



August 3, 2020

Docket ID No. EPA-HQ-OAR-2020-00044

Comments of the Competitive Enterprise Institute

Thank you for the opportunity to comment on the Environmental Protection Agency's proposed benefit-cost analysis (BCA) rule.¹ Codifying best practices for BCA, as the EPA proposes, will enhance the consistency and transparency of the agency's analysis and presentation of the costs and benefits of Clean Air Act (CAA) rulemakings. Increased clarity and rigor will improve the odds that regulatory benefits exceed (or at least reasonably justify) regulatory costs. The Competitive Enterprise Institute (CEI), therefore, strongly supports the proposed BCA rule.

The comment letter is organized as follows.

Part I explains that the BCA rule pursues objectives that, although modest and non-controversial in themselves, may nonetheless improve regulation in ways that generate controversy, as when a high quality BCA does not find a compelling need for an intervention Congress has mandated, or finds that the claimed benefits of a key administration policy are inflated.

Part II examines the most important issue the BCA rule seeks to clarify and, perhaps, in subtle ways address, namely, how to prevent the purported benefits of collateral fine particulate matter (PM_{2.5}) reductions from becoming a license for regulatory excess. Key points include:

- The proposed BCA rule's disaggregation of benefits into two categories, targeted and ancillary, will help spotlight the problem—a critical first step towards solving it.
- Disaggregation can help the EPA challenge the efficiency and legality of regulating PM_{2.5} through statutes not designed for that purpose.
- De-facto PM_{2.5} reduction mandates are unlikely to provide net benefits. That is because the National Ambient Air Quality Standards (NAAQS) program very likely already regulates criteria air pollutants beyond their BCA optima.
- The benefits of PM_{2.5} reductions below the NAAQS should not be valued equally with reductions above the NAAQS. Indeed, the health benefits of reductions below the NAAQS are too uncertain to be monetized.
- Heed the BCA rule's directive to consider all credible epidemiological studies, including "negative" studies finding no correlation between PM_{2.5} exposures and health effects. The EPA did not follow that best practice in its recent PM NAAQS review.

¹ EPA, Increasing Consistency and Transparency in Considering Benefits and Costs in the Clean Air Act Rulemaking Process, 85 FR 35621-35627, June 11, 2020, <https://www.govinfo.gov/content/pkg/FR-2020-06-11/pdf/2020-12535.pdf>. Note to readers: This version of the comment letter corrects some typos the author did not catch before submitting it to the EPA.

- Reconsider the value of PM_{2.5} co-benefits in the light of mundane realities that do not comport with the Killer PM_{2.5} Narrative.

Part III responds to miscellaneous issues on which the EPA requests comment. In brief:

- EPA should initially apply the BCA rule to economically significant (\$100 million) rules but also set forth a schedule to require BCAs for rules with smaller economic impacts. The EPA should take care to discourage future administrations from evading the BCA rule by breaking larger rules into smaller components.
- Do not adjust the \$100 million threshold for inflation, which could create incentives for agencies to support inflationary policies.
- Require BCAs to report domestic and global benefits and costs separately. For greenhouse gas regulations especially, BCAs should clarify how domestic costs compare to domestic benefits.
- BCAs should include estimates of the cost-per-ton of pollution reduced or avoided. Cost-per-ton is an easily understood metric that clearly distinguishes regulatory alternatives—as well as different rules addressing the same pollutant—based on cost effectiveness.
- The BCA rule should require retrospective analyses of significant CAA rulemakings. Such analyses should also include a cost-per-ton component. Comparing earlier and later cost-per-ton estimates will improve cost estimation over time and facilitate public understanding of and engagement in the regulatory process.

I. Modest Objectives

Contrary to both the fears of some regulatory advocates and the hopes of some deregulatory advocates, EPA's proposed rule has modest objectives. It aims to increase the "consistency and transparency" of benefit-cost analysis in Clean Air Act rulemakings.² The rule will require all future "significant" CAA regulations to be accompanied by a BCA, and all BCAs to be conducted according to "best practices."³

For example, each BCA must include "a statement of need that provides (1) a clear description of the problem being addressed, (2) the reasons for and significance of any failure of private markets or public institutions causing this problem, and (3) the compelling need for federal government intervention in the market to correct the problem."⁴ Of course, such a non-controversial requirement may produce controversial results. The analysis may not find a compelling need for an intervention Congress has mandated,⁵ or it may find that the claimed benefits of a marquee administration policy are inflated.⁶

² 85 FR 35612

³ 85 FR 35626

⁴ 85 FR 35618

⁵ For example, the National Highway Traffic Safety Administration's analysis in the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule rebuts several market failure rationales for fuel economy regulation, implicitly questioning the need for federal intervention (85 FR 24607-24612, 25116).

⁶ For example, the EPA's regulatory impact assessment for the so-called Clean Power Plan claimed the CPP would deliver up to \$92 billion in climate benefits by 2030 (RIA, ES-18, <https://www.epa.gov/sites/production/files/2014-06/documents/20140602ria-clean-power-plan.pdf>). However, the EPA's climate model estimated the CPP would

According to another best practice required by the BCA rule, “If fewer than three options are analyzed, or if there is a continuum of options and the options analyzed do not include at least one more stringent (or otherwise more costly) and one less stringent (or otherwise less costly) option than the proposed or finalized option, then the BCA must explain why it is not appropriate to consider more alternatives.”⁷

That practice was not followed in the proposed Safer Affordable Fuel Efficient (SAFE) Vehicles Rule. The EPA and the National Highway Traffic Safety Administration (NHTSA) considered eight regulatory alternatives—the “preferred” alternative of freezing fuel economy standards at model year 2020 levels and seven more stringent alternatives. The agencies did not consider an alternative less stringent than the preferred one.⁸

When CEI ran NHTSA’s modeling software, we found that freezing the standards at model year 2018 levels and rolling them back to 2017 levels yielded substantially greater societal benefits than the preferred alternative.⁹ Presumably, had the BCA rule been in effect *before* the agencies proposed the SAFE Rule, the EPA either would have considered similar less stringent alternatives or explained why doing so is not appropriate.

