. Environmental Protection Agency
EPA Docket Center, Air Docket, Mail Code 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460

Re: California State Motor Vehicle Pollution Control Standards; Advanced Clean Cars II Regulations; Request for Waiver of Preemption; Opportunity for Public Hearing and Public Comment. Docket ID: EPA-HQ-OAR-2023-0292.

To Whom It May Concern:

On December 26, 2023, the U.S. Environmental Protection Agency ("EPA") published "California State Motor Vehicle Pollution Control Standards; Advanced Clean Cars II Regulations; Request for Waiver of Preemption; Opportunity for Public Hearing and Public Comment," 88 Fed. Reg. 88908 ("Proposed Waiver"). California is requesting from EPA a waiver of Clean Air Act, 42 U.S.C. §§ 7401 et seq., ("CAA") Section 209(a) preemption to implement a ban on the sale of new gasoline and diesel fueled vehicles in that state under its Advanced Clean Cars II Program ("ACC II"). Letter from Steven S. Cliff, Exec. Officer, California Air Resources Board ("CARB") to Michael S. Regan, Administrator, EPA (May 22, 2023) (available at EPA-HQ-OAR-2023-0292-0023) ("CARB Letter") (transmitting the ACC II regulations as finally approved and effective on November 30, 2022) (available at EPA-HQ-OAR-2023-0292-0016).

I served as associate director of the White House Council on Environmental Quality from 2017 to 2019. In that role I was involved in coordinating federal environmental policy, including EPA rulemaking. Moreover, I teach environmental law at Florida International University and am also a senior research fellow for Energy, Climate, and Environment at the Heritage Foundation. Because I believe that the Proposed Waiver violates important guarantees of the U.S. Constitution as well as the federal Clean Air Act, I respectfully submit these comments for EPA's consideration.

I. Statutory and Regulatory Background.

A. The Preemption and Waiver Provisions of CAA Section 209.

Section 209(a) of the CAA expressly preempts state adoption or enforcement of "any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to" Title II of the CAA. Section 209(b) of the CAA authorizes EPA to waive the preemptive prohibition of Section 209(a) for state standards if the state determines that its standards will be as least as protective of public health and welfare as the applicable federal standards, subject to the conditions noted below. By the terms of Section 209(b), only California qualifies to seek and receive such a waiver. Once a waiver is granted to California, other nonattainment states can adopt California's standards and avail themselves of the waiver.

Section 209(b)(l) requires the Administrator to deny the waiver application if he finds that (A) the determination by the state that its standards are at least as protective as federal standards is arbitrary and capricious; (B) the state does not need the state standards to meet compelling and extraordinary conditions; or (C) the state standards and accompanying enforcement procedures are not consistent with section 202(a) of the CAA. These three criteria establish a significant hurdle to a successful waiver.

In applying the first waiver criterion, EPA must assess whether California's determination of the health and welfare protections of its standards, compared with applicable federal standards, could survive review under Section 706 of the federal Administrative Procedure Act ("APA"), 5 U.S.C. § 706, as that is the standard that applies to EPA's own assessment of California's determination. See, *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins.*, 463 U.S. 29 (1983).

With regard to the second waiver criterion, EPA must deny the waiver if it finds that California "does not need such State standards to meet compelling and extraordinary conditions." EPA has interpreted this phrase (incorrectly) to mean that California needs a separate motor vehicle program as a whole in order to address environmental problems caused by conditions specific to California or effects unique to California. 88 Fed. Reg. at 88909.

With respect to the third waiver criteria, according to EPA, state standards are inconsistent with section 202(a) if, for example, there is inadequate lead time to permit the development of the necessary technology, giving appropriate consideration to the cost of compliance within that time period or if the Federal and State test procedures impose inconsistent certification procedures. Id.

B. California's ACC II Regulations and Waiver Request.

On November 22, 2022, California adopted the ACC II regulations, which apply to new 2026 and subsequent model year (MY) light- and medium-duty vehicles. The ACC II regulations include two sets of requirements, one for conventional vehicles powered by internal combustion engines

and one for zero emission vehicles, which are fully electric (ZEV). The ACC II Regulations require vehicle manufacturers to sell increasing percentages of ZEVs beginning with the MY 2026, until all vehicles sold in California are ZEVs by 2035.

In the CARB Letter, CARB asked EPA to grant a waiver of preemption under section 209(b) of the Clean Air Act (CAA) for the ACC II regulations. The Waiver Support Document attached to the CARB Letter provides a summary of the regulations and an analysis of the regulations under the waiver criteria in Section 209(b)(1) of the CAA ("Waiver Support Document") (available at EPA-HQ-OAR-2023-0292-0034).

II. The Proposed Waiver Would Violate Fundamental Constitutional Principles

As the Supreme Court has repeatedly affirmed, "[A]ll States enjoy equal sovereignty" under the U.S. Constitution. *Shelby Cnty., Ala.* v. *Holder*, 570 U.S. 529, 535 (2013). Of course, Congress can and should recognize the different situations faced by various states and give states as much latitude as possible to regulate their own affairs according to their states' preferences. But the equal sovereignty principle does require absolute "parity" among states "as respects political standing and sovereignty." *United States v. Texas*, 339 U.S. 707, 716 (1950). When Congress invokes the Commerce Power to create a national market with uniform regulations, taking the extraordinary step of expressly preempting state regulation, it must do so in a way that respects the fundamental parity among states. Congress could not, for example, give California the exclusive authority to regulate commerce among the several states.

And yet, in effect, that is precisely what Congress unwittingly did in creating a permanent preemption waiver in Section 209 of the CAA. Section 209 grants California authority to make emissions rules for new vehicles, while simultaneously withholding that sovereign authority from every other state in the union. Now, 50 years after passage of the CAA, the preemption and waiver provisions of Section 209 have put California in the driver's seat of regulating nearly half of national tailpipe emissions, violating the basic principle of "parity" that is vital to the federal structure of the Constitution. This is unconstitutional, both on its face and as applied to ACC II.

Because the Proposed Waiver would alter the federal-state balance, as well transform a major part of the U.S. economy it at the very least requires a clear congressional grant of authority. Under both our federalism canon, and the emerging major questions doctrine, courts are skeptical of agencies' claims to have discovered "in a long-extant statute an unheralded power representing a transformative expansion in its regulatory authority." *West Virginia v. EPA*, 597 U.S. __, 142 S. Ct. 2587 (2022). The power that California claims and asks EPA to exercise goes far beyond any clear statement in the CAA, and such a statement would be unconstitutional on its face.

A. Section 209(b) Arguably Violates the Principle of Equal Sovereignty, and Granting the Proposed Waiver Certainly Would.

