Testimony of

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Introduction

Thank you for inviting me to testify before this subcommittee. My name is Michael Livermore and I am a professor of law at the University of Virginia. My areas of research include environmental law and economics, regulatory oversight, and cost-benefit analysis.

My published work in these areas include books that examine the practice of cost-benefit analysis and regulatory oversight in the United States and globally,[1] a casebook that emphasizes the economic perspective on environmental law and policy,[2] and over two dozen articles, book chapters, and shorter works that focus on cost-benefit analysis, regulatory oversight, and environmental law and policy.[3] Much of my recent work on these subjects is carried out in interdisciplinary collaboration with researchers in other fields, including economics, neuroscience, and the physical sciences.[4]

My testimony today will focus on the treatment of costs and benefits in a proposal by the Environmental Protection Agency (EPA) to withdraw its earlier finding that it was appropriate and necessary to regulate the

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[1] *The Globalization of Cost-Benefit Analysis in Environmental Policy* (Oxford University Press, 2013) (ed. with Richard L. Revesz); *Retaking Rationality: How Cost-Benefit Analysis Can Better Protect the Environment and Our Health* (Oxford University Press, 2008) (with Richard L. Revesz).

[2] *Environmental Law and Policy* (Foundation Press, 2019) (4th ed. with Richard Revesz, Caroline Cecot, and Jayni Foley Hein).

[3] *See e.g.* "Economics and Environmental Law Scholarship," in *Perspectives on Environmental Law Scholarship: Essays on Purpose, Shape and Direction* (Cambridge University Press, Ole W. Pedersen ed., 2018) (with Caroline Cecot); "The Perils of Experimentation," 126 *Yale Law Journal* 636 (2017); "Environmental Law and Economics," in *Oxford Handbook of Law and Economics* (Oxford University Press, Francesco Parisi, ed., 2017) (with Richard L. Revesz); "Setting the Social Cost of Carbon," in *Climate Change Law* (Edward Elgar, Encyclopedia of Environmental Law, Daniel Farber and Marjan Peeters eds., 2016); "Cost-Benefit Analysis and Agency Independence," 81 *University of Chicago Law Review* 609 (2014); "Rethinking Health-Based Environmental Standards," 89 *New York University Law Review* 1184 (2014) (with Richard L. Revesz); "Balanced Job Impact Analysis," in *Does Regulation Kill Jobs?* (University of Pennsylvania Press, Cary Coglianese, Adam Finkel & Christopher Carrigan, eds., 2014) (with Jason Schwartz); "Patience is an Economic Virtue: Real Options, Natural Resources, and Offshore Oil," 84 *University of Colorado Law Review* 581 (2013); "Regulatory Review, Capture, and Agency Inaction," 101 *Georgetown Law Journal* 1337 (2013) (with Richard L. Revesz).

[4] *See e.g.* "Sociopolitical Feedbacks and Climate Change," 43 *Harvard Environmental Law Review* 119 (2019) (with Peter Howard); "The Measurement of Subjective Value and Its Relation to Contingent Valuation and Environmental Public Goods," 10(7) *PLoS ONE* e0132842 (2015) (with Mel W. Khaw, Paul Glimcher, Denise Grab, and Christian Vossler); "Global warming: Improve economic models of climate change," 508 *Nature* 173 (April 10, 2014) (with Kenneth Arrow, Lawrence H. Goulder, Peter H. Howard, Robert E. Kopp, Michael Oppenheimer, Richard L. Revesz and Thomas Sterner).

emissions of hazardous air pollutants ("HAPs") from coal- and oil-fired electric utility steam generating units ("EGUs") ("the Proposal").[5]

My main conclusions regarding the Proposal are as follows:

