ORAL ARGUMENT NOT YET SCHEDULED
No. 24-1119 (and consolidated cases)

IN THE
United States Court of Appeals for the District of Columbia Circuit

STATE OF NORTH DAKOTA, *et al.*,

Petitioners,

– v. –

U.S. ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

On Petition for Review of Final Agency Action
of the United States Environmental Protection Agency,
89 Fed. Reg. 38,508 (May 7, 2024)

FINAL BRIEF OF THE INSTITUTE FOR POLICY INTEGRITY AT NEW YORK UNIVERSITY SCHOOL OF LAW AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

As required by Circuit Rule 28(a)(1), counsel for the Institute for Policy Integrity at New York University School of Law certify as follows:

A. Parties and Amici

All parties and intervenors appearing in this case are listed in Petitioners' and EPA's briefs.

B. Rulings Under Review

References to the agency action under review appear in the Petitioners' and EPA's briefs.

C. Related Cases

There are no related cases within the meaning of Circuit Rule 28(a)(1)(C).

RULE 26.1 DISCLOSURE STATEMENT

The Institute for Policy Integrity (Policy Integrity) is a nonpartisan, not-for-profit organization at New York University School of Law.* No publicly held entity owns an interest in Policy Integrity. Policy Integrity does not have any members who have issued shares or debt securities to the public.

* This brief does not purport to represent the views, if any, of New York University School of Law.

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GLOSSARY OF ACRONYMS & ABBREVIATIONS

Pursuant to Circuit Rule 28(a)(3), the following is a glossary of acronyms and abbreviations used in this brief:

EPA	Environmental Protection Agency
MATS	Mercury and Air Toxics Standards
NAAQS	National Ambient Air Quality Standards
RIA	Regulatory Impact Analysis

INTEREST OF *AMICUS CURIAE* & AUTHORITY TO FILE

The Institute for Policy Integrity at New York University School of Law (Policy Integrity) is a nonpartisan, not-for-profit think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy, focusing primarily on environmental issues.[1]

A focus area for Policy Integrity is the proper use of cost-benefit analysis to disclose the effects of federal environmental regulations. Policy Integrity has specific expertise in the proper scope and estimation of costs and benefits. Policy Integrity and its staff have produced scholarship on Clean Air Act regulation and regulatory analysis.

Policy Integrity has submitted *amicus curiae* briefs on similar topics in previous challenges to the Mercury and Air Toxics Standards (MATS) before this Court and the Supreme Court. *See* Br. for Pol'y Integrity et al. as *Amici Curiae*, *White Stallion Energy Ctr., LLC v. EPA*, 748 F.3d 1222 (D.C. Cir. 2014) (No. 12-1100); Br. for Pol'y Integrity as

[1] Per Federal Rule of Appellate Procedure 29(a)(4)(E), no party's counsel authored this brief wholly or partly, and no person contributed money intended to fund its preparation or submission.

Amicus Curiae, *Michigan v. EPA*, 576 U.S. 743 (2015) (No. 14-46); Br. for Pol'y Integrity as *Amicus Curiae*, *Murray Energy Corp. v. EPA*, No. 16-1127 (D.C. Cir. 2017).

Policy Integrity also filed comments on the Proposed Rule that discussed this topic. Pol'y Integrity, Comment Letter on Proposed National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review (June 23, 2023), https://perma.cc/64WD-XAK4.

Policy Integrity draws on its expertise in the Clean Air Act and regulatory analysis to provide a unique perspective on this challenge to EPA's final rule controlling dangerous pollution from fossil-fuel-fired power plants. 89 Fed. Reg. 38,508 (May 7, 2024) (the Rule). Policy Integrity submits this *amicus curiae* brief to address the Environmental Protection Agency's (EPA's) proper disclosure of the Rule's benefits, including the unquantified and non-monetized benefits of reducing toxic air pollution.

All parties have consented to the filing of this brief. We are not aware of any other *amicus curiae*.

SUMMARY OF ARGUMENT

EPA issued the Rule under Section 112(d)(6) of the Clean Air Act, consistent with the statutory factors that Congress tasked the agency to consider. *See* 42 U.S.C. § 7412(d)(6). Separate from these statutory considerations, EPA completed a regulatory impact analysis (RIA)[2] that included a cost-benefit analysis to comply with the requirements of Executive Order 12,866. Exec. Order No. 12,866 § 6(a)(3)(C), 58 Fed. Reg. 51,735, 51,741 (Oct. 4, 1993).

Petitioners assert that the Rule imparts no real public health benefits and deploy this mischaracterization of the benefits to support multiple prongs of their argument. *See, e.g.,* Pet'rs Br. 31–38, 54–57. Any arguments that rely on these assertions fail because EPA explains in both the Rule's preamble and the RIA that the Rule will have real and substantial public health benefits from reducing exposure to hazardous

[2] We use "RIA" to refer to the process of regulatory impact analysis and to the report associated with the Rule. *See* EPA, *Final Regulatory Impact Analysis for the Final National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review* (2024), https://perma.cc/H27D-T6H4.

air pollutants commonly called "air toxics." *See, e.g.*, 89 Fed. Reg. at 38,511–12; *see infra* Section III.

