



April 17, 2019

VIA ELECTRONIC SUBMISSION

Environmental Protection Agency

Attn: Mary Johnson, Sector Policies and Programs Division (D243-01), Office of Air Quality Planning and Standards

Re: National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units—Reconsideration of Supplemental Finding and Residual Risk and Technology Review, 84 Fed. Reg. 2670 (proposed Feb. 7, 2019)

Docket ID: EPA-HQ-OAR-2018-0794

The Institute for Policy Integrity (“Policy Integrity”) at New York University School of Law¹ respectfully submits the following comments to the Environmental Protection Agency (“EPA”) regarding a proposal to (1) withdraw EPA’s earlier finding that it was appropriate and necessary to regulate the emissions of hazardous air pollutants (“HAPs”) from coal- and oil-fired electric utility steam generating units (“EGUs”); (2) keep EGUs as listed source categories under section 112(c) of the Clean Air Act;² (3) keep in place EGU emission standards under section 112(d);³ and (4) find, as part of a residual risk and technology review, that no revision to the EGU emission standards is required (collectively, the “Proposal”).⁴ Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

Our comments focus on EPA’s failure to provide reasoned explanations for withdrawing its prior appropriate-and-necessary finding and for concluding that EGU emission standards do not need to be strengthened. Specifically, we note that:

- neither section 112 nor the Supreme Court’s decision in *Michigan v. EPA* requires EPA to ignore co-benefits when determining whether regulating EGUs under section 112 is appropriate and necessary;⁵

¹ This document does not purport to present New York University School of Law’s views, if any.

² 42 U.S.C. § 7412(c).

³ *Id.* § 7412(d).

⁴ Reconsideration of Supplemental Finding and Residual Risk and Technology Review, 84 Fed. Reg. 2670, 2670 (Feb. 7, 2019).

⁵ 135 S. Ct. 2699 (2016).

- EPA cannot reasonably make a *discretionary* decision to ignore co-benefits, because doing so is inconsistent with relevant case law, executive guidance, administrative practice, and sound economic principles;
- EPA’s technology review lacks sufficient detail to support the agency’s finding that there have been no control-technology developments; and
- EPA’s residual risk review, which relies on the conclusions of the technology review and fails to assess whether more stringent HAP standards are economically justified, is also arbitrary and capricious.

I. Background

A. “Appropriate and Necessary” Finding

Section 112(c) of the Clean Air Act requires the Administrator to publish “a list of all categories and subcategories of major sources and area sources . . . of the air pollutants listed” in section 112(b) of the act—also known as hazardous air pollutants, or HAPs.⁶ Major sources are those that emit or have the potential to emit at least 10 tons per year of any HAP or at least 25 tons per year of any combination of HAPs.⁷ Area sources are all other stationary sources of HAPs.⁸ Once a source category is listed, the Administrator must set HAP emission standards for the category pursuant to section 112(d).⁹

EGUs, however, are subject to a special listing threshold. Section 112(n) instructs the EPA Administrator to study “the hazards to public health reasonably anticipated to occur as a result of” HAP emissions from EGUs.¹⁰ EPA must proceed to set emission standards for EGUs under section 112(d) only if the Administrator finds that “such regulation is appropriate and necessary after considering the results of the study.”¹¹

In 2012, EPA finalized a finding that it was appropriate and necessary to regulate HAP emissions from EGUs and, at the same time, issued emission standards pursuant to section 112(d) (the Mercury and Air Toxics Standards, or “MATS”).¹² The Supreme Court subsequently remanded the appropriate-and-necessary finding on the grounds that EPA

⁶ 42 U.S.C. § 7412(c)(1).

⁷ *Id.* § 7412(a)(1).

⁸ *Id.* § 7412(a)(2).

⁹ *Id.* § 7412(d)(1).

¹⁰ *Id.* § 7412(n)(1)(A).

¹¹ *Id.*

¹² National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9303 (Feb. 16, 2012).

failed to consider costs before making it.¹³ (EPA had, in fact, conducted a formal cost-benefit analysis for MATS, but the agency had not relied on that analysis as a basis for the threshold appropriate-and-necessary finding.¹⁴) The Court left it “up to the Agency to decide [on remand] (as always, within the limits of *reasonable* interpretation) how to account for cost.”¹⁵

In 2016, EPA reaffirmed its 2012 appropriate-and-necessary finding after taking costs into account in two different ways (“2016 Finding”).¹⁶ In its “preferred approach,” EPA analyzed the cost reasonableness of MATS by (1) evaluating “the cost of MATS compliance in comparison to the power sector’s revenues from retail sales of electricity”; (2) comparing “annual capital expenditures due to MATS compliance to the power sector’s annual capital expenditures between 2000 and 2011”; and (3) comparing “the impact of MATS on the retail price of electricity to historical fluctuations of the average retail price of electricity.”¹⁷ EPA determined that each of these metrics “support[ed] a conclusion that the cost of MATS is reasonable.”¹⁸

As an alternative basis for the 2016 Finding, EPA relied on the conclusions of the formal cost-benefit analysis contained in the Regulatory Impact Analysis for MATS.¹⁹ That analysis projected that MATS would impose \$9.6 billion per year in compliance costs but yield between \$37 and \$90 billion per year in quantifiable benefits, in addition to many other positive health and environmental effects that could not be quantified.²⁰ The “great majority” of these quantified benefits were “attributable to co-benefits from reductions in [particulate matter]-related mortality.”²¹ These particulate matter reductions would occur as a direct consequence of the steps that EPA assumed EGUs would take to reduce HAP emissions. In other words, the very controls that EPA assumed EGUs would install to reduce HAP emissions would also reduce emissions of particulate matter and particulate

¹³ *Michigan*, 135 S. Ct. at 2712.

