



Institute *for*
Policy Integrity

NEW YORK UNIVERSITY SCHOOL OF LAW

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VIA ELECTRONIC SUBMISSION

Environmental Protection Agency

Re: Revised Cross-State Air Pollution Rule (CSAPR) Update for the 2008 Ozone NAAQS, 85 Fed. Reg. 68,964 (proposed October 30, 2020)

Docket ID: EPA-HQ-OAR-2020-0272

The Institute for Policy Integrity (“Policy Integrity”) at New York University School of Law¹ respectfully submits the following comments to the Environmental Protection Agency (“EPA”) regarding its proposed revisions to the Cross-State Air Pollution Rule Update for the 2008 National Ambient Air Quality Standards for Ozone (“Proposed Rule”).² Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

With respect to the design of the Proposed Rule, we note that:

- EPA’s selection of a \$1,600 cost-effectiveness threshold is inconsistent with the Clean Air Act and basic economic principles;
- EPA need not—and should not—tie the control-stringency levels it evaluates to the costs of particular emission-control technologies; and
- EPA’s approach to credit conversion could cause pollution hot spots.

With respect to the Regulatory Impact Analysis accompanying the Proposed Rule, we note that:

- EPA cannot reasonably rely on the agency’s recent Integrated Science Assessments for ozone and particulate matter;
- EPA unreasonably declines to monetize the benefits of ozone and particulate matter reductions; and
- EPA assigns unreasonably low value to the benefits of carbon dioxide reductions.

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

² See Revised Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS, 85 Fed. Reg. 68,964 (proposed October 30, 2020) (to be codified at 40 CFR pts. 52, 78, and 97) [hereinafter Proposed Rule].

I. EPA’s selection of a \$1,600 cost-effectiveness threshold is inconsistent with the Clean Air Act and basic economic principles

EPA rejects emission reductions that cost more than \$1,600 per ton as insufficiently cost effective, even though a \$1,600 limit does not yield reduction budgets that enable attainment in all downwind states by, or even after, the 2021 ozone season. This approach is inconsistent with the Clean Air Act’s Good Neighbor Provision—which “calls for elimination of upwind States’ significant contributions on par with the relevant downwind attainment deadlines.”³ It is likewise inconsistent with basic economic principles, which make clear that cost-effectiveness analysis should be used to distinguish only among differing options that achieve the same goal—here, “attainment in *every* downwind state.”⁴

A. The Clean Air Act permits EPA to consider costs in determining how to achieve downwind attainment, but not in determining whether to achieve it

In *EPA v. EME Homer City Generation, L.P.*, the Supreme Court endorsed EPA’s use of cost-effectiveness as a means of selecting among different routes to attainment in downwind states.⁵ The Court held that EPA, when “choosing which among *equal* ‘amounts’ [of upwind pollution] to eliminate,” could “sensibly” choose to reduce the amount that was “less costly to eradicate.”⁶ In other words, nothing in the Clean Air Act’s Good Neighbor Provision precludes EPA from trying to “achieve the same levels of attainment . . . at a much lower overall cost.”⁷ The Court never suggested, however, that EPA may use an arbitrary cost-effectiveness threshold as a justification for disregarding the Good Neighbor Provision’s “goal of attainment” altogether.⁸ Instead, the Court emphasized the agency’s “statutory obligation to avoid ‘under-control,’ i.e., to maximize achievement of attainment.”⁹

The Proposed Rule is inconsistent with the Clean Air Act, as interpreted in *EME Homer City*, because EPA cites cost-effectiveness as grounds for choosing a level of stringency that concededly will not “maximize achievement of attainment.”¹⁰ The agency acknowledges that under budgets set pursuant to the \$1,600 per ton cost threshold, all twelve states “that contributed greater than or equal to the 1 percent threshold in the base case *continued to contribute greater than or equal to 1 percent of the NAAQS* to at least one remaining downwind nonattainment or maintenance

³ *Wisconsin v. EPA*, 938 F.3d 303, 315 (D.C. Cir. 2019).

⁴ *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 521 (2014) (emphasis in original).

⁵ *Id.* at 519 (“Using costs in the . . . calculus, we agree with EPA, also makes good sense. Eliminating those amounts that can cost-effectively be reduced is an efficient and equitable solution to the allocation problem the Good Neighbor Provision requires the Agency to address. Efficient because EPA can achieve the levels of attainment, i.e., of emission reductions, the proportional approach aims to achieve, but at a much lower overall cost. Equitable because, by imposing uniform cost thresholds on regulated States, EPA’s rule subjects to stricter regulation those States that have done relatively less in the past to control their pollution.”).