Another best practice the BCA rule would codify pertains to how the EPA estimates the risks of air pollution and the benefits of emission-control measures. The EPA will consider “the full set of [epidemiological] studies as a means of providing a broader representation of the effects estimate, including high quality studies that do not find a significant concentration-response relationship.”¹⁰ Thus, the BCA rule attempts to mitigate the influence of publication bias—the tendency of agencies to fund, researchers to submit, and journals to publish only studies finding a positive correlation between air pollution exposures and adverse health effects.¹¹

Again, presumably, had the BCA rule been in effect before the EPA proposed its review of National Ambient Air Quality Standards (NAAQS) for fine particulate matter (PM_{2.5}),¹² it would not have ignored “negative” epidemiological studies that find no significant correlation between

avert less than 0.02°C of warming by 2100 (Chip Knappenberger and Patrick J. Michaels, “EPA leaves out the most vital number in their fact sheet,” Watts Up With That, June 12, 2014, <https://wattsupwiththat.com/2014/06/12/epa-leaves-out-the-most-vital-number-in-their-fact-sheet/>). It is difficult to understand how an undetectably small reduction in global temperatures 80 years from now could be worth \$92 billion 10 years from now.

⁷ 85 FR 35618, 35626

⁸ EPA, NHTSA, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks; Proposed Rule, 83 FR 42990, August 24, 2018, <https://www.govinfo.gov/content/pkg/FR-2018-08-24/pdf/2018-16820.pdf>

⁹ CEI’s comment letter on the proposed SAFE Rule is available at https://cei.org/sites/default/files/CEI%20CAFE%20Comments%20Final_0.pdf.

¹⁰ 85 FR 35621, 35626

¹¹ David Randall and Christopher Welser, *The Irreproducibility Crisis in Modern Science: Causes, Consequences, and the Road to Reform*, National Association of Scholars, April 2018, pp. 35, 40, https://www.nas.org/storage/app/media/Reports/Irreproducibility%20Crisis%20Report/NAS_irreproducibilityReport.pdf

¹² EPA, Review of the National Ambient Air Quality Standards for Particulate Matter, 85 FR 24094-24144, April 30, 2020, <https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0072-0069>

PM_{2.5} and mortality at concentrations below the current NAAQS. CEI's comment letter on the NAAQS review provided a list of 20 such "negative" studies for EPA's consideration.¹³

The same passage in the BCA proposal states that epidemiological studies used to derive concentration-response functions "must assess the influence of confounders." That also is a non-controversial best practice, although often honored in the breach. A recent Harvard University study purporting to link long-term PM_{2.5} exposures to COVID-19 deaths made a big media splash.¹⁴ The EPA took heat for declining to tighten the NAAQS for fine particulate matter despite the Harvard study's estimate that each 1 µg/m³ increase in long-term PM_{2.5} exposures accounts for 15 percent (later revised to 8 percent)¹⁵ of all U.S. COVID-19 deaths. Two recent National Bureau of Economic Research studies identify a confounding variable overlooked by the Harvard researchers: transit ridership.¹⁶

From the NBER study by MIT professors Christopher Knittel and Bora Ozaltun:

A striking and robust relationship is found between death rates and public transit use. . . . This analysis suggests that once additional health and commute mode variables are included, the size of the pollution correlation falls away and statistical significance goes away, suggesting that the correlation between death rates and air pollution may be spurious.

From the NBER study by University of Virginia professor John McLaren:

For African Americans and First Nations populations, the correlations [between race and COVID-19 deaths] are very robust. Surprisingly, for these two groups the racial disparity does not seem to be due to differences in income, poverty rates, education, occupational mix, or even access to healthcare insurance. A significant portion of the disparity can, however, be sourced to the use of public transit.

The BCA rule will also require cost-benefit analyses for air rules to "clearly distinguish between the social benefits attributable to the specific pollution reductions . . . targeted by the statutory provisions that give rise to the regulation, and other welfare effects." Here the EPA responds to the concern that in many BCAs, "the majority of the monetized benefits for CAA regulations

¹³ CEI's comment letter is available at <https://cei.org/sites/default/files/EPA-HQ-OAR-2015-0072.pdf>.

¹⁴ Xiao Wu, Rachel C. Nethery, M. Benjamin Sabath, Danielle Braun, and Francesca Dominici, Exposure to air pollution and COVID-19 mortality in the United States, April 5, 2020, https://projects.iq.harvard.edu/files/covidpm/files/pm_and_covid_mortality.pdf

¹⁵ Dino Grandoni, "A Harvard study tying coronavirus death rates to pollution is causing an uproar in Washington," *Washington Post*, May 7, 2020, <https://www.washingtonpost.com/news/powerpost/paloma/the-energy202/2020/05/07/the-energy-202-a-harvard-study-tying-coronavirus-death-rates-to-pollution-is-causing-an-uproar-in-washington/5eb2eb6588e0fa42c41b3ba1/>

¹⁶ Christopher R. Knittel and Bora Ozaltun, "What Does and Does Not Correlate with COVID-19 Death Rates," Working Paper 27391, National Bureau of Economic Research, June 2020, <http://www.nber.org/papers/w27391>; John McLaren, "Racial Disparity in COVID-19 Deaths: Seeking Economic Roots in Census Data," Working Paper 27407, National Bureau of Economic Research, June 2020, <http://www.nber.org/papers/w27407>

were attributable to reductions in fine particulate matter (PM_{2.5}) even though the regulation did not target PM_{2.5}.¹⁷

The EPA treads softly here. A surprising number of economically significant CAA regulations since 1997 targeting other pollutants have depended for most of their estimated benefits on collateral reductions of PM_{2.5}. For example, a 2011 study by Anne Smith of NERA Economic Consulting found that of 26 major EPA air regulations not targeting fine particulate matter, PM_{2.5} co-benefits accounted for more than 50 percent of total benefits in 21 rules, and for 99-100 percent of total benefits in 10 rules.¹⁸