When the precursor to CAA was enacted in 1967, establishing for the first time a national program for regulating vehicle emissions, Congress wisely preempted state regulations. The Senate report accompanying the 1967 bill stated that allowing each state "to have a variation in standards and requirements [could] result in chaos insofar as manufacturers, dealers, and users are concerned." S. Rep. No. 89-192, 6 (1965). For Congress, any benefit to be gained by allowing 50 states to experiment with tailpipe emissions standards were far outweighed by "the specter of an anarchic patchwork of federal and state regulatory programs." *Motor & Equipment Mfrs. Ass'n v. EPA*, 627 F.2d 1095, 1109 (D.C. Cir. 1979).

California got special treatment, in the form of the waiver provision of Section 209(b), mainly for two related reasons. First, California, and in particular the Los Angeles basin, had by far the worst air pollution in the United States, and among the worst in the world at that time. Second, precisely because of the relentless smog around Los Angeles, California had already established emissions standards for motor vehicles by the time Congress was getting ready to enact the CAA. Still, the default rule in Title II of the CAA is clear: Except in California, and only when "compelling and extraordinary" circumstances justify it, there is to be a single national standard for automobile emissions of pollutants subject to regulation under the CAA.

After decades of struggle, the CAA has shown its worth in California. Though much of the state remains in nonattainment of National Ambient Air Quality Standards, the state's air is far cleaner than it was in 1967. In the meantime, however, chiefly because of the lengthening lead-times of the automobile design process, automakers have adjusted to California tailpipe standards under EPA waivers by designing to the California standard. This has had a consequence that Congress never intended, namely to make California a de facto national regulator for tailpipe emissions.

While a handful of constitutional provisions—most notably the reconstruction amendments—do empower Congress to abridge the equal sovereignty of the states under certain "appropriate" circumstances, see *Shelby Cnty*., 570 U.S. at 544–46, the commerce power Congress invoked in passing the CAA does not. Hence, Section 209(b) expressly regulates the states' sovereignty in an unequal manner and is thus unconstitutional. EPA therefore lacks the authority to grant a waiver of CAA preemption to California for ACC II or any other program.

It might be argued that what Section 209(b) actually does is simply recognize that California has unique air quality challenges. That is not what the law says, however. If a different state develops equal or worse air quality problems than California, 209(b) would still relegate it to a subordinate position.

But even if this were not the case, a waiver for ACC II would still be unconstitutional. Even when constitutionally authorized (as in the reconstruction amendments) unequal treatment as regards state sovereignty is an "extraordinary departure from the traditional course of relations between

the States and the Federal Government" that can only be "justified by exceptional conditions." *Shelby County*, 570 U.S. at 545.

No such "exceptional circumstances" apply here. Even if special treatment could have been justified in the 1960s and 70s, it is no longer the case that—as California asserts—"[t]he very conditions in California that moved Congress to authorize the State to establish separate on-road motor vehicle standards in 1967 remain today." Waiver Support Document, at 36. As in *Shelby County*, "things have changed dramatically" in the intervening decades. *See*, 570 U.S. at 547.

California's own regulatory authorities proudly declare that air quality "has improved tremendously . . . over the past few decades." The air quality challenges in the Golden State are no longer "extraordinary" when compared to the rest of the country. Crucially, moreover, emissions from automobiles are no longer the source of any of California's remaining air pollution challenges.[1] These are, by any measure, "great strides." *Shelby County*, 570 U.S. at 549. Consequently, Section 209(b) cannot be constitutionally applied to ACC II.

B. California's Expansive Reading of Section 209(b) Cannot be Squared with the Federalism Canon.

In *United States Forest Serv.* v. *Cowpasture River Pres. Ass'n*, the Supreme Court stated, "Our precedents require Congress to enact exceedingly clear language if it wishes to significantly alter the balance between federal and state power . . . ." 590 U.S. __, 140 S. Ct. 1837, 1849–50 (2020). EPA's apparent view is that federalism principles constrain federal authority, but not state authority. Yet the principle of parity among the states implies that federalism has both a vertical and a horizontal dimension. That federalism has both a vertical and a horizontal dimension has been recognized by both the Supreme Court and legal scholars. *See*, *e.g.*, *Nat'l Pork Producers Council v. Ross*, 598 U.S. 356 (2023); and Allan Erbsen, Horizontal Federalism, 93 Minn. L. Rev. 493 (2008)). And courts will not infer, absent clear statutory language, that agencies have the power to alter the balance of federalism.

Granting California a waiver to enforce an electric vehicle mandate potentially disrupts this balance by imposing California's policy preferences on other states, thereby infringing upon the principles of horizontal federalism. In *Nat'l Pork Producers Council* v. *Ross*, the Supreme Court noted that when state mandates compel businesses and individuals in one state to adhere to the regulatory dictates of another state, the structure of federalism is undermined. 598 U.S. 356, 377 (2023). As Justice Kavanaugh wrote in that case, "California's approach undermines federalism and the authority of individual States by forcing individuals and businesses in one State to conduct their farming, manufacturing, and production practices in a manner required by the laws of a different State." Id. at 407 (Kavanaugh, J., concurring in part and dissenting in part).

The Supreme Court has consistently underscored this principle, stipulating that any significant alteration to the federal-state balance necessitates Congress's explicit and unmistakable intent. *Cowpasture River Pres. Ass'n*, 140 S. Ct. at 1849–50; *Gregory v. Ashcroft*, 501 U.S. 452, 460–61 (1991). The Supreme Court's

[1] See, e.g., CEPAM: 2016 SIP – Standard Emission Tool, https://www.arb.ca.gov/app/emsinv/fcemssumcat/cepam_emssumcat_query_v5.php; John Gra-ham, The Global Rise of the Modern Plug-In Electric Vehicle: Public Policy, Innovation and Strategy 134–35 (2021); CARB 2016 Mobile Source Strategy 39, Figure 11.

federalism cannon serves as a guiding principle for interpreting statutes in a manner that preserves the traditional balance of power, avoiding broad or expansive readings that would disrupt this equilibrium. *See*, *Bond v. United States*, 572 U.S. 844, 857–58 (2014); *United States v. Bass*, 404 U.S. 336, 349–50 (1971).

Furthermore, the Supreme Court's rulings in *West Virginia* v. *EPA*, 142 S. Ct. 2587 (2022) and *Utility Air Regulatory Group v. EPA*, 573 U.S. 302 (2014), among others, illustrate the Court's judiciary's skepticism towards broad interpretations of agency authority that could significantly alter the federal-state balance.