⁶ *Id.* at 519 (emphasis added).

⁷ *Id.*

⁸ *Id.* at 517.

⁹ *Id.* at 523.

¹⁰ *Id.*

receptor.”¹¹ EPA further admits that “downwind nonattainment and maintenance problems for the 2008 ozone NAAQS will persist” through 2024.¹²

The Proposed Rule is thus precisely the sort of partial remedy that the U.S. Court of Appeals for the D.C. Circuit deemed impermissible when it invalidated the Proposed Rule’s predecessor, the CSAPR Update, “for allowing substantial upwind contributions to continue beyond the downwind attainment deadlines.”¹³ EPA purports to address the problem by proposing “to design a Step 4 implementation framework that will effectively ensure the continued optimization of existing SCR and the incentive to install or upgrade combustion controls for so long as downwind nonattainment and maintenance concerns persist.”¹⁴ But the agency concedes that this framework will not “increase the stringency of the program over these years in the sense of requiring any further emissions reductions than the control strategy represented by \$1600 per ton achieves.”¹⁵ In other words, EPA will continue to use an arbitrary cost-effectiveness threshold as a justification for failing to achieve downwind attainment. The Clean Air Act does not permit the agency to evade its statutory responsibility in this manner.

B. Cost-effectiveness analysis, as a matter of basic economic principles, compares differing options that achieve the same goal

Reference to basic economic principles confirms the incompatibility of EPA’s approach with the Clean Air Act as interpreted in *EME Homer City*. As EPA’s own economic analysis guidelines state, cost-effectiveness analysis “is designed to identify the least expensive way of *achieving a given environmental quality target*.”¹⁶ Phrased differently in the same guidelines, cost-effectiveness analysis helps “identify the least costly approach *to achieving a specific goal*.”¹⁷ Here, the \$1,600 control-stringency level selected by EPA may be less costly than the other stringency levels the agency considers. But it cannot, as EPA claims, be more cost-effective in this regulatory context, because it is not effective at all. It does not achieve the “given regulatory end” of facilitating attainment in all downwind states by relevant deadlines.¹⁸ In providing this cheaper but incomplete remedy, EPA unreasonably places the cost cart before the effectiveness horse.

II. EPA need not—and should not—tie the control-stringency levels it evaluates to the costs of particular emission-control technologies [Request for Comment C-4]

EPA should calculate the emission reductions available at additional control-stringency levels, and the agency need not tie those levels (or the reductions deemed achievable under them) to the costs of particular emission-control technologies. Currently, EPA considers only four control-stringency

¹¹ Proposed Rule, 85 Fed. Reg. at 69,007 (emphasis added).

¹² *Id.* at 68,969.

¹³ *Wisconsin v. EPA*, 938 F.3d 303, 318 (D.C. Cir. 2019).

¹⁴ Proposed Rule, 85 Fed. Reg. at 69,008.

¹⁵ *Id.* at 69,008.

¹⁶ EPA, Guidelines for Preparing Economic Analyses, at xi (2010) (updated May 2014) (emphasis added), available at <https://www.epa.gov/sites/production/files/2017-08/documents/ee-0568-50.pdf>.

¹⁷ *Id.* at 1-5 (emphasis added).

¹⁸ Eric A. Posner, *Transfer Regulations and Cost-Effectiveness Analysis*, 53 DUKE L.J. 1067, 1069 (2003) (“Cost-effectiveness analysis is a procedure for comparing the different means for achieving a given regulatory end; it identifies the least costly means as the most cost-effective.”).

levels, each representing the estimated marginal cost of widespread optimization and/or installation of particular combustion or post-combustion emission controls at electric generating units (“EGUs”).¹⁹ \$1,600 per ton represents optimizing existing selective catalytic reduction controls (“SCRs”) and installing state-of-the-art NO_x combustion controls; \$3,900 per ton represents also turning on idled existing selective non-catalytic reduction controls (“SNCRs”); \$5,800 per ton represents also installing new SNCRs; and \$9,600 per ton represents also installing new SCRs.²⁰ In estimating the amount of emission reduction that EGUs in each state can collectively achieve at each of these cost thresholds, however, EPA assumes that the sources will reduce emissions, at least in part, through generation shifting (i.e., decreasing the use of higher-emitting sources of electricity in favor of lower- or non-emitting sources of electricity).²¹ Given EPA’s recognition that the use of combustion or post-combustion controls is not the only means of reducing ozone-forming pollution from EGUs, it is unclear why the agency feels compelled to tie the levels of control stringency it evaluates to the costs of such controls. Nothing in the Clean Air Act suggests—let alone requires—this approach.

