# United States Court of Appeals
# for the Fifth Circuit

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Fifth Circuit

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Lyle W. Cayce
Clerk

No. 24-60209

Texas Corn Producers; Texas Sorghum Producers;
National Sorghum Producers;
Texas Food & Fuel Association,

*Petitioners*,

*versus*

United States Environmental Protection Agency;
Lee Zeldin, *in his official capacity as the Administrator of*
the United States Environmental Protection Agency,

*Respondents*.

Petition for Review of an Order of
the Environmental Protection Agency
Agency Nos. EPA-HQ-OAR-2022-0829,
FRL-8953-04-OAR

Before Smith, Graves, and Duncan, *Circuit Judges*.

Jerry E. Smith, *Circuit Judge*:

Petitioners, which span the gasoline supply chain, allege that the Environmental Protection Agency ("EPA") promulgated an unlawful equation for calculating vehicle fuel economy.[1] Specifically, they contend that

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[1] Multi-Pollutant Emissions Standards for Model Years 2027 & Later Light-Duty

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EPA set one part of that equation—known as the "$R_a$ factor"—arbitrarily low, causing a backdoor increase in the federal fuel economy standards and thereby decreasing demand for their gasoline products.

EPA's $R_a$ Rule is unreasonable and unreasonably explained. The Agency violated the Administrative Procedure Act ("APA") by ignoring comments that flagged flaws in EPA's determination of the $R_a$ factor. We therefore grant the petition for review and vacate the challenged portion of the $R_a$ Rule.

I.

In 1975, Congress sought "to provide for improved energy efficiency of motor vehicles," so it enacted a law requiring new automobiles to achieve progressively higher fuel economy. 42 U.S.C. § 6201(5); 49 U.S.C. § 32902. Under that law, the National Highway Traffic Safety Administration ("NHTSA") sets standards based on "the maximum feasible average fuel economy level that . . . the manufacturers can achieve."[2]

NHTSA prescribes Corporate Average Fuel Economy ("CAFE") standards for automakers' passenger automobile and light-duty truck fleets. 49 U.S.C. § 32902(b)(1). When a manufacturer's fleetwide average falls short of the applicable CAFE standard, the law imposes civil penalties. 49 U.S.C. §§ 32911, 32912. On the other hand, manufacturers that exceed their standards earn credits. 49 U.S.C. § 32903. Automakers can apply credits to their own automobiles or trade them to manufacturers with deficits. *Id.* So, as CAFE standards increase, manufacturers produce cars that consume

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& Medium-Duty Vehicles, 89 Fed. Reg. 27,842 (Apr. 18, 2024) (the "$R_a$ Rule").

    [2] 49 U.S.C. § 32902(a); *see* 49 C.F.R. § 1.95(a) (delegating the authority from the Secretary of Transportation to NHTSA).

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less gasoline.

Congress put EPA in charge of calculating manufacturers' CAFE compliance. 49 U.S.C. § 32904. To that end, the agency promulgates the test procedures that manufacturers must use to measure their vehicles' fuel economy. *Id.* EPA's test procedures are also used to assess the "gas guzzler" tax—a sales tax that Congress imposes on new automobiles with a fuel economy below 22.5 miles per gallon ("mpg"). 26 U.S.C. § 4064(a), (c)(1).

The law strictly circumscribes EPA's authority to amend fuel economy test procedures. The Agency must "use the same procedures . . . used for model year 1975 . . ., or procedures that give comparable results." 49 U.S.C. § 32904(c); *see also* 26 U.S.C. § 4064(c)(1). That requirement prevents EPA from tinkering with the stringency of NHTSA's CAFE standards—or Congress's tax—through a backdoor.

Because the fuels used to test fuel economy have changed since 1975, EPA has implemented an adjustment to ensure the statutorily required "comparable results." Specifically, EPA created a sensitivity factor known as the "R" factor to measure how much a vehicle's fuel economy changes in response to an alteration in the test fuel's energy content.[3] Setting the right sensitivity factor is important because a vehicle's measured fuel economy differs based on the energy density of the test fuel.[4] An R of 1.0 signifies that a vehicle's fuel economy changes by the same percentage as fuel energy content—that is, the engine fully adjusts to the new fuel.

In 1986, EPA promulgated a fleetwide R factor of 0.6—meaning that

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[3] Fuel Economy Test Procedures; Revised Fuel Economy Calculation Equation & Light Truck Mileage Accumulation Limits, 51 Fed. Reg. 37,844 (Oct. 24, 1986).

[4] Vehicle Test Procedure Adjustments for Tier 3 Certification Test Fuel, 85 Fed. Reg. 28,564, 28,567–68 (NPRM) (May 13, 2020).

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for every 1% change in fuel energy content, vehicles would respond on average with a 0.6% change in fuel economy. 51 Fed. Reg. at 37,847. That was because the engine technology of that era was not advanced enough to realize 100% of the gains from increases in fuel energy content. *Id.* EPA recognized, though, that "as technological improvements allow an engine to more efficiently convert the heat energy content of the fuel to mechanical energy, the 'R' value may increase." *Id.*

Although EPA never revised its 1986 R factor, that delay had limited impact on fuel economy metrics because the test fuel did not evolve significantly.[5] Things changed, however, in 2014, when EPA announced a shift from "Tier 2" to "Tier 3" test fuel.[6] Tier 3 test fuel is E10 (meaning that it contains 10% ethanol), whereas the Tier 2 test fuel was E0 (no ethanol). 79 Fed. Reg. at 23,419. The addition of ethanol meant that the test fuel's energy density decreased considerably compared to the 1975 baseline. So, without a proper adjustment factor, the fuel economy equation would not yield "comparable results" to the 1975 test procedures.

EPA therefore postponed the shift from E0 to E10 for fuel economy tests until it could calculate the proper sensitivity factor. 79 Fed. Reg. at 23,531–33. The Agency similarly delayed E10 testing for greenhouse gas ("GHG") compliance to determine any impact of the shift. *Id.* Since implementation of the 2014 rule, manufacturers have been required to use E10 for criteria pollutant emissions compliance, but they have continued to use E0 for fuel economy and GHG certification. *Id.* EPA anticipated that, by "early to mid 2015," the bifurcated certification testing would produce a

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[5] *See* Comments of Ill. Corn Growers Ass'n et al. at 8, EPA-HQ-OAR-2016-0604-0086 (Aug. 14, 2020) ("Biofuels Coal. Comments").

[6] Control of Air Pollution from Motor Vehicles: Tier 3 Motor Vehicle Emission & Fuel Standards, 79 Fed. Reg. 23,414 (Apr. 28, 2014).

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dataset that the Agency could use to calculate R. *Id.* at 23,531–32.

EPA deferred any revisions to R until 2020, when it proposed a new "$R_a$" factor. 85 Fed. Reg. 28,564. The new $R_a$ factor "in effect incorporates" the old R factor and "other impacts that may result from the change in test fuel . . . and . . . the updated methodologies that we now use to measure fuel properties." *Id.* at 23,568. And instead of using manufacturer certification data as originally planned, EPA conducted its own Test Program.[7] The Agency gathered data from eleven model-year ("MY") 2013 to 2016 vehicles "equipped with technologies" that, EPA predicted, would "represent how the fleet will look in the future." *Id.*; Test Program Report at 7. EPA proposed an $R_a$ value of 0.81 based on test results from ten of those vehicles.[8]

Commenters criticized the proposal to set $R_a$ at 0.81, contending that the true sensitivity factor is much closer to 1.0 for modern engines.[9] The comments included extensive analysis and reasoned that EPA had tested too few vehicles, had used unrepresentative vehicle technologies, and had arbitrarily analyzed data from the Test Program. *See generally* All. Comments and Biofuels Coal. Comments. Commenters also suggested that EPA should use manufacturer certification data or other published studies to set the sensitivity factor.[10]

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[7] *Id. See* Tier 3 Certification Fuel Impacts Test Program, EPA-420-R-18-004 (Jan. 2018) ("Test Program Report").