The Proposed Waiver would violate the delicate balance of authority that federalism seeks to maintain. By potentially allowing a single state's policy to dictate national standards, the waiver contravenes the explicit guidance of the Supreme Court regarding the necessity of clear congressional intent to alter the federal-state power balance. This action not only challenges the vertical aspect of federalism by expanding federal agency authority but also disrupts the horizontal balance by enabling one state's regulations to impact the broader national landscape.

In the federal structure of the U.S. Constitution, the power, and the restraints, go both ways. In *Printz v. United States*, Justice Antonin Scalia wrote:

> It is an essential attribute of the States' retained sovereignty that they remain independent and autonomous within their proper sphere of authority. See Texas v. White, 7 Wall., at 725. It is no more compatible with this independence and autonomy that their officers be "dragooned" . . . . into administering federal law, than it would be compatible with the independence and autonomy of the United States that its officers be impressed into service for the execution of state laws.

521 U.S. 898, 928 (1997) (citations omitted). With the Proposed Waiver, EPA would in effect be offering its authority to California for the imposition of a state program on the whole country. This is incompatible with the federal structure of the Constitution, and with Congress's clear intention in Section 209 of the CAA.

C. Forced Electrification of the Vehicle Fleet Raises a Major Question Requiring Clear Congressional Authorization.

The Supreme Court recently struck down a rule very similar to the Proposed Waiver, namely the 2015 Clean Power Plan. In *West Virginia v. EPA*,[2] the Court took a close look at EPA's authority to set emissions limits for existing stationary sources under Section 111(d) of the CAA. Section 111(d) provides that EPA may set, for particular source categories, the emissions limits that are achievable by application of the "best system of emissions reduction" that has been adequately demonstrated in that source category.

That standard, known as "BSER," had always been interpreted to refer to technologies, such as scrubbers, that sources like coal plants could feasibly install within the facility to reduce emissions. But in a move at least as clever as defining "classes" of gasoline vehicles to include EVs, EPA decided that the BSER could extend beyond the fence line to the whole economy, encompassing utilities' choice of power sources for generating electricity—a matter that the Federal Power Act specifically leaves to the states and, in certain situations, to the Federal Energy Regulatory Commission.[3] Under its power to regulate emissions from coal plants, the Clean Power

[2] 142 S. Ct. 2587 (2022).
[3] 16 U.S.C. §§ 791-828c (1940), as amended.

Plan would have forced states to switch to natural gas and eventually renewables. Indeed, as originally proposed the Clean Power Plan would have established EPA's authority to control how and when people are allowed to use electricity in their own homes.[4]

As the Supreme Court explained, once EPA expanded the concept of "BSER" from power plants to utilities' choice of power sources, it could set the emission standard at whatever level it liked:

> The Agency recognized that—given the nature of generation shifting—it could choose from "a wide range of potential stringencies for the BSER." 80 Fed. Reg. 64730. Put differently, in translating the BSER into an operational emissions limit, EPA could choose whether to require anything from a little generation shifting to a great deal.[5]

The standards in the Clean Power Plan "resulted in numerical emissions ceilings so strict that no existing coal plant would have been able to achieve them without engaging in [generation-shifting]."[6] The Court went on to note, "Rather than focus on improving the performance of individual sources, it would improve the overall power system by lowering the carbon intensity of power generation. And it would do that by forcing a shift throughout the power grid from one type of energy source to another":[7]

> On EPA's view of Section 111(d), Congress implicitly tasked it, and it alone, with balancing the many vital considerations of national policy implicated in deciding how Americans will get their energy. EPA decides, for instance, how much of a switch from coal to natural gas is practically feasible by 2020, 2025, and 2030 before the grid collapses, and how high energy prices can go as a result before they become unreasonably "exorbitant." There is little reason to think Congress assigned such decisions to the Agency.[8]

"We presume that Congress intends to make major policy decisions itself, not leave those decisions to agencies."[9] The same may be said of the Proposed Waiver. It would grant California powers so sweeping that the nation's largest automakers will be forced to switch to the production of a completely different type of vehicle. The switch from traditional cars to renewable cars is the definition of a major policy decision, and nowhere in the CAA does it say that Congress wanted EPA, much less California, to make the choice of where, how, and when that switch should happen.

"In arguing that Section 111(d) empowers it to substantially restructure the American energy market," the Supreme Court held, "EPA claimed to discover in a long-extant statute an unheralded power representing a transformative expansion in its regulatory authority."[10] That is virtually indistinguishable from what California is asking EPA to do with the Proposed Waiver: It is

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[4] See, Block 4 (demand side) BSER, "Carbon Emissions Guidelines for Existing Stationary Sources: Electrical Utility Generating Units," 79 Fed. Reg. 34,830 (June 18, 2014) (proposed rulemaking).
[5] 142 S. Ct. at 2603.
[6] 142 S. Ct. at 2604.
[7] 142 S. Ct. at 2611 (quotations and citations omitted).
[8] 142 S. Ct. at 2612.
[9] 142 S. Ct. at 2609 (quotations and citations omitted).
[10] 142 S. Ct. at 2610 (quotations and citations omitted).

claiming to have found in a long-extant statute the power to substantially restructure the transportation sector, and with it, a major part of the American economy, and on a question of great political significance to boot.

In *West Virginia v. EPA*, the Court held that the EPA's sudden discovery of a "transformative expansion" in its regulatory authority based on an obscure provision of "a long-extant statute" raised a "major question" about the agency's authority, requiring Congress to speak with far greater clarity than it had in the statute. The EPA's expansive definition of BSER entailed impacts of great political significance and sought to regulate a significant portion of the American economy.

Just so, EPA's proposed elastic interpretation of its authority under Title II of the CAA presents a major question. The claimed power entails impacts of great political significance and would regulate a significant portion of the American economy.

III. The Proposed Waiver Fails to Satisfy the Requirements of Section 209(b)

A. CARB's protectiveness determination is arbitrary and capricious.

Under CAA Section 209(b)(1)(A), EPA can grant a waiver only if California's determination that ACC II "will be, in the aggregate, at least as protective of public health and welfare" as federal standards is not "arbitrary and capricious." That statutory language in effect imposes upon California the standard of reasoned decisionmaking that EPA itself must meet under the APA. Under that standard, a determination is "arbitrary and capricious if the agency" among other things "entirely failed to consider an important aspect of the problem." *State Farm*, 463 U.S. at 43. As shown in the Waiver Support Document, California has not met this burden.

California argues that ACC II benefits the public health and welfare in two ways, it: (1) stabilizes the climate by reducing greenhouse gas emissions and (2) improves public health by reducing exposure to criteria emissions, most notably airborne particulate matter ($PM_{2.5}$). *See, e.g.,* ACC II Initial Statement of Reasons ("ISOR") at 134–135; Waiver Support Document, at 41–40.[11] But CARB's analysis inexplicably ignores the well-established phenomenon of "emissions leakage" and omits known sources of relevant ZEV emissions, undermining CARB's greenhouse gas and criteria pollutant analyses and rendering its protectiveness determination arbitrary and capricious.