I. EPA recognized that its "obligation to conduct an analysis of the potential costs and benefits under Executive Order 12,866 . . . is distinct from its obligation in setting standards under [Clean Air Act] [S]ection 112 to take costs into account." 89 Fed. Reg. at 38,553. Here, EPA has continued its practice under Section 112 and other Clean Air Act provisions, such as the National Ambient Air Quality Standards (NAAQS) program, to conduct an RIA separately from the statutory analysis used to determine the stringency of the regulation.

II. That the benefits of air toxics emission reductions discussed in the RIA are unquantified does not lessen their importance. Best analytical practice, executive guidance, and case law confirm it is proper to consider unquantified benefits. Petitioners also suggest that the additional benefits from reducing other pollution are irrelevant. *See, e.g.*, Pet'rs Br. 55.[3] But again, best analytical practice, executive guidance,

[3] We use the term "other pollutants" to refer to pollutants besides air toxics listed under Section 112, such as criteria pollutants regulated under the NAAQS (including nitrogen dioxide, ozone, particulate matter, and sulfur dioxide) and greenhouse gases.

and case law confirm it is proper to consider these additional benefits as part of the RIA completed to comply with Executive Order 12,866.

III. Because many important benefits could not be quantified, EPA's RIA appropriately included qualitative discussion of the Rule's public health, economic, and environmental benefits from reduced air toxics emissions. These benefits are not "miniscule" merely because they are unquantified, and they are a sound basis for EPA's conclusion that the Rule is a "worthwhile exercise of the EPA's . . . authority." 89 Fed. Reg. at 38,553. EPA properly considered all important monetized and non-monetized effects together in the RIA, including the unquantified benefits.

Given the substantial evidence of benefits presented by EPA, including but not limited to the unquantified public health benefits of air toxics emission reductions, Petitioners' assertions that the Rule has "no meaningful benefit" is false. *See, e.g.*, Pet'rs Br. 54–55, 57. For the above reasons, this Court should reject any arguments relying on the assertion that the Rule has no meaningful benefits and deny the petitions.

ARGUMENT

I. EPA Appropriately Distinguished The RIA From Its Statutory Consideration of Cost.

EPA made its regulatory update to the MATS program consistent with the statutory criteria Congress specified under Section 112(d)(6) of the Clean Air Act. 42 U.S.C. § 7412(d)(6). Per Section 112(d)(6), EPA updated the MATS as "necessary" based on the agency's identification of "developments in practices, processes, and control technologies" since 2012, *id.*, including reduced costs and improved efficiencies, *see* 89 Fed. Reg. at 38,521, 38,530, 38,541, 38,546–47; *see also* EPA Br. 37–45.

While the statute permits some consideration of cost, such consideration is distinct from EPA's cost-benefit analysis conducted under Executive Orders. In its brief, EPA details why Section 112(d)(6) requires the agency to revise the standards based on relevant pollution control developments, but does not require that EPA assess health risks as part of the technology review. *See* EPA Br. 22–37; *see also id.* at 5 (explaining that the 1990 Clean Air Act amendments sought to establish a technology-based regime to cure delays).

Due to these specific statutory requirements, EPA treated its consideration of costs in setting standards under Section 112 as a distinct

exercise from its assessment of costs (and benefits) in an RIA. EPA separately completed the RIA to comply with the obligations established by Executive Orders for "significant" rulemaking (as defined by Executive Order 12,866 and modified by Executive Order 14,094). *See* Exec. Order No. 12,866 §§ 3(f), 6(a)(3)(C), 58 Fed. Reg. at 51,738, 51,741; Exec. Order No. 14,094 § 1(b), 88 Fed. Reg. 21,879, 21,879 (Apr. 11, 2023).

Since 1993, Executive Order 12,866 has required agencies to promote transparency and the public interest by, among other things, publishing RIAs for significant rules.[4] In particular, Executive Order 12,866 requires agencies to assess and, to the extent feasible, quantify costs and benefits, including any economic, environmental, public health, and safety impacts. Exec. Order No. 12,866 § 6(a)(3)(C), 58 Fed. Reg. at 51,741. The transparency provides the public, stakeholders, and political actors with information about the effects of the choices that agencies make. Jason A. Schwartz, *Approaches to Cost-Benefit Analysis*, *in* Handbook of Regulatory Impact Assessment 33, 44–46 (Claire A. Dunlop

[4] Subsequent Orders have reaffirmed these principles. *See* Exec. Order 14,094, 88 Fed. Reg. 21,879 (Apr. 11, 2023).

& Claudio M. Radaelli eds., 2016). Such RIAs benefit the public even when other statutory factors constrain the decision to regulate.

EPA may use the RIA to inform its statutory analysis and, as EPA acknowledges, it considered the RIA when holistically weighing all the Rule's advantages and disadvantages. EPA Br. 51. But, as EPA recognized, its "obligation to conduct an analysis of the potential costs and benefits under Executive Order 12,866 . . . is distinct from its obligation in setting standards under [Clean Air Act] [S]ection 112 to take costs into account." 89 Fed. Reg. at 38,553. Accordingly, "EPA considered costs in multiple ways in choosing appropriate standards consistent with the requirements of [Clean Air Act] [S]ection 112," but it "did not rely" on the cost-benefit analysis "in choosing the appropriate standard here." *Id.*; EPA Br. 51–52 (distinguishing the holistic assessment that the Rule is worthwhile from the statutorily-specific consideration of costs when setting regulatory stringency).