Year	RIAs for Rules Not Targeting Ambient PM 2.5	PM Co-Benefits Are >50% of Total	PM Co-Benefits Are Only Benefits Quantified
1997	Ozone NAAQS (.12 1hr=>.08 8hr)	x	
1997	Pulp&Paper NESHAP		
1998	NOx SIP Call & Section 126 Petitions		
1999	Regional Haze Rule	x	
1999	Final Section 126 Petition Rule	x	
2004	Stationary Reciprocating Internal Combustion Engine NESHAP	x	
2004	Industrial Boilers & Process Heaters NESHAP	x	x
2005	Clean Air Mercury Rule	x	
2005	Clean Air Visibility Rule/BART Guidelines	x	
2006	Stationary Compression Ignition Internal Combustion Engine NSPS		
2007	Control of HAP from mobile sources	x	x
2008	Ozone NAAQS (.08 8hr =>.075 8hr)	x	
2008	Lead (Pb) NAAQS	x	
2009	New Marine Compress'n-Ign Engines >30 L per Cylinder	x	
2010	Reciprocating Internal Combustion Engines NESHAP – Comp. Ignit.	x	x
2010	EPA/NHTSA Joint Light-Duty GHG & CAFES		
2010	SO2 NAAQS (1-hr, 75 ppb)	x	> 99.9%
2010	Existing Stationary Compression Ignition Engines NESHAP	x	x
2011	Industrial, Comm, and Institutional Boilers NESHAP	x	x
2011	Indus'l, Comm'l, and Institutional Boilers & Process Heaters NESHAP	x	x
2011	Comm'l & Indus'l Solid Waste Incin. Units NSPS & Emission G'lines	x	x
2011	Control of GHG from Medium & Heavy-Duty Vehicles		
2011	Ozone Reconsideration NAAQS	x	
2011	Utility Boiler MACT NESHAP (<i>Final Rule's RIA</i>)	x	≥ 99%
2011	Mercury Cell Chlor Alkali Plant Mercury Emissions NESHAP	x	
2011	Sewage Sludge Incineration Units NSPS & Emission Guidelines	x	x

¹⁷ 85 35622

¹⁸ Anne E. Smith, *An Evaluation of the PM_{2.5} Health Benefits Estimates in Regulatory Impact Analyses for Recent Air Regulations*, Final Report Prepared for the Utility Air Regulatory Group, NERA Economic Consulting, December 11, 2011, p. 8,

https://www.nera.com/content/dam/nera/publications/archive2/PUB_RIA_Critique_Final_Report_1211.pdf

The EPA's 2012 Mercury Air Toxics Standards (MATS) rule¹⁹ is the classic case of PM_{2.5} co-benefits beautifying an otherwise economically indefensible rule. Just considering the hazardous air pollutant (HAP) reductions that were the MATS rule's statutory purpose, estimated costs (\$9.6 billion) exceeded estimated benefits (\$4 million to \$6 million) by 1,600 or even 2,400 times.²⁰ To sell the rule to Congress and the public, the EPA and its allies claimed the MATS rule's collateral reductions in non-HAP air pollutants, chiefly PM_{2.5}, would avert 4,200 to 11,000 premature deaths in 2016, producing \$37 billion to \$90 billion in annual health benefits.

At the time, this was just PR and regulatory cheerleading. The EPA argued in the MATS rule that it need not and should not consider costs when determining whether regulating power plant HAP emissions under maximum achievable control technology (MACT) standards is "appropriate and necessary."²¹ However, the Supreme Court disagreed.

In *Michigan v. EPA* (2015), the Court noted that "appropriate" is the "classic broad and all-encompassing term" for considering "all relevant factors," including the "disadvantages" of agency decisions. The Court stated: "One would not say that it is even rational, never mind 'appropriate,' to impose billions of dollars in economic costs in return for a few dollars in health or environmental benefits," because "No regulation is 'appropriate' if it does significantly more harm than good."²²

In response to *Michigan*, the Obama-era EPA in April 2016 finalized a "Supplemental Finding" that MACT regulation of power plant HAP emissions is "appropriate." The EPA argued that \$37 billion to \$90 billion in PM_{2.5} co-benefits fully justified the MATS rule, producing \$3 to \$9 in benefits for every dollar of cost.²³

In May 2020, the EPA repudiated the 2016 Supplemental Finding. While leaving the MATS rule in place, the EPA argued that the Supplemental Finding inverted the "appropriate and necessary" test Congress enacted in CAA section 112(n)(1)(A). Congress clearly tasked the EPA to determine whether MACT regulation of power plants is appropriate *after* considering the ancillary HAP reductions achieved by other CAA "requirements," especially the big-ticket programs targeting "criteria" air pollutants.

Specifically, the EPA's task was to determine the following: Is MACT regulation of power plant HAPs appropriate and necessary *after* considering the ancillary HAP reductions expected from (1) the NAAQS program, which directly targets PM_{2.5} and the main PM_{2.5} precursors, sulfur

¹⁹ EPA, 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; Final Rule, 77 FR 9304, February 16, 2012, <https://www.govinfo.gov/content/pkg/FR-2012-02-16/pdf/2012-806.pdf>

²⁰ EPA, Regulatory Impact Analysis for the Final Mercury Air Toxics Standards, December 2011, ES-1, <https://www3.epa.gov/ttnecas1/regdata/RIAs/matsriafinal.pdf>

²¹ 77 FR 9327

²² *Michigan et al. v EPA et al.*, Slip Opinion, p. 7, June 29, 2015, https://www.supremecourt.gov/opinions/14pdf/14-46_bqmc.pdf

²³ EPA, Supplemental Finding That It Is Appropriate and Necessary to Regulate Hazardous Air Pollutants from Coal and Oil-Fired Electric Utility Steam Generating Units; Final Rule, 81 FR 24425, 24427, April 25, 2016, <https://www.govinfo.gov/content/pkg/FR-2016-04-25/pdf/2016-09429.pdf>

dioxide (SO₂) and nitrogen oxides (NO_x), and (2) the Title IV Acid Deposition program, which also directly targets SO₂ and NO_x? What the Obama EPA did instead was the reverse. It determined that MACT regulation of power plant HAP emissions is appropriate *after* considering the collateral reductions in criteria pollutants emissions that such regulation might achieve.²⁴

The Trump EPA presumably wants to limit the use of PM_{2.5} co-benefits as a magic wand for making regulatory excess look like a bargain at any price. However, the BCA rule aims only to make the issue more transparent, not resolve it. Under the BCA rule, the preamble of each economically significant air regulation will include, in addition to an overall presentation of total costs and benefits, a separate presentation of the “monetized value to society” of the specific statutory objective or objectives targeted by the rule.²⁵

Thus, each rule’s preamble will “disaggregate” total benefits into two categories: “targeted” benefits (those directly related to the rule’s statutory objectives) and “ancillary” benefits (those unrelated or secondary to the rule’s statutory objectives).²⁶

Such a format would have spotlighted, at the start of the proposed MATS rule, that only 0.1 percent of the rule’s estimated benefits are projected to come from the rule’s statutory objectives.²⁷ That would likely have raised eyebrows and made people wonder whether the BCA was just the rationalization for an agenda chosen prior to the analysis.