1. CARB ignores emissions leakage across the national vehicle fleets.

In its analysis of ACC II's impact on greenhouse gases, CARB "entirely failed to consider" emissions leakage, a well-understood and "important aspect of the problem." *See*, *e.g.*, *State Farm*, 463 U.S. at 43. Emissions leakage is associated with emissions standards based on fleet-averages instead of individual vehicles. If California imposes more stringent CO_2 emissions standards than exist for the rest of the United States, automakers can sell higher-emitting vehicles outside of

[11] The CARB staff's Initial Statement of Reasons ("ISOR") is the basis of the initial state proposal for public hearing in CARB's rulemaking process. The ISOR and its appendixes are cited extensively in the Waiver Support Document and are available at the ACC II website: https://ww2.arb.ca.gov/rulemaking/2022/advanced-clean-cars-ii.

California and still meet the federal fleet-average standard. Hence, when California lowers emissions of in-state vehicles by imposing a more stringent standard than the federal standard, the effect is to increase emissions elsewhere. As a result, ACC II's predicted reductions in in-state tailpipe CO_2 emissions will be offset by out-of-state increases and so will have virtually *no effect* on global greenhouse gas levels or the climate.

The federal CO_2 emissions standards for new vehicles are fleet-average standards. That means that the average tailpipe CO_2 emissions of the vehicles an automaker sells in a given year must be below a particular level. The particular level each automaker must meet is based on that automaker's unique average vehicle "footprint," which relates to the size (area between the tires) of the cars in the automaker's fleet. *See* 40 C.F.R. § 86.1818-12. EPA uses vehicle "footprints" to define the "class" of vehicle for purposes of setting the emissions standards under Section 202(a) of the CAA.

ACC II's ZEV rule also relates to vehicles' CO_2 tailpipe emissions, since it requires that a portion of the cars that each automaker sells in California have zero CO_2 emissions. *See* Cal. Code Regs., tit. 13 § 1962.4(b), (c) (ZEVs are vehicles "that produce zero exhaust emissions of any criteria pollutant . . . or greenhouse gas"). If the ZEV rule were expressed as a fleet average (like the federal standard, except averaged only across an automaker's vehicles sold in California), it would be more stringent than the federal standards, that is, it would allow for fewer average CO_2 emissions from a given automaker's California fleet.

Automakers' efforts to cost-effectively comply with these federal and state standards leads to emissions "leakage." For each compliant (lower-emitting electric) car it sells in California, an automaker can sell a higher-emitting car in another state and still meet the higher federal fleet-average standard. And because lower-emitting cars, generally—and electric cars, specifically—are more expensive to make, automakers have strong incentives to recoup their costs in California by selling higher-emitting cars—which have higher profit margins—elsewhere.

This leakage effect is well-known to environmental economists.[12] Although the amount of leakage is somewhat greater when federal standards are more stringent and somewhat smaller when they are less stringent, economists typically estimate that leakage is near 100% when the federal standards are binding on all automakers.[13] That is, almost all reductions in tailpipe CO_2 emissions from new vehicles sold in California will be offset by higher CO_2 emissions from new vehicles in other states, so that there will be no net change in tailpipe CO_2 emissions across the United States.

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[12] *See, e.g.*, Lawrence H. Goulder, et al., *Unintended consequences from nested state and federal regulations: The case of the Pavley greenhouse-gas-per-mile limits*, 63 J. Envt'l Econ. and Mgmt. 187, 187 (2012) (state efforts to reduce vehicle GHG emissions "cause substantial emissions increases from new cars sold in other (non-adopting) states and from used cars"); Alan Jenn, et al., *Alternative Fuel Vehicle Adoption Increases Fleet Gasoline Consumption and Greenhouse Gas Emissions under United States Corporate Average Fuel Economy Policy and Greenhouse Gas Emissions Standards*, 50 Envt'l Sci. Technol. 2165, 2167 (2016) (federal ZEV incentives amplify carbon leakage); Joshua Linn & Virginia McConnell, *Interactions between federal and state policies for reducing vehicle emissions*, 126 Energy Policy 507, 515 (2019) ("if a state introduces a policy that increases EV sales in that state, then, because of the federal provisions, national GHG emissions would increase in the short run—that is, more than full leakage").

[13] Goulder, n. 12, *supra*, at 188; Linn, n. 12, *supra*, at 515.

EPA has acknowledged this reality repeatedly. In the joint action that rescinded the Clean Air Act waiver for an earlier California program, Advanced Clean Cars I, EPA and the National Highway Traffic and Safety Administration (NHTSA) recognized that, as a result of leakage, California's ZEV quotas and other emissions standards would "lea[d] to little to no change in either fuel use or [greenhouse gas] emissions at a national level." EPA, "The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program," 84 Fed. Reg. 51,310, 51,353 (Sept. 27, 2019). Although the waiver has been reinstated, neither EPA nor NHTSA has disturbed that finding. "Corporate Average Fuel Economy (CAFE) Preemption." 86 Fed. Reg. 74,236 (Dec. 29, 2021) (no discussion of carbon leakage).

Leakage matters because greenhouse gases linger in the atmosphere and mix globally.[14] As a result, it is the net global—not local—greenhouse gas emissions that matter for the climate. Because leakage is near 100%, the 374 MMT-reduction in tailpipe CO_2 emissions that CARB estimates in California will almost certainly be offset by 374 MMT additional CO_2 emissions in other states, and so have no net impact on global greenhouse gas concentrations. *See* ISOR App. D at 14.[15]

2. CARB omits ZEVs' considerably higher production greenhouse gas emissions.

CARB also predicts that ACC II will reduce upstream greenhouse gas emissions, by a cumulative 9.74 MMT CO_2 over fifteen years. ISOR App. D at 10. Upstream emissions occur in the production and delivery of liquid fuels to power conventional cars or in generating electricity (or hydrogen) to power ZEVs. *Id.* at 9. The tailpipe and upstream emissions account for the entire reduction in CO_2 emissions that CARB attributes to ACC II. *See id.* at 9–16.[16]

By counting only tailpipe and upstream emissions, CARB limited its analysis to the *fuel* lifecycle—so-called well-to-wheel, WTW emissions. But to accurately assess ACC II's effects on the climate, which depend on the net change to *global* greenhouse gas levels, CARB must account for emissions related to the full *vehicle* lifecycle, most notably emissions generated in producing (and to a much lesser extent, disposing of) electric cars.[17]

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[14] Greenhouse Gases, EPA, https://www.epa.gov/ghgemissions/overview-greenhouse-gases (last accessed January 10, 2024) (greenhouse gases remain in the atmosphere for decades and mix readily, so that the concentration of greenhouse gases is approximately constant across the globe).