EPA has similarly differentiated between its analyses for other Section 112 regulations. *See, e.g.*, 89 Fed. Reg. 42,932, 42,938–39 (May 16, 2024) (noting in a Section 112(d)(6) regulation that "analysis of costs and benefits in the RIA is distinct from the determinations finalized in

this action under [Clean Air Act] [S]ections 111 and 112, which are based on the statutory factors the EPA is required to consider under those sections."). Moreover, many Section 112 rulemakings do not trigger the requirements for Executive Order 12,866. For these rulemakings, EPA considers costs within its statutory analysis independent of whatever information would have come from an RIA.

EPA also makes a distinction between these different analyses under other statutory programs. In fact, EPA even conducts a cost-benefit analysis to comply with Executive Order 12,866 in instances where the statute prohibits cost consideration. For example, the Supreme Court has confirmed that EPA may not consider the costs of implementing regulations under the NAAQS program. *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 464–71 (2001). But as EPA noted when issuing a recent NAAQS rule for particulate matter, EPA "has traditionally" prepared an RIA during NAAQS rulemaking "to provide the public with information on the potential costs and benefits of attaining several alternative [fine particulate matter] standard levels." 89 Fed. Reg. 16,202, 16,205–06 (Mar. 6, 2024). EPA emphasized that "[i]n NAAQS rulemaking, the RIA is done for informational purposes only,

and the final decisions on the NAAQS . . . are not based on consideration of the information or analyses in the RIA." *Id.* at 16,206.

In sum, EPA considered costs and benefits in its RIA separately from its statutory consideration of cost and other factors that inform the stringency of standards under Section 112. But the RIA still provides useful information about the costs and benefits of the Rule.

II. The RIA Complies With Law And Best Analytical Practice.

Petitioners contend that the Rule is arbitrary and capricious because of EPA's "failure to consider both" the Rule's costs and benefits. Pet'rs Br. 54. As Petitioners note, an agency's rulemaking is arbitrary and capricious "if the agency has relied on factors which Congress has not intended it to consider" or "entirely failed to consider an important aspect of the problem." *Id.* at 53 (quoting *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). Leaving aside for the moment that EPA's regulatory decisionmaking is constrained by the Section 112(d)(6) statutory factors, Petitioners ask the Court to do precisely what they wrongly accuse EPA of doing: selectively ignore relevant effects of the Rule.

Specifically, they ask this Court to dismiss the substantial unquantified and non-monetized benefits of reducing air toxics pollution and the additional benefits of reducing other pollution. Pet'rs Br. 54–55. Petitioners repeatedly attempt to minimize the real public health benefits from reducing air toxics emissions simply because they are unquantified and try to dismiss additional benefits from reducing other pollution as irrelevant. *See, e.g.*, Pet'rs Br. 37 (asserting the Rule "does not yield any meaningful public health benefits"); *id.* at 54 (asserting the Rule is "without any demonstrated benefit"); *id.* at 55 (asserting the Rule has no "relevant and quantifiable benefits").

Before diving into a discussion of EPA's RIA and its documentation of the Rule's substantial benefits, *see infra* Section III, it is helpful to review why the RIA's assessment of the full sweep of regulatory benefits—including the unquantified benefits of reducing air toxics emissions and the benefits of reducing other types of pollution—is consistent with long-standing principles of agency review. Section II.A first explains why EPA's qualitative consideration of the non-monetized and unquantified benefits of the rule is proper. Section II.B then reviews why EPA appropriately assessed the additional benefits of the rule from

reducing other pollution. In both instances, the RIA included the effects of the Rule in a manner consistent with this Court's case law, long-standing executive guidance, and standard administrative practice.

A. EPA appropriately included non-monetized and unquantified benefits from reducing air toxics emissions.

Public health and environmental effects can often be difficult to express in monetary terms due to data limitations and modeling constraints. *See* Michael A. Livermore & Richard L. Revesz, *Reviving Rationality: Saving Cost-Benefit Analysis for the Sake of the Environment and Our Health* 114–15 (2020). Sometimes an agency can express these effects quantitatively, if not monetarily, i.e., by estimating the amount of pollution reduction a rule might achieve. *See, e.g.*, Off. of Mgmt. & Budget, Circular A-4: Regulatory Analysis 5 (2023), https://perma.cc/CH4U-LA5C [hereinafter Circular A-4].[5] Circular A-4 instructs that "[i]f it is not possible to estimate [an important regulatory

[5] Throughout this brief, we use "Circular A-4" to reference the version of this guidance updated in 2023, but the best practices discussed in this brief are supported by both the original and updated versions. *See, e.g.*, Off. of Mgmt. & Budget, Circular A-4: Regulatory Analysis at 2, 27 (2003), https://perma.cc/G9HU-LCX4 (discussing importance of considering unquantified and non-monetized benefits); *id.* at 26 (same with ancillary benefits).

effect] quantitatively," an agency "should describe the benefit or cost qualitatively using the best methods available." *Id.* at 5.

