Statement of the U.S. Chamber of Commerce

Public Hearing on Environmental Protection Agency Proposed Rule: Increasing Consistency in Considering Benefits and Costs in the Clean Air Act Rulemaking Process
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Thank you for the opportunity to speak today regarding EPA's proposed rulemaking to increase consistency in considering costs and benefits during the Clean Air Act rulemaking process. My name is Dan Byers, and I'm speaking on behalf of the U.S. Chamber of Commerce Global Energy Institute.

High quality cost-benefit analyses are foundational to balanced and informed regulatory decision-making. Americans deserve a regulatory system that will fairly and transparently evaluate the impacts of agency regulations on our communities and businesses. As an agency responsible for regulating a broad range of manufacturing and industrial activities across the U.S. economy, improving cost-benefit processes at EPA is a worthy goal that will increase stakeholder and public trust in the agency's work.

First, it should be emphasized at the outset that the process of developing benefit-cost analyses (BCAs) is not easy. Forecasting both costs and benefits requires regulators to make a litany of subjective and uncertain assumptions, that become increasingly difficult to accurately estimate the farther they project into the future. This is true across government agencies, but at EPA, the need to make difficult assumptions on market, technological, and risk factors adds several layers of complexity. These challenges cannot be eliminated, but they can be managed and made transparent, and in doing so, provide valuable insight to inform decision-makers' judgments on rules.

Unfortunately, however, too many EPA cost-benefit analyses have been plagued by inconsistent approaches, problematic and/or non-transparent assumptions, and a failure to acknowledge and communicate significant sources of uncertainty. Equally problematic, these shortcomings are often exacerbated when regulatory review is translated to agency fact sheets and regulatory marketing materials. While the desire to simplify and summarize complex BCAs into a set of "headline numbers" is understandable, it often presents a false precision that can mislead policymakers and the public alike.

The proposed rule makes important and long overdue progress toward addressing these issues by instituting a comprehensive set of best practices and common-sense steps for the agency to follow when conducting BCAs. In particular, the Chamber supports advancement of provisions that require:

- Thorough and upfront description of how benefits and costs were estimated, key assumptions concerning the models, data, and assumptions used, and the evaluation and selection process for these decisions.
- Codification of best practices in the conduct and presentation of BCAs for better transparency.
- Selection of benefit endpoints based on scientific evidence showing a clear causal relationship between pollutant exposure and effect, with the caveat that, as detailed in advice from the Clean Air Scientific Advisory Committee,[1] EPA must refine its process

[1] CASAC review of EPA's *Policy Assessment for the Review of National Ambient Air Quality Standards for Particulate Matter*, December 2019. Accessible a

for defining causality and making causal determinations, including through the use of more quantitative methods to address chance, bias and confounding..

- Characterization of the potential model uncertainty in concentration-response functions (CRFs) across studies and models.
- Application of relevant guidance from Office and Management and Budget (OMB) Circular A-4, including use of domestic (vs. global) benefit accounting to avoid an apples to oranges scenario that compares domestic costs with international benefits, and use of standard discount rates of 3 percent and 7 percent. Similarly, while the proposal does not explicitly address it, we recommend EPA require presentation of benefit estimates calculated based on both the Value of Statistical Life (VSL) and Value of Statistical Life-Years (VSLY), consistent with guidance in Circular A-4.
- Use of risk probability distributions and central tendency estimates when determining projected benefits.
- Disaggregation of social benefits attributable to the targeted statutory provisions underlying the regulation, and other benefits that give rise to the regulation, and other welfare effects.
- Identification and analysis of uncertainties underlying BCA projections, and use of benefit/cost probability distributions and associated communication of input sensitivities.
- Preservation of the Administrator's ultimate judgment in making regulatory decisions, irrespective of whether central estimates of net benefits exceed a proposed rule's costs.
- Standardization and expansion of ongoing efforts to undertake retrospective reviews of major, significant rulemakings to evaluate the effectiveness of regulatory programs and cumulative impacts on sectors.

Collectively, systematic and consistent incorporation of these requirements will lead to more complete and accurate accounting of benefits, costs, and associated uncertainties. Ultimately, this will help the agency make better decisions, while enabling stakeholders and the regulated community to have a greater understanding of the potential impacts of rulemakings.