¹⁴ *Id.* at 2711.

¹⁵ *Id.* (emphasis added).

¹⁶ Supplemental Finding That It Is Appropriate and Necessary to Regulate Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units, 81 Fed. Reg. 24,420, 24,420 (Apr. 25, 2016).

¹⁷ *Id.* at 24,425.

¹⁸ *Id.* at 24,427

¹⁹ *Id.*

²⁰ *Id.* at 24,425.

²¹ 77 Fed. Reg. at 9305.

matter precursors like sulfur dioxide.²² EPA nevertheless referred to particulate matter reductions as “co-benefits” because they were “not the primary objective” of MATS.²³

Because EPA’s formal cost-benefit analysis showed that MATS’s benefits would “exceed the costs by 3 to 9 times,” the agency found that it “provide[d] an independent basis to support the finding that a consideration of cost does not cause the agency to alter its [2012 appropriate-and-necessary] determination.”²⁴

Now, in the Proposal, EPA proposes to reverse the 2016 Finding.²⁵ EPA justifies this course of action by rejecting both its prior cost-reasonableness analysis and its formal cost-benefit analysis as inconsistent with the requirements of section 112(n), as interpreted by *Michigan v. EPA*.²⁶ With respect to the formal cost-benefit analysis, EPA suggests that focusing “primarily” on HAP benefits—as opposed to particulate matter co-benefits—may be the “only permissible approach” under section 112(n).²⁷ Alternatively, EPA argues that its refusal to consider co-benefits is a “reasonable approach . . . to considering costs in response to *Michigan*.”²⁸ In other words, according to EPA, even if section 112(n) does not unambiguously preclude the full consideration of co-benefits, the agency has discretion to fully or partially disregard such benefits. In alleged accordance with this new interpretation of section 112(n), EPA then “proposes to conclude that it is not appropriate and necessary to regulate HAP from EGUs . . . because the costs of such regulation grossly outweigh the [direct] HAP benefits.”²⁹

B. Residual Risk and Technology Review

The HAP emission standards in MATS were issued pursuant to section 112(d), which instructs EPA to set emission standards for major sources that “require the maximum degree of reduction in [HAP] emissions’ . . . that the EPA determines are achievable, taking

²² 81 Fed. Reg. at 24,438 (“[I]n installing control technologies and implementing the compliance strategies necessary to reduce the HAP emissions directly regulated by the MATS rule also results in concomitant (co-benefit) reductions in the emissions of other pollutants such as directly emitted PM_{2.5} and SO₂. While reductions of PM_{2.5} and SO₂ are not the objective of the MATS rule, these emission reductions are a direct consequence of regulating the HAP emissions from EGUs.”).

²³ 77 Fed. Reg. at 9305.

²⁴ 81 Fed. Reg. at 24,428.

²⁵ 84 Fed. Reg. at 2674.

²⁶ *Id.* at 2674–76.

²⁷ *Id.* at 2676.

²⁸ *Id.*

²⁹ *Id.*

into account certain statutory factors.”³⁰ These are commonly known as “maximum achievable control technology” or “MACT” standards.³¹

No more than 8 years after a section 112(d) standard is promulgated, subsection (d)(6) mandates that EPA conduct a review to determine whether the standard should be updated in light of “developments in practices, processes, and control technologies” (the “technology review”).³² Separately, section 112(f)(2) requires EPA to conduct a review to determine if additional standards are needed to address any remaining risk associated with HAP emissions from the relevant source category (the “residual risk review”).³³ Typically, these reviews are combined into a single proceeding and referred to as a “risk and technology review” (“RTR”).³⁴

In conducting section 112(f) residual risk reviews, EPA follows the approach it first laid out in its 1989 National Emission Standards for Hazardous Air Pollutants: Benzene Emissions from Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, and Coke By-Product Recovery Plants (“Benzene NESHAP”).³⁵ The U.S. Court of Appeals for the D.C. Circuit affirmed the reasonableness of the Benzene NESHAP in 2008.³⁶

Under the Benzene NESHAP approach, EPA uses a two-stage process to evaluate residual risk. First, EPA determines whether, under the MACT standard already in place, current risk levels are “acceptable,” a judgment for which there is no bright-line rule. Instead, EPA operates from the *presumption* that a maximum individual lifetime cancer risk (“MIR”) of 100 in 1 million is acceptable, where MIR is “the estimated risk that a person living near a plant would have if . . . exposed to the maximum pollutant concentrations for 70 years.”³⁷ In addition to MIR, EPA looks at various other health measures, including non-cancer risk metrics.³⁸ If EPA finds that the residual risks are unacceptable, then the agency cannot

³⁰ 77 Fed. Reg. at 9307 (quoting 42 U.S.C. § 7412(d)(2)).