[15] Emissions Inventory Methods and Results for the Proposed Amendments, https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/appd.pdf.

[16] CARB estimates 9.74 MMT reduction in upstream CO_2 emissions, ISOR App. D at 10, and 374 MMT reduction in tailpipe CO_2 emissions, *id.* at 14, which combined account for the total 383.5 MMT CO_2 emissions reduction CARB claims, ISOR at 134.

[17] Car disposal can actually reduce net lifecycle greenhouse gas emissions due to reuse of recycled material, but the effects are small and comparable for electric and internal combustion cars. *See* Johannes Buberger, et al., *Total CO2-equivalent life-cycle emissions from commercially available passenger cars*, 159 Renewable and Sustainable Energy Reviews 112158, 4, 6, fig. 3 (2022).

Manufacturing a battery electric car is far more emissions-intensive than manufacturing an internal-combustion car, primarily due to the production of lithium-ion batteries. Studies have shown that producing a typical electric car battery generates the same amount of greenhouse gas emissions as driving a gasoline-powered car for several years.[18] The sources of these emissions are well-understood: electric car batteries require significant quantities of specialty minerals that must be mined, transported, and processed before they can be integrated into a battery cell. Although configurations vary, a typical 1,000-pound electric car battery might include 30 pounds of lithium, 60 pounds of cobalt, 130 pounds of nickel, and 190 pounds of graphite.[19] And because these minerals are primarily found in relatively low-grade deposits, approximately 100,000 pounds of ore must be mined to obtain sufficient quantities to make a single battery.[20] Extracting these ores requires heavy-duty machinery and equipment—drills, diggers, pumps—that, themselves, are significant sources of greenhouse gas, NO_x, and $PM_{2.5}$ emissions.

Moreover, these minerals are typically found far from where they are ultimately used. Approximately 30% of the world's lithium is produced in Argentina and Chile; another 47% is mined in Australia.[21] Seventy-four percent of the world's cobalt is mined in the Democratic Republic of the Congo, but most of that is refined in China.[22] And China accounts for approximately 77% of the world's graphite production.[23] Transporting these materials to the locations where they will be refined, processed, and integrated into battery cells generates vast amounts of greenhouse gas and other emissions, by some estimates accounting for 15% to 20% of greenhouse gases associated with battery production.[24]

Significant emissions are also generated in refining minerals and manufacturing battery cells. One comprehensive review suggests these steps account for 45% to 60% of the total greenhouse gas

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[18] Ask MIT Climate, "How much CO2 is emitted by manufacturing batteries?", https://climate.mit.edu/ask-mit/how-much-co2-emitted-manufacturing-batteries.

[19] Mark Mills, *Electric Vehicles for Everyone? The Impossible Dream*, Manhattan Institute Report, 8 (July 2023).

[20] *Id*.

[21] USGS, Mineral Commodity Summaries (2024) at 110–11, https://pubs.usgs.gov/periodicals/mcs2024/mcs2024.pdf (Argentina and Chile together produced 53,000 metric tons and Australia produced 86,000, out of 180,000 metric tons produced worldwide in 2023).

[22] *Id.* at 63.

[23] *Id.* at 84–85 (China produced 1,230,000 of the 1,600,000 metric tons of natural graphite produced worldwide in 2023).

[24] McKinsey & Co., *The race to decarbonize electric-vehicle batteries* (Feb. 23, 2023), at Ex. 3, https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/the-race-to-decarbonize-electric-vehicle-batteries#/. The global nature of the battery mineral supply chain raises additional concerns beyond transportation-related emissions. The United States has limited reserves and almost no current production of lithium, cobalt, and graphite, leaving the nation reliant on foreign—and potentially adversarial—countries for these critical energy materials. Mineral Commodity Summaries, n. 21, *supra*, at 63, 84–95, 110–11. Moreover, these countries often fail to have few, or lax, environmental and labor standards, and raising important questions about the global environmental and social impact of battery mineral sourcing and the potential for environmental harm and labor exploitation. *See, e.g.*, Amit Katwala, *The spiraling environmental cost of our lithium battery addiction*, https://www.wired.co.uk/article/lithium-batteries-environment-impact (Aug. 5, 2018); Amnesty International, *Is My Phone Powered By Child Labor?*, https://www.amnesty.org/en/latest/campaigns/2016/06/drc-cobalt-child-labour/ (June 10, 2016).

emissions associated with battery production.[25] Processing and manufacturing are also particularly electricity-intensive, meaning emissions are greatest in those countries with high carbon-intensity grids, like China, where most cell manufacturing takes place.[26]

The result is that manufacturing an electric car generates *significantly* more greenhouse gas emissions than manufacturing a comparable internal-combustion car, from 40% to 100% more for a full-size vehicle.[27] These production emissions—no matter where or when they are generated—have the same impact on the climate as any tailpipe emissions generated by California drivers.

Because leakage eliminates any benefit from tailpipe CO_2 emissions, ACC II's effect on global greenhouse gas levels will be determined by its effect on cars' combined production and upstream emissions. If an electric car's combined production and upstream emissions are higher than the same sum for conventional cars, the ZEV rule will actually *increase* global gas emissions.

Available studies suggest this is the case. A 2020 report by analysts at the Department of Energy calculated the lifecycle emissions of small SUVs of varying technologies, breaking-down the contributions into (1) emissions from vehicle production and disposal, (2) upstream emissions (which the authors call "well-to-pump," or WTP, emissions), and (3) tailpipe emissions (which the authors call "pump-to-wheel," or PTW, emissions).[28] Their analysis shows that for current technologies (circa 2020), the combined production/disposal and upstream emissions of electric SUVs (operated on a generic U.S. electricity mix) are nearly twice as high as that for gasoline- or diesel-powered SUVs.[29] For future technologies (circa 2050), electric SUVs operated on the U.S. mix still have combined production/disposal and upstream emissions nearly twice as much that of gasoline- and diesel-powered SUVs, while electric SUVs operated on the projected California electricity mix

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[25] Mia Romare & Lisbeth Dahllöf, *The Life Cycle Energy Consumption and Greenhouse Gas Emissions from Lithium-Ion Batteries*, IVL Swedish Environmental Research Institute Report No. C 243, at 29 (May 2017).

[26] *Id*. at 24–25.