To further illustrate why these changes are necessary, I will focus my remaining time on specific examples highlighting how a lack of consistency and transparency has hindered regulatory analyses in the past.

First, a representative example of regulatory miscommunication. In 2011, EPA published an analysis titled "Benefits and Costs of the Clean Air Act Amendments of 1990."[2] The headlines of the fact sheet accompanying the report declared that benefits from the law will "reach approximately $2.0 trillion in 2020," and that the benefits of these regulations exceed costs "by a factor of more than 30 to one." The paper failed to mention that the vast majority of these claimed benefits did not pertain to the pollutants targeted by EPA regulations, but rather derived from fine particulate matter (PM2.5) co-benefits. For perspective, data compiled by the Chamber found that, between 2000 and 2016, 97% of all monetized regulatory benefits claimed by EPA were derived from PM2.5.

https://yosemite.epa.gov/sab%5Csabproduct.nsf/E2F6C71737201612852584D20069DFB1/$File/EPA-CASAC-20-001.pdf.

[2] https://www.epa.gov/sites/production/files/2015-07/documents/factsheet.pdf

EPA's fact sheet went on to assert that, in 2020, the law would prevent 17 million lost work days, 5.4 million missed days of school, and 230,000 early deaths. No ranges related to these projections were given, and the only mention of uncertainties in the fact sheet was to state that they were "extremely unlikely" to impact the report's conclusion that benefits exceed the costs.

Concerned that EPA's claims implied a level of precision and confidence unjustified by the data, toxicologist and current chair of EPA's Clean Air Science Advisory Committee, Dr. Anthony Cox, undertook an analysis of the report. His findings were published in a *Journal of Risk Analysis* article titled "Reassessing the Human Health Benefits from Cleaner Air."[3]

Cox concluded that "instead of suggesting to policy makers that CAAA benefits are almost certainly far larger than its costs, we believe that accuracy requires acknowledging that the costs purchase a relatively uncertain, possibly much smaller, benefit." Specifically, by applying a different approach to uncertainty analysis that assigned specific probabilities to key benefit assumptions, Cox calculated benefits amounting to $19 billion—about two orders of magnitude smaller than claimed by EPA, and less than the agency's regulatory cost estimate of $65 billion. The point of sharing this example is not to suggest that Cox's forecast was "right" and EPA's was "wrong"— any number of experts can and do have reasonable disagreements over the appropriate inputs to use. Rather, it is to illustrate the enormous influence of subjective and uncertain assumptions on BCA outputs, and how even modest changes to certain estimates can have large impacts on projected benefits once propagated through the entire analysis. This reality highlights the importance of ensuring that regulatory analyses and the accompanying agency advocacy materials communicate key uncertainties and avoid conveying unjustified overconfidence in a single benefit estimate.

In contrast, a more recent example illustrates how improved transparency can provide a more accurate picture of plausible cost-benefit scenarios. In June 2019, the final rule accompanying EPA's Affordable Clean Energy (ACE) rule included summary benefits table (attached) showing "cutpoints" projected to accrue above a range of ambient PM2.5 levels. The cutpoints, or benefit endpoints, are a reflection of decreased confidence in benefit outcomes at lower and lower ambient concentrations of pollutants.[4] The table shows projected co-benefits in 2030 associated with the rule ranging between $75 million and $1.2 billion, depending on the cutpoint, risk study, and discount rate used. It also presents a standard 95% confidence interval for these estimates, which ranges from between $8 million and $3.5 billion.

While many additional variables and input sensitivities also warrant inclusion in future analyses, this format can serve as a model for the type of transparent BCA presentation that will serve to more accurately communicate a plausible range of regulatory benefits associated with a specific rulemaking. As scientific understanding of all these factors continues to improve, these uncertainties will be reduced over time, allowing for more precise forecasts. But until then, it is important that the agency not arbitrarily dismiss or downplay them.