³¹ *Id.*

³² 42 U.S.C. § 7412(d)(6); *see also* 84 Fed. Reg. at 2680.

³³ 42 U.S.C. § 7412(f)(2) *see also* 84 Fed. Reg. at 2680.

³⁴ 84 Fed. Reg. at 2680.

³⁵ 54 Fed. Reg. 38,044 (Sept. 14, 1989).

³⁶ *See NRDC v. EPA*, 529 F.3d 1077, 1080 (2008) (finding that EPA could interpret subsection 112(f)(2)(B) as incorporating by reference the Benzene NESHAP approach). EPA reaffirmed its commitment to the Benzene NESHAP approach in December 2017. U.S. EPA, CAA Section 112 Risk and Technology Reviews: Statutory Authority and Methodology (Dec. 14, 2017) (in docket at EPA-HQ-OAR-2018-0794-0013 (Feb. 7, 2019)) [hereinafter CAA Section 112 RTR Methodology].

³⁷ 54 Fed. Reg. at 38,045.

³⁸ *Id.* Other measures include “the overall incidence of cancer or other serious health effects within the exposed population, the numbers of persons exposed within each individual lifetime risk range and associated incidence within, typically, a 50 km exposure radius around facilities, the science policy assumptions and estimation uncertainties associated with the risk measures, weight of the scientific evidence

consider costs in determining the emission standards necessary to reduce risk to an acceptable level.³⁹

Second, EPA determines whether the MACT standard provides an “ample margin of safety to protect public health.”⁴⁰ As part of this analysis, EPA considers “the incremental risk reduction associated with standards more stringent than the MACT standard or a more stringent standard that the EPA has determined is necessary to ensure risk is acceptable,” as well as “costs and economic impacts of controls, technological feasibility, uncertainties, and any other relevant factors.”⁴¹ In other words, EPA considers the benefits and costs of reducing risk beyond the maximally acceptable level.

In the Proposal, EPA purports to conduct an RTR using the Benzene NESHAP approach and proposes to make the following findings:

- There have been “no developments in practices, processes, or control technologies” for HAP emissions from EGUs.⁴²
- Current health risks from EGU HAP emissions are acceptable.⁴³
- Current emission standards provide an ample margin of safety for public health.⁴⁴

Based on these findings, EPA proposes to determine that more stringent emission standards are unnecessary.⁴⁵

II. Comments on Proposed Withdrawal of Appropriate-and-Necessary Finding

A. Neither Section 112(n) nor Michigan v. EPA Requires EPA to Ignore Co-Benefits in Making an Appropriate-and-Necessary Finding

Section 112(n)(1)(A), by its terms, does not address how EPA should take costs or benefits into account in making the appropriate-and-necessary finding. Instead, it merely directs the Administrator to “regulate electric utility steam generating units under [section 112], if the Administrator finds such regulation is appropriate and necessary after considering the results of the study required by this subparagraph.”⁴⁶ In *Michigan v. EPA*, the Supreme

for human health effects, other quantified or unquantified health effects, effects due to co-location of facilities, and co-emission of pollutants.” *Id.*

³⁹ 84 Fed. Reg. at 2681.

⁴⁰ *Id.*

⁴¹ CCA Section 112 RTR, *supra* note 36, at 6-7.

⁴² 84 Fed. Reg. at 2700.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.* at 2670, 2699-2700.

⁴⁶ 42 U.S.C. § 7412(n)(1)(A).

Court held the EPA must consider costs in making the appropriate-and-necessary finding but acknowledged that “‘appropriate’ is ‘the classic broad and all-encompassing term that naturally and traditionally includes consideration of *all the relevant factors*.’”⁴⁷

EPA argues that the text of section 112(n) supports “focusing the ‘appropriate and necessary’ determination on HAP-specific benefits and costs” because the section specifically directs EPA to conduct a study on “the hazards to public health that will reasonably occur as a result of HAP emissions, not harmful emissions in general.”⁴⁸ Because the study encompasses only HAP emissions, the argument goes, the benefits of reducing other emissions cannot be considered as part of the appropriate-and-necessary finding. The Supreme Court, however, already rejected a similar reading of section 112(n) in *Michigan*.