[27] *See, e.g.*, *Polestar and Rivian pathway report*, at 10, Fig. 7, https://www.kearney.com/documents/291362523/295334577/Polestar+and+Rivian+pathway+report-+supported+by+Kearney.pdf; (14 tons CO_2 equivalent are generated in vehicle and battery manufacturing for a medium battery electric vehicle, which is 40% more than the 10 tons CO_2 equivalent generated in manufacturing a medium internal combustion engine vehicle); McKinsey & Co., n. 24, *supra*, ("An EV has roughly double the production footprint of a typical internal-combustion-engine (ICE) vehicle"); Union of Concerned Scientists, *Cleaner Cars from Cradle to Grave* (2015), at 3, https://www.ucsusa.org/sites/default/files/attach/2015/11/Cleaner-Cars-from-Cradle-to-Grave-full-report.pdf (manufacturing a full-size battery electric car "increases manufacturing emissions by 68 percent over the gasoline version").

[28] A. Elgowainy, J. Kelly, and M. Wang. *Life Cycle Greenhouse Gas Emissions for Small Sport Utility Vehicles*, U.S. Department of Energy Record #21003 (Nov. 1, 2020), https://www.hydrogen.energy.gov/pdfs/21003-life-cycle-ghg-emissions-small-suvs.pdf ("DOE Lifecycle Emissions Report")

[29] *Id.* at App. A. Based on the bar chart, for current technologies, 300- and 400-mile electric SUVs operating on the US electricity mix ("BEV300 US Mix" and "BEV400 US Mix," respectively) have vehicle production/disposal emissions ("Veh Cycle," blue bar) and upstream emissions (WTP, orange bar) totaling 206 to 233 $gCO2_e$/mi, while gasoline- and diesel-powered SUVs ("ICE Gasoline" and "ICE Diesel," respectively) have combined production/disposal and upstream emissions of approximately 100 to 110 $gCO2_e$/mi.

have emissions roughly equivalent to those of conventional SUVs.[30] ACC II thus can be expected to *increase* total greenhouse gas emissions in the near-term and *will not lower* them in the long-term.

CARB responds that including production emissions is unnecessary because "[n]umerous studies have shown the lifecycle [greenhouse gas] reduction potential of" electric cars. CARB Response to Comments on the Draft Environmental Analysis, at 20.[31] But those analyses generally do not account for leakage, and so inappropriately include (significant) benefits from reduced tailpipe emissions that do not exist on-net under ACC II. Once those gains are (appropriately) eliminated, those studies can be expected to show equivalent or higher net-greenhouse gas emissions from electric cars, as well.[32]

CARB's decision to omit vehicle lifecycle emissions from its analysis is unreasonable and undermines ACC II's purported climate benefits. By ignoring emissions associated with vehicle production, CARB dramatically inflates the greenhouse gas reductions attributable to the ZEV rule, predetermining an outcome favorable to ZEVs. If carbon leakage and production emissions are considered—as they must be—the ZEV rule is more likely to *increase* (than decrease) global greenhouse gas concentrations over the next fifteen years.

3. CARB omits ZEVs' considerably higher non-exhaust PM2.5 emissions.

CARB's determination that ACC II will improve public health by reducing exposure to criteria pollutants is also flawed because CARB significantly, and arbitrarily, underestimates ZEV emissions during vehicle operation by omitting electric cars' higher non-exhaust $PM_{2.5}$ emissions.

$PM_{2.5}$ refers to fine particles—less than 2.5 microns in diameter—that can remain airborne indefinitely, and when inhaled by individuals, can contribute to respiratory symptoms and illness. So-called "primary" $PM_{2.5}$ emissions are generated directly by a source, while so-called "secondary" $PM_{2.5}$ emissions, which arise when NO_x emissions are chemically converted to fine particles in the atmosphere. Both primary and secondary $PM_{2.5}$ contribute to adverse health effects, and the health impacts that CARB quantified for ACC II are due entirely to the agency's prediction that the regulations will decrease these $PM_{2.5}$ emissions. ISOR at 133–35.

Nearly 70% of CARB's projected reductions in primary $PM_{2.5}$ emissions come from reductions in car (as opposed to upstream) emissions.[33] The $PM_{2.5}$ emissions from cars can be divided into two

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[30] *Id.* Based on the bar chart, for future technologies, 300- and 400-mile electric SUVs operating on a US electricity mix have combined production/disposal and upstream emissions of 126 to134 $gCO2_e$/mi; 300- and 400-mile electric SUVs operating on the projected California electricity mix ("BEV300 CA Mix" and "BEV400 CA Mix," respectively) have combined production/disposal and upstream emissions of 66 to 73 $gCO2_e$/mi; and gasoline- and diesel-powered SUVs have combined production/disposal and upstream emissions of approximately 65 to 75 $gCO2_e$/mi.

[31] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/acciirtc1.pdf.

[32] *See, e.g.*, DOE Lifecycle Emissions Report (cited in CARB Response to Comments on the Draft Environmental Analysis, at 21 & n.40) and nn. 29, 30, *supra*.

[33] Reductions in tailpipe emissions account for 3,071 tons of the total 4,469 ton reduction; 3,071/4,469=68.7%. *See* ISOR at 134 (total cumulative $PM_{2.5}$ emissions reduction of 4,469 tons from 2026 to 2040); ISOR App. D at 10, 14 (1,398-ton reduction in upstream $PM_{2.5}$ emissions, 3,071 ton reduction in vehicle $PM_{2.5}$ emissions).

categories: exhaust emissions, which are emitted from the tailpipe, and non-exhaust emissions, which are generated by road, brake, and tire wear. CARB reasonably accounts for ZEV exhaust emissions: by definition, ZEVs emit none.[34]

But CARB significantly undercounts non-exhaust $PM_{2.5}$ emissions from ZEVs. Because electric cars are considerably heavier than comparable internal-combustion cars, they generate considerably more $PM_{2.5}$ emissions from tire wear. Non-exhaust $PM_{2.5}$ emissions scale roughly with car weight: according to real-world driving measurements by a U.K.-based analytics firm, an electric car that weighs approximately 32% more than a comparably sized car with a gasoline engine generates approximately 26% more non-exhaust $PM_{2.5}$ emissions due to tire wear.[35]

This matters because in modern vehicles, non-exhaust $PM_{2.5}$ emissions are much, much greater than exhaust emissions. Measurements by the same analytics firm show that electric car $PM_{2.5}$ (airborne) emissions due to tire wear are approximately *400 times* greater than PM exhaust emissions from internal-combustion cars.[36] With cars' primary $PM_{2.5}$ emissions now almost entirely due to non-exhaust sources, an electric car's considerably higher non-exhaust emissions are an important factor when comparing the emissions of electric and conventional cars. Given that electric cars typically weigh 15% to 30% more than internal-combustion cars,[37] we can reasonably expect that their total primary $PM_{2.5}$ emissions will *exceed* those of internal-combustion cars by a roughly comparable amount.