- EPA's earlier findings that regulation of HAPs from EGUs is appropriate and necessary were extremely well-justified in cost-benefit terms. The Mercury and Air Toxic Standards ("MATS") Rule was projected to impose $9.6 billion per year in compliance costs and yield between $37 billion and $90 billion per year in quantifiable benefits, in addition to substantial unquantified health and environmental benefits.[6]
- Contradicting the relevant guidance and decades of practice by administrations of both political parties, the Proposal functionally ignores "co-benefits" associated with the regulation of HAPs from EGUs, resulting in a biased and misleading estimate of costs and benefits. The Proposal provides no adequate explanation for its extraordinary and abnormal treatment of co-benefits.
- The Proposal does not undertake an adequate investigation of the many benefits of the regulation of HAPs from EGUs that were discussed in a qualitative fashion in the 2012 MATS Rule.
- The Proposal's treatment of regulatory costs is irrational. It fails to acknowledge the overestimation of regulatory costs associated with the 2012 MATS Rule. Of greater importance is that regulated actors have made considerable, non-reversible investments to comply with the 2012 MATS Rule—the going-forward costs of regulating HAPs from EGUs is far lower than the cost estimates relied on in the Proposal.

In short, the Proposal departs from established methods of conducting cost-benefit analysis that are backed by several decades of practice by administrations of both political parties. The agency fails to provide any adequate reason for this departure as a matter of economics, public policy, or law. The resulting analysis creates the misleading impression that the appropriate-and-necessary finding and the MATS Rule—which generated many billions of dollars in quantified net benefits as well as considerable unquantified benefits for the American public—were not justified in cost-benefit terms. If finalized and adopted, the Proposal would not only undermine a socially desirable environmental policy; it would create a dangerous precedent of agencies departing from established methods when it is convenient to do so, opening the door to the flagrant manipulation of cost-benefit analysis. Such a trend would result in inefficient regulation and the erosion of public confidence in government decision-making.

Cost-Benefit Analysis and Regulation

The use of cost-benefit analysis to evaluate environmental regulations has a long history in the United States. Although there are important precursors,[7] the central place of cost-benefit analysis in federal regulatory decision-making can be traced to Executive Order 12291, signed by President Ronald Reagan shortly after taking office in 1981.[8] Under that order, agencies were required to conduct a Regulatory Impact Analysis of proposed rulemakings with significant economic consequences and submit those analyses to the Office of Information and Regulatory Affairs (OIRA) in the White House for review. The Reagan Order's stated purposes included to "increase agency accountability for regulatory actions" and "insure well-reasoned

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

[6] 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). EPA, Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards (Dec. 2011).

[7] Jim Tozzi, "OIRA's Formative Years: The Historical Record of Centralized Regulatory Review Preceding OIRA's Founding," 63 *Administrative Law Review* 37, 40–62 (Special Edition 2011) (giving a historical overview of review before the Reagan administration).

[8] Executive Order 12291, 46 Fed. Reg. 13193 (1981).

regulations." Order 12291 established general guidelines for conducting Regulatory Impact Analysis that required:

- A description of the potential benefits of the rule, including any beneficial effects that cannot be quantified in monetary terms . . .
- A description of the potential costs of the rule, including any adverse effects that cannot be quantified in monetary terms . . . [and]
- A determination of the potential net benefits of the rule, including an evaluation of effects that cannot be quantified in monetary terms.[9]

In 1993, President Bill Clinton issued an updated version of the Reagan Order that left the basic architecture of regulatory impact assessment and OIRA review intact.[10] Among the regulatory principles embraced by the Clinton Order is a directive to agencies to "assess both the costs and the benefits of the intended regulation and, recognizing that some costs and benefits are difficult to quantify, propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs."[11] Subsequent Presidents have continued under the Clinton Order: the tradition of cost-benefit analysis and regulatory review has now extended for nearly four decades.[12]

The requirement of cost-benefit analysis creates a formal process for a simple idea: agencies ought to do their best to anticipate and evaluate the consequences of their decisions. The cost-benefit standard urges agencies toward decisions that maximize net benefits by seeking out rules with the largest possible benefits at the lowest possible cost.