As Nobel Laureate Kenneth Arrow has explained, a cost-benefit analysis should "give due consideration to factors that defy quantification but are thought to be important." Kenneth J. Arrow et al., *Benefit-Cost Analysis in Environmental, Health, and Safety Regulation: A Statement of Principles* 10 (1996), https://perma.cc/YGA4-9ERR. The mere fact that a benefit cannot currently be quantified says little about its magnitude. In fact, some of the most substantial categories of monetized benefits of environmental regulation were once considered unquantifiable, including the value of reducing mortality risks. *See* Richard L. Revesz, *Quantifying Regulatory Benefits*, 102 Calif. L. Rev. 1423, 1436–39 (2014); *see also* Livermore & Revesz, *supra,* at 112.

Relevant case law, executive guidance, and decades of EPA precedent under administrations of both parties, all confirm the RIA's inclusion of unquantified and non-monetized effects as consistent with the law.

1. Case law confirms the appropriateness.

Even when the Supreme Court has found that a statute requires agencies to consider cost, it has recognized that an agency is not required to assign monetary values to all costs and benefits. *Michigan*, 576 U.S. at 759. This Court has also long recognized and recently affirmed the practice of considering unquantified and difficult-to-monetize benefits when conducting RIAs. In *Sinclair Wyoming Refining Co. v. EPA*, the Court upheld EPA's decision to qualitatively assess benefits such as increased employment when implementing the Renewable Fuel Standards Program, concluding that to "simply weigh[] the monetizable costs against the monetizable benefits" would "yield a misleading result." 101 F.4th 871, 889 (D.C. Cir. 2024). Recognizing Circular A-4's best analytical practice, *see infra* Section II.A.2, the Court concluded that EPA acted reasonably in considering "valuable" but unquantified benefits when weighing the new standard. *Sinclair*, 101 F.4th at 889–90.

Other decisions from this Court have similarly affirmed the appropriateness of considering reasonably foreseeable but difficult-to-quantify regulatory effects. *See, e.g.*, *Pub. Citizen v. Fed. Motor Carrier Safety Admin.*, 374 F.3d 1209, 1219 (D.C. Cir. 2004) ("The mere fact that

the magnitude of [an effect] is *uncertain* is no justification for *disregarding* the effect entirely."); *Am. Trucking Ass'ns v. EPA*, 175 F.3d 1027, 1052 (D.C. Cir. 1999) (rejecting the idea that EPA could ignore health effects that are "difficult, if not impossible, to quantify reliably"), *rev'd on other grounds sub nom. Whitman*, 531 U.S. at 457.

Agencies must weigh unquantified effects against monetized costs and benefits in accordance with their judgment and expertise. *See Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 235 (2009) (Breyer, J., concurring in part and dissenting in part) (writing approvingly of EPA's ability to "describe environmental benefits in non-monetized terms and to evaluate both costs and benefits in accordance with its expert judgment and scientific knowledge"). And an agency may rely on unquantified benefits to justify regulation. *See, e.g.*, *Nicopure Labs, LLC v. Food & Drug Admin.*, 266 F. Supp. 3d 360, 406–07 (D.D.C. 2017), *aff'd*, 944 F.3d 267 (D.C. Cir. 2019) (upholding a disclosure regulation after the agency quantified the regulation's costs, determined that the benefits were too "difficult to quantify," assessed unquantified benefits qualitatively, and made a reasoned determination that "the benefits of the final rule justify the costs") (quotation marks omitted).

2. Executive guidance confirms the appropriateness.

For decades, Executive Orders governing RIAs have recognized the significance of unquantified effects and explicitly instructed agencies to consider them. *See* Exec. Order No. 12,866 § 1(a), 58 Fed. Reg. at 51,735; Exec. Order No. 13,563 § 1, 76 Fed. Reg. 3821, 3821 (Jan. 21, 2011). Specifically, they direct that "[c]osts and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider." Exec. Order No. 12,866 § 1(a), 58 Fed. Reg. at 51,735.

Similarly, Circular A-4 explicitly cautions agencies against ignoring the potential magnitude of unquantified benefits, because "the policy that most enhances social welfare will not necessarily be the one with the largest quantified and monetized net-benefit estimate." Circular A-4 at 44. The Circular cautions that "[w]hen important benefits and costs cannot be expressed in monetary units," assessing net monetized benefits alone can be "misleading," because it "does not provide a full evaluation of all relevant benefits and costs." *Id.* at 5.

EPA's own cost-benefit guidelines, adopted after peer review, likewise instruct the agency to assess "any . . . benefit categories that are thought to be important but that cannot be monetized, or possibly even quantified," noting it is "better to acknowledge gaps in information by discussing them qualitatively . . . than to employ conceptually flawed methods of monetization." EPA, Guidelines for Preparing Economic Analyses, ch.7 at 7-19 to -20 (2010), https://perma.cc/S3YK-78JC. Thus, EPA's consideration of unquantified benefits in the RIA is consistent with executive guidance on regulatory review.

3. EPA's practice confirms the appropriateness.

For more than three decades and across administration of both parties, EPA has recognized the importance of considering unquantified and non-monetized benefits. Below are a few illustrative examples of this routine practice:

- Under President George H.W. Bush, EPA "reject[ed] the position that only quantified information can be considered in the decisions" when establishing benzene standards under Section 112. 55 Fed. Reg. 8292, 8302 (Mar. 7, 1990).