EPA’s duty under the Good Neighbor Provision is to ensure that state implementation plans for achieving national air quality standards include “adequate provisions . . . prohibiting any source of other type of emissions activity” within the state from emitting air pollution in amounts that “contribute significantly” to any other state’s nonattainment of the ambient standards or “interfere with maintenance” of those standards.²² Nowhere does the Clean Air Act state or imply that an upwind contribution to downwind nonattainment can be deemed significant only if it is susceptible to elimination through the use of combustion or post-combustion emission-control technology. Nor does the Supreme Court’s *EME Homer City* decision require such a result. In that case, the Court held that, in evaluating the significance of an upwind contribution to downwind nonattainment, EPA may consider the cost of eliminating it relative to the cost of other reductions that would yield equal progress toward downwind attainment.²³ But the Court did not suggest that, when estimating the cost of an emission reduction, EPA was obligated to assume that it would be achieved through the use of combustion or post-combustion controls.

Accordingly, EPA should model the emission reductions available at control-stringency levels *between* the four technology-specific levels it already evaluates. EPA suggests that “[a]nalyzing costs between these cost thresholds is not expected to reveal significant incremental emission reduction potential that isn’t already anticipated at the analyzed cost thresholds.”²⁴ But if this is true, it is likely because EPA deliberately—and unnecessarily—assumes “a conservatively small amount of generation-shifting” in its budget-setting model runs.²⁵ EPA defends this practice on

¹⁹ See Proposed Rule, 85 Fed. Reg. at 68,990-92.

²⁰ See, e.g., *id.* at 68,966.

²¹ *Id.* at 68,992 (“EPA evaluates emission reduction potential from generation shifting at that representative dollar per ton level. . . . As the cost of emitting NO_x increases, it becomes increasingly cost-effective for units with lower NO_x rates to increase generation, while units with higher NO_x rates reduce generation.”).

²² 42 U.S.C. § 7410(a)(2)(D)(i)(I).

²³ *EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 519 (2014) (“The Agency, tasked with choosing which among equal ‘amounts’ to eliminate, has chosen sensibly to reduce the amount easier, i.e., less costly, to eradicate.”).

²⁴ Proposed Rule, 85 Fed. Reg. at 68,995.

²⁵ *Id.* at 68,993.

the grounds that “generation shifting is intended to be a mitigation measure supportive to those combustion and post-combustion control measures, not incremental to it.”²⁶ But again, nothing in the Good Neighbor Provision compels EPA to limit its consideration of generation shifting in this way. EPA’s task, under the approach endorsed in *EME Homer City*, is to identify where emission reductions sufficient to secure downwind attainment by relevant deadlines can be achieved most cheaply. In undertaking this analysis, EPA should make realistic assumptions about the extent to which EGUs can and will use generation shifting, rather than the optimization or installation of emission-control-technology, to reduce their NO_x emissions.

III. EPA’s approach to credit conversion could lead to pollution hot spots [*Request for Comment C-32*]

EPA’s proposal to authorize a one-time conversion of allowances banked from 2017 to 2020 under the Group 2 Trading Program into a limited number of allowances for the Group 3 Trading Program risks creating air pollution hot spots. While the ability to bank and borrow allowances functions effectively in the context of greenhouse gas emissions, it can be problematic for NO_x emissions because of their predominantly localized and regional, rather than global, effects. Accordingly, EPA should either (1) explain why it does not believe allowance conversion, as currently proposed, will result in hot spots, or (2) alter the design of the Proposed Rule to prevent the formation of such hot spots.