CARB, however, ignores electric cars' higher non-exhaust $PM_{2.5}$ emissions, and instead "assumes similar [PM] tire wear" for internal-combustion cars and ZEVs. ISOR App. D. at 15. This omission is not harmless error. As noted, ACC II's purported health benefits are due *entirely* to reductions in $PM_{2.5}$ exposure. ISOR at 135. And primary $PM_{2.5}$ emissions from cars—the very emissions that CARB undercounts—appear to be the *main source of that reduction*, by a wide margin.[38] CARB

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[34] Cal. Code Regs. Tit. 13 § 1962.4(b) (A ZEV is a car "that produce[s] zero exhaust emissions of any criteria pollutant (or precursor pollutant) or greenhouse gas, excluding emissions from air conditioning systems, under any possible operational modes or conditions").

[35] Emissions Analytics, *Do no harm*, https://www.emissionsanalytics.com/news/do-no-harm (last visited Feb. 1, 2024); *see also* V.R.J.H. Timmers & P.A.K. Achten, *Non-exhaust PM emissions from electric vehicles*, 134 Atmospheric Env't 15, tbl. 6 (2016) ($PM_{2.5}$ emissions due to tire wear for electric cars are approximately 27% greater than for gasoline- and diesel-powered cars).

[36] Emissions Analytics, *Gaining traction, losing tread Pollution from tire wear now 1,850 times worse than exhaust emissions*, https://www.emissionsanalytics.com/news/gaining-traction-losing-tread (last visited Feb. 1, 2024) (comparing airborne PM, presumed to be $PM_{2.5}$, to exhaust PM); *see also* V.R.J.H. Timmers, n. 35, *supra*, at 14 (estimating in 2016 that "non-exhaust emissions currently account for more than . . . 85% of $PM_{2.5}$ emissions from traffic"). Note that we do not address $PM_{2.5}$ emissions from brake or road wear, as CARB included regenerative braking effects in its analysis, ISOR App. D at 15, and road wear is difficult to calculate and likely to benefit lighter internal-combustion cars, anyway.

[37] Timmers, n. 35, *supra*, at 13, tbl. 2.

[38] As explained below, primary $PM_{2.5}$ emissions from cars appear to account for approximately 51% of the reduction in $PM_{2.5}$ exposure. Primary $PM_{2.5}$ emissions account for approximately 23%, and secondary $PM_{2.5}$ due to NO_x emissions account for the remaining 26%.

cannot reasonably claim a health benefit due to lower $PM_{2.5}$ exposure when it omits a major component (electric cars' higher non-exhaust $PM_{2.5}$ emissions) of the main source (primary $PM_{2.5}$ emissions from cars) of the rule's $PM_{2.5}$ impact.[39]

CARB provides no rational reason for ignoring ZEV's higher non-exhaust $PM_{2.5}$ emissions. When commenters flagged CARB's error, the agency responded that "[i]t would be speculative to project a net increase in vehicle weight as a result of ACC II," and suggested that ZEV "automakers may offset [the increased weight of battery packs] with weight reduction in other components or the vehicle body." ACC II Final Statement of Reasons ("FSOR") App. A at 116.[40]

But CARB has it backwards. What is "speculative" is to assume that replacing internal-combustion cars with electric cars will *not* increase vehicle weight. Electric cars weigh more than internal-combustion cars largely because lithium-ion batteries store far less energy per pound than liquid fuels. Ten gallons of gasoline weigh approximately 62 pounds.[41] To store the same amount of

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Cars affect atmospheric $PM_{2.5}$ levels in two ways: through primary $PM_{2.5}$ emissions, which are generated directly, and through secondary $PM_{2.5}$ emissions, which arise when NO_x emissions are chemically converted to fine particles in the atmosphere. Both primary and secondary $PM_{2.5}$ emissions can further be categorized as those generated by the car and those generated by upstream processes, like fuel production and transport (for internal-combustion cars) or electricity generation (for ZEVs).

CARB predicts that ACC II will reduce primary $PM_{2.5}$ emissions by 4,469 tons from 2026 to 2040. ISOR at 134. Of that, 3,071 tons are due to lower $PM_{2.5}$ emissions from cars, and 1,398 tons are due to lower upstream emissions. ISOR App. D at 10, 14.

CARB does not separately report ACC II's secondary $PM_{2.5}$ emission reductions, but they can be estimated using CARB's published methodology, which determines secondary $PM_{2.5}$ concentration by multiplying NO_x emissions by a factor of 0.022. *See Methodology for Estimating Ambient Concentrations of Particulate Matter from Diesel-Fueled Engine Emissions and Health Benefits Associated with Reductions in Diesel PM emissions from In-Use On-Road Heavy-Duty Diesel-Fueled Vehicles*, at J-21, https://ww2.arb.ca.gov/resources/documents/estimating-health-benefits-reductions-emissions-pm25-or-its-precursors-short. ACC II's predicted 69,569-ton reduction in NO_x emissions (from both vehicle and upstream sources) thus corresponds to a 1,530-ton reduction in secondary $PM_{2.5}$. *See* ISOR at 134.

As a result, under CARB's accounting ACC II reduces total $PM_{2.5}$ exposure by 5,999 tons: 3,071 tons (51%) due to reduced primary $PM_{2.5}$ emissions from cars; 1,398 tons (23%) due to reduced primary $PM_{2.5}$ emissions from upstream sources; and 1,530 tons (26%) due to reduced secondary $PM_{2.5}$ emissions due to reduced NO_x emissions (from both cars and upstream sources). Reductions in primary $PM_{2.5}$ emissions from cars, which are dominated by non-exhaust sources in modern vehicles, thus account for most of ACC II's projected $PM_{2.5}$ benefits.

[39] It is possible that, as a result of electric cars' higher non-exhaust $PM_{2.5}$ emissions, that ACC II will actually cause a net *increase* in $PM_{2.5}$ concentrations. This could be particularly harmful to low income individuals, who may be more likely to "reside, work, or spend significant time near busy roadways" where $PM_{2.5}$ concentrations would be most increased. ISOR at 100.

[40] Summary of Comments to the Overall Advanced Clean Cars II Regulations and Agency Responses, https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/fsorappa.pdf.