In *Michigan*, EPA argued that it did not need to consider costs in making the appropriate-and-necessary finding because the study mandated by section 112(n)(1)(A) focuses exclusively on public health and does not mention costs.⁴⁹ The Court disagreed, pointing out that if the scope of the study prevented EPA from considering costs, then it would also prevent EPA from considering nonhealth benefits such as environmental effects.⁵⁰ The Court accused EPA of “keep[ing] parts of statutory context it like[d] while throwing away parts it [did] not.”⁵¹

The Proposal performs the same “interpretive gerrymander[]” the Court criticized in *Michigan*.⁵² *Michigan* made clear that section 112(n)(1)(A)’s “broad reference to appropriateness encompasses *multiple* relevant factors,” which “include but are not limited to cost.”⁵³ That Congress explicitly required EPA to consider the health risks of HAP emissions does not mean that EPA must consider *only* these health effects. Instead, EPA must consider the health risks of HAP emissions in light of Congress’s overarching “comprehensive criterion”—that is, whether regulating would be “appropriate and necessary.”⁵⁴ This “expansive standard” allows EPA to consider the effects of its regulation beyond HAP emission reductions.⁵⁵

⁴⁷ 135 S. Ct. at 2707 (emphasis added) (quoting *White Stallion Energy Ctr., LLC*, 748 F.3d at 1266 (Kavanaugh, J., dissenting)).

⁴⁸ 84 Fed. Reg. at 2677.

⁴⁹ 135 S. Ct. at 2708.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.* at 2709 (emphasis in original).

⁵⁴ *Id.*

⁵⁵ *Id.*

Indeed, the *Michigan* Court made a point of emphasizing EPA’s discretion in the realm of economic analysis, noting that it would be “up to [EPA] to decide (as always, within the limits of reasonable interpretation) how to account for cost.”⁵⁶ In making that pronouncement, the Court expressly declined to address the issue of co-benefits and whether and how they should be weighed against costs.⁵⁷ The Court held *only* that it was unreasonable for EPA to have deemed costs entirely irrelevant to its appropriate-and-necessary finding.⁵⁸

Thus, neither section 112(n) itself nor the Supreme Court’s decision in *Michigan* contain any text that could fairly be read to preclude EPA from considering co-benefits as part of its appropriate-and-necessary finding. And in the absence of an express prohibition, case law suggests that EPA has discretion to take such benefits into account. In *U.S. Sugar Corp. v. EPA*, the D.C. Circuit held that EPA properly exercised discretion to consider potential non-HAP co-benefits when setting standards for hydrogen chloride emissions from boilers under section 112(d)(4).⁵⁹ The court noted that the “text [of section 112(d)(4)] does not foreclose the Agency from considering co-benefits” and that considering such benefits “is consistent with the [Clean Air Act]’s purpose—to reduce the health and environmental impacts of hazardous air pollutants.”⁶⁰

The same logic applies here. Nothing in the text of section 112(n) or in the Supreme Court’s opinion in *Michigan* expressly precludes EPA from considering co-benefits in making its appropriate-and-necessary finding, and considering such benefits is consistent with the Clean Air Act’s purpose. Accordingly, EPA properly exercised its discretion to consider co-benefits when making the 2016 Finding.

B. Interpreting Section 112(n) to Preclude Consideration of Co-Benefits Is an Unreasonable Exercise of EPA’s Discretion

Agency interpretations of ambiguous statutes are governed by the two-step framework set forth in *Chevron U.S.A., Inc. v. Natural Resources Defense Council*.⁶¹ If “Congress has directly spoken to the precise question at issue . . . that is the end of the matter.”⁶² If, instead, “the statute is silent or ambiguous with respect to the specific issue, the question . . . is whether the agency’s answer is based on a permissible construction of the statute.”⁶³ In order for an

⁵⁶ *Id.* at 2711.

⁵⁷ *Id.*

⁵⁸ *Id.* at 2712.

⁵⁹ 830 F.3d 579, 625–26 (D.C. Cir. 2016).

⁶⁰ *Id.*

⁶¹ 467 U.S. 837, 842–43 (1984); see *Michigan*, 135 S. Ct. at 2706–07.

⁶² *Chevron*, 467 U.S. at 842.

⁶³ *Id.* at 843.

agency's construction of a statute to be permissible, it "must operate 'within the bounds of reasonable interpretation.'"⁶⁴ The agency's reasonable statutory interpretation "must account for both 'the specific context in which . . . language is used' and 'the broader context of the statute as a whole.'"⁶⁵

As explained above, neither section 112 nor *Michigan* precisely answers *how* EPA must consider costs in making the appropriate-and-necessary finding. EPA, therefore, has discretion to make that determination, but its interpretive choice must be reasonable. In deciding whether it is appropriate and necessary to regulate EGUs' HAP emissions, EPA cannot reasonably ignore particulate matter co-benefits that are the unavoidable result of the HAP control strategies the agency assumes EGUs will adopt. Ignoring such co-benefits is inconsistent with relevant case law, longstanding executive guidance, decades of administrative practice, and basic principles of economics.

i. Case Law Requires Agencies to Consider the Indirect Consequences of Their Actions

In requiring EPA to consider costs when determining whether regulation is "appropriate and necessary" under section 112(n)(1)(A), the Supreme Court in *Michigan* was concerned not only with direct regulatory compliance costs but also with indirect costs that might result from regulation.⁶⁶ Responding to a hypothetical example at oral argument, EPA had conceded that, under a cost-blind interpretation, the agency would still deem regulation appropriate even if "the technologies needed to eliminate [HAP emissions would] do even more damage to human health" than the HAPs themselves.⁶⁷ According to the Court, such an interpretation must be wrong because "[n]o regulation is 'appropriate' if it does significantly more harm than good."⁶⁸ The *Michigan* Court, therefore, was concerned with the appropriateness of issuing a regulation without accounting for its indirect effects.