- Under President Clinton, EPA considered the "real, but unquantifiable benefits" of emissions standards for hazardous waste combustors. 64 Fed. Reg. 52,828, 53,023 (Sept. 30, 1999).
- Under President George W. Bush, EPA evaluated a rule restricting emissions from non-road diesel engines based on "consideration of all benefits and costs expected to result from the new standards, not just those benefits and costs which could be expressed here in dollar terms." 69 Fed. Reg. 38,958, 39,138 (June 29, 2004).
- Under President Obama, EPA revised emissions standards for primary aluminum reduction plants and noted that while it had not quantified the benefits of reducing air toxics emissions under the rule, "this does not imply that there are no benefits associated with these emissions reductions." 80 Fed. Reg. 62,390, 62,412 (Oct. 15, 2015). Instead, EPA provided a qualitative description of these benefits, which it recognized as "essential to consider" under Executive Order 12,866. *Id.*

- And under President Trump, EPA discussed the unquantified benefits of higher-quality emissions data when considering updates to lime manufacturing emissions standards. 85 Fed. Reg. 44,960, 44,974 (July 24, 2020).

Thus, EPA's decision to consider unquantified and non-monetized benefits in its cost-benefit analysis is consistent with the law and established best practice.

B. EPA appropriately included benefits of reducing pollution other than air toxics emissions.

Additional benefits can include any favorable consequences of a rule that tie less closely to the main purpose of the regulation. Circular A-4 at 39–40. The terms indirect, ancillary, and co-benefits are sometimes also used to refer to certain types of additional benefits.[6] *Id.* at 40. Petitioners suggest that EPA's consideration of other health and climate benefits of the rule is "improper." Pet'rs Br. 38. But assessing these additional benefits as part of EPA's RIA is consistent with case law, best analytical practice, agency guidance, and agency custom.

[6] Similarly, additional costs are sometimes called indirect or ancillary costs or countervailing risks. *See* Circular A-4 at 39–40.

1. Case law confirms the appropriateness.

Courts have repeatedly required agencies to consider regulatory consequences that occur because of a rule even when they are not the most direct effects. For example, this Court remanded a National Highway Traffic Safety Administration rule for failing to consider costs in the form of potential safety risks associated with the smaller size of more fuel-efficient cars. *See Competitive Enter. Inst. v. Nat'l Highway Traffic Safety Admin.*, 956 F.2d 321, 326–27 (D.C. Cir. 1992); *see also Bloomberg L.P. v. Sec. & Exch. Comm'n*, 45 F.4th 462, 477 (D.C. Cir. 2022) (remanding rule for failure to consider both direct and indirect costs); *U.S. Telecom Ass'n v. FCC*, 290 F.3d 415, 424–25, 429 (D.C. Cir. 2002) (same); *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1225 (5th Cir. 1991) (requiring EPA to consider whether its asbestos ban, which required using new materials in vehicle brakes, could lead to increased traffic fatalities).

Although these precedents focus on the consideration of costs rather than benefits, there is no logical reason for agencies to treat additional benefits and additional costs differently. The terms "benefit" and "cost" are merely convenient labels for positive effects versus negative effects

and do not reflect any distinction warranting different analytical treatment. *See* Samuel J. Rascoff & Richard L. Revesz, *The Biases of Risk Tradeoff Analysis: Towards Parity in Environmental and Health-and-Safety Regulation*, 69 U. Chi. L. Rev. 1763, 1793 (2002) (explaining that indirect benefits "are simply mirror images" of indirect costs).

2. Executive guidance confirms the appropriateness.

The Executive Orders governing regulatory review also call for agencies to accurately measure the "actual results of regulatory requirements," thereby implicitly requiring analysis of both direct and additional costs and benefits. *See* Exec. Order No. 13,563 § 1(a), 76 Fed. Reg. at 3821. Building on this foundation, Circular A-4 explicitly counsels agencies to consider additional benefits. *See* Circular A-4 at 39–40. In particular, the Circular instructs agencies to look beyond the "obvious benefits and costs of . . . regulation" to consider "any important additional benefits or costs." *Id.* at 39. Circular A-4 stresses that "[t]he same standards of information and analysis quality that apply to any obvious benefits and costs should be applied to additional benefits and costs." *Id.* at 40.

EPA's cost-benefit guidelines likewise instruct the agency to assess "all identifiable costs and benefits," including direct effects "as well as ancillary . . . benefits and costs." EPA, Guidelines for Preparing Economic Analyses, ch.11 at 11-2 (2010), https://perma.cc/RQT4-SVCJ. An agency's assessment of both direct and indirect effects is needed "to inform decision making" and allow meaningful comparisons between policy alternatives. *Id.* at 7-1.

3. EPA's practice confirms the appropriateness.

EPA—under presidents of both parties and across more than three decades—has repeatedly taken additional benefits into account when evaluating Clean Air Act regulations. For example:

- Under President Reagan, EPA discussed the indirect benefits of reducing certain criteria pollutants when considering regulating air toxics emissions from municipal waste combustors. *See* 52 Fed. Reg. 25,399, 25,405–06 (July 7, 1987).
- Under President Clinton, EPA set limits on air toxics emissions and analyzed additional benefits from reductions in other pollutants like volatile organic compounds, particulate

matter, and carbon monoxide. *See* 63 Fed. Reg. 18,504, 18,585–86 (Apr. 15, 1998).