[8] 85 Fed. Reg. at 28,575. EPA excluded data from the eleventh vehicle because the Agency concluded it "showed an unexpected level of fuel economy sensitivity to the test fuel's octane rating." 85 Fed. Reg. at 28,572. *See infra* part III.C.

[9] *See, e.g.*, Comments of All. for Auto. Innovation, EPA-HQ-OAR-2016-0604-0087 (Aug. 14, 2020) ("Alliance Comments"); Biofuels Coal. Comments.

[10] All. Comments at 27–31, 39–42; Biofuels Coal. Comments at 32–34; Brian West Comments, EPA-HQ-OAR-2016-0604-0078 (Aug. 13, 2020).

Following the comment period, EPA did nothing for years, then in 2023 it revived the 0.81 $R_a$ proposal as part of a much broader Clean Air Act rulemaking.[11] EPA proposed adopting "an 'R-factor' of 0.81" as "described in the 2020 proposal." 88 Fed. Reg. at 29,241. It explained that it "will be reevaluating comments received on the 2020 proposal as well as the comments for this proposal." *Id.* In response, commenters renewed their objecttions to the $R_a$ value.[12]

EPA finalized the 0.81 $R_a$ factor in 2024 "based on the technical analysis provided in the 2020 [proposal]." 89 Fed. Reg. at 27,912. The final $R_a$ Rule requires manufacturers to certify fuel economy using E10 test fuel beginning in MY 2027, but it allows carryover of E0 test results for certain MY 2027–2029 vehicles. *Id.* at 27,911–12. Importantly, the Agency devoted a mere two paragraphs to responding to the extensive comments on the $R_a$ value. *See* EPA Response to Comments at 1278, EPA-HQ-OAR-2022-0829-5743.

The petitioners are several agricultural organizations and a trade organization representing various segments of the gasoline fuel supply chain. Their members are harmed when demand for gasoline decreases. The petitioners challenge the portion of the Rule that sets and implements the $R_a$ of 0.81. They contend that that $R_a$ is too low, such that it artificially increases the stringency of fuel economy standards. In response to an increase in fuel economy standards, manufacturers build and sell vehicles that consume less

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[11] Multi-Pollutant Emissions Standards for Model Years 2027 & Later Light-Duty & Medium-Duty Vehicles, 88 Fed. Reg. 29,184 (May 5, 2023) (NPRM).

[12] Comments of All. for Auto. Innovation, EPA-HQ-OAR-2022-0829-0701 (July 5, 2023); Comments of Clean Fuels Dev. Coal., EPA-HQ-OAR-2022-0829-0712 (July 5, 2023). The "Clean Fuels Development Coalition" is composed of many of the same organizations in the Biofuels Coalition. *Compare id.* at 1 *with* Biofuels Coal. Comments at 1.

fuel, which depresses gasoline demand. Pointing to the analysis in the comments, the petitioners allege that EPA's Rule flunks the APA because it is unreasonable and unreasonably explained.

We have jurisdiction to review the $R_a$ Rule under 49 U.S.C. §§ 32909(a)(1) and 32904(c).

## II.

A petitioner has associational standing "when (1) individual members would have standing, (2) the association seeks to vindicate interests germane to its purpose, and (3) neither the claim asserted nor the relief requested requires the individual members' participation."[13]

The petitioners easily satisfy the second and third requirements. The mission of each group is to represent the economic and legal interests of their members. And participation of the individual members is unnecessary here because the APA claim does not require individualized proof and petitioners seek only declaratory and equitable relief.[14]

With the second and third associational-standing requirements met, we must determine whether the petitioners' individual members would have standing. For an individual member, "the irreducible constitutional minimum of standing contains three elements." *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560 (1992). It "must show (i) that [it] suffered an injury in fact that is concrete, particularized, and actual or imminent; (ii) that the injury

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[13] *Students for Fair Admissions, Inc. v. Univ. of Tex. at Austin*, 37 F.4th 1078, 1084 (5th Cir. 2022) (footnote omitted).

[14] *See Hunt v. Wash. State Apple Advert. Comm'n*, 432 U.S. 333, 344 (1977) (holding that a "request for declaratory and injunctive relief" is "properly resolved in a group context" when "individualized proof" is not required); *see also Ass'n of Am. Physicians & Surgeons, Inc. v. Tex. Med. Bd.*, 627 F.3d 547, 552–53 (5th Cir. 2010).

was likely caused by the defendant; and (iii) that the injury would likely be redressed by judicial relief." *TransUnion LLC v. Ramirez*, 594 U.S. 413, 423 (2021).

Individual member standing turns on whether the alleged error in the EPA's $R_a$ factor is substantially likely to cause a decrease in domestic demand for automobile gasoline.[15] The petitioners are trade and agricultural organizations whose members span the gasoline fuel supply chain.

For members that sell gasoline or gasoline inputs, the standing analysis is straightforward: Their revenue is directly tied to gasoline sales, so if the Rule decreases demand for gas, the members experience a classic economic injury that is caused by the Rule and redressable by vacatur. The petitioners have established standing because the purpose of the CAFE standards is to reduce gasoline fuel consumption, so an increase in CAFE stringency predictably harms the petitioners' members by reducing demand for their products.

## A.

We first address whether the petitioners have shown an imminent injury-in-fact to their members. The petitioners allege that the EPA's $R_a$ value of 0.81 is too low and that the true $R_a$ factor is at or near 1.0. "We assume, for purposes of the standing analysis, that [the petitioners are] correct on the merits of [their] claim that the [Rule] was promulgated in violation of the APA." *Texas v. EEOC*, 933 F.3d 433, 447 (5th Cir. 2019). If the real-world $R_a$ is 1.0, then the EPA's adjustment factor underestimates

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[15] *See Dep't of Com. v. New York*, 588 U.S. 752, 767 (2019) (quoting *Susan B. Anthony List v. Driehaus*, 573 U.S. 149, 158 (2014)) ("[F]uture injuries . . . 'may suffice if the threatened injury is certainly impending, or there is a substantial risk that the harm will occur.'").

vehicle fuel economy, artificially increasing the stringency of the CAFE standards. The stringency difference between EPA's $R_a$ and the petitioners' alleged $R_a$ is around 0.52%. *See* Third Dunham Decl. ¶¶ 22–24. The predictable response of automobile manufacturers will be to raise the average fuel economy of their vehicles to meet that increased stringency. A more fuel-efficient domestic vehicle fleet produces less demand for gasoline because drivers can travel the same distance with fewer gallons of gasoline. That injures petitioners' members because their businesses depend on gasoline sales.

"[A]n economic injury is the 'quintessential injury upon which to base standing.'"[16] "The injury need not be actualized; a threatened injury suffices if it is 'real, immediate, and direct.' A high risk of economic injury is sufficiently real, immediate, and direct." *Tex. Ass'n of Mfrs. v. Consumer Prod. Safety Comm'n*, 989 F.3d 368, 377 (5th Cir. 2021) (citations omitted). "The Supreme Court routinely recognizes probable economic injury resulting from governmental actions that alter competitive conditions." *Id.* (citing *Clinton v. City of New York*, 524 U.S. 417, 433 (1998)). And even "[a] dollar of economic harm is still an injury-in-fact for standing purposes." *Carpenters Indus. Council v. Zinke*, 854 F.3d 1, 5 (D.C. Cir. 2017) (Kavanaugh, J.). The injury "need not measure more than an identifiable trifle" because "the injury in fact requirement under Article III is qualitative, not quantitative, in nature."[17]

The petitioners assert that the "predictable effect of Government action on the decisions of third parties"—automakers—will increase the fuel

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[16] *Young Conservatives of Tex. Found. v. Smatresk*, 73 F.4th 304, 309 (5th Cir. 2023) (quoting *Tex. Democratic Party v. Benkiser*, 459 F.3d 582, 586 (5th Cir. 2006)).