The proposed transparency-enhancing format may improve the quality of future rulemakings in subtle yet significant ways: “Disaggregating benefits into those targeted and ancillary to the statutory objective of the regulation may cause the EPA to explore whether there may be more efficient, lawful and defensible, or otherwise appropriate ways of obtaining ancillary benefits, as they may be the primary target of an alternative regulation that may more efficiently address such pollutants, through a more flexible regulatory mechanism, better geographic focus, or other factors.”²⁸

The sentence just quoted is the most evocative in the BCA proposal. The next section discusses some of the implications and issues it raises.

II. How Can EPA Address PM_{2.5} Co-Benefits and Avoid Regulatory Excess?

That is the most important problem the BCA rule seeks to clarify and, perhaps, in subtle ways ameliorate. The problem has an apparent inexorability that may be described as follows:

²⁴ EPA, 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, 85 FR 31300, May 22, 2020, <https://www.govinfo.gov/content/pkg/FR-2020-05-22/pdf/2020-08607.pdf>.

²⁵ 85 FR 35627. Had such a separate tabulation been included in the proposed MATS rule, readers would immediately see that only 0.1 percent of the rule’s estimated benefits come from the rule’s statutory objectives (85 FR 31289). Very likely eyebrows would be raised. At least some people would wonder if the PM_{2.5}-heavy BCA was just a rationalization for policy objectives chosen prior to the analysis.

²⁶ 85 FR 35622

²⁷ PM_{2.5} co-benefits accounted for 99.9 percent of the MATS rule’s total monetized benefits. See 85 FR 31289.

²⁸ 85 FR 35622

1. “The key elements of a rigorous regulatory BCA include . . . to the extent feasible, an assessment of all benefits and costs of these regulatory options relative to the baseline (no action) scenario.”²⁹ “All” benefits *by definition* include ancillary benefits.
2. Moreover, “longstanding executive orders, guidance, and judicial doctrines call on agencies to consider the full suite of impacts,” including “important co-benefits, countervailing risks, or social costs.”³⁰
3. Almost all air pollution regulations will also, to some degree, reduce PM_{2.5} emissions or precursors.
4. Most of the epidemiology underpinning air pollution regulation assumes there is no concentration threshold below which PM_{2.5} ceases to be deadly.
5. Because the potential beneficiaries of ancillary PM_{2.5} reductions number in the tens of millions, air agencies can always plausibly claim regulatory benefits dramatically exceed costs.
6. Impelled by the logic of linear-no-threshold (LNT) epidemiology, bureaucratic self-interest, and progressive politics, BCA easily becomes apologetics for regulatory excess.

There are several ways to attack this problem, and CEI encourages EPA to explore them in connection with the current rulemaking and in future deliberations.

1. Use the disaggregation of benefits into targeted (statutory) and ancillary to question the propriety of regulating PM_{2.5} via non-PM statutes.

When, as in the case of the MATS rule, 99.9 percent³¹ of the monetized benefits come from ancillary PM_{2.5} reductions, it is appropriate to ask whether the rule has a truth in labeling problem. When the overwhelming lion’s share of a rule’s estimated benefits are PM_{2.5} co-benefits, the rule is functionally a PM_{2.5} reduction mandate. Why is a HAP rule *needed* to regulate criteria pollutants? If the EPA believes additional PM_{2.5} reductions are needed, shouldn’t it propose to achieve those reductions through statutory provisions Congress specifically designed for that purpose?

Several CAA programs specifically direct or authorize EPA to regulate criteria pollutants from stationary or mobile sources: the NAAQS program, the New Source Performance Standards program, the Prevention of Significant Deterioration of Air Quality program, State Implementation Plan Requirements for Non-Attainment Areas, Mobile Source Emission Standards, and the Acid Deposition Control program.³² Controlling PM_{2.5} through those programs would likely be more efficient than doing so through the CAA section 112 HAP program, since those authorities have flexibilities specifically tailored to criteria pollutants. Indeed, it is hard to believe that in any rulemaking under those authorities, the EPA or its state

²⁹ 85 FR 35618

³⁰ John D. Graham, Jonathan B. Wiener, and Lisa A. Robinson, Co-Benefits, Countervailing Risks, and Cost-Benefit Analysis, Prepared for the Harvard Center for Analysis “Risk Assessment, Economic Evaluation, and Decisions Workshop,” September, 26-27, 2019, <https://cdn1.sph.harvard.edu/wp-content/uploads/sites/1273/2019/09/Graham-Wiener-Robinson-2019.pdf>

³¹ 85 FR 31289

³² 85 FR 31300

counterparts would conclude that controlling HAP emissions from power plants is the most efficient method.

In fact, it is far from clear the EPA and its counterparts would have approved using the criteria pollutant statutes to achieve PM_{2.5} reductions equivalent to those required by the MATS rule. EPA's choice of a backdoor strategy to regulate PM_{2.5} suggests that the agency did not believe it could justify those reductions on their own merits.

As the BCA rule states: "Disaggregating benefits into those targeted and ancillary to the statutory objective of the regulation may cause the EPA to explore whether there may be *more efficient*, lawful and defensible, or otherwise appropriate ways of obtaining ancillary benefits" (emphasis added).

2. Use the disaggregation of benefits to question the legality of regulating PM_{2.5} via CAA section 112.

Again, when ancillary PM_{2.5} reductions constitute nearly all quantified benefits, the rule is functionally a PM_{2.5} reduction mandate. CAA section 112(b)(2) prohibits the EPA from listing as a HAP any air pollutant already listed for regulation under the NAAQS program (CAA section 108). The provision states, in pertinent part: "No air pollutant which is listed under section 7408(a) of this title may be added to the list under [CAA section 112]."