But although the idea of cost-benefit analysis might be straightforward, accurately estimating and valuing the wide range of effects from major rulemakings is no easy task.[13] Over the four decades of cost-benefit analysis practice, agencies have developed a number of methods and approaches for conducting Regulatory Impact Analysis. These best practices have been collected in relevant guidance document such as Circular A-4,[14] published by the Office of Management and Budget during the George W. Bush administration, and EPA's peer-reviewed Guidelines for Preparing Economic Analyses.[15]

Cost-benefit analysis best practices serve several roles. Most obviously, they conserve agency resources by providing a set of standardized approaches that can be applied in many different regulatory contexts. But they also serve a second purpose of maintaining consistency between agency decisions. One major critique leveled against the practice of cost-benefit analysis is that its technical nature makes it vulnerable to manipulation. Were an agency to decide on a regulatory course of action on other grounds—such as political expediency—the concern is that the agency could construct a plausible-seeming cost-benefit justification for its decision that would be difficult for non-experts to evaluate. Well-established methodological best practices mitigate

[9] *Id.* Sec. 3(d).

[10] Executive Order 12866, 58 Fed. Reg. 51735 (1993)

[11] *Id.* Sec 1(b)(6)

[12] President George W. Bush make only minor changes to the Clinton Order at the end of his term. *See* Executive Order 13422, 72 Fed Reg 2763 (2007). President Obama's executive order on regulatory review explicitly adopts the framework of the Clinton order. See Executive Order 13563, 76 Fed Reg 3821, 3821 (2011). The Trump administration purports to operate under Executive Order 12866 as well. *See* Memorandum from Dominic J. Mancini, Acting Administrator, Office of Information and Regulatory Affairs to Regulatory Policy Officers at Executive Departments and Agencies and Managing and Executive Directors of Certain Agencies and Commissions, Subject: Guidance Implementing Executive Order 13771, Titled "Reducing Regulation and Controlling Regulatory Costs" (April 5, 2017).

[13] There is uncertainty associated with estimates of both costs and benefits and agencies often make conservative assumptions in light of that uncertainty.

[14] Office of Management and Budget, Circular A-4: Regulatory Analysis (2003).

[15] EPA, Guidelines for Preparing Economic Analyses (2010).

this threat by creating a relatively clear standard that can be used to hold agencies accountable: if an agency departs from established methods, it raises a red flag alerting the public and oversight officials to the possibility of manipulation. The larger the departure from established practice, the stronger the reason the agency should be able to provide.

Over its many years of use, cost-benefit analysis has been used to evaluate and improve a host of regulatory decisions, including at EPA. That agency, especially, has made substantial investments to improve its capacity to carry out cost-benefit analysis of environmental regulations, and the professional career staff at the agency has considerable experience with and expertise for this demanding task.

The Appropriate-and-Necessary Determination and MATS Rule

Regulation of HAPs under the Clean Air Act has a long and somewhat tortured history. The original version of the relevant statutory provision—§112—led to an ineffective regulatory scheme with only a handful of pollutants listed. These disappointing results led Congress to revisit HAPs in the 1990 Clean Air Amendments and adopt the current version of §112. The basic structure of the contemporary §112 process begins with a list of HAPs and then requires EPA to publish a list of categories of sources that emit HAPs in significant quantities.[16] EPA must then set emissions standards for those categories.[17]

Section 112(n), however, creates a special process for EGUs. Under the special process, EPA must first study the public health hazards of HAP emissions from EGU, and then proceed with regulation only upon a finding that "such regulation is appropriate and necessary after considering the results of the study."[18]

This special process has led to its own lengthy regulatory history. In 2000, the Clinton-era EPA found, on the basis of its public health study, that it was appropriate and necessary to regulate HAP emissions from EGUs because those emissions "present[] significant hazards to public health and the environment."[19] Later, the George W. Bush administration attempted to substitute an alternative cap-and-trade regulatory approach under §111(d) of the Act for the technology-based approach of §112, and in its Clean Air Mercury Rule ("CAMR") purported to remove EGUs from the §112 list. This decision was ultimately invalidated by the D.C. Circuit.[20]