- Under President George W. Bush, EPA regulated mobile source air toxics and acknowledged that "[a]lthough ozone and [fine particulate matter] are considered criteria pollutants rather than 'air toxics,' reductions in ozone and [fine particulate matter] are nevertheless important co-benefits of this proposal." 72 Fed. Reg. 8428, 8430 (Feb. 26, 2007).
- Under President Obama, EPA considered the co-benefits from reducing particulate matter when strengthening lead and other air toxics emission standards for secondary lead smelters. *See* 77 Fed. Reg. 556, 577 (Jan. 5, 2012).
- Under President Trump, EPA analyzed the additional benefits of reducing fine particulate matter and sulfur dioxide in its proposed rule addressing air toxics emissions from industrial, commercial, and institutional boilers. 85 Fed. Reg. 52,198, 52,200–01 (proposed Aug. 24, 2020).

4. EPA appropriately included climate benefits.

Petitioners take particular issue with EPA's consideration of the benefits of reduced greenhouse gas emissions resulting from the Rule. Petitioners suggest that EPA's monetization of the climate benefits of the Rule "reinforce[s] the conclusion that EPA did not promulgate th[e] Rule to protect public health from any adverse effects of the regulated [air toxics] emissions." Pet'rs Br. 103. But consideration of climate benefits is routine and established practice for rules that reduce greenhouse gas emissions—and a practice that courts have recognized as appropriate for over a decade. *See, e.g.*, *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1198–1203 (9th Cir. 2008) (finding a rule to be arbitrary and capricious because the agency's cost-benefit analysis failed to value climate impacts); *Sinclair*, 101 F.4th at 889–90 (recognizing the reasonableness of EPA accounting for climate benefits when setting renewable fuel standards).

It is now common for agencies to more fully estimate the effects of regulation by including climate benefits (from regulatory actions that reduce greenhouse gas emissions) and climate costs (from regulatory actions that increase greenhouse gas emissions). *See, e.g.*, 89 Fed. Reg.

27,842, 27,859 (Apr. 18, 2024) (estimating climate benefits of lowering emission standards for light- and medium-duty vehicles). And agencies regularly consider climate effects even in regulations whose primary purpose is not the reduction of greenhouse gas emissions. *See, e.g.*, 88 Fed. Reg. 87,502, 87,504–06 (Dec. 18, 2023) (estimating climate benefits of regulation improving efficiency of consumer furnaces). Agencies have considered ancillary climate effects under administrations of both parties, including the first Trump administration. *See, e.g.*, 85 Fed. Reg. 68,964, 68,970 (proposed Oct. 30, 2020) (estimating indirect climate benefits from interstate pollution transport rule); 85 Fed. Reg. at 52,218 (estimating indirect climate costs from weakened boiler emissions standards).

Further, EPA's estimated climate benefits are not based on "unreliable projections," Pet'rs Br. 55 n.10, but on many years of peer-reviewed scientific assessments. Consistent with routine practice, EPA estimated the Rule's climate benefits using the social cost of carbon. RIA at 4-45. The social cost of carbon reflects the estimated "monetary value of the net harm to society associated with a marginal increase in . . . emissions" by one metric ton of carbon dioxide gas, "or the net benefit of

avoiding that increase." *Id.*

EPA and other agencies have used social cost of carbon estimates in regulatory analysis for more than a decade. Interagency Working Grp. on Soc. Cost of Greenhouse Gases, *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide* 2 (2021), https://perma.cc/CE2R-7JW5. In the Rule, EPA applied a social cost of carbon that had been updated in December 2023 to reflect analytical developments and address recommendations for improvement in the methodology. RIA at 4-45. This update underwent public comment and expert peer review before finalization. EPA, *Final Comments Summary Report, External Letter Peer Review of Technical Support Document: Social Cost of Greenhouse Gases* 3–4 (2023), https://perma.cc/MEN9-GRAB. EPA's projected climate benefits are likely conservative, lower-bound estimates. *See* EPA, *EPA Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances* 81–86 (2023), https://perma.cc/2AAY-6YXX (cataloguing important damage categories that cannot yet be monetized).

* * *

In sum, EPA's consideration of unquantified and additional benefits

is consistent with case law, longstanding executive guidance on regulatory analysis, and more than three decades of agency practice.

III. EPA Found The Rule Worthwhile Upon Recognition Of The Meaningful Benefits Included In The RIA.

While EPA did not rely on its RIA in selecting the stringency of the Rule under Section 112, 89 Fed. Reg. at 38,553, EPA explained that, after considering *all* the costs and benefits of the rule, including those substantial benefits that could not be monetized, "th[e] final rule is a worthwhile exercise of the EPA's . . . authority." *Id.* EPA took into account "the numerous [air toxics]-related benefits of the final rule," including "reduced exposure to [mercury] and non-[mercury] [air toxics] metals," as well as "important" benefits from increased emissions monitoring. *Id.*

This section reviews the scope and importance of the Rule's qualitative benefits. The role of these unquantified benefits and the fact that the benefits are underestimated support the reasonability of EPA's finding that the Rule is worthwhile after considering all of its effects. The RIA's disclosure of additional benefits from reducing other types of pollution only further supports EPA's finding.