Michigan is hardly the first judicial opinion to suggest that indirect effects are essential to reasoned decisionmaking. Courts have repeatedly required agencies to take indirect costs into account when making regulatory decisions. For example, the D.C. Circuit required EPA to consider indirect costs when setting ambient standards for ozone under the Clean Air

⁶⁴ *Utility Air Regulatory Grp. v. EPA*, 573 U.S. 302, 321 (2014) (quoting *City of Arlington v. FCC*, 133 S. Ct. 1863, 1868 (2013)).

⁶⁵ *Id.* (quoting *Robinson v. Shell Oil Co.*, 519 U.S. 337, 341 (1997)).

⁶⁶ *Michigan*, 135 S. Ct. at 2707 (noting that a cost-blind approach to the "appropriate and necessary" determination would irrationally preclude consideration of indirect costs in the form of "harms that regulation might do to human health or the environment").

⁶⁷ *Id.*

⁶⁸ *Id.*

Act.⁶⁹ The D.C. Circuit also struck down a National Highway Traffic Safety Administration fuel-efficiency rule for failing to consider indirect costs in the form of vehicle safety risks.⁷⁰ Similarly, when EPA attempted to ban asbestos-containing brakes under the Toxic Substances Control Act, the U.S. Court of Appeals for the Fifth Circuit held that the agency had to consider the indirect safety harm that would accompany forcing cars to use substitute, non-asbestos brakes.⁷¹

While these precedents focus on the consideration of indirect costs, there is no logical reason for agencies to treat indirect benefits differently than indirect costs. Indirect benefits “are simply mirror images” of indirect costs.⁷² 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. For example, EPA’s analysis of its greenhouse gas standards for passenger cars counted consumers’ fuel savings “as negative costs (i.e., positive benefits).”⁷³ In other words, EPA itself has recognized, using the terms “negative costs” and “positive benefits,” that costs and benefits are fully interchangeable. The same quantity of fuel savings could appear in the “cost” column with a negative sign, or in the “benefit” column with a positive sign. The choice would have no effect on the estimated *net* impact of the regulation being analyzed.

Ultimately, there are “no legal, political, or intellectual . . . impediments to treating ancillary benefits and countervailing risks equally in cost-benefit analysis,” according to Judge Douglas Ginsburg of the D.C. Circuit and Christopher Demuth (former President of the American Enterprise Institute), both of whom are former Republican administrators of the Office of Information and Regulatory Affairs.⁷⁴ Indeed, as discussed below, relevant case law *requires* agencies to give equal consideration to regulatory effects on both sides of the ledger.

⁶⁹ *Am. Trucking Ass’ns v. EPA*, 175 F.3d 1027, 1051–52 (D.C. Cir. 1999), *rev’d on other grounds sub nom. Whitman v. Am. Trucking Ass’ns*, 531 U.S. 457 (2001).

⁷⁰ *Competitive Enter. Inst. v. Nat’l Highway Traffic Safety Admin.*, 856 F.2d 321, 326–27 (D.C. Cir. 1992); *see also U.S. Telecom Ass’n v. FCC*, 290 F.3d 415, 424–25 (D.C. Cir. 2002) (remanding a rule for failure to consider indirect costs).

⁷¹ *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1225 (5th Cir. 1991).

⁷² 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).

⁷³ EPA, Draft Regulatory Impact Analysis: Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, at xii (2009).

⁷⁴ Christopher C. DeMuth & Douglas H. Ginsburg, *Rationalism in Regulation*, 108 MICH. L. REV. 877, 888 (2010).

ii. It Is Arbitrary and Capricious to Treat Indirect Benefits Differently than Indirect Costs, as EPA Does in the Proposal

Courts have repeatedly held that agencies must treat costs and benefits alike and consider each with comparable analysis. An agency may not “put a thumb on the scale by undervaluing the benefits and overvaluing the costs.”⁷⁵ Nor can it “inconsistently and opportunistically frame[]” a rule’s advantages and disadvantages.⁷⁶ In the Proposal, EPA does just that—disregarding MATS’s indirect benefits even as it relies on compliance cost estimates that include indirect costs.