A quibbler might argue that MATS is legal because the EPA did not list or expressly regulate PM_{2.5} as a HAP under CAA section 112. However, the point of CAA 112(b)(2) is to prohibit the EPA from regulating NAAQS-regulated pollutants under CAA section 112, which is exactly what the MATS rule does. If the EPA may regulate criteria pollutants under CAA section 112, provided it does not "list" them as HAPs, the prohibition becomes a practical nullity. That cannot possibly have been Congress's intent.³³

In recent testimony before the House Energy & Commerce Committee, Attorney Adam Gustafson flags another legal problem with the MATS rule. The main reason for prohibiting the EPA from regulating criteria pollutants via CAA section 112 is to safeguard the NAAQS program's cooperative federalism framework, which gives the states, not the EPA, "the primary responsibility to regulate." Gustafson explains:

Although EPA sets the NAAQS under Section 109, it falls to the States in the first instance to implement those standards under Section 110 as they see best. By using PM reductions as co-benefits, the Obama Administration silently amended the State Implementation Plans for the PM_{2.5} NAAQS to mandate PM reductions from coal-fired power plants instead of (or in addition to) whatever alternative PM_{2.5} controls the States have adopted.³⁴

³³ Statement of Adam R.F. Gustafson, "Undermining Mercury Protections: EPA Endangers Human Health and the Environment," Hearing Before the U.S. House of Representatives Committee On Energy & Commerce Subcommittee On Oversight and Investigations, May 21, 2019, <https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Gustafson.pdf>

³⁴ Gustafson, *Ibid.*

As the BCA rule states: “Disaggregating benefits into those targeted and ancillary to the statutory objective of the regulation may cause the EPA to explore whether there may be more efficient, *lawful* and defensible, or otherwise appropriate ways of obtaining ancillary benefits” (emphasis added).

3. Question whether ancillary criteria pollutant reductions are marginal benefits rather than marginal costs.

Anne Smith makes this point in her 2011 study. There is a strong likelihood that criteria pollutant emissions are already being over-regulated (reduced beyond the point where regulation achieves net benefits). That is so for two reasons. First, in *Whitman v. American Trucking Associations* (2001), the Supreme Court upheld the appellate court’s unanimous opinion that “the EPA may not consider the cost of implementing a NAAQS in setting the initial standard.”³⁵ Second, the statute is precautionary, directing the EPA to set the primary (health-focused) NAAQS at a level requisite to protect public health “with an adequate margin of safety.” In short, when setting a NAAQS, the EPA must both ignore costs and err on the side of caution.

Given those imperatives, it is highly likely, Smith argues, that NAAQS regulation “results in over-control of criteria pollutants *with respect to their BCA-optima*.” In fact, she contends, “If a NAAQS has indeed been set to a point where it provides an adequate margin of safety, its RIA [regulatory impact analysis] *should* show that it fails a marginal BCA test.” Consequently, the “co-benefits from any pollutant that is regulated as a criteria pollutant with a NAAQS that conforms with the requirements of CAA section 109 should not be included in the BCA of any other pollutant.”³⁶

4. Do not monetize PM_{2.5} reductions below the NAAQS, or, at a minimum, discount the value of those reductions.

In a 2015 study, Smith cites a figure from the MATS rule’s RIA revealing that “over 99 percent of those projected [ancillary] benefits are projected to occur in areas where the PM_{2.5} levels will already be below the PM_{2.5} NAAQS of 12 µg/m³ (Figure 5–15 on p. 5–102 of Ref. 21).”³⁷

While it is theoretically possible that emission reductions below the NAAQS save lives, monetizing such reductions for BCA purposes is illegitimate. By law, NAAQS must be set at a level “requisite to protect public health” with an “adequate margin of safety.” As noted, that is precautionary standard. Thus, the health benefits of PM_{2.5} reductions below the NAAQS are less certain those achieved above the NAAQS.

As explained in EPA’s 2013 PM_{2.5} rulemaking, each health-focused NAAQS is to be set at the point where the agency’s “confidence in the magnitude and significance of the associations is

³⁵ *Whitman v. American Trucking Associations*, Slip Opinion, 2001, <https://www.law.cornell.edu/supct/pdf/99-1257P.ZO>

³⁶ Smith (2011), pp. 11-12

³⁷ Anne E. Smith, “Inconsistencies in Risk Analysis for Ambient Air Pollutant Regulations,” *Risk Analysis*, 2015, pp. 6-7, <http://www.globalwarming.org/wp-content/uploads/2016/06/Anne-Smith-Risk-AnalysisPerspectives-early-view-Nov2015.pdf>

reduced to such a degree that a standard set at a lower level would not be warranted to provide requisite protection that is neither more nor less than needed to provide an adequate margin of safety.”³⁸

If the science does not support a more stringent standard, then the EPA can have little confidence in the monetary value of reductions below the NAAQS. The agency should stop monetizing reductions below the NAAQS, or, at a minimum, discount the value of those reductions.