[17] *Id.* at 309 (quotation omitted); *Ass'n of Cmty. Orgs. For Reform Now v. Fowler*, 178 F.3d 350, 357–58 (5th Cir. 1999).

efficiency of the domestic automobile fleet, thus decreasing demand for gasoline. *Dep't of Com.*, 588 U.S. at 768. And that injury is sufficiently imminent because basic economic incentives show that there is a "substantial risk" of the predicted harm.[18]

The EPA counters that automakers might respond to the inflated CAFE stringency in four different ways—not all of which decrease gasoline demand. Thus, EPA contends, the petitioners' alleged injury is too speculative to support Article III standing. But EPA misses the forest for the trees. Indeed, reducing fuel demand is the *core purpose* of the CAFE standards. As NHTSA explained in its latest CAFE rulemaking, the current standards are estimated to "reduce gasoline consumption by 64 billion gallons relative to reference baseline levels for passenger cars and light trucks . . . through calendar year 2050."[19] If EPA additionally increases CAFE stringency through the backdoor, then gasoline consumption will predictably fall even further.

First, EPA acknowledges that a manufacturer might change the technology in their vehicles to improve their fuel economy. That, of course, would decrease fuel consumption and cause precisely the injury that petitioners allege.

Second, EPA posits that "the cost of implementing new, fuel-saving technologies could be comparable to a penalty," so manufacturers might pay

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[18] *Clapper v. Amnesty Int'l USA*, 568 U.S. 398, 414 n.5 (2013); *see also Dep't of Com.*, 588 U.S. at 767 (quoting *Susan B. Anthony List*, 573 U.S. at 158) ("[F]uture injuries . . . 'may suffice if the threatened injury is certainly impending, or there is a substantial risk that the harm will occur.'").

[19] Corporate Average Fuel Economy Standards for Passenger Cars & Light Trucks for Model Years 2027 & Beyond & Fuel Efficiency Standards for Heavy-Duty Pickup Trucks & Vans for Model Years 2030 & Beyond, 89 Fed. Reg. 52,540, 52,545 (June 24, 2024).

the CAFE civil penalty instead of fixing any shortfall in mpg. That theory doesn't destroy standing, either. A monetary penalty increases costs to the manufacturer, which puts upward pressure on vehicle sales prices. At higher prices, consumers are expected to purchase and drive fewer cars, which means that demand for gasoline decreases.

Third, EPA suggests that a manufacturer could use (or buy) CAFE credits to cover the artificial fuel economy shortfall. But the effect here is the same as the monetary penalty. If the Rule depletes more of the manufacturer's credits, that leaves it with fewer credits to use or sell. That effectively raises the manufacturer's expenses, which in turn increases the price of cars. Higher prices result in a lower quantity of cars demanded, and fewer cars mean less demand for gasoline.

Finally, EPA theorizes that "automakers may lower their standard by changing their fleet compositions to favor larger, less fuel-efficient vehicles." That notion is more complex, and the analysis requires additional background on how CAFE compliance works and how the alleged $R_a$ error increases stringency. In sum: Although manufacturers *could* respond to the alleged $R_a$ error by increasing their average vehicle size, there is a "substantial risk" that any such incentive will be outweighed by other factors and that the Rule will thus depress gasoline demand. *Dep't of Com.*, 588 U.S. at 767.

Each vehicle has an individual CAFE "target" mpg based on its "footprint," which is roughly the size of the rectangular area enclosed by the wheels. 89 Fed. Reg. at 52,547–48. CAFE compliance standards are based on fleetwide averages, with compliance measured at the fleetwide level.[20]

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[20] There are separate standards for passenger car fleets and light-duty truck fleets. 49 U.S.C. § 32902(b)(1)–(3); 89 Fed. Reg. at 52,582. The CAFE system also bifurcates compliance assessments for domestic and imported passenger car fleets. 49 U.S.C. § 32904(b); 89 Fed. Reg. at 52,582.

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The CAFE standard for a given automaker equals the harmonic average of all the individual CAFE targets for the vehicles in its fleet. 89 Fed. Reg. at 52,587. As long as the harmonic average of all its vehicles meets the required fleetwide average, a manufacturer can comply with its CAFE requirement by producing some vehicles that exceed their individual targets and some that fall short.

The alleged $R_a$ error artificially increases the fuel economy standard by a percentage of mpg, so it increases stringency at a greater rate for high-efficiency fleets relative to low-efficiency fleets. Meanwhile, the penalties for CAFE shortfalls are measured in absolute terms—$17 per vehicle per 0.1 mpg shortfall. 89 Fed. Reg. at 52,920–21. Thus, a relatively greater penalty at the high-efficiency end of the spectrum could induce manufacturers to shift toward lower-efficiency fleet mixes.

The petitioners assert that such a response is unlikely because the footprint-based target curves are carefully calibrated to eliminate the incentive to enlarge vehicles in response to CAFE standards. They cite EPA and NHTSA's assessment that "the shape of the footprint curves themselves is approximately 'footprint-neutral,' that is, that it should neither encourage manufacturers to increase the footprint of their fleets, nor to decrease it."[21]

The petitioners' logic, however, omits the fact that the alleged $R_a$ error *changes the shape* of the footprint curves by disproportionately increasing stringency at the low-efficiency end of the curves. Thus, if the slopes of the curves were footprint-neutral, then the $R_a$-induced change to those slopes means neutrality has been lost. The new footprint curves would be (marginally) biased toward low-efficiency fleet mixes.

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[21] EPA, NHTSA, & Cal. Air Res. Bd., EPA-420-D-16-900, *Joint Draft Technical Assessment Report* 8-2 (July 2016).

If manufacturers respond to the Rule by switching to lower-efficiency fleet mixes even marginally, then demand for gasoline could theoretically *increase*—to the benefit of petitioners.

In the final analysis, however, that armchair economic speculation cannot survive a rendezvous with reality. Economic logic and common sense create a "substantial risk" that any fleet-alteration bias will be outweighed by other incentives that result in reduced gasoline consumption. *See Dep't of Com.*, 588 U.S. at 767; *Tex. Ass'n of Mfrs.*, 989 F.3d at 377.

First, manufacturers consider many factors when determining their fleet mix. Consumer preferences and other regulatory factors are obvious examples.[22] Such marginal changes to the shape of the footprint curves are hardly likely to result in systematic fleet-mix adjustments. The most plausible response to the increased CAFE standards is for automakers to increase fuel economy—or to absorb a higher cost of production through the assessment of CAFE fines or the depletion of CAFE credits. Each of those responses creates precisely the harm that petitioners allege: less demand for gasoline.

The theoretical possibility that all three of those responses would be outweighed by a marginal change to the footprint curve is unlikely. That is especially so because an erroneous $R_a$ factor still increases the CAFE stringency for *every* fleet mix, even if the increase is unevenly distributed.

Second, even if some manufacturers respond by altering their fleet

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[22] EPA notes that automakers are selling "more larger trucks and fewer smaller cars than they were 10 years ago" (quoting 89 Fed. Reg. at 52,590). But the passage EPA cites does not attribute that market phenomenon to CAFE incentives (as distinguished from some other factor or factors). 89 Fed. Reg. at 52,590–91. Further, that same rulemaking attributed recent increases in passenger vehicle size to shifts in *consumer demand*. *Id.* at 52,782.

mixes, vehicle prices will rise because larger cars cost more to produce than smaller ones. *Ceteris paribus*, price increases reduce quantity demanded. Thus, fewer vehicles would be sold, which would at least partially offset any increase in per-vehicle fuel consumption.

Finally, the $R_a$ error affects more than just CAFE stringency: It artificially raises the "gas guzzler" tax. Federal law imposes a tax on the sale of automobiles with a fuel economy below 22.5 mpg. 26 U.S.C. § 4064(a). The tax rates increase in one-mile-per-gallon brackets, and they range from $1,000 to $7,700. *Id.* The Rule's $R_a$ factor allegedly underestimates actual fuel economy, so it will increase the tax burden. The higher tax will discourage production of gas guzzlers, so less gas will be consumed. And even if manufacturers opt to absorb the tax instead of shifting production, that raises their effective cost of production. That creates upward pressure on sales prices, which means fewer gas guzzlers sold and thus less gas demanded.