EPA’s peer-reviewed Guidelines for Preparing Economic Analyses (“EPA’s Economic Guidelines”) define direct costs as “those costs that fall directly on regulated entities as the result of the imposition of a regulation.”⁷⁷ Indirect costs, meanwhile, are “those incurred in related markets or experienced by consumers or government agencies not under the direct scope of the regulation.”⁷⁸ As EPA acknowledged in the 2016 Finding, the agency’s \$9.6 billion annual compliance cost estimate includes costs in this latter category—that is, it includes costs “beyond the costs borne by owners of coal- and oil-fired units regulated by MATS.”⁷⁹

By relying on a cost estimate that includes indirect costs but declining to give equal consideration to co-benefits, the Proposal engages in exactly the sort of lopsided, opportunistically framed economic analysis that courts have deemed arbitrary and capricious in other contexts.

iii. Ignoring Indirect Benefits Is Inconsistent with Longstanding Executive Guidance, Basic Economic Principles, and Decades of Administrative Practice

In *Michigan*, the Supreme Court expressly recognized the relevance of “established administrative practice” to interpreting the meaning of the phrase “appropriate and necessary” in section 112(n)(1)(A).⁸⁰ The Court cited agencies’ longstanding recognition that “reasonable regulation ordinarily requires paying attention to the advantages and the

⁷⁵ *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1198 (9th Cir. 2008).

⁷⁶ *Bus. Roundtable v. SEC*, 647 F.3d 1144, 1148–49 (D.C. Cir. 2011); *see also Sierra Club v. Sigler*, 695 F.2d 957, 979 (5th Cir. 1983) (holding that if an agency “trumpet[s]” economic benefits, it must also disclose costs); *Mont. Env’tl. Info. Ctr. v. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1098 (D. Mont. 2017) (finding it “arbitrary and capricious” to “quantify socioeconomic benefits while failing to quantify costs”).

⁷⁷ EPA, Guidelines for Preparing Economic Analyses 8-7 (2010), <https://www.epa.gov/environmental-economics/guidelines-preparing-economic-analyses>.

⁷⁸ *Id.* at 8-7 to 8-8.

⁷⁹ 81 Fed. Reg. at 24,440.

⁸⁰ 135 S. Ct. at 2708.

disadvantages of [their] decisions” as evidence that “appropriate and necessary” implies a consideration of costs.⁸¹ By that same logic, “appropriate and necessary” also implies that EPA should take into account indirect benefits when making a section 112(n)(1)(A) finding, because agencies have for decades considered both direct and indirect effects of their actions.

The executive orders governing regulatory review call for agencies to accurately measure the “actual results of regulatory requirements,” thereby implicitly requiring analysis of both direct and indirect costs and benefits.⁸² Additionally, Circular A-4, a guidance document on regulatory analysis issued by the Office of Management and Budget under President George W. Bush, explicitly requires the consideration of indirect benefits.⁸³ In particular, the Circular instructs agencies to consider important indirect benefits, which include any “favorable impact . . . secondary to the statutory purpose of the rulemaking.”⁸⁴ Circular A-4 stresses that “[t]he same standards of information and analysis quality that apply to direct benefits and costs should be applied to ancillary benefits and countervailing risks.”⁸⁵

EPA’s Economic Guidelines likewise instruct the agency to assess “all identifiable costs and benefits,” including direct effects “as well as ancillary [indirect] benefits and costs.”⁸⁶ The assessment of both direct and indirect effects is needed “to inform decision making” and allow meaningful comparisons between policy alternatives.⁸⁷

These directives to take into account *all* anticipated regulatory effects are in keeping with fundamental principles of economic analysis. As EPA’s Economic Guidelines explain, the categorization of costs as direct or indirect (and, by logical extension, the categorization of benefits as primary or ancillary) is “only descriptive” and is not “derived from economic theory.”⁸⁸ The fundamental goal of cost-benefit analysis is “to consider all of the costs and benefits to society as a whole” that will result from a policy and thus determine whether that policy has “net social benefits.”⁸⁹ In making this determination, it is irrelevant whether

⁸¹ *Id.* at 2707.

⁸² Exec. Order No. 13,563 § 1, 76 Fed. Reg. 3821, 3821 (Jan. 21, 2011) (affirming Exec. Order No. 12,866); *accord* Exec. Order No. 12,866 § 6(a)(3)(C), 58 Fed. Reg. 51,735, 51,741 (Oct. 4, 1993) (detailing requirements for cost-benefit analysis).

⁸³ *See* Office of Mgmt. & Budget, Exec. Office of the President, Circular A-4, Regulatory Analysis 26 (2003) [hereinafter “Circular A-4”].

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ EPA, Guidelines, *supra* note 77, at 11-2.

⁸⁷ *Id.* at 7-1.

⁸⁸ *Id.* at 8-7.

⁸⁹ ANTHONY E. BOARDMAN ET AL., COST-BENEFIT ANALYSIS: CONCEPTS AND PRACTICE 2 (4th ed. 2018) (emphases omitted).

policymakers *intended* to confer a particular benefit or impose a particular cost. What matters is the policy's ultimate impact on social welfare.⁹⁰

Accordingly, EPA—under presidents of both parties and across three decades—has consistently taken indirect benefits into account when evaluating Clean Air Act regulations. For example, in 1987, EPA under President Reagan discussed the importance of considering the indirect benefits that would result from its regulation of toxic emissions from municipal waste combustors.⁹¹ And in 1991, EPA under President George H.W. Bush justified performance standards for landfill gases partly by reference to “the ancillary benefit of reducing global loadings of methane.”⁹² Later, when establishing standards to address hazardous air pollutant emissions from pulp and paper producers, EPA under President Clinton analyzed indirect benefits from reductions in co-pollutants like volatile organic compounds, particulate matter, and carbon monoxide.⁹³