[41] 10 gal * 1/0.26 (L/gal) * 0.7321 kg/L * 2.2 lbs/kg = 61.9 lbs. *See* OSHA Occupational Chemical Database, https://www.osha.gov/chemicaldata/701 (specific gravity of gasoline is 0.7321, which means its density is 0.7321 kg/L); https://www.nist.gov/pml/owm/approximate-conversions-metric-us-customary-measures (2.2 lbs =1 kg, 0.26 gal = L).

energy (approximately 1,270 megajoules),[42] a lithium-ion battery must weigh more than 2,500 pounds.[43] As noted earlier, even when accounting for the additional weight of the internal combustion engine and the higher efficiencies of electric powertrains, electric cars consistently outweigh comparably sized internal-combustion cars by 15% to 30%.[44] CARB offers no support for its assertion that future electric cars will have weights comparable to internal-combustion cars. Nor does the agency identify what "other components" an electric carmaker might reduce to offset battery weight or why makers of internal-combustion cars wouldn't do the same. FSOR App. A, at 116.

Moreover, history is not on CARB's side. A comparison of the Nissan's electric Leaf and gasoline-powered Sentra, which have comparable dimensions, shows no downward trend in weight differential over the last thirteen years.[45] Indeed, some data sets suggest the weight differential between electric and internal-combustion cars is actually increasing.[46] This is not unexpected; making larger batteries size is, after all, the most straightforward way to increase vehicle range. CARB's "prediction" that future electric cars will weigh the same as internal-combustion cars while simultaneous increasing in range has "no basis beyond mere speculation" and so is arbitrary. *See*, *Business Roundtable v. SEC*, 647 F.3d 1144, 1149–50 (D.C. Cir. 2011).

CARB should have, but did not, include ZEV's higher non-exhaust $PM_{2.5}$ emissions when calculating ACC II's health impacts. "That omission alone renders [CARB's protectiveness determination] arbitrary and capricious." *Dep't of Homeland Security v. Regents of the University of California*, 140 S. Ct.1891, 1913 (2020).

B. California does not "need" ACC II's ZEV rule to meet "compelling and extraordinary conditions".

For EPA to grant a waiver for ACC II, it must conclude that California "needs such . . . standards to meet compelling and extraordinary conditions." CAA Section 209(b)(1)(B). CARB argues that both its ZEV and LEV rules are needed (1) to address "climate change conditions that are compelling and extraordinary" and (2) to "attain the [National Ambient Air Quality Standards] and its own state ambient air quality standards for ozone and particulate matter" and "reduce the serious associated risks to the health and welfare of Californians." Waiver Support Document at 40–44.

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[42] EIA Energy Conversion Calculators, https://www.eia.gov/energyexplained/units-and-calculators/energy-conversion-calculators.php. *See also* EERE*, Why Study Hydrogen Storage*, https://www.energy.gov/eere/fuelcells/hydrogen-storage (weight energy density of gasoline is approximately 44 MJ/kg; volumetric energy density is approximately 32 MJ/L).

[43] 1,270 MJ *1/3.6(kWh/MJ)*1000 Wh/kWh*(1/300)kg/Wh*2.2 lbs/kg=2587 lbs. *See* University of Washington Clean Energy Institute, https://www.cei.washington.edu/research/energy-storage/lithium-ion-battery/ (lithium ion battery energy density approaches 300 Wh/kg); NIST Guide to the SI, Appendix B.8, https://www.nist.gov/pml/special-publication-811/nist-guide-si-appendix-b-conversion-factors/nist-guide-si-appendix-b8 (3.6 MJ = 1 kWh).

[44] *See, e.g.,* Timmers n. 35, at 13, tbl. 2.

[45] *See*, *e.g.*, Curb weights of base models from Kelley Blue Book, https://www.kbb.com/.

[46] *See*, *e.g.*, weights of newly registered passenger cars in Norway, excluding vehicles over 5 meters in length, collated by R. Andrew of the Norwegian Cicero Center for International Climate Research, https://robbieandrew.github.io/EV/.

But, unlike California's decades of struggle to meet National Ambient Air Quality Standards, the state's climate change conditions are little different than any other state's, and even if fully implemented, ACC II would have no measurable impact on any of those conditions. Simply put, the ZEV rule is not needed to meet any compelling and extraordinary condition.

As explained above, because of carbon leakage and the higher carbon emissions associated with producing electric cars, the ZEV rule will not decrease global greenhouse gas concentrations, and so will not help stabilize the climate. ACC II's ZEV rule thus will not reduce the frequency of droughts, reduce the susceptibility of California forests to wildfires, reduce the possibility of flooding along California's coastline, or reduce mortality risk of California residents due to possible heat waves. *See id.* at 41–42 (describing potential adverse effects of climate change). Nor will the ZEV rule achieve "between $9.8 and $40.1 billion" in avoided climate harms, *id.* at 42, because it will have no discernible effect on the climate. California cannot "need" a regulation "to meet compelling and extraordinary conditions" if the regulation has no impact on those conditions. 42 U.S.C. § 7543(b)(1)(B).

Similarly, as explained above, because electric cars are considerably heavier than comparable internal-combustion cars, the ZEV rule will *increase* non-exhaust $PM_{2.5}$ emissions from cars. The extent of the increase is difficult to estimate since CARB arbitrarily omitted those emissions from its analysis, but given that non-exhaust contributions account for the vast majority of $PM_{2.5}$ emissions in modern cars, it is likely substantial. As a result, the available record does not support CARB's claim that the ZEV rule will lower Californians' exposure to $PM_{2.5}$ or achieve the associated health benefits claimed.

C. EPA cannot mandate electrification under Section 202(a), so California may not do so either.

The third waiver criteria prohibits EPA's granting waivers for state standards that are "not consistent with" Section 202(a) of the CAA. 42 U.S.C. § 7543(b)(1)(C). As explained in my comments submitted to the docket for EPA's proposed Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles, 88 Fed. Reg. 29184 (May 5, 2023), "EPA lacks authority to force consumers to switch from combustion engine vehicles to EVs, as the Proposed Rule would do." And as explained at length in the petitioner's brief in *Western States Trucking Ass'n Inc. v. EPA*, No. 23-1144 (D.C. Cir.), which is incorporated here by reference, because EPA cannot mandate electrification under Section 202(a), California may not do so either.

Conclusion

The Proposed Waiver fails to meet the requirements of a Section 209(b) waiver, a provision that rests on dubious constitutional foundations to start with. EPA must reject the Proposed Waiver.

Like other global environmental challenges, climate change forces society to make difficult choices among competing priorities of great significance. In a democracy, those choices are for people to make through their elected representatives after debate and deliberation. They are not

for unaccountable bureaucrats to make on the basis of legislative powers that Congress clearly did not intend to delegate.

Simply put, the risk of climate change does not justify the risk of departing from constitutional democratic governance. EPA should confine its regulation of vehicle emissions under the CAA vehicles that actually have emissions subject to regulation under the Act, and stop trying to use its limited pollution-control authorities to remake our democratic society from the top down.

Thank you for your consideration of these comments.

Respectfully submitted,

/s/

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*These comments represent my views and not necessarily those of Florida International University or the Heritage Foundation.