Under President Obama, EPA returned to the question of HAP emissions from EGUs. After conducting an extensive review of the public-health science on the effects of HAP emissions, the agency again made an appropriate-and-necessary determination and, accordingly, issued the MATS Rule setting emissions standards.[21] Although the finding and emissions standards were initially upheld by the D.C. Circuit,[22] the Supreme Court subsequently remanded the appropriate-and-necessary finding in *Michigan v. EPA* on the grounds that EPA failed to consider costs before making it.[23]

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[16] 42 U.S.C. § 7412(c)(1). 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. *Id.* § 7412(a)(1). Area sources are all other stationary sources of HAPs. *Id.* § 7412(a)(2).

[17] *Id.* § 7412(d)(1).

[18] *Id.* § 7412(n).

[19] Regulatory Finding on the Emissions of Hazardous Air Pollutants From Electric Utility Steam Generating Units, 65 Fed. Reg. 79,825, 79,826–30 (2000).

[20] New Jersey v. EPA, 517 F.3d 574, 579 (D.C. Cir. 2008).

[21] 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).

[22] White Stallion Energy Ctr., LLC, 748 F.3d 1222 (D.C. Cir. 2014).

[23] Michigan v. EPA, 135 S. Ct. 2699 (2015). The agency had conducted a Regulatory Impact Analysis of the MATS Rule, not the appropriate-and-necessary finding.

In response to the Court's ruling, EPA reassessed its appropriate-and-necessary finding in 2016 ("2016 Finding"). Taking costs into account—as required by the holding in *Michigan v. EPA*—the agency decided to reaffirm its prior decision.[24] The 2016 Finding examined the costs of regulating EGUs under §112 according to an overall reasonableness standard based on compliance costs relative to the size of the industry, as well as based on the cost-benefit information contained in the Regulatory Impact Analysis of the MATS Rule. As noted above, that analysis projected that the MATS Rule would impose $9.6 billion per year in compliance costs but yield between $37 billion and $90 billion per year in quantifiable benefits, in addition to many other positive health and environmental effects that were not quantified.

The largest category of quantified benefits from the MATS Rule arises from the reduction of mortality risk. EPA anticipated that between 4,200 and 11,000 premature deaths would be avoided per year. Other anticipated health benefits of the rulemaking included fewer nonfatal heart attacks and hospitalizations for respiratory and cardiovascular disease as well as reductions in the incidence of a range of harmful neurological conditions, including IQ loss and developmental delays. In addition, there were considerable environmental benefits, including reductions in damage to ecosystems, enhanced visibility, and improvements in recreational and commercial fishing, agricultural yields, and forest productivity. The costs anticipated from the rulemaking were primarily associated with capital upgrades to pollution control technology.

The 2016 Finding is now being revisited by the Trump administration in the Proposal.

Indirect Costs and Benefits

In the preamble to the MATS Rule, EPA noted that the "great majority" of the quantified benefits of the rule were "attributable to co-benefits from reductions in [particulate matter]-related mortality."[25] In the 2016 Finding, the agency explained the relationship between the HAP emissions regulation and particulate matter as follows:

> [I]nstalling 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 [particulate matter (PM2.5)] and [sulfur dioxide (SO2)]. While reductions of PM2.5 and SO2 are not the objective of the MATS rule, these emission reductions are a direct consequence of regulating the HAP emissions from EGUs.[26]

There is nothing unusual about indirect costs and benefits, which are a normal and anticipated element of regulating in a complex world. In an influential book published two decades ago that helped call attention to the importance of indirect regulatory effects, John D. Graham (who went on to serve as OIRA Administrator under George W. Bush) and Jonathan B. Wiener collect dozens of examples to make that point that inefficient regulations can result from ignoring indirect effects.[27] Given the nature of the problems that regulators often face, and the complex economic, behavioral, environmental, and biological systems involved, it is hardly surprising that the consequences of major government actions would flow beyond the narrow confines of direct effects. Rather, a reasonable regulator should acknowledge and attempt to anticipate a cascade of possible effects, as both people and environmental systems respond and adapt to direct regulatory effects.