In general, tradable emission programs for pollutants with local effects risk allowing hot spots. As Jonathan Remy Nash and Richard Revesz explain, though a tradable emission permit regime does “reduce aggregate emissions to the chosen aggregate level for the least cost,” it will not necessarily “prevent the formation of . . . locations at which the damage caused by pollutants is particularly severe.”²⁷ Bruce Ackerman and Richard Stewart—early and influential proponents of tradable emissions programs such as that EPA proposes—likewise expressly acknowledge the risk of hot spots, stating that their proposed market system “could allow the creation of relatively high concentrations of particular pollutants in small areas within the . . . region.”²⁸ And EPA’s own guidance documents also recognize this risk.²⁹

Here, EPA proposes to base credit conversion “on a formula that ensures emissions in the . . . Group 3 Trading Program *region* do not exceed a specified level,”³⁰ but this leaves open the possibility of *localized*—rather than regional—hot spots. And while the agency provides a general list of four aspects of the rule that it asserts will “minimize[] community concerns about localized hot spots,” none of the aspects of the rule that EPA references address the risk created by the credit-conversion option in particular.³¹ In fact, it is clear EPA wholly failed to consider the risk of hot spots stemming specifically from the credit-conversion proposal, because the agency’s list simply

²⁶ EPA, Ozone Transport Policy Analysis TSD at 16 (October 2020) (emphasis added), available at

<https://www.regulations.gov/contentStreamer?documentId=EPA-HQ-OAR-2020-0272-0065&contentType=pdf>.

²⁷ Jonathan Remy Nash & Richard L. Revesz, *Markets and Geography: Designing Marketable Permit Schemes to Control Local and Regional Pollutants*, 28 *ECOLOGY L.Q.* 569, 572 (2001).

²⁸ Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 *STAN. L. REV.* 1333, 1350 (1985).

²⁹ EPA, *TOOLS OF THE TRADE: A GUIDE TO DESIGNING AND OPERATING A CAP AND TRADE PROGRAM FOR POLLUTION CONTROL B-2* (2003), <https://www.epa.gov/sites/production/files/2016-03/documents/tools.pdf>.

³⁰ Proposed Rule, 85 Fed. Reg. at 68,969-70 (emphasis added).

³¹ *Id.* at 69,037.

reproduces word-for-word what the 2016 CSAPR Update—which did not include any similar credit-conversion option—said about the risk of hot spots.³²

IV. EPA’s Regulatory Impact Analysis is seriously flawed

As explained in Parts I and II, *supra*, the stringency of the final rule must be set at a level that guarantees a complete remedy for downwind states, and EPA cannot rely on cost considerations that would otherwise inhibit the Good Neighbor Provision’s goal of attainment. Nevertheless, EPA has prepared “an analysis of the potential costs and benefits associated with this proposed action” pursuant to Executive Order 12,866,³³ and this Regulatory Impact Analysis (“RIA”) suffers from serious flaws.³⁴ First, EPA bases its analysis on Integrated Science Assessments (“ISAs”) for ozone and particulate matter reductions that were promulgated pursuant to a flawed scientific review process that did not satisfy the requirements of the Clean Air Act. Second, EPA unreasonably declines to monetize the significant benefits of ozone and particulate matter reductions. Finally, EPA assigns an unreasonably low value to the benefits of carbon dioxide reductions by ignoring avoided climate damages outside U.S. borders.

A. EPA cannot reasonably rely on the agency’s recent Integrated Science Assessments for ozone and particulate matter

In its RIA, EPA proposes to use recently completed Integrated Science Assessments for ozone and particulate matter “to inform its approach for quantifying air pollution-attributable health, welfare, and environmental impacts” associated with reductions in ozone and particulate matter (“PM”).³⁵ However, both documents have been prepared pursuant to a review process that has been altered by numerous ad hoc changes that depart from decades of EPA precedent and which undermine the scientific validity of both documents.³⁶ As such, reliance on such documents runs contrary to Circular A-4’s instruction that agencies “[u]se sound and defensible values or procedures to monetize benefits and costs.”³⁷

The most striking example of EPA’s changes are the myriad, unwarranted alterations to the composition of the seven-member Clean Air Scientific Advisory Committee (“CASAC”), the

³² Compare Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS, 81 Fed. Reg. 74,504, 74,585 (Oct. 26, 2016) (stating that rule addresses concerns about hot spots by “[c]onsidering the science of ozone transport to set strict state emission budgets to reduce significant contributions to ozone nonattainment and maintenance (i.e., the most polluted) areas; implementing air quality-assured trading; requiring any emissions above the level of the allocations to be offset by emission decreases; and imposing strict penalties for sources that contribute to a state’s exceedance of its budget plus variability limit.”), with Proposed Rule, 85 Fed. Reg. at 69,037 (same).