EPA observes that only a small fraction of new vehicles are subject to the gas guzzler tax and that even fewer vehicles lie on the "edge" of a tax bracket. But just because an effect is small does not erase the injury for standing purposes. "[T]o confer standing, such injury need not measure more than an identifiable trifle." *Young Conservatives of Tex. Found.*, 73 F.4th at 309 (quotation omitted).

The commonsense economic logic and record evidence that we have catalogued sufficiently demonstrates that petitioners' members are harmed by the $R_a$ Rule, but we also note that the petitioners have adduced even more evidence in support of standing. First, the petitioners submitted a declaration by Taylor Myers, Ph.D, a mechanical engineer who ran NHTSA's CAFE Model to simulate the effects of the alleged change in CAFE stringency caused by the $R_a$ Rule. *See* Myers Decl. The results of that simulation indicated that the petitioners' alleged error in CAFE stringency decreases

demand for gasoline. Myers Decl. ¶¶ 9–13. Second, the petitioners and their members submitted declarations demonstrating how a reduction in demand for gasoline decreases their profitability. *See* Gibson Decl.; Hardin Decl.; Cleveland Decl.; Lust Decl.; *and* Fischer Decl. That evidence further supports our conclusion that the alleged $R_a$ error injures the petitioners' members.

In summary, the *whole point* of the CAFE standards and the gas guzzler tax is to *reduce* gasoline consumption. Increasing the stringency of those standards is substantially likely to do just that. The petitioners' members would be harmed by reduced gasoline consumption, so they have an injury cognizable by Article III.

### B.

"Causation and redressability . . . flow naturally from the injury." *Contender Farms, L.L.P. v. Dep't of Agric.*, 779 F.3d 258, 266 (5th Cir. 2015). As the injury-in-fact analysis demonstrates, causation is satisfied because the petitioners "have met their burden of showing that third parties"—the automakers—"will likely react in predictable ways to the [$R_a$ Rule]" that will decrease demand for gasoline. *Dep't of Com.*, 588 U.S. at 768. "Because Article III requires no more than *de facto* causality, traceability is satisfied here." *Id.* (cleaned up).

In *Diamond Alternative Energy, LLC v. EPA*, the Supreme Court held that fuel producers had standing to challenge EPA's approval of California regulations requiring automakers to produce more electric vehicles and fewer gasoline-powered vehicles. --- S. Ct. ----, 2025 WL 1716141 (2025). EPA did not "meaningfully dispute[] injury in fact or causation," but it "argue[d] that the fuel producers did not establish redressability." *Id.* at *7.

First, the Supreme Court explained that injury and causation were "straightforward" and easily satisfied. *Id.* at *8. Fuel producers "make

money by selling fuel," so a "decrease in purchases of gasoline and other liquid fuels . . . hurts their bottom line." *Id.* "As for causation, . . . [t]he regulations likely cause fuel producers' monetary injuries because the regulations likely cause a decrease in purchases of gasoline . . . . Indeed, that is the whole point of the regulations." *Id.* So too here. The alleged $R_a$-induced increase in CAFE stringency will likely cause manufacturers to produce cars that use less gasoline. That will reduce demand for the gasoline (and gasoline inputs) that petitioners' members produce and sell. "Indeed, that is the whole point of the [CAFE] regulations." *Id.*

Nor is that causal link too attenuated from EPA's action.[23] Like *Diamond Alternative Energy*, "[t]his case presents what the Court has described as the 'familiar' circumstance where government regulation of a business 'may be likely' to cause injuries to other linked businesses." *Id.* at *9 (quoting *Alliance*, 602 U.S. at 384). Causation may be satisfied "when the government regulates . . . a business" and that regulation "cause[s] downstream or upstream economic injuries to others in the chain, such as certain manufacturers, retailers, suppliers, competitors, or customers." *Alliance*, 602 U.S. at 384. Many (if not all) of the petitioners' members are very close to the automakers in the chain of commerce. Many of them sell gasoline directly. There is a tight link between the gasoline sellers and a regulation that directly affects gasoline demand.[24]

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[23] *See FDA v. All. for Hippocratic Med.*, 602 U.S. 367, 383 (2024) ("The causation requirement also rules out attenuated links—that is, where the government action is [too] far removed from its distant (even if predictable) ripple effects[.]").

[24] Some of petitioners' members are further downstream in the causal chain, such as equipment suppliers that support the gasoline sellers. We need not decide whether *all* of the members would have individual standing, however, because only one member must have standing to sue. *United Food & Com. Workers Union Loc. 751 v. Brown Grp., Inc.*, 517 U.S. 544, 554 (1996). Petitioners have identified gasoline-selling members that have standing. *See* Fischer Decl. (identifying a gasoline wholesaler, Midtex Oil, LP, and a gaso-

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Next, *Diamond Alternative Energy* held that the fuel producers satisfied redressability because "invalidating the California regulations would likely redress at least some of the fuel producers' monetary injuries," and "[e]ven one dollar of additional revenue for the fuel producers would satisfy the redressability component of Article III standing." --- S. Ct. ----, 2025 WL 1716141, at *8 (quotation omitted) (citing *Uzuegbunam v. Preczewski*, 592 U.S. 279 (2021)).

The Court evaluated "commonsense economic realities" and "record evidence" to conclude that invalidating a regulation aimed at reducing the number of gasoline vehicles would likely ameliorate at least some of the harm to fuel producers. *Id.* at *9–11. "[I]t may not be certain, but it is at least 'predictable' that invalidating the California regulations would likely result in the fuel producers ultimately selling more gasoline and other liquid fuels." *Id.* at *13. This case is analogous: commonsense economic realities and the record evidence demonstrate a substantial likelihood that vacatur of the $R_a$ Rule would reduce the allegedly-inflated CAFE stringency, causing automakers to build less fuel-efficient vehicles and thereby ameliorating the reduction in gasoline demand that harms the petitioners' members.

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The petitioners' members are allegedly injured by a Rule that depresses demand for their products. The reduction in gasoline demand is directly traceable to EPA's $R_a$ Rule, and vacatur of the Rule would redress that harm. The individual members thus have standing. And the petitioners have associational standing. *See Students for Fair Admissions*, 37 F.4th at 1084.

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line retailer, Juniper Ventures of Texas, LLC).

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III.

The APA requires us to "hold unlawful and set aside agency action" that is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2). "Arbitrary and capricious review focuses on whether an agency articulated a rational connection between the facts found and the decision made." *ExxonMobil Pipeline Co. v. Dep't of Transp.*, 867 F.3d 564, 571 (5th Cir. 2017) (quotation omitted). "In reviewing that explanation, we must consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment."[25] An agency fails to "consider the relevant factors" when it does not address comments raising "points which, if true and which, if adopted, would require a change in an agency's proposed rule."[26]

EPA's 2024 $R_a$ Rule succinctly stated that the Agency "is finalizing an R-Factor of 0.81 based on the technical analysis provided in the 2020 . . . NPRM." 89 Fed. Reg. at 27,912. The Rule briefly acknowledged comments asserting that the $R_a$ factor was too low, and it referred to "section 6.3 of the [Response to Comments] for a more detailed discussion of [these] comments." 89 Fed. Reg. at 27,912–13. Those two paragraphs comprise the entirety of that "more detailed discussion":

> [W]e are retaining the updated $R_a$-factor of 0.81 to represent equivalent fuel economy performance within the CAFE program. This factor was generated from a study carefully designed and rigorously conducted at EPA's lab. The decision to include data from the 2013 Malibu was based on its perform-

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[25] *Texas v. EPA*, 983 F.3d 826, 835 (5th Cir. 2020) (quoting *Motor Vehicle Mfrs. Ass'n of U.S. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)).

[26] *Mexican Gulf Fishing Co. v. Dep't of Com.*, 60 F.4th 956, 971 (5th Cir. 2023) (cleaned up).

ance being within the expected range.