EPA under President George W. Bush acknowledged that its Clean Air Interstate Rule, though designed to control particulate matter and ozone, would also reduce mercury emissions,⁹⁴ and included these indirect health and welfare benefits in its cost-benefit analysis justifying the rule.⁹⁵ In addition, in promulgating a rule on mobile source air toxics, EPA noted 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.”⁹⁶ Finally, EPA under President Obama considered the indirect benefits from reducing carbon monoxide, volatile organic compounds, and nitrogen oxides in its analysis of regulating hazardous air pollutant emissions from combustion engines.⁹⁷

Thus, in addition to being inconsistent with case law and basic economic principles, EPA's refusal to consider co-benefits breaks with three decades of administrative practice.

⁹⁰ See STRENGTHENING REGULATORY REVIEW: RECOMMENDATIONS FOR THE TRUMP ADMINISTRATION FROM FORMER OIRA LEADERS 6 (2016), https://policyintegrity.org/documents/RegulatoryReview_Nov2016.pdf (“[T]he goal of cost-benefit analysis is to maximize net benefits for society, which requires . . . consideration of all reasonable regulatory alternatives and all significant social welfare effects, including any indirect or difficult-to-quantify costs or benefits.”).

⁹¹ See 52 Fed. Reg. 25,399, 25,406 (July 7, 1987).

⁹² 56 Fed. Reg. 24,468, 24,469 (May 30, 1991).

⁹³ See 63 Fed. Reg. 18,504, 18,585–86 (Apr. 15, 1998).

⁹⁴ See 70 Fed. Reg. 25,162, 25,170 (May 12, 2005).

⁹⁵ See EPA, Regulatory Impact Analysis for the Final Clean Air Interstate Rule, at 1-10 (2005).

⁹⁶ 72 Fed. Reg. 8428, 8430 (Feb. 26, 2007).

⁹⁷ See 75 Fed. Reg. 51,570, 51,578 (Aug. 20, 2010).

III. Comments on Proposed RTR Findings

A. EPA fails to provide a satisfactory explanation for the findings of its technology review

Under the Supreme Court's decision in *Motor Vehicle Manufacturers Association v. State Farm Auto Mutual Insurance Co.*, an agency action is arbitrary and capricious if the agency fails to "examine the relevant data and articulate a satisfactory explanation for its action, including a rational connection between the facts found and the choice made."⁹⁸ The technology review included in the Proposal does not meet the *State Farm* standard, because EPA has failed to examine relevant data regarding available emission-reduction technologies and, as a result, failed to articulate a satisfactory explanation for concluding that there have been no technological developments. Specifically, EPA does not appear to have considered (1) whether the technologies that informed the MATS standards have become cheaper to an extent that justifies more aggressive deployment of those technologies and more stringent standards, (2) whether cost reductions have rendered feasible technologies that were deemed infeasible in the Regulatory Impact Analysis for MATS, or (3) whether any EGUs complied with MATS in ways that achieved greater emission reductions than were required by the rule and that could be deployed more broadly.

As EPA acknowledges, relevant "developments" under section 112(d)(6) include reductions in the cost of technologies that existed when the original standards for a source categories were promulgated.⁹⁹ Industry, meanwhile, has reported that actual compliance costs for MATS were "significantly lower" than EPA projected in 2012, due in part to the fact that "technologies deployed for compliance" were "less expensive and more effective than originally assumed in EPA's analysis."¹⁰⁰ But in the Proposal, EPA does not appear to

⁹⁸ *Motor Vehicle Manufacturers Association v. State Farm Auto Mutual Insurance Co.*, 463 U.S. 29, 43 (1983) (quoting *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962)) ("[I]f the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise," the challenged action fails hard look review.).

⁹⁹ 84 Fed. Reg. at 2787 (explaining that a "development" can include "[a]ny significant changes in the cost (including cost effectiveness) of applying controls (including controls the EPA considered during the development of the original MACT standards)").

¹⁰⁰ Declaration of James E. Staudt, Ph.D., CFA, ¶¶ 5-6, in *White Stallion Energy Center LLC, et al. v. EPA* (D.C. Cir. No. 12-1100), Dkt. #1574838, filed September 24, 2015 ("Staudt Decl.") (in docket at EPA-HQ-OAR-2009-0234-20549 (Jan. 15, 2016)); Ex. 2 to Staudt Decl., Andover Technologies Partners, *Review and Analysis of the Actual Costs of Complying with MATS in Comparison to Predicted in EPA's Regulatory Impact Analysis* (in docket at EPA-HQ-OAR-2009-0234-20549 (Jan. 15, 2016)) (finding that "the true cost of the [MATS] rule" is "less than one-quarter of what EPA originally estimated").

have assessed whether such cost reductions might justify imposing tighter standards based on an assumption of more aggressive deployment of those technologies.