³³ Proposed Rule, 85 Fed. Reg. at 69,035.

³⁴ See EPA, REGULATORY IMPACT ANALYSIS FOR THE PROPOSED REVISED CROSS-STATE AIR POLLUTION RULE UPDATE FOR THE 2008 OZONE NAAQS 132 (2020) [hereinafter PROPOSED RULE RIA].

³⁵ *Id.* at 153.

³⁶ Letter from Dr. H. Christopher Frey et al, to Andrew R. Wheeler, Administrator, EPA, *Advice from the Former U.S. EPA Clean Air Scientific Advisory Committee Ozone Review Panel on EPA’s Integrated Science Assessment for Ozone and Related Photochemical Oxidants (External Review Draft – September 2019), and EPA’s Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards (External Review Draft – October 2019)* (Dec. 2, 2019), at 2, available at [https://yosemite.epa.gov/sab/sabproduct.nsf/B2AF0B23ABE6A60E852584C4007312E3/\\$File/EPA+CASAC+O3+Review+ISA+PA+Letter+191202+Final.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/B2AF0B23ABE6A60E852584C4007312E3/$File/EPA+CASAC+O3+Review+ISA+PA+Letter+191202+Final.pdf) [hereinafter “Former CASAC Advice Letter”].

³⁷ OMB, *Circular A-4* at 27; 42 U.S.C. § 7408(a)(2).

chartered federal advisory committee responsible for conducting an independent scientific evaluation of EPA's ISAs pursuant to the Clean Air Act's requirements for a thorough and accurate review of scientific criteria.³⁸ In particular, EPA unlawfully removed expert members from CASAC pursuant to an arbitrary and capricious conflict-of-interest directive promulgated by former Administrator Pruitt that was vacated by a federal district court in the Southern District of New York, and which was met with serious criticism in an opinion by the D.C. Circuit.³⁹ Additionally, EPA unreasonably altered selection criteria to emphasize geographic location and government affiliation over scientific expertise.⁴⁰

As a consequence of these actions, CASAC experienced an unprecedented complete turnover of all members, which "has led to substantial loss of experienced members and loss of institutional memory among the members of the chartered [committee]."⁴¹ According to the opinions of ten former members of CASAC, including two former committee chairs, "[t]he current CASAC . . . does not have adequate breadth, depth, and diversity of scientific expertise and experience needed to conduct thorough reviews of the draft ISA[s]" as are required by the Clean Air Act.⁴²

Additionally, EPA unreasonably undermined CASAC's ability to conduct thorough scientific review of both ISAs by arbitrarily disbanding the independent review panels for particulate matter and ozone.⁴³ As discussed below, these panels are necessary to augment the expertise of CASAC in its review of the ISAs, and have been a longstanding feature of the ISA preparation process. Their abrupt dissolution by Administrator Wheeler has raised numerous concerns by CASAC and its individual members, as well as by outside experts.

In its consensus comments on the Draft Particulate Matter ISA, CASAC observed that such review panels are needed to provide a thorough review of the ISAs, as the "breadth and diversity of evidence to be considered exceeds the expertise of the statutory CASAC members, or indeed of any seven individuals."⁴⁴ The committee emphasized that such panels have been a part of the

³⁸ Former CASAC Advice Letter, at 2 ("As a result of changes since 2017, the CASAC and the process under which it is operating is incapable of properly assessing what the science is."); *see also* Comments of Environmental NGOs on Proposed Action for the "Review of the National Ambient Air Quality Standards for Particulate Matter," at 24 (June 29, 2020) (hereinafter "NGO PM Comments") (arguing that "EPA's actions denied the agency the very expertise the [Clean Air Act] demands"); Comments of Environmental NGOs on Proposed Action for the "Review of the National Ambient Air Quality Standards for Ozone," at 17 (Oct. 1, 2020) (hereinafter "NGO Ozone Comments") (noting that the "unbalanced composition of the CASAC and the dearth of academic research scientists hindered the committee's ability conduct the 'thorough' review mandated by the [Clean Air Act]").

³⁹ Nat. Res. Def. Council v. EPA, 438 F. Supp. 3d 220, 232 (S.D.N.Y. 2020); Physicians for Soc. Responsibility v. Wheeler, 956 F.3d 634, 647 (D.C. Cir. 2020); *see also* NGO PM Comments, at 22 (concluding that "[t]he exclusion of scientists from ASAC based on the Pruitt directive thus rendered [EPA's] decision-making process arbitrary").