In addition, we want to clarify that R-factor values in the literature (e.g., in Sluder, *et al.*) are generally intended to isolate the actual sensitivity of fuel economy to fuel energy content, while the $R_a$ factor here rolls up multiple impacts related to this specific pair of test fuels that include the energy content difference, additional charge cooling due to ethanol's heat of vaporization, and potentially some marginal impacts of the octane change. Thus, we wouldn't expect this $R_a$ value to precisely match other R-factors found in the literature.

EPA Response to Comments at 1278.

The petitioners contend that EPA's $R_a$ factor of 0.81 is arbitrary for four reasons. First, that EPA ignored comments alleging fatal flaws in the Test Program's small, eleven-vehicle sample size. Second, that the Agency did not address comments raising significant flaws in the kinds of vehicles tested. Third, that it brushed off comments that it improperly *included* data from a malfunctioning test vehicle and *excluded* data from a properly functioning test vehicle. Finally, that it arbitrarily rejected alternative data that it had requested from commenters. As a result of those several failures, petitioners aver the $R_a$ factor is far too low and does not yield "comparable" fuel economy results as required by law. 49 U.S.C. § 32904(c).

In answer to the petitioners, EPA stops just short of admitting defeat on the merits: "Although [the Agency's] explanations provide a sufficient basis for the Court to reasonably discern how and why EPA set the $R_a$ Factor at 0.81, the Agency acknowledges that it did not fully respond to specific comments on the proposal."

But that half-hearted defense is lipstick on a pig. The administrative record is replete with comments containing detailed, rigorous analyses that undermine EPA's $R_a$ Rule. The Agency failed entirely to respond to several

significant points in comments which, if true, would have necessitated a change in course. *Mexican Gulf Fishing*, 60 F.4th at 971. EPA thus flunked the APA because it did not demonstrate that its decision was "the product of reasoned decisionmaking." *State Farm*, 463 U.S. at 52.

A. The Number of Vehicles in EPA's Test Program

The petitioners contend that the number of vehicles EPA tested is woefully insufficient to establish an accurate fleetwide $R_a$ factor—and the Agency offered no response to comments that raised the issue. The petitioners are correct. The EPA thus violated the APA's "require[ment] that agency action be reasonable and reasonably explained." *FCC v. Prometheus Radio Project*, 592 U.S. 414, 423 (2021).

EPA's Test Program gathered data from a mere eleven vehicles, and it included data from only ten of them to calculate its $R_a$ factor. *See generally* Test Program Report. Commenters pointed to "two primary sources of uncertainty" in determining a fleetwide $R_a$ value: "variability in the measurement of $R_a$ on any individual vehicle" (within-vehicle variability) and "variability in the actual $R_a$ across different vehicles" (between-vehicle variability). Biofuels Coal. Comments at 26.

In the 2020 NPRM, EPA described in detail how it reduced within-vehicle variability. But commenters warned that the Test Program's vehicle sample size was far too small to account for between-vehicle variability.

Individual $R_a$ values varied widely among the vehicles EPA tested.[27] Among the ten vehicles EPA included in its final calculations, $R_a$ ranged from

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[27] The EPA did not present individual vehicle $R_a$ calculations, but commenters computed them from EPA's data. *See* Biofuels Coal. Comments at 27, Exhibit L; All. Comments at 39.

0.44 to 1.05.[28]

### Individual Vehicle $R_a$ Factors

| Vehicle | $R_a$ |
|---|---|
| 2013 Malibu 1 | 0.44 |
| 2013 Altima | 0.75 |
| 2016 Malibu 2 | 0.76 |
| 2016 Silverado 2500 | 0.76 |
| 2015 Volvo S60 T5 | 0.78 |
| 2014 Ram 1500 | 0.79 |
| 2016 Civic | 0.89 |
| 2014 Mazda3 | 0.96 |
| 2014 Silverado 1500 | 0.99 |
| 2015 F150 Eco-Boost | 1.05 |
| 2016 Acura ILX | 1.27 |
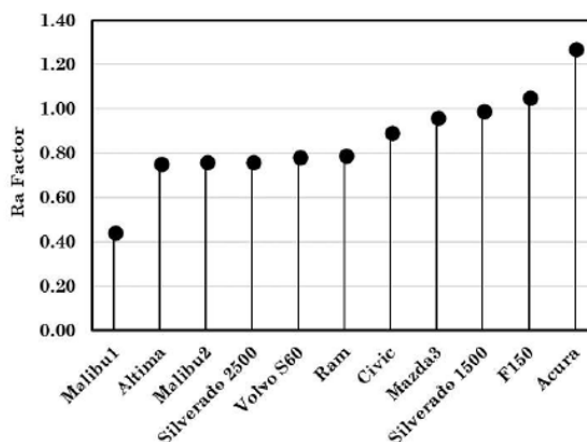
Commenters submitted detailed analyses urging that a fleetwide $R_a$ determination required tests on far more vehicles than the Test Program assessed. They also noted that EPA had previously concluded that an R-factor determination would require testing of at least 75 to 100 vehicles. *See* EPA Guidance Letter CD-95-09 (June 1, 1995).

One commenter performed a statistical analysis on the Test Program's $R_a$ values, which revealed an "unacceptably large" "level of uncertainty." Biofuels Coal. Comments at 27. The results indicated that "EPA can only state, with 95% confidence, that an accurate fleet-wide $R_a$ factor falls somewhere between 0.42 and 1.20." *Id.* The result "conclusively establishes," according to the commenter, that the EPA needed to test more vehicles to achieve a "sufficient level of statistical certainty." *Id.* And it "corroborates" the Agency's previous guidance that far more vehicles would

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[28] The petitioners compiled this chart of the individual $R_a$ factors as computed by the Biofuels Coalition. *See* Biofuels Coal. Comments Exhibit L. EPA excluded the eleventh vehicle, the Acura, from its $R_a$ calculation. 85 Fed. Reg. at 28,572; *see infra* part III.C.

need to be tested.  *Id.* (citing EPA Guidance Letter CD-95-09 at 3).

With such high vehicle-to-vehicle variance in the sensitivity factor, "[t]he choice of a slightly different vehicle mix could have resulted in a significantly different 'average' R value."  All. Comments at 40.  Petitioners contend that the heterogeneity of the data shows that a much larger sample size was needed.  "If the material being sampled is heterogeneous, random error will be large; a larger sample will be needed to offset the heterogeneity."  FED. JUD. CTR., REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 246 (3d ed. 2011).  EPA tested too few vehicles to determine an accurate $R_a$ value for the fleet.

The petitioners aver that EPA flunked the APA because it failed to respond to these "detailed criticisms" raised in the comments.  EPA asserted generically that its $R_a$ factor "was generated from a study carefully designed and rigorously conducted at EPA's lab."  EPA Response to Comments at 1278.  Faced with these extensive critiques about sample size, the Agency did not respond *at all*.  The Agency thus violated the APA because those comments "raised points which, if true and which, if adopted, would require a change in [EPA's] proposed rule."  *Mexican Gulf Fishing*, 60 F.4th at 971 (cleaned up).

In its brief, EPA cannot point to any response to comments (because there is none).  Instead, EPA, citing the 2020 NPRM, says "[f]uel effects on . . . fuel economy relate primarily to combustion characteristics of the engine, rather than to vehicle characteristics."  85 Fed. Reg. at 28,568.  Thus, EPA says, it chose eleven vehicles with "a variety of engine technologies" that the Agency thought were representative of the future fleet.

That argument completely misses the commenters' point.  EPA implies that *vehicle* differences are a non-issue because fuel economy depends on *engine* technology.  But engine-to-engine variability is, of course, a

component of vehicle-to-vehicle variability, rendering EPA's response unresponsive.

EPA also cites the 2020 NPRM to show that it was focused on minimizing test-to-test variability. That's a non-answer. It is wholly unresponsive to commenters' concerns about vehicle-to-vehicle variability, the other primary source of uncertainty.