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[3] Reassessing the Human Health Benefits from Cleaner Air, November 2011. https://www.researchgate.net/publication/51767596_Reassessing_the_Human_Health_Benefits_from_Cleaner_Air

[4] While EPA regulatory analyses have long cited a decreased confidence in benefit accrual at lower PM2.5 levels, since 2009, agency practice has been to employ a "linear no-threshold" model that assigns full benefits to all pollutant reductions, even those that occur below levels deemed protective of public health. In he example above, the ACE rule BCA projects $75 million - $260 million in co-benefits occurring above PM2.5 levels deemed protective of public health, compared to $470 million - $1.2 billion using a linear no-threshold approach.

The proposed regulation will go a long way to a longstanding deficiency in EPA's regulatory development process. A more open and standardized approach to BCA development not only makes common sense, but will enhance public understanding of the scientific and other inputs that drive EPA's decisions, improve the integrity of the rulemaking process, and lead to better public policy."

Thank you for the opportunity to present our views on this important issue.

Attachment: Co-benefits "cutpoint" table from Affordable Clean Energy Rule Regulatory Impact Analysis, June 2019:

Table 4-7 Estimated Economic Value of Avoided $PM_{2.5}$ and Ozone-Attributable Deaths and Illnesses for the Illustrative Policy Scenario Using Alternative Approaches to Represent $PM_{2.5}$ Mortality Risk Effects (95% Confidence Interval; millions of 2016$)[a]

		2025			2030			2035		
Ozone benefits summed with PM benefits:										
3% Discount Rate	No-threshold model[b]	$390 ($37 to $1,100)	*to*	$970 ($86 to $2,800)	$490 ($47 to $1,300)	*to*	$1,200 ($110 to $3,500)	$550 ($52 to $1,500)	*to*	$1,400 ($120 to $3,900)
3% Discount Rate	Limited to above LML[c]	$370 ($36 to $1,000)	*to*	$480 ($42 to $1,400)	$440 ($42 to $1,200)	*to*	$520 ($47 to $1,500)	$480 ($25 to $1,300)	*to*	$610 ($16 to $1,800)
3% Discount Rate	Effects above NAAQS[d]	$76 ($8 to $210)	*to*	$250 ($23 to $760)	$75 ($8 to $210)	*to*	$260 ($23 to $770)	$90 ($10 to $250)	*to*	$320 ($28 to $930)
Ozone benefits summed with PM benefits:										
7% Discount Rate	No-threshold model[b]	$360 ($34 to $990)	*to*	$900 ($80 to $2,600)	$460 ($44 to $1,200)	*to*	$1,100 ($100 to $3,200)	$510 ($48 to $1,400)	*to*	$1,300 ($110 to $3,600)
7% Discount Rate	Limited to above LML[c]	$350 ($33 to $950)	*to*	$460 ($41 to $1,300)	$410 ($39 to $1,100)	*to*	$500 ($44 to $1,400)	$450 ($22 to $1,200)	*to*	$590 ($13 to $1,700)
7% Discount Rate	Effects above NAAQS[d]	$76 ($8 to $210)	*to*	$250 ($22 to $760)	$75 ($8 to $210)	*to*	$260 ($23 to $770)	$90 ($10 to $250)	*to*	$320 ($28 to $930)

[a] Values rounded to two significant figures.

[b] PM effects quantified using a no-threshold model. Low end of range reflects dollar value of effects quantified using concentration-response parameter from Krewski et al. (2009) and Smith et al. (2008) studies; upper end quantified using parameters from Lepeule et al. (2012) and Jerrett et al. (2009). Full range of ozone effects is included, and ozone effects range from 19% to 22% of the estimated values.

[c] PM effects quantified at or above the Lowest Measured Level of each long-term epidemiological study. Low end of range reflects dollar value of effects quantified down to LML of Krewski et al. (2009) study ($5.8\ \mu g/m^3$); high end of range reflects dollar value of effects quantified down to LML of Lepeule et al. (2012) study ($8\ \mu g/m^3$). Full range of ozone effects is still included, and ozone effects range from 20% to 49% of the estimated values.

[d] PM effects only quantified at or above the annual mean of 12 to provide insight regarding the fraction of benefits occurring above the NAAQS. Range reflects effects quantified using concentration-response parameters from Smith et al. (2008) study at the low end and Jerrett et al. (2009) at the high end. Full range of ozone effects is still included, and ozone effects range from 91% to 95% of the estimated values.