⁴⁰ Former CASAC Advice Letter, at 8.

⁴¹ *Id.* at 3.

⁴² *Id.*

⁴³ *See* Press Release, EPA, Acting Administrator Wheeler Announces Science Advisors for Key Clean Air Act Committee (Oct. 10, 2018), <https://archive.epa.gov/epa/newsreleases/acting-administrator-wheeler-announces-science-advisors-key-clean-air-act-committee.html>; National Ambient Air Quality Standards for PM and Ozone, HARV. L. SCH. ENV'T & ENERGY LAW PROGRAM (July 15, 2020), <https://eelp.law.harvard.edu/2020/07/national-ambient-air-quality-standards-for-pm-and-ozone> (observing that EPA's press release "notably eliminat[ed] the role of independent review panels that were historically convened to assist CASAC").

⁴⁴ Letter from Dr. Louis Anthony Cox, Jr., Chair, CASAC, to Andrew R. Wheeler, Administrator, EPA, *CASAC Review of the EPA's Integrated Science Assessment for Particulate Matter* (External Review Draft – October 2018)

review process for the past 30 years, and play an important role in “supplement[ing] and expand[ing] the scientific expertise brought to bear” in reviewing the ISAs.⁴⁵ In his individual comments on the Draft Ozone ISA, CASAC member Dr. Mark Frampton voiced the same conclusion, writing that EPA’s “decision not to appoint such a panel for [the] ozone review (and the dissolution of the PM review panel) represents a major departure from prior practice, and can only weaken the scientific quality of the process.”⁴⁶ Other members of CASAC have raised similar concerns.⁴⁷

The conclusions of CASAC and its members are also supported by the views of outside experts. A letter to EPA authored by 18 former members of the CASAC Particulate Matter review panel asserted that EPA’s dissolution of the review panels contradicted a “long-standing practice, [of] four decades, . . . [that] is essential to a review process that addresses requirements under the CAA to have a thorough and accurate review of the criteria.”⁴⁸ Similarly, comments from the Union of Concerned Scientists note that “[d]ismissal of the PM review panel has severely limited the degree of independent expertise the EPA and CASAC are receiving on the PM ISA.”⁴⁹

Finally, EPA’s attempt to replace the expertise of the review panels with a pool of consultants did not adequately compensate for the substantial loss of expertise caused by dissolving the ozone and particulate matter review panels.⁵⁰ Such a conclusion was made particularly clear in Dr. Frampton’s comments appended to CASAC’s consensus review of the ozone ISA, where he described the inadequacy of the consultant pool.⁵¹ Per Dr. Frampton, the “panel did not include any individuals actively participating in ozone health effects research, and did not include expertise in human clinical studies, which are critically important in understanding ozone health effects.”⁵²

(April 11, 2019), at 1, *available at*

[https://yosemite.epa.gov/sab/sabproduct.nsf/LookupWebReportsLastMonthCASAC/6CBCBBC3025E13B4852583D90047B352/\\$File/EPA-CASAC-19-002+.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/LookupWebReportsLastMonthCASAC/6CBCBBC3025E13B4852583D90047B352/$File/EPA-CASAC-19-002+.pdf).

⁴⁵ *Id.*

⁴⁶ Letter from Dr. Louis Anthony Cox, Jr., Chair, CASAC, to Andrew R. Wheeler, Administrator, EPA, *Consultation on the EPA’s Integrated Review Plan for the Review of the Ozone National Ambient Air Quality Standards* (External Review Draft – October 2018), at 21 (comments of Dr. Mark Frampton).

⁴⁷ *Id.* at 5 (comments of Dr. James Boylan) (discussing “the importance and value of having multiple independent experts who are at the leading edge of research in their respective fields thoroughly reviewing” the documents); 26 (comments of Dr. Timothy E. Lewis) (“The Agency should reconvene the expert panel on ozone to review all forthcoming documents.”).

⁴⁸ Former CASAC Advice Letter, at 4.