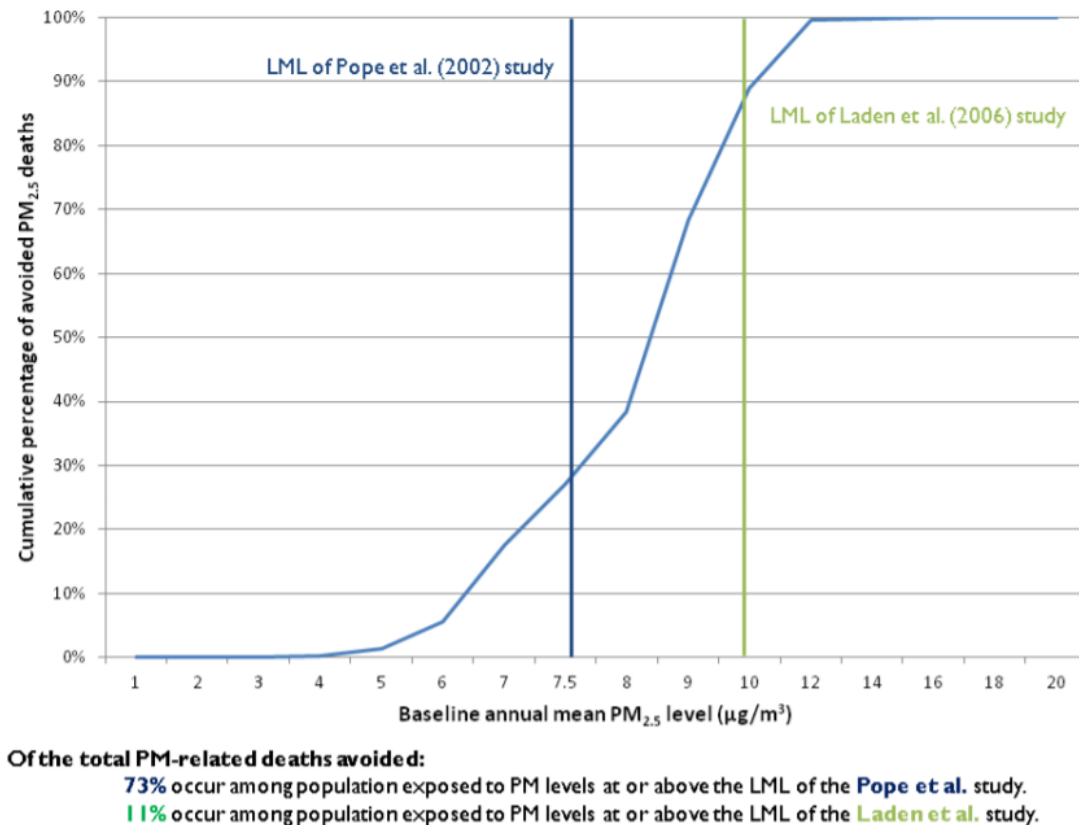


Figure 5-15. Cumulative Percentage of Total PM-Related Mortalities of the Mercury and Air Toxics Standards in 2016 Avoided by Baseline Air Quality Level^a

5. Heed the BCA rule’s directive to consider all credible epidemiological studies, including “negative” studies finding no correlation between PM_{2.5} exposures and health effects.

This point has already been mentioned but it bears repeating. The EPA’s proposed review of the NAAQS for particulate matter³⁹ proposes to retain the current standard of 12 µg/m³ for PM_{2.5} because controlled human exposure and animal toxicology studies find significant associations with adverse health effects only at exposures well above the standard. However, the EPA gives

³⁸ EPA, National Ambient Air Quality Standards for Particulate Matter; Final Rule, 78 FR 3161, January 15, 2013, <https://www.gpo.gov/fdsys/pkg/FR-2013-01-15/pdf/2012-30946.pdf>

³⁹ EPA, Review of the National Ambient Air Quality Standards for Particulate Matter, 85 FR 24094-24144, April 30, 2020, <https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0072-0069>

the impression that all credible epidemiological studies find significant associations below the NAAQS. That is incorrect.

The final NAAQS PM rule should consider the “negative” epidemiological studies CEI and other stakeholders identified in their comments. Two such studies merit mention here: UCLA epidemiologist James Enstrom’s 2017 reanalysis of the American Cancer Society cohort study,⁴⁰ and statistician S. Stanley Young and colleagues’ 2017 study of air quality and mortality in California during 2000-2012.⁴¹

6. Reconsider the value of PM_{2.5} co-benefits in light of mundane realities.

Almost-never smokers inhale roughly 50 times more PM_{2.5} over a lifetime than non-smokers do, yet they experience no increase in premature mortality, much less the massive reductions in life expectancy one would expect based on LNT epidemiology. As Enstrom, Young, and seven other experts point out:

. . . a person who smokes 0.2 cigarettes/day has a daily exposure of about 750 µg/m³. If a 10 µg/m³ increase in PM_{2.5} actually caused a 0.61-year reduction in life expectancy, equivalent to the claim of Pope, then a 0.2 cigarettes/day smoker would experience about a 45-year reduction in life expectancy, assuming a linear relationship between changes in PM_{2.5} and life expectancy. In actuality . . . smokers of 0.2 cigarettes/day do not experience any increase in total death rate or decrease in life expectancy, in spite of a 50-fold greater exposure to PM_{2.5}.⁴²

A CEI policy paper by regulatory analyst Steve Milloy makes a complementary point:

What does the epidemiology of smoking tell us about long-term exposures to PM_{2.5}? Someone living to age 80 or so breathing average U.S. air will inhale an ounce or so in total of PM_{2.5}—an amount that can be visualized as two sugar packets’ worth of PM_{2.5}. A recent study in the *New England Journal of Medicine* reported that people who stop smoking by age 35 have normal life expectancy, which translates to about 80 years for white women.⁴³ Assuming such an individual had smoked half a pack of cigarettes per day, she would have inhaled over four pounds of PM_{2.5}. What does it say about the lethality of PM_{2.5} on a long-term basis if a non-smoker and smoker can have the same life

⁴⁰ James E. Enstrom, “Fine Particulate Matter and Total Mortality in Cancer Prevention Study Cohort Reanalysis,” *Dose-Response: An International Journal*, January-March 2017:1-12,

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5407529/pdf/10.1177_1559325817693345.pdf

⁴¹ S. Stanley Young, Richard L. Smith, Kenneth K. Lopiano, “Air quality and acute deaths in California, 2000-2012,” *Regulatory Toxicology and Pharmacology*, 88 (2017) 173-184,

<https://junkscience.com/wpcontent/uploads/2017/11/Young-2017-CA-data-RTP.pdf>

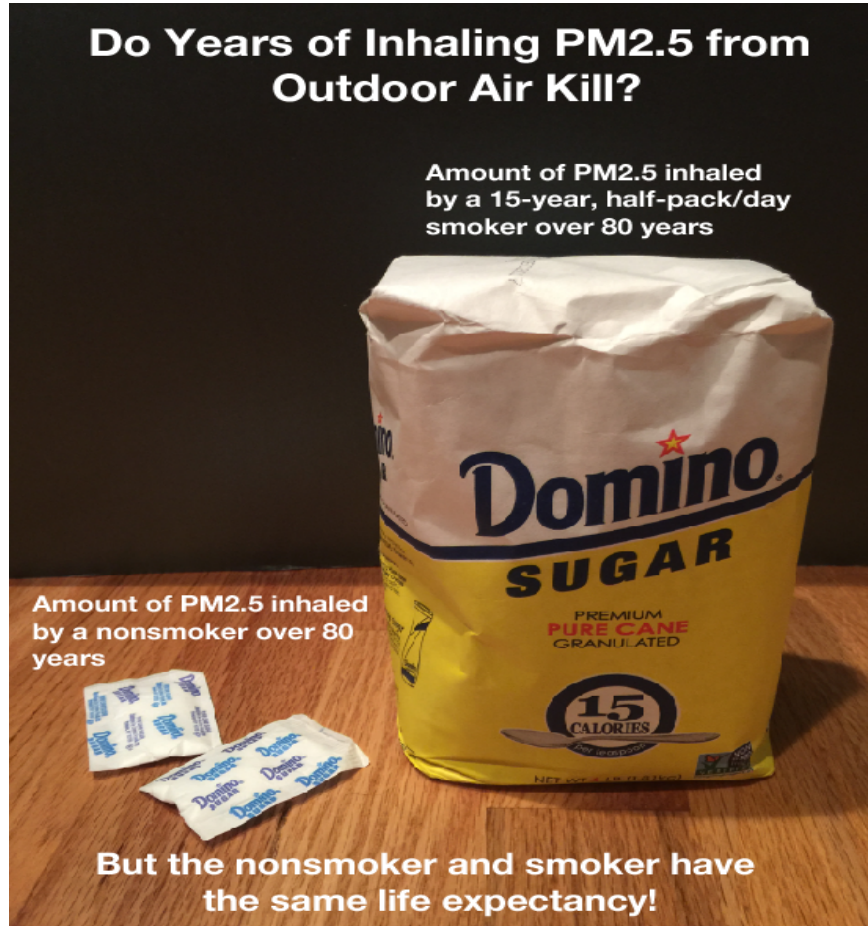
⁴² Text available at <http://www.scientificintegrityinstitute.org/Science100615.pdf>.