A. EPA's RIA documents the Rule's many public health benefits from reducing air toxics emissions.

First, EPA did not, as Petitioners suggest, identify "no meaningful benefits," of the Rule. Pet'rs Br. 57. EPA's RIA projected that the Rule would result in reductions of approximately 9,500 pounds of mercury and 49 tons of non-mercury metals. 89 Fed. Reg. at 38,511 tbl.1. EPA explained the many unquantified health, environmental, and economic benefits from the reduction of these air toxics. RIA at 4-3. For example, EPA discussed the many severe health consequences associated with mercury and non-mercury air toxics, *id.*, including:

- Adverse neurodevelopmental impacts, including IQ loss, fine motor-function impairment, and reduced language ability associated with exposure to methylmercury, *id.* at 4-4;
- Fatal and non-fatal coronary heart disease, associated with methylmercury exposure in both the developing and adult cardiovascular system, *id.*;
- A variety of adverse chronic health disorders, including decreased pulmonary function, pneumonia, and lung damage; kidney damage; and irritation of the lung, skin, and mucus

membranes associated with exposure to non-mercury metals, *id.* at 4-6; and

- Cancer, as three of the air toxics metals or their compounds (arsenic, hexavalent chromium, and nickel) are classified as carcinogenic, and cadmium and selenium sulfide are classified as probable human carcinogens, *id.* at 4-6 to -7.

See also id. at 4-7 to -11 (discussing the adverse health effects associated with the primary non-mercury toxic metals of concern); 76 Fed. Reg. at 25,003–05 (same). EPA noted that certain subpopulations may be particularly vulnerable to air toxics emissions, and highlighted the importance of reducing air toxics emissions for communities who rely on subsistence fishing. RIA at 6-5 to -6.

EPA also explained that the reduction in air toxics emissions would have the further benefit of "help[ing] EPA maintain an ample margin of safety by reducing exposure to [methylmercury] and carcinogenic . . . metals." *Id.* at 4-1. While EPA has determined that air toxics exposures are below the agency's current cancer risk and noncancer health-based thresholds, *id.* at 4-5, there is no threshold below which carcinogens pose no risk, and the same is true for many other types of noncarcinogenic

pollutants, *see* Nat'l Rsch. Council, Science and Decisions: Advancing Risk Assessment 8, 118–19 (2009), https://perma.cc/R5XW-7MER.

This is the very approach that EPA has taken for many years, under administrations of both parties, in estimating benefits from reducing criteria pollutants below the thresholds established by the NAAQS.[7] EPA recognizes these benefits even though the NAAQS are set at a level to protect public health with an adequate margin of safety. *See, e.g.*, 89 Fed. Reg. 16,202, 16,273 (Mar. 6, 2024) (explaining that the "requirement to provide an adequate margin of safety was intended to address uncertainties" in the science and to "provide a reasonable degree of protection," but was not to be set at a "zero-risk level"); *see also* 42 U.S.C. § 7409(b)(1) (directing the Administrator to set NAAQS standards that ensure "an adequate margin of safety").

Similarly, in the Rule itself, EPA identified substantial benefits from the reduction of fine particulate matter emissions, RIA at 4-32 & tbl.4-3, distinct from those benefits from emission reductions under the

[7] For discussion of these benefits and EPA's past practice regarding these benefits, see Kimberly M. Castle & Richard L. Revesz, *Environmental Standards, Thresholds, and the Next Battleground of Climate Change Regulations*, 103 Minn. L. Rev. 1349, 1409–13 (2019).

NAAQS, *id.* at 4-13. Just as the Rule has real benefits from reducing particulate matter even though the NAAQS has already set an "adequate" margin of safety, so too the Rule provides real benefits from air toxics emission reductions even if EPA found the preexisting standards secure an "ample" margin of safety. *See* 42 U.S.C. § 7412(f)(2)(A).

In addition to the public health benefits, EPA identified environmental and economic benefits of the Rule from reduced air toxics emissions, including potentially "substantial" benefits to the commercial and recreational fishing economy due to reduced air toxics exposure to fish, birds, and mammals; "important" benefits to tribal food stock, fishing rights, and cultural identity; and increased ecosystem services (defined as "the economic benefits that individuals obtain from ecosystems"). *See* RIA at 4-12.

B. These unquantified benefits are not "miniscule" merely because they are unquantified.

As EPA acknowledged, that the benefits of air toxics emission reductions are unquantified "does not mean that these benefits are small, insignificant, or nonexistent." *Id.* at 4-12. Rather, these are "important categories of benefits," *id.* at 7-9, that EPA must consider, *see supra*

Section II.A. EPA explained why data and methodological limitations prevented full quantification and monetization of the Rule's public health benefits and provided a qualitative assessment as part of its regulatory analysis. 89 Fed. Reg. at 38,511.