Nor does EPA consider whether technologies that existed when MATS was finalized but were deemed economically infeasible have since become significantly cheaper. The supporting document entitled “Technology Review for the Coal- and Oil-Fired EGU Source Category” highlights specific control technologies that “continue to be explored for cost effectiveness and applicability,” but claims they are “not a new development, as they were available at the time of the original [MATS rule] promulgation.”¹⁰¹ But again, improved cost-effectiveness qualifies as a development even if the technology existed at the time that the initial MACT rule was promulgated.¹⁰² Thus, EPA cannot claim that no developments have occurred with respect to these technologies without first assessing whether and to what extent their costs have declined since 2012.

Finally, EPA does not appear to have considered whether any plants used innovative means to achieve MATS compliance that merit replication by other plants. Because MATS established performance standards, rather than design or process standards, it is unlikely that all EGUs emit HAPs at precisely the same rate. Put another way, though all currently operating EGUs are MATS-compliant, some likely pollute even less than required by the MATS rule. Accordingly, EPA could have identified the best-performing EGUs with respect to MATS HAP emissions and then determined whether the technologies or processes they use constitute a “development” for technology review purposes. The necessary data to perform such cross-plant comparisons is readily available to EPA because EGUs already report their HAP emission levels to the agency and the Technology Review memorandum already breaks down the compliance approaches taken by different EGUs.¹⁰³

EPA repeatedly attempts to justify its cursory analysis by citing the “relatively short period of time since the promulgation of the MATS rule.”¹⁰⁴ But this excuse is at odds with the basic purpose of section 112(d)(6), which requires EPA to undertake a technology review “no less often than every 8 years.”¹⁰⁵ It has been more than seven years since MATS was finalized. Congress clearly contemplated that, over a time period of this length, technology could be expected to advance in ways that might justify tighter standards.

¹⁰¹ EPA, TECHNOLOGY REVIEW FOR THE COAL- AND OIL-FIRED EGU SOURCE CATEGORY 6 (July 2018) (in docket at EPA-HQ-OAR-2018-0794-0015 (Feb. 7, 2019)).

¹⁰² 84 Fed. Reg. at 2687.

¹⁰³ See, e.g., TECHNOLOGY REVIEW, *supra* note 101, at 7 tbl.2.

¹⁰⁴ 84 Fed. Reg. at 2700.

¹⁰⁵ 42 U.S.C. § 7412(d)(6).

Because EPA failed to conduct an assessment in line with its own expansive definition of “development,” the agency has not provided a reasoned explanation for concluding that no relevant technological developments have occurred since MATS was promulgated in 2012.

B. EPA’s residual risk review impermissibly fails to consider the incremental risk reductions and costs associated with more stringent standards

The dearth of information provided by EPA in support of its technology review also undermines the agency’s residual risk review. Under the Benzene NESHAP approach to determining “ample margin of safety,” which EPA purports to be following in the Proposal, the agency assesses whether existing standards provide an ample margin of safety by calculating the expected costs and health risk reductions associated with “the next most effective level of control.”¹⁰⁶ But here, the agency asserts, on the basis of its technology review, that there are “no additional measures . . . for reducing HAP emissions from affected sources in the Coal- and Oil-fired EGU source category.”¹⁰⁷ In other words, according to the agency, there is no next most effective level of control to consider.

But the veracity of this claim hinges entirely on the insufficiently supported conclusions of the technology review and therefore, like the technology-review findings, fails the *State Farm* requirement that EPA provide a “satisfactory explanation for its action, including a rational connection between the facts found and the choice made.”¹⁰⁸

EPA also contends that its “analysis indicate[s] the risks from the source category are low for both cancer and noncancer health effects, and, therefore, any risk reductions from further available control options would result in minimal health benefits.”¹⁰⁹ In other words, EPA suggests that, regardless of the availability of additional control options, current control technologies are “good enough” at reducing human health and environmental risks, rendering it unnecessary to consider a more stringent standard.

But even if it were true that existing risks levels are low, it would not necessarily follow that further reductions in those risks are not economically justified (taking into account the full benefits, quantified and unquantified, of those reductions). To make this determination, EPA must weigh the “incremental risks reduction” associated with more stringent standards against the costs of those more stringent standards, something the agency did in

¹⁰⁶ See 54 Fed. Reg. at 38,046-38,048.

¹⁰⁷ 84 Fed. Reg. at 2700.

¹⁰⁸ 463 U.S. at 43 (quoting *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168 (1962)).

¹⁰⁹ 84 Fed. Reg. at 2700.

the Benzene NESHAP but fails to do here, despite purporting to apply the Benzene NESHAP approach.¹¹⁰

EPA claims that, in following the Benzene NESHAP approach to residual risk reviews, it “strives to provide maximum feasible protection against risks to health from hazardous air pollutants.”¹¹¹ But the agency cannot possibly fulfill this pledge without assessing whether a tightening of HAP emission standards would result in further risk reductions that justify the associated costs.

Respectfully,

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¹¹⁰ See CAA Section 112 RTR Methodology, *supra* note 36, at 6-7.

¹¹¹ *Id.* at 6 (quoting 54 Fed. Reg. at 38,044-38,045 (Sept. 14, 1989)).