⁴³ Prabhat Jha et al, “21st-Century Hazards of Smoking and Benefits of Cessation in the United States,” *New England Journal of Medicine*, Vol. 368, No. 4 (January 24, 2013), pp. 341-350,

<https://www.nejm.org/doi/full/10.1056/NEJMsa1211128>

expectancy despite the vast differences in PM_{2.5} inhaled—a sugar packet versus more than a sugar bag’s worth, respectively?⁴⁴

Milloy illustrates the foregoing with this photo:



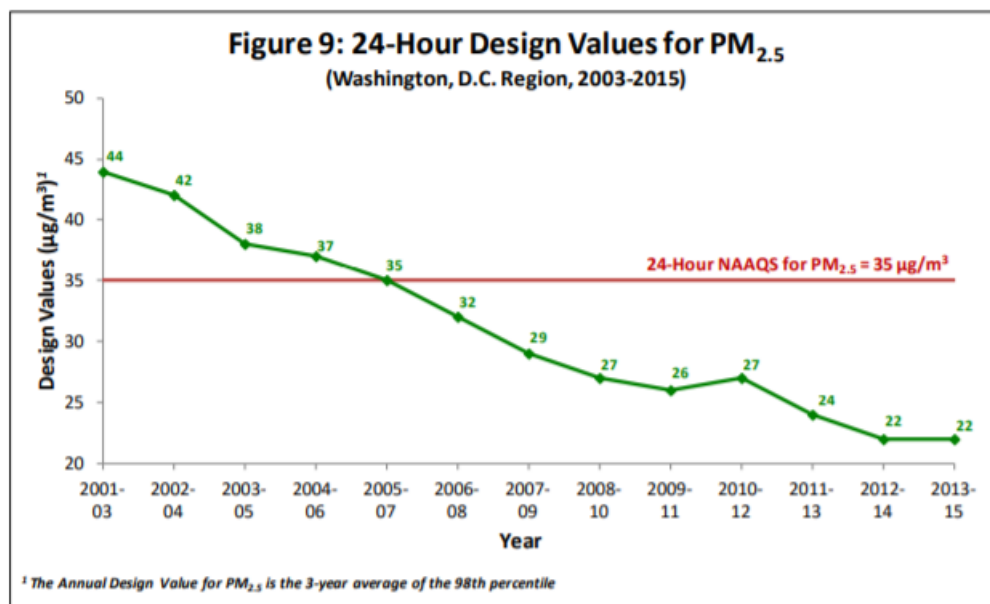
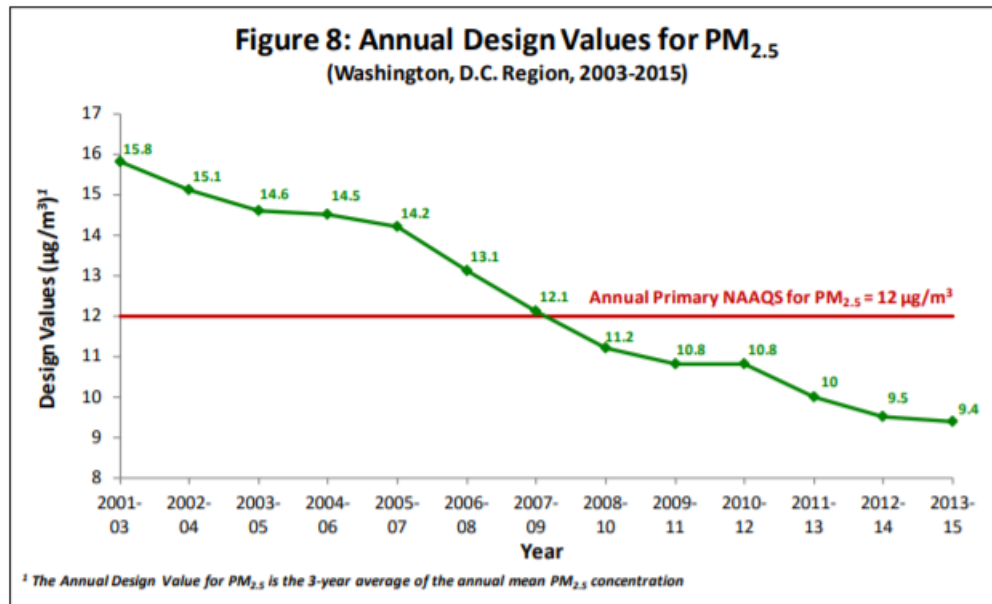
Milloy concludes: “If one can inhale either a little or a lot of PM_{2.5} over the course of a lifetime and expect to live the same length of time, then PM_{2.5} does not kill on a long-term basis.”⁴⁵

Milloy points out another mundane reality not easily explained by LNT PM_{2.5} epidemiology: PM_{2.5} levels in Beijing are much higher than in the Washington Metropolitan region, yet life expectancies in the two areas are roughly equal. For several years, PM_{2.5} levels in the

⁴⁴ Steve Milloy, Will the Trump Fuel Economy Reform Proposal Create Deadly Air Pollution? On Point No. 250, Competitive Enterprise Institute, October 17, 2018, p. 7, https://cei.org/sites/default/files/Steve_Milloy_-_Will_CAFE_Reform_Proposal_Create_Deadly_Air_Pollution%20%281%29.pdf