The Court should not give any weight to Petitioners' attempt to portray the Rule's benefits as "miniscule" based on their mischaracterization of the regulatory analysis for the 2012 MATS Rule. *See* Pet'rs Br. 56. For the 2012 MATS Rule, EPA monetized only a small portion of the rule's benefits—specifically from one type of effect (reductions in IQ loss) from one pollutant (methylmercury) for a small subset of the affected population (recreational angler households). 77 Fed. Reg. 9304, 9427–28 (Feb. 16, 2012). EPA acknowledged at the time that the four to six million dollars in monetized mercury benefits, *id.* at 9428, "are a small subset of the benefits of reducing [mercury] emissions," and that the monetized benefits did not include substantial benefits from reducing the adverse neurologic, cardiovascular, genotoxic, and immunotoxic effects of mercury exposure, *id.* at 9426–27, or the benefits from the reduction of other air toxics under the rule, *id.* at 9418.

Studies from Harvard University researchers later confirmed that EPA vastly underestimated this narrow subset of monetized benefits. These studies find that the subset of benefits from reduced IQ loss for angler communities are between $25 and $55 million—roughly 4 to 14 times larger than EPA's initial estimate. Elise Sunderland et al., MATS Template Analysis at 3 (submitted with Comments from the Emmett Env't Law & Policy Clinic (April 11, 2022)), https://perma.cc/NYH7-QKFN.

The same study also confirmed that the 2012 MATS Rule generated between $1.2 and $1.5 billion in benefits associated with reduced premature cardiovascular mortalities between 2010 and 2020. *Id.* Thus, to the extent that EPA was able to monetize benefits in the 2012 MATS Rule, its approach was both limited in scope and a severe underestimation of the benefits of the rule.

Additionally, as EPA acknowledged, its analysis is likely an underestimate of air toxics emission reductions and so the Rule would likely achieve correspondingly greater health benefits. For example, throughout the RIA, EPA identified areas where its analysis is likely to underestimate benefits because control processes may cause greater

reductions in non-mercury metals than they do in particulate matter (which is used to estimate air toxic emissions reductions). *See, e.g.*, RIA at 3-10 n.46; 4-3. As another example, EPA was unable to quantify or monetize the potential benefits of adopting continuous emissions monitoring systems, but explained it was likely to provide "greater certainty, accuracy, transparency, and granularity in . . . emissions information than exists today." *Id.* at 4-40. EPA noted these emission reductions could be "sizeable." *Id.* at 3-10.

C. EPA properly considered all important monetized and non-monetized effects together.

EPA also estimated benefits of $300 to $420 million due to reductions in criteria pollutants and greenhouse gas emissions. RIA at 4-64. In addition to these monetized benefits, EPA identified numerous unquantified benefits from the Rule's reduction of other pollution, including health benefits from reduced exposure to fine particulate matter and ozone, *id.* at 4-16 to -17, and improved visibility from changes in air quality, *id.* at 4-44; *see also id.* at 4-40 tbl. 4-8 (listing additional unquantified benefits).

EPA weighed the non-monetized benefits of reducing air toxics emissions together with the monetized and non-monetized benefits from

reducing other types of pollution. *See supra* 15 (reviewing case law affirming this approach). This full consideration is important because unquantified benefits can be the most important benefits in some regulatory actions, and their magnitude should not be assumed to be equal or lesser than the monetized benefits. *See, e.g.*, *Ctr. for Biological Diversity*, 538 F.3d at 1199–1202 (implying the as-yet non-monetized climate effects exceeded the magnitude of monetized benefits like criteria pollutant reductions and energy security benefits).

* * *

As this brief explains, the monetized benefits tell only one part of the story. Considering the myriad unquantified benefits, additional benefits, and likely underestimation of the Rule's value, EPA reasonably concluded that the Rule was a "worthwhile" exercise of its Section 112 authority. 89 Fed. Reg. at 38,553.

CONCLUSION

Though EPA made its decision to strengthen regulations based on the requisite statutory factors, EPA has separately fulfilled the obligations of Executive Order 12,866 and related orders, to consider all the costs and benefits of the Rule. As explained above, EPA's inclusion of

unquantified and additional benefits in the RIA shows compliance with best analytical practice, executive guidance, and case law.

Petitioners' falsely assert that EPA promulgated a Rule with "no meaningful benefit," and that EPA did not consider both the relevant costs and benefits. *See, e.g.*, Pet'rs Br. 57. Any arguments resting on these false assertions must fail. For the foregoing reasons, this Court should deny the petitions.

November 19, 2024

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

This *amicus curiae* brief complies with the type-volume limitations of Fed. R. App. P. 29(a)(5) because this brief contains 6472 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f), as counted by counsel's word processing system.

This *amicus curiae* brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because this brief has been prepared in a proportionally spaced typeface using Microsoft Word in Century Schoolbook 14-point font.

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CERTIFICATE OF SERVICE

I hereby certify that on this 19th day of November 2024, a true and correct copy of the foregoing Final Brief of the Institute for Policy Integrity at New York University School of Law as Amicus Curiae in Support of Respondents was filed with the Clerk of the United States Court of Appeals for the District of Columbia Circuit via the Court's CM/ECF system. Counsel for all parties are registered CM/ECF users and will be served by the appellate CM/ECF system.

DATED: November 19, 2024

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