⁴⁹ Written Comments of Dr. Gretchen T. Goldman, Research Director, Union of Concerned Scientists, *Chartered CASAC Public Teleconference on Particulate Matter (PM)*, at 2 (Mar. 22, 2019), [https://yosemite.epa.gov/sab/sabproduct.nsf/9AE13592EDB4B780852583C8005CA045/\\$File/GTGoldman-PMComment-3-28-teleconference.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/9AE13592EDB4B780852583C8005CA045/$File/GTGoldman-PMComment-3-28-teleconference.pdf).

⁵⁰ Former CASAC Advice Letter, at 4 (discussing the limitations of the consultant pool).

⁵¹ Letter from Dr. Louis Anthony Cox, Jr., Chair, CASAC, to Andrew R. Wheeler, Administrator, EPA, *CASAC Review of the EPA’s Integrated Science Assessment for Ozone and Related Photochemical Oxidants* (External Review Draft – September 2019), at 65 (comments of Dr. Mark Frampton), *available at* [https://yosemite.epa.gov/sab/sabproduct.nsf/264cb1227d55e02c85257402007446a4/F228E5D4D848BBED85258515006354D0/\\$File/EPA-CASAC-20-002.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/264cb1227d55e02c85257402007446a4/F228E5D4D848BBED85258515006354D0/$File/EPA-CASAC-20-002.pdf).

⁵² Letter from Dr. Louis Anthony Cox, Jr., Chair, CASAC, to Andrew R. Wheeler, Administrator, EPA, *CASAC Review of the EPA’s Integrated Science Assessment for Ozone and Related Photochemical Oxidants* (External Review Draft – September 2019), at 65 (comments of Dr. Mark Frampton), *available at* [https://yosemite.epa.gov/sab/sabproduct.nsf/264cb1227d55e02c85257402007446a4/F228E5D4D848BBED85258515006354D0/\\$File/EPA-CASAC-20-002.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/264cb1227d55e02c85257402007446a4/F228E5D4D848BBED85258515006354D0/$File/EPA-CASAC-20-002.pdf).

His conclusions are echoed by outside experts and commentators, who have also raised concerns about the impartiality of EPA’s consultants, noting that many have ties with external groups critical of the NAAQS preview process, including two who “work for well-known industry consulting firms that are representing clients with a stake in the reviews.”⁵³

Overall, the aggregate effect of EPA’s changes has led to a situation in which the ISAs for particulate matter and ozone will not accurately reflect the latest scientific knowledge, as is required by the Clean Air Act.⁵⁴ EPA’s reliance on such documents, despite such credible criticism, goes against longstanding federal best practices for cost-benefit analysis, notably Circular A-4’s instruction that agencies “[u]se sound and defensible values” in their analyses.⁵⁵

B. EPA unreasonably declines to monetize the benefits of ozone and particulate matter reductions

The RIA acknowledges that the Rule “is expected to reduce emissions of NOx and provide ozone reductions, as well as consequent reductions in fine particulate matter (PM_{2.5}) concentrations and carbon dioxide (CO₂) emissions.”⁵⁶ However, EPA only monetizes benefits associated with reductions in CO₂, citing “[d]ata, resource, and methodological limitations [that] prevent EPA from monetizing health benefits from reducing concentrations of ozone and PM_{2.5}.”⁵⁷ In particular, the agency justifies its failure to quantify benefits in the need to review the information presented in the recently completed ISAs, as well as in forthcoming recommendations from the Science Advisory Board.⁵⁸ In light of such uncertainty, EPA “characterizes the potential benefits of reducing these two pollutants in qualitative terms only,” and represents them with an abstract variable of “B” in its quantitative summary of the costs and benefits.⁵⁹ However there is no practical difference between the use of an unquantified placeholder variable and assigning the benefits zero value.⁶⁰

It is well-settled that uncertainty is an insufficient reason to assign zero value to a rule’s benefits. Where there is a “scientifically-supported range of values that does not begin at zero, . . . it is possible to monetize the benefit.”⁶¹ Indeed, EPA’s own analysis shows that it is possible to monetize benefits using methods developed under the agency’s previous ISAs, and which were used in the agency’s 2016 ozone NAAQS rulemaking.⁶² However, EPA unreasonably relegates

⁵³ Sean Reilly, *Documents Expose Ties Among EPA panel’s Experts*, E&E News (Feb. 7, 2020), <https://www.eenews.net/stories/1062289617>; see also NGO PM Comments, at 28-29 (expressing skepticism at the expertise and independence of the CASAC consultant pool); NGO Ozone Comments, at 18-20 (same)

⁵⁴ Former CASAC Advice Letter, at 2.