EPA's failure to respond to significant comments dooms its Rule under the APA. "Under the arbitrary-and-capricious standard, the [EPA] must show that it has 'reasonably considered the relevant issues and reasonably explained the decision.'"[29] The APA requires an agency to consider all "relevant factors."[30] That means that it "must respond" to comments "that can be thought to challenge a fundamental premise underlying the proposed agency decision or include points that if true and adopted would require a change in an agency's proposed rule." *Chamber I*, 85 F.4th at 774 (cleaned up).

EPA offered *zero* response to extensive comments about the Test Program's insufficient sample size. That is fatal to the Rule because those comments, "if true and adopted," would require a change to the Rule. *See Mexican Gulf Fishing*, 60 F.4th at 971 (cleaned up). For the sake of being thorough, however, we address the rest of the petitioners' arguments.

## B. The Kinds of Vehicles in EPA's Test Program

The petitioners assert that EPA selected the wrong vehicles for its Test Program and did not respond to comments raising that issue. As it did

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[29] *Chamber of Com. v. SEC*, 85 F.4th 760, 774 (5th Cir. 2023) ("*Chamber I*") (quoting *Prometheus Radio Project*, 592 U.S. at 423).

[30] *State Farm*, 463 U.S. at 43; *Huawei Techs. USA, Inc. v. FCC*, 2 F.4th 421, 434, 449 (5th Cir. 2021).

with the sample-size critiques, EPA failed to respond to extensive comments raising potential significant flaws in the Rule.  The EPA thus acted arbitrarily and capriciously in violation of the APA.

In the 2020 NPRM, EPA emphasized that "it was critical that the agency select vehicles equipped with technologies that represent how the fleet will look in the future."  85 Fed. Reg. at 28,568.  The Agency "concluded that it was important to cover a wide range of engine configurations and cylinder displacements, and related technologies," and it "also included newer transmission technologies to reveal any potential effects beyond the engine."  *Id.*  EPA specifically "request[ed] comment on [its] decision to focus [its] test vehicle selection . . . on vehicles with certain engine and powertrain technologies, and on the specific technologies [it] selected."  *Id.* at 28,570.

Commenters took EPA up on that request and explained that the Test Program did not include vehicles of the "future"—even by MY 2020 standards.  EPA's test vehicles all ranged from MY 2013 to MY 2016.  Test Program Report at 7.  Commenters pointed out that "the EPA program chose vehicles that are so out of date that three out of four General Motors engines represented in the test program are no longer in production, having been replaced by more efficient engines."[31]  "Engine technology continues to advance, and testing done on vehicles that [were already] five to eight years old [in 2020] cannot be considered representative of the vehicles that will be on the road in the future."  All. Comments at 31.

The petitioners point to additional vehicle technologies that were

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[31] All. Comments at 32.  *See also* Biofuels Coal. Comments at 24, 32 (observing that three high-displacement, lower-efficiency engines used in the Test Program "are not even offered for the 2020 model year vehicles").

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underrepresented in EPA's Test Program:[32]

|  | CVT | 7+Gears | Cylinder Deactivation | StopStart | Hybrid |
|---|---|---|---|---|---|
| Test Program | 20% | 10% | 10% | 20% | 0% |
| MY 2019 | 24% | 48% | 13% | 36% | 6% |
| MY 2022 | 26% | 59% | 16% | 50% | 10% |

Again, EPA's defense falls far short. The Agency cannot point to *any* response to these serious, detailed comments—because it gave none. Instead, EPA refers this court to the 2020 NPRM, which explained that EPA selected vehicles with technologies that the Agency was "reasonably certain . . . will dominate the light-duty fleet in coming years." 85 Fed. Reg. at 28,568. But commenters pointed to data demonstrating that the EPA got that prediction wrong. EPA was apprised *in 2020*—nearly four years before its final Rule—that its vehicle technology was outdated and unrepresentative.

Those are precisely the kind of comments "which, if true and which, if adopted, would require a change in [EPA's] proposed rule." *Mexican Gulf Fishing*, 60 F.4th at 971 (cleaned up). "[T]he requirement for an agency to respond to significant issues raised by public comments would be utterly toothless if it could ignore comments like those presented here." *Id.* at 972.

The APA required the EPA to update its data or, at the very least, to explain why updated data was unnecessary. *See Chamber I*, 85 F.4th at 774;

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[32] The petitioners' chart comes from the Biofuels Coalition Comments at 25, with updated MY 2022 data taken from the 2023 EPA Automotive Trends Report. The chart does not include data from the excluded Acura.

*Prometheus Radio Project*, 592 U.S. at 423.  We must "set aside [EPA's $R_a$] action" because it is "premised on reasoning that fails to account for relevant factors [and] evinces a clear error of judgment." *Clarke v. Commodity Futures Trading Comm'n*, 74 F.4th 627, 641 (5th Cir. 2023) (cleaned up).

### C. Inclusion and Exclusion of Test Program Data

Petitioners aver that EPA arbitrarily *excluded* data from one vehicle and arbitrarily *included* data from another.  Those decisions, they allege, were neither "reasonable" nor "reasonably explained." *See Prometheus Radio Project*, 592 U.S. at 423.  We agree.

First, the petitioners fault the EPA for excluding the Acura from its $R_a$ calculation because commenters demonstrated that the Acura's data was sound.  In the 2020 NPRM, EPA explained that it "showed an unexpected level of fuel economy sensitivity to the test fuel's octane rating."  85 Fed. Reg. at 28,572.  Commenters responded that an "unexpected" result is not a scientifically proper basis for exclusion and that, in any event, the Acura's octane sensitivity was insignificant.

Based on EPA's data, one commenter estimated that the Acura's fuel economy on regular E10 gasoline "was only about 0.15 to 0.20 percent lower than [its] premium E10 fuel economy."[33]  "If there was a significant octane effect, one would expect the fuel economy for the regular E10 tests to be substantially lower than the fuel economy observed on premium E10." All. Comments at 37.  But the Alliance presented evidence that that was not so. *Id.* at 36–38.  In any event, the EPA did not present any calculations of the Acura's regular-to-premium fuel economy variance, nor did it reveal how

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[33] All. Comments at 37.  EPA did not report the fuel economy data for the Acura's E10 premium tests, so the Alliance estimated those numbers "within a couple hundredths of an mpg" based on $CO_2$ emissions data. *Id.* at 36–37.

much sensitivity it "expected." Commenters thus stated that EPA should not have excluded the Acura's results.

Second, the petitioners insist that EPA should not have included the Malibu 1 because commenters raised significant red flags regarding its data. Commenters noted that the Malibu 1 experienced an "accelerator fault code" during the E0 highway cycle testing, and they explained how that fault decreases fuel economy.[34] EPA nonetheless justified inclusion of the Malibu 1 data because "there was not a violation of speed trace," so "there was not sufficient grounds to exclude the test." Test Program Report at 27. But commenters warned that that didn't address the problem. Importantly, the accelerator fault occurred *only* when the vehicle was tested on E0—not E10, so "a bias was introduced to the data." All. Comments at 36. That explains why the Malibu 1 had by far the lowest $R_a$ value of the eleven vehicles that EPA tested. *Id.*

Indeed, the Malibu 1's $R_a$ value was so low that commenters' analyses showed it was a likely statistical outlier.[35] And the comments pointed to additional markers of data-unreliability. First, the Malibu 1's highway cycle fuel economy data was "'conspicuous for the [large] size of its standard deviations, particularly on the [E0] fuel' tests." Biofuels Coal. Comments at 28 (quoting Test Program Report at 20). Second, one category of drive quality statistics—which measure test repeatability—was comparatively poor for the Malibu 1's highway test.[36] Given the Malibu 1's malfunctioning and the

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[34] All. Comments at 35–36; Biofuels Coal. Comments at 28–31. *See also* Test Program Report at 27 (explaining that the fault code message indicated reduced engine power).