In recognition of their importance, indirect effects are explicitly mentioned in the relevant guidance documents, which expressly call regulators' attention to this class of regulatory consequences. The Circular A-

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[24] 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 (Apr. 25, 2016).

[25] 77 Fed. Reg. at 9305–06

[26] 81 Fed. Reg. at 24,438

[27] John D. Graham and Jonathan B. Wiener, *Risk v. Risk: Tradeoffs in Protecting Health and the Environment* (Harvard University Press, 1997).

4 guidance document states, "[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."[28] EPA's Guidelines for Preparing Economic Analyses likewise explicitly direct the agency to consider "ancillary benefits and costs."[29]

The need to analyze indirect costs and benefits flows naturally from the purpose of cost-benefit analysis.[30] If the goal is to anticipate and evaluate the consequences of a regulatory decision, there is no reason to make a distinction between direct and indirect effects: they are both equally real to the people who are affected by them. Indeed, the primary value of the concept of indirect regulatory effects is to call agencies' attention to this class of consequences—to expand the scope of agency analyses so that they are more comprehensive. As noted by Graham and Weiner, Circular A-4, and EPA's Guidelines, problems arise when agencies' focus is too narrow, not too wide. In instances where agencies have failed to heed the relevant guidance and insisted on departing from standard practice by ignoring indirect regulatory effects, courts have found their decisions to be irrational.[31]

In keeping with the relevant guidance and case law, agencies often consider the indirect effects of their regulatory decisions. Considering only EPA, indirect benefits, and Clean Air Act regulations, examples abound:

- Reagan administration: regulation of toxic emissions from municipal waste combustors took into account co-benefit reductions of criteria pollutants.[32]
- George H. W. Bush administration: performance standards for landfill gases took into account co-benefits of reduced global loadings of methane.[33]
- Clinton administration: HAP standards from pulp and paper producers took into account co-benefit reductions in volatile organic compounds, particulate matter, and carbon monoxide.[34]
- George W. Bush administration: Clean Air Interstate Rule to control particulate matter and ozone took into account co-benefit reductions in mercury emissions.[35]
- Obama administration: HAP standards for combustion engines generates indirect benefits from carbon monoxide, volatile organic compounds, and nitrogen oxides.[36]

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[28] Circular A-4 at 26

[29] EPA, Guidelines at 11-2. Earlier version of the Guidelines also directs the agency to consider indirect costs and benefits. *See* Kimberly M. Castle and Richard L. Revesz, Environmental Standards, "Thresholds, and the Next Battleground of Climate Change Regulations," 103 *Minnesota Law Review* 1349, 1428–29 (2019).

[30] Strengthening Regulatory Review: Recommendations For The Trump Administration From Former OIRA Leaders 6 (2016) ("[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.").

[31] *See e.g.* Competitive Enter. Inst. v. Nat'l Highway Traffic Safety Admin., 856 F.2d 321, 326–27 (D.C. Cir. 1992) (striking down a National Highway Traffic Safety Administration fuel-efficiency rule for failing to consider indirect costs in the form of vehicle safety risks); Corrosion Proof Fittings v. EPA, 947 F.2d 1201, 1225 (5th Cir. 1991) (remanding ban asbestos-containing brakes under the Toxic Substances Control Act for failure to consider the indirect safety harm that would accompany forcing cars to use substitute, non-asbestos brakes).

[32] *See* 52 Fed. Reg. 25,399, 25,406 (July 7, 1987).

[33] 56 Fed. Reg. 24,468, 24,469 (May 30, 1991).

[34] *See* 63 Fed. Reg. 18,504, 18,585–86 (Apr. 15, 1998).

[35] *See* 70 Fed. Reg. 25,162, 25,170 (May 12, 2005). *See* EPA, Regulatory Impact Analysis for the Final Clean Air Interstate Rule, at 1-10 (2005).

[36] 75 Fed. Reg. 51,570, 51,578 (Aug. 20, 2010).