⁴⁵ 2 Steve Milloy, “How does this photo debunk EPA’s most important ‘scientific’ claim? JunkScience.Com, June 9, 2016, <https://junkscience.com/2016/06/how-does-this-photo-debunk-epas-most-important-scientificclaim/>

Washington, D.C. metropolitan area have been lower than the 2012 annual and 24-hour standards.⁴⁶



The average life expectancy in the Washington metropolitan area is 78 years, or 0.6 years lower than the national average. Arlington County has an average life expectancy of 82.7 years,

⁴⁶ Department of Environmental Programs, Metropolitan Washington Council of Governments, Air Quality Trends, Metropolitan Washington D.C. Region, 1993-2016,
file:///C:/Users/marlo/Downloads/Item_5_DRAFT_AQ_Trend_Report_2017.pdf

presumably due to residents' above-average income, education, and access to quality medical care.⁴⁷

Beijing's PM_{2.5} levels during the past 48 hours ranged from 53 µg/m³ to 154 µg/m³.⁴⁸ Beijing's average annual level in 2019 was 42 µg/m³—down from 85 µg/m³ in 2014.⁴⁹ Thus, although air quality is improving, the elderly in Beijing have much higher lifetime exposures to PM_{2.5} than do Arlington County residents. Yet, according to the Chinese government news agency, average life expectancy in Beijing is 82.2 years.⁵⁰

Given recent events, one might be skeptical of health data emanating from the People's Republic. However, an expert colleague with lifelong antipathy to the regime considers Chinese urban mortality data to be trustworthy.⁵¹ If people on average live about as long in Beijing as they do in an affluent part of the Washington Metropolitan Region, it is hard to understand how mandating PM_{2.5} reductions below the NAAQS can provide tens of billions of dollars in health benefits to the American people.

III. Miscellaneous Issues in the BCA Proposal

Issue: The EPA requests comment on whether the BCA rule should apply only to the subset of CAA significant regulations that are determined to be “economically significant,” defined as those likely to have an effect on the economy of \$100 million or more per year, or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities.⁵²

CEI comment: The economically significant threshold is a good place to start. However, the final rule should acknowledge that, in principle, all rules imposing costs on the public should require a BCA. Moreover, the final rule should set forth a schedule for lowering the threshold to, e.g., \$50 million, \$25 million, \$10 million, and so on. The EPA should take care not to facilitate gaming of the BCA rule so that future administrations can avoid it by breaking up larger rules into smaller components.

Issue: The EPA requests comment on whether the threshold of \$100 million in benefits and/or costs in any given year should be adjusted for inflation going forward, and, if so, whether such adjustments should be made assuming a base year of 1995.⁵³

⁴⁷ Dan Taylor, “D.C.: Here’s How Long Your Life Expectancy Is,” *Patch*, October 1, 2019, <https://patch.com/districtcolumbia/washingtondc/dc-heres-how-long-your-life-expectancy>

⁴⁸ Beijing Air Quality: Real Time Air Quality Index (AQI), accessed August 3rd, 5:15 pm EST, <https://aqicn.org/city/beijing/>

⁴⁹ Smart Air, Beijing PM2.5 Air Quality Report – 2019 Statistics, <https://smartairfilters.com/en/blog/beijing-airpollution-2019-report-statistics/>

⁵⁰ XinhuaNet, “Beijing life expectancy hits 82.2 years,” February 21, 2019, http://www.xinhuanet.com/english/2019-02/21/c_137840564.htm

⁵¹ Personal communication from a China expert.

⁵² 85 FR 35623

⁵³ 85 FR 35623

CEI Comment: The EPA should stick with \$100 million as the initial cutoff and not adjust it for inflation. Inflation adjustment would give the EPA—and other agencies following the EPA’s lead—an incentive to support inflationary monetary, fiscal, and regulatory policies. Not good.

Issue: The EPA solicits comment on whether non-domestic benefits and costs of regulations, when examined, should be reported separately from domestic benefits and costs of such regulations.⁵⁴

CEI Comment: That makes a lot of sense, especially in the context of regulations addressing climate change. Comparing the domestic costs of greenhouse gas regulations to the purported global benefits—the Obama administration’s widespread practice—hides from citizens how much the costs they are paying exceed the benefits they are receiving.

Issue: The EPA requests comment on alternative approaches to increasing transparency about the extent to which a rule is achieving its statutory objectives.⁵⁵

CEI Comment: Estimating the cost-per-ton of pollution reduced or avoided is an easily understood metric that clearly distinguishes regulatory alternatives—as well as different rules addressing the same pollutant—based on cost-effectiveness. According to the U.S. Chamber of Commerce, the most economical way for agencies to reduce pollution is to “compare costs across the range of controls and choose the level of pollution control that yields the greatest reductions at the lowest incremental cost.”⁵⁶

I have no clear opinion as to how many CAA provisions allow the EPA to choose among regulatory alternatives based on cost-effectiveness. Nonetheless, all BCAs for economically significant rules should provide cost-per-ton estimates. It is valuable for both the public and policymakers to have cost-per-ton information even in cases where factors other than cost determine regulatory outcomes.

Issue: The EPA requests comment on whether the rule should require retrospective analyses of significant CAA rulemakings.⁵⁷

CEI Comment: That is a good idea especially if it also includes a cost-per-ton component. Comparing a rule’s original cost-per-ton estimate with subsequent data will help the agency improve cost estimation over time and facilitate public understanding of and engagement in the regulatory process.

Conclusion

CEI strongly supports the proposed BCA rule, which will increase the transparency and consistency of EPA benefit-cost analysis by codifying various longstanding best practices. We

⁵⁴ 85 FR 35623

⁵⁵ 85 FR 35623

⁵⁶ William L. Kovacs, Joseph M. Johnson, and Keith W. Holman, *Truth in Regulating: Restoring Transparency to EPA Rulemaking*, U.S. Chamber of Commerce, April 2015, <https://www.uschamber.com/report/truth-regulating-restoring-transparency-epa-rulemaking>

⁵⁷ 85 FR 35624

commend the EPA for spotlighting the PM_{2.5} co-benefits problem, an essential first towards solving it. There are compelling scientific and legal reasons to rein in the use of PM_{2.5} co-benefits in benefit-cost analysis. Curbing PM_{2.5} co-benefits abuse will not be accomplished quickly or easily. But the effort must be made, or else BCA in Clean Air Act rulemakings is apt to become little more than apologetics for regulatory excess.

Respectfully submitted,

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