[35] All. Comments at 33–35 (analysis showing that Malibu 1 is an outlier, but Acura is not); Biofuels Coal. Comments at 29, Exhibit E (analysis showing that Malibu 1 is an outlier).

[36] *Id.* at 28–29; Test Program Report at 26. The EPA study asserted that "we would expect some differences in drive characteristics" because the Malibu 1's highway

other red flags in its data, commenters urged EPA to exclude it from the $R_a$ computation.

In response to this petition, EPA points only to the 2020 NPRM and the Test Program Report. Specifically, EPA (1) repeats the assertion that the Acura's octane sensitivity was "unexpected" and (2) contends that the Agency "resolved some of the [Malibu 1's] issues and lacked 'sufficient grounds' to exclude the test results" (quoting Test Program Report at 27).

EPA does not cite *any* response to comments about the Acura, and its only "response" to comments about the Malibu 1 was that "[t]he decision to include data from the 2013 Malibu was based on its performance being within the expected range." EPA Response to Comments at 1278. But a summary proffer that the Malibu 1 was "within the expected range" fails to respond to the specific and extensive comments explaining how the accelerator fault code biased EPA's data.

That is a far cry from the "reasoned response" that the APA requires. *Ohio v. EPA*, 603 U.S. 279, 293–94 (2024). EPA's "single conclusory sentence . . . is no substitute for a 'reasonable and reasonably explained' decision." *Texas v. Biden*, 10 F.4th 538, 555 (5th Cir. 2021) (per curiam) (quoting *Prometheus Radio Project*, 592 U.S. at 423).

The comments, right or wrong, raised—and supported—critiques of EPA's Rule so "significant" that they "require[d] response." *Huawei Techs.*, 2 F.4th at 449. Whereas the Acura had the highest individual $R_a$, the Malibu 1 had the lowest. If commenters are correct that the former should

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tests "were rerun with a different driver." Test Program Report at 26. But, as petitioners point out, the "Malibu 1's drive statistics show significantly larger differences than other vehicles that were also rerun with a different driver, . . . so that alone cannot account for Malibu 1's variability." *See also id.* at 26–28.

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have been included and the latter excluded, EPA's fleetwide $R_a$ would have changed considerably, from 0.81 to 0.90. *See* Biofuels Coal. Comments at 32. So, those comments "if true and adopted would require a change in" EPA's Rule.[37] The APA required EPA to respond with a reasoned explanation of its decisions, yet, it did not, making the Rule arbitrary and capricious.

## D. Rejection of Alternative Data

Petitioners assert that comments offered EPA superior alternative data, including manufacturer certification data and data from published studies in which the EPA had participated. The petitioners aver that EPA acted arbitrarily and capriciously by failing adequately to explain why it rejected those alternatives. Although EPA sufficiently justified its rejection of the studies, the Agency gave no explanation for why it refused to consider the manufacturer data—even after *specifically requesting comment* on how such data could be used. That failure renders EPA's $R_a$ Rule unlawful. *Chamber I*, 85 F.4th at 774, 776.

## 1. Published Studies

Commenters pointed to data from studies—in which EPA had participated—showing "uniformly . . . higher average R factors than EPA's proposed $R_a$ of 0.81."[38] The petitioners posit that EPA rejected that data without a sufficient explanation. EPA answers by pointing to its response to those comments:

> [W]e want to clarify that R-factor values in the literature (e.g.,

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[37] *Chamber I*, 85 F.4th at 774 (quoting *Mexican Gulf Fishing*, 60 F.4th at 971 (cleaned up)); *see also Huawei Techs.*, 2 F.4th at 449.

[38] Biofuels Coal. Comments at 32–34; *see also* C. Sluder et al., *Determination of the R Factor for Fuel Economy Calculations Using Ethanol-Blended Fuels over Two Test Cycles*, 7 SAE Int'l J. Fuels & Lubricants 551; Brian West Comments at 2.

in Sluder, *et al.*) are generally intended to isolate the actual sensitivity of fuel economy to fuel energy content, while the $R_a$ factor here rolls up multiple impacts related to this specific pair of test fuels that include the energy content difference, additional charge cooling due to ethanol's heat of vaporization, and potentially some marginal impacts of the octane change. Thus, we wouldn't expect this $R_a$ value to precisely match other R-factors found in the literature.

EPA Response to Comments at 1278.

The petitioners reply that EPA's answer is a "red herring" because the redesignation of "R" as "$R_a$" merely "account[s] for minor changes to the fuel economy equation for E10, primarily how fuel properties are calculated" (citing 85 Fed. Reg. at 28,575). Moreover, petitioners allege, the Alliance showed that "R" and "$R_a$" produce "the exact same values . . . for each individual test vehicle." All. Comments at 30 (emphasis deleted).

But the petitioners are wrong on those points because they tell only half the story. In its proposal to replace the old "R" factor with a new "$R_a$" factor, EPA explained that $R_a$ accounts not only for updated methods for measuring fuel properties *but also for non-energy-content differences between the Tier 2 and Tier 3 test fuels*. 85 Fed. Reg. at 28,568. One such difference is the "change in aromatics content," *id.*, while others include "additional charge cooling due to ethanol's heat of vaporization, and potentially some marginal impacts of the octane change." EPA Response to Comments at 1278. And although the Alliance's comment demonstrated that the updated fuel-property-measurement methods do not cause $R_a$ to diverge from R, the Alliance did *not* show that that was also the case for the non-energy-content differences between the Tier 2 and Tier 3 test fuels. *See* All. Comments

at 29–31.[39]

EPA's response to comments thus suffices to show why the agency did not use the data from the proffered studies. It is not the "red herring" that petitioners claim. EPA made a reasonable judgment and, in response to comments, explained that choice rationally. That is all the APA requires. *See Prometheus Radio Project*, 592 U.S. at 423 ("The APA's arbitrary-and-capricious standard requires that agency action be reasonable and reasonably explained."). EPA "articulated a satisfactory explanation for its action including a rational connection between the facts found and the choice made," so "we cannot substitute our judgment for that of the agency." *Huawei Techs.*, 2 F.4th at 434 (cleaned up).

## 2. Manufacturer Certification Data

EPA initially planned to use manufacturer data to update its sensitivity factor. Under the 2014 Tier 3 rule, manufacturers have been testing with two fuels: (1) E0 to certify fuel economy and greenhouse gas compliance and (2) E10 to certify criteria pollutant compliance. 79 Fed. Reg. at 23,531–33. EPA explained in 2014 that it planned to compare paired E0/E10 manufacturer certification data to assess the R factor. *Id.* But the Agency changed course. In the 2020 NPRM, EPA proposed using its Test Program data—rather than automaker data—to determine $R_a$ because manufacturer data did not sufficiently minimize test-to-test variability. 85 Fed. Reg. at 28,569. EPA listed twelve methodological features of its Test Program that controlled for that variability, and it noted that manufacturer data lacked most of

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[39] The petitioners also assert that the studies cited by commenters did not actually seek to isolate the effects of energy-content changes. But the published analysis of those studies explained that the "R" concept "is intended" to isolate energy-content differences, though it acknowledged that in practice "other impacts on fuel economy . . . may also be attributed to the R factor." C. Sluder et al. at 554.

those features. *Id.* at 28,569–70. Still, EPA "request[ed] comments on ways that manufacturer certification data submitted to EPA, or any other data, might be used as an appropriate supplemental or alternative source of data." *Id.* at 28,570.

The Alliance obliged. It provided paired manufacturer certification data from 95 newer, MY 2016 to 2021 vehicles, which showed an average $R_a$ factor "much closer to . . . 1.0."[40] The Alliance explained that those vehicles "represent[] the newest technologies and [are] essentially all compliant with Tier 3 criteria emissions standards." All. Comments at 41. In response to EPA's concerns in the NPRM about test-to-test variability, the Alliance did not dispute the absence of most of the twelve controls that EPA identified as lacking in manufacturer tests. *See id.* (directly disputing only one of those controls). But the Alliance explained that EPA's concern "can be minimized through use of a large sample set" and that "testing additional test vehicles provides more statistical certainty than replicate tests on a limited number of test articles." *Id.*

EPA did not respond. The Agency merely points this court to the concerns identified in the NPRM. But EPA *specifically asked for* "comments on ways that manufacturer certification data submitted to EPA . . . might be used" to determine $R_a$. 85 Fed. Reg. at 28,570.