Collectively, economic theory, the relevant guidance documents, decades of bipartisan agency practice, and simple common sense all indicate that agencies should consider indirect costs and benefits when making regulatory decisions. Departing from this well-established norm requires a very good reason.

Extraordinary and Unjustified Departure from Established Practice

In the Proposal, EPA proposes to reverse the 2016 Finding.[37] In doing so, it functionally ignores the substantial quantified benefits of the MATS Rule on the grounds that they are not direct benefits. EPA suggests that focusing "primarily" on HAP benefits—as opposed to particulate matter co-benefits—may be the "only permissible approach" under §112(n).[38] Alternatively, EPA argues that its decision not to consider co-benefits is a "reasonable approach . . . to considering costs in response to *Michigan*."[39] On either grounds, the agency puts aside the overwhelming evidence that the MATS Rule generates massive net benefits and instead "proposes to conclude that it is not appropriate and necessary to regulate HAP from EGUs . . . because the costs of such regulation grossly outweigh the HAP benefits."[40]

As discussed above, guidance documents and prior practices provide a baseline against which the analytic choices of agencies in individual rulemakings can be judged. Where an agency's methods depart from the standard practice, it raises a legitimate concern that cost-benefit analysis is being manipulated to justify a regulatory decision based on political expediency or other grounds. The larger the departure, the greater the burden on the agency to provide a reasoned explanation for its unusual course of action.

In the Proposal, EPA's reasoning entirely fails to justify the extraordinary step of functionally ignoring many billions of dollars' worth of regulatory benefits.

First, there is nothing in the language of §112(n) that indicates that the agency should limit the terms of its analysis to direct effects. The provision simply states that the Administrator is to "regulate electric utility steam generating units under [§112], if the Administrator finds such regulation is appropriate and necessary after considering the results of the study required by this subparagraph."[41] If Congress had intended the agency to limit its analysis to direct regulatory effect, it could simply have said so. It did not, and it did not do so in the face of an already substantial practice by agencies of considering indirect costs and benefits. It borders on outlandish to construe statutory silence in this context to prohibit consideration of indirect effect. Even the claim that statutory silence *permits* the agency to ignore indirect effects is highly implausible.

In addition, the Court's guidance in *Michigan v. EPA* on the appropriate interpretation of §112(n) runs entirely counter to EPA's approach in the Proposal. According to the Court, "'appropriate' is 'the classic broad and all-encompassing term that naturally and traditionally includes consideration of all the relevant factors.'"[42] The Court also recognized the relevance of "established administrative practice"—which includes many decades of considering indirect costs and benefits—to interpreting the phrase "appropriate and necessary" in §112(n).[43] The Court characterized the agency practice as follows: "reasonable regulation ordinarily requires paying attention to the advantages and the disadvantages of agency decisions."[44] There is no hint that the

[37] 84 Fed. Reg. at 2674.

[38] *Id.* at 2676.

[39] *Id.* at 2674–76.

[40] *Id.*

[41] 42 U.S.C. § 7412(n)(1)(A).

[42] 135 S. Ct. at 2707 (emphasis added) (quoting White Stallion Energy Ctr., LLC, 748 F.3d at 1266 (Kavanaugh, J., dissenting)).

[43] 135 S. Ct. at 2708.

[44] *Id.* at 2707 (emphasis omitted).

"advantages" and "disadvantages" discussed by the Court are limited to only the *direct* advantages or disadvantages.[45]

The agency's argument from statutory structure is also extremely weak and, indeed, is very similar to the argument offered by the agency in *Michigan v. EPA* that was rejected by the Court. The claim is that since the statute directs the agency to conduct a study of the public health effects of HAP emissions prior to regulating, the agency should accordingly exclude co-benefits from its appropriate-and-necessary analysis. In *Michigan v. EPA*, the Court heard a similar argument that the agency should not consider costs in making the appropriate-and-necessary finding because the study mandated by §112(n)(1)(A) focuses exclusively on public health and does not mention costs.[46] The primary holding of *Michigan v. EPA* was to reject EPA's argument in favor of an expansive interpretation of §112(n) that required the agency to examine the whole range of consequences from regulating HAPs, not merely HAP-related public health effects.

The Court does mention co-benefits in *Michigan v. EPA*, but only to expressly decline to address the issue of whether and how co-benefits should be weighed against costs.[47] The Proposal's claim that *Michigan v. EPA* prohibits consideration of co-benefits is flatly contradicted by the majority opinion, which made it absolutely clear that it did not decide the question of how co-benefits should be treated. Where courts *have* addressed the issue of co-benefits under §112, they have found that it is entirely appropriate for such benefits to be considered.[48]

The agency argues in the alternative that it is a reasonable exercise of its discretion to functionally ignore co-benefits when making the appropriate-and-necessary determination. It should be clear from the discussion above that this choice is anything but reasonable: it has no basis in economic theory and contradicts the relevant guidance and decades of agency practice. More to the point, it flouts basic principles of rationality to claim that a rule is not cost-benefit justified when it will, in fact, generate tens of billions of dollars of net benefits every year. If cost-benefit analysis as a tool for evaluating regulatory policy is to mean anything, then the MATS Rule must pass with flying colors.

Further exacerbating the irrationality of the agency's decision to functionally ignore indirect benefits is that it *counts indirect costs*. The cost estimate in the 2016 Finding, which the agency does not revisit in the Proposal, includes costs "beyond the costs borne by owners of coal- and oil-fired units regulated by MATS."[49] This is the definition of indirect costs.[50] The irrationality of accounting for indirect costs while ignoring indirect

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[45] Indeed the Court emphasizes the importance of indirect costs:

> In addition, "cost" includes more than the expense of complying with regulations; any disadvantage could be termed a cost. EPA's interpretation precludes the Agency from considering any type of cost—including, for instance, harms that regulation might do to human health or the environment. The Government concedes that if the Agency were to find that emissions from power plants do damage to human health, but that the technologies needed to eliminate these emissions do even more damage to human health, it would still deem regulation appropriate. No regulation is "appropriate" if it does significantly more harm than good.

135 S. Ct. at 2707 (citations omitted).

[46] *Id.* at 2708.

[47] *Id.* at 2711–12.

[48] U.S. Sugar Corp. v. EPA, 830 F.3d 579, 625–26 (D.C. Cir. 2016) (reviewing standard setting for hydrogen chloride emissions from boilers; "text [of §112(d)(4)] does not foreclose the Agency from considering co-benefits"; considering such benefits "is consistent with the [Clean Air Act]'s purpose—to reduce the health and environmental impacts of hazardous air pollutants").

[49] 81 Fed. Reg. at 24,440.

[50] Direct costs are "those costs that fall directly on regulated entities as the result of the imposition of a regulation." EPA, Guidelines for Preparing Economic Analyses 8-7 (2010). Indirect costs, meanwhile, are "those incurred in related markets or experienced by consumers or government agencies not under the direct scope of the regulation." *Id.* at 8-7 to 8-8.

benefits should be obvious.[51] This contradiction arises in part because the terms "benefits" and "costs" are in fact merely labels of convenience, and agencies sometimes also refer to benefits as "negative costs."[52] Failing to account for indirect benefits is, by definition, the failure to account for indirect negative costs. The agency provides no reason why some indirect costs are accounted for and not others.

Where agencies have engaged in similar behavior in the past by "put[ting] a thumb on the scale by undervaluing the benefits and overvaluing the costs,"[53] or "inconsistently and opportunistically framing" a rule's advantages and disadvantages,[54] courts have rejected this clear violation of norms of rationality. The Proposal departs from decades of practice, relevant guidance, and common sense. EPA provides no reason to believe that Congress intended the agency to do so: if anything, the language of §112 and relevant judicial interpretation indicate that EPA cannot lawfully ignore a massive category of regulatory effects.