The Alliance gave the Agency "exactly what it had asked for." *Chamber I*, 85 F.4th at 776. To be sure, the comment did not directly dispute every

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[40] All. Comments at 41; *see also id.* at 31–32, 39–42. The Alliance comment denominates "[t]he resulting Ra calculated," *id.* at 41, but it is unclear from context whether the Alliance attempted to isolate energy-content differences (R) or whether it also accounted for non-energy-content impacts ($R_a$). In any event, the data showed a sensitivity factor far higher than EPA's, and, as explained below, EPA never responded when presented with that data.

source of test-to-test variability. But it did show, as EPA had requested, how "manufacturer certification data . . . might be used as an appropriate supplemental or alternative source" to set $R_a$. 85 Fed. Reg. at 28,570. Specifically, the Alliance explained that its vehicles contained newer technology and that the sample size—far larger than EPA's—minimized concerns about test-to-test uncertainty. All. Comments at 32, 41. And the manufacturer certification values were considerably higher than EPA's value, "reinforc[ing] the expectation that vehicles with newer technologies . . . will see an Ra converging on 1.0." *Id.* at 41.

EPA still might have made the judgment that the industry data was insufficient, but the APA required that the Agency "explain its rejection of a reasonably obvious alternative." *10 Ring Precision, Inc. v. Jones*, 722 F.3d 711, 724 (5th Cir. 2013) (cleaned up). The EPA cannot "ask for—and then ignore—already-existing data it did not want to consider." *Chamber I*, 85 F.4th at 776. But that is precisely what it did.

EPA's $R_a$ Rule is therefore arbitrary and capricious because the Agency did not demonstrate that its judgment was "the product of reasoned decisionmaking." *State Farm*, 463 U.S. at 52.

## E. Conclusion

EPA requested and received extensive comments on its proposal to set an $R_a$ factor of 0.81. In response, the Agency mustered only two paragraphs, ignoring several key points that commenters raised and supported with rigorous analysis. EPA ignored comments that its Test Program design was fatally flawed because it tested too few vehicles and chose unrepresentative vehicles. It disregarded comments that it arbitrarily included and excluded test vehicle data. And it rejected, *sans* explanation, alternative data and analysis that it had specifically requested.

Each of those comments, if true, demonstrates that EPA's $R_a$ value

was far too low.  So, if the commenters were correct, EPA would have had to change course.  The APA thus required the Agency to respond to those comments—either by defending its prior analysis or by changing the Rule. *See Mexican Gulf Fishing*, 60 F.4th at 971.  The Agency did not, so its rationale for the 0.81 $R_a$ value cannot "reasonably be discerned" from the record. *Sierra Club v. Dep't of Interior*, 990 F.3d 898, 904 (5th Cir. 2021) (quotation omitted).  EPA therefore did not demonstrate that its $R_a$ action was the "product of reasoned decisionmaking," so the Rule is arbitrary and capricious. *State Farm*, 463 U.S. at 52.

## IV.

We turn to the remedy for the EPA's deficiencies.

Section 706 of the APA instructs that reviewing courts shall "hold unlawful and set aside agency action . . . found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."  5 U.S.C. § 706(2).  Fifth Circuit precedent establishes that Section 706 "extends beyond the mere non-enforcement remedies available to courts that review the constitutionality of legislation, as it empowers courts to 'set aside'—*i.e.*, formally nullify and revoke—an unlawful agency action."[41]

"The default rule is that vacatur is the appropriate remedy." *Data Mktg. P'ship*, 45 F.4th at 859.  "Departing from that default rule is justifiable only in rare cases satisfying two conditions." *Chamber of Com. v. SEC*, 88 F.4th 1115, 1118 (5th Cir. 2023) ("*Chamber II*") (quotation omitted).

> *First*, there must be a serious possibility that the agency will be able to correct the rule's defects on remand.  Remand without vacatur is therefore inappropriate for agency action suffering

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[41] *Data Mktg. P'ship, LP v. Dep't of Lab.*, 45 F.4th 846, 859 (5th Cir. 2022) (quoting Jonathan F. Mitchell, *The Writ-of-Erasure Fallacy*, 104 Va. L. Rev. 933, 950 (2018)).

> from one or more serious procedural or substantive deficien-
> cies. *Second*, vacating the challenged action would produce dis-
> ruptive consequences.

*Id.* (quotations and citations omitted). To satisfy the first condition, there must be a serious possibility that the agency can "substantiate its decision given an opportunity to do so." *Texas v. United States*, 50 F.4th 498, 529 (5th Cir. 2022) (quoting *Tex. Ass'n of Mfrs.*, 989 F.3d at 389).

Given the record before us, we cannot conclude there is a "serious possibility that [EPA] will be able to substantiate its decision" to set $R_a$ at 0.81 if "given the opportunity to do so." *Id.* EPA summarily proffers that it "would likely be able to justify its decision to establish an $R_a$ Factor of 0.81 on remand." But it provides no reason for us to believe that is so. EPA merely asserts—without evidence—that it can explain itself: "EPA can explain how and why" test-to-test variability controls obviate the need for a larger sample size, and "EPA can correspondingly also explain why" the importance of such controls "meant that the Agency could not rely on the manufacturer certification data." EPA identifies no evidence to support that "trust-us-we're-the-experts" response.

Indeed, the evidence indicates that the opposite is true: It is sub-stantially *unlikely* that a 0.81 $R_a$ value can be justified. The $R_a$ factor will apply to hundreds of vehicle models and configurations, but the eleven-vehicle EPA Test Program demonstrates that just a slight alteration in test-vehicle mix would have resulted in a considerably different $R_a$ value. So, the peti-tioners are likely correct that EPA's small sample size resulted in a miscal-culation of $R_a$. Similarly, because even slight changes to the vehicle mix could have altered the $R_a$ value, EPA's use of outdated, unrepresentative vehicle technology means its 0.81 $R_a$ value is likely flawed. That likelihood is under-scored by the fact that EPA's sensitivity factor is so much lower than manu-facturer values calculated from more and newer vehicles.

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It is telling that EPA has "decided to reconsider its decision that the $R_a$ factor should be set at 0.81" "[i]n response to [this] Petition for Review."[42]  The Agency insists that it has not confessed error.  But EPA decided to test more and newer vehicles mere months after finalizing its $R_a$ factor.  It's difficult to interpret that decision as anything other than a tacit admission of error.

Finally, EPA contends that vacatur is inappropriate because it would be disruptive for automakers, and any near-term harm that the Rule causes petitioners would be minimal.  But where, as here, there is no serious possibility that the Agency can substantiate its decision on remand, vacatur is required even if it would be disruptive.[43]  We therefore hew to the APA's default remedy and vacate the unlawful Rule.

\*   \*   \*   \*   \*

The petitioners have standing to challenge EPA's $R_a$ Rule because an underestimate of $R_a$ artificially increases CAFE stringency, decreasing demand for gasoline and harming petitioners' members.  The Rule is arbitrary and capricious because EPA ignored key comments that evinced fundamental flaws in its $R_a$ determination.

The petition for review is GRANTED.  The $R_a$ Rule is VACATED to the extent that it (1) sets an $R_a$ factor of 0.81 and (2) implements that factor by shifting the test fuel from E0 to E10 for fuel economy compliance.

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[42] First Dunham Decl. ¶ 14; *see also* EPA Mot. for Voluntary Remand.

[43] *See Chamber II*, 88 F.4th at 1118 (describing as conjunctive the "two conditions" for departing from the "default rule" of vacatur); *see also Tex. Med. Ass'n v. HHS*, 110 F.4th 762, 779 (5th Cir. 2024).