Unquantified Benefits

Compounding the agency's failure to count indirect benefits, the Proposal also does not adequately address the substantial benefits generated by the MATS Rule that were discussed in a quantitative fashion in the 2016 Finding. In light of its decision to functionally disregard the co-benefits of the rule, the agency was obligated to undertake the additional analysis of this class of benefits needed to inform its final judgment that regulating HAPs from EGUs was not cost-benefit justified. The mere fact that the 2016 Finding did not quantify these regulatory benefits is not a permissible reason to conclude that they are not sufficient to justify regulation on their own terms.

In the 2016 Finding, the agency reported the strong scientific basis for its finding that there were substantial benefits associated with the reduction of HAP emissions from EGUs that it left unquantified. Unquantified costs and benefits are a standard part of cost-benefit analysis, and both Executive Order 12291 and Executive Order 12866 are quite clear that both quantified and unquantified effects should be considered by agencies when making regulatory decisions. Whether or not a regulatory effect is amenable to quantification in a particular context has no bearing on the reality or importance of those effects.

The quantified estimate of costs and benefits relied on in the 2016 Finding was more than sufficient to support the conclusion that the appropriate-and-necessary finding was cost-benefit justified. Additional quantification of regulatory benefits would simply have provided additional evidence that the MATS Rule, which was cost-benefit justified many times over, was even more cost-benefit justified.

In engaging in a reappraisal of the appropriate-and-necessary determination in the context of its decision to functionally ignore indirect benefits, the agency finds itself in a different situation. Without substantial additional analysis, it is not clear whether the benefits that were left unquantified in the context of the 2016 Finding are sufficient to justify the costs. To make that determination, the agency would have to engage in a good faith effort either to engage in additional quantification or to find that it was not possible to do so and then appropriately weigh the unquantified benefits against the costs of the rule. In the Proposal, the agency does neither.

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[51] "It is difficult to imagine a more arbitrary and capricious methodology than a rule under which EPA must take into account the indirect consequences of regulation if they are negative but must ignore them if they are positive." Natalie Jacewicz and Richard L. Revesz, "EPA is rolling back protections with methodology no respectable economist would endorse," TheHill.com (March 4, 2019). There are "no legal, political, or intellectual . . . impediments to treating ancillary benefits and countervailing risks equally in cost-benefit analysis." Christopher C. DeMuth & Douglas H. Ginsburg, "Rationalism in Regulation," 108 *Michigan Law Review* 877, 888 (2010). Indirect benefits "are simply mirror images" of indirect costs. Samuel J. Rascoff & Richard L. Revesz, "The Biases of Risk Tradeoff Analysis: Towards Parity in Environmental and Health-and-Safety Regulation," 69 *University of Chicago Law Review* 1763, 1793 (2002).

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

[53] Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1198 (9th Cir. 2008).

[54] Bus. Roundtable v. SEC, 647 F.3d 1144, 1148–49 (D.C. Cir. 2011)

Treatment of Costs

A final glaring failure in the Proposal is the treatment of the costs of regulating HAPs from EGUs. First, analysis of the actual costs of complying with the MATS Rule have shown them to be considerably lower than estimated in 2012.[55] To the extent that the Proposal is intended to include a retrospective analysis of the appropriate-and-necessary finding, it must engage in additional analysis to determine the actual compliance costs of the rule.

More important, the Proposal fails to account for the fact that many of the total costs of complying with the MATS Rule have already been incurred, and so even if reversing the appropriate-and-necessary designation led to the MATS Rule being invalidated, that outcome would provide very little economic benefit to affected industry. To make an accurate determination whether, *at this time*, it is appropriate and necessary to regulate HAP emissions from EGUs, the agency should consider only the *additional* costs associated with regulation going forward and compare those costs to the benefits of the regulation. By treating capital investments as though they were reversible, EPA analyzes the costs and benefits of turning back time to undo the 2012 MATS Rule, which is impossible.

Conclusion

I am grateful for the opportunity to testify today, and I would be happy to answer whatever questions you have.

[55] M.J. Bradley & Associates, LCC, Status of the MATS Rule (MJB&A Issue Brief, Nov. 16, 2017).