⁵⁵ OMB, *Circular A-4*, at 27.

⁵⁶ PROPOSED RULE RIA at 153.

⁵⁷ *Id.*

⁵⁸ *Id.* at 153.

⁵⁹ *Id.* 154; see also Proposed Rule, 85 Fed. Reg. 69,029-30 (summarizing the RIA’s cost-benefit analysis and assigning a placeholder value to reductions in ozone and particulate matter)

⁶⁰ *Cf.* *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1200 (9th Cir. 2008) (failing to see any difference between agency’s “argument that it placed no value on carbon emissions reduction rather than zero value”).

⁶¹ *Id.*

⁶² PROPOSED RULE RIA, at 143 (acknowledging that EPA is capable of calculating “the potential health effects associated with the change in PM_{2.5} and ozone concentrations . . . using methods developed prior to the 2019 PM ISA and 2020 Ozone ISA”); see also *Id.* at 195; 179-203 (using this method to quantify the “dollar value of [health]

this analysis to an appendix in the RIA, citing differences in scientific conclusions between the earlier ISAs and the later ISAs as precluding any use of the method developed in the 2016 ozone NAAQS rulemaking.⁶³

EPA's conclusions are incorrect. Such differences may affect the magnitude of the health benefits attendant to a reduction in both pollutants, but "[t]he mere fact that the magnitude of [a regulatory effect] is uncertain is no justification for disregarding the effect entirely."⁶⁴ While there may be differences in the conclusions of both sets of documents, the mere presence of new ISAs does not categorically invalidate those older ones. Where the record shows that "there is a range of values, the value of [emissions] reduction is certainly not zero."⁶⁵

Additionally, EPA's decision to assign only qualitative benefits to the reduction of ozone and PM_{2.5} contradicts established guidelines from the Office of Management and Budget for conducting cost-benefit analysis. In particular, Circular A-4 instructs an agency to "monetize quantitative estimates whenever possible."⁶⁶ Where an agency chooses to conduct a qualitative discussion, its analysis "should include information on the key reason(s) why [benefits] cannot be quantified."⁶⁷ Similarly, EPA's own guidelines require the agency to include "a discussion of why the effect was excluded . . . especially if the magnitude is such that it could significantly affect the net benefit calculation."⁶⁸

EPA's justification for eschewing quantitative analysis – "data and resource limitations" – is hardly such a discussion.⁶⁹ Nor are the differences in scientific conclusions between the earlier ISAs and the later ISAs sufficient reasons to categorically forego quantitative analysis, as discussed above.

Finally, EPA's claims that it will quantify such benefits in its final rulemaking cannot excuse its failure to do so here. An agency must provide notice that is "adequate to afford interested parties a reasonable opportunity to participate in the rulemaking process."⁷⁰ This includes "sufficient factual detail and rationale for the rule to permit interested parties to comment meaningfully."⁷¹

impacts for the proposal and more and less stringent alternatives across all PM_{2.5} and ozone-related premature deaths and illnesses"). The full approach is laid out in detail by EPA in its RIA for the 2016 ozone NAAQS rulemaking. *See generally* EPA, REGULATORY IMPACT ANALYSIS FOR THE FINAL REVISIONS TO THE NATIONAL AMBIENT AIR QUALITY STANDARDS FOR GROUND-LEVEL OZONE 286- 380 (2015) (detailing EPA's "human health benefits analysis approach and results").

⁶³ *Id.* at 153 (observing that "[t]he endpoints for which the 2020 final Ozone ISA [] and the 2019 final PM ISA [] identified as being causal or likely causal differed in some cases [from] the endpoints for which those pollutants were identified as being causal or likely causal in the Ozone and PM ISAs completed for the previous NAAQS reviews").

⁶⁴ *Pub. Citizen v. Fed. Motor Carrier Safety Admin.*, 374 F.3d 1209, 1221 (D.C. Cir. 2004) (emphasis omitted)

⁶⁵ *Ctr. for Biological Diversity*, 538 F.3d at 1200.

⁶⁶ OMB, *Circular A-4*, at 27.

⁶⁷ *Id.* at 27.

⁶⁸ EPA, GUIDELINES FOR PREPARING ECONOMIC ANALYSES 59 (May 2014), *available at* <https://www.epa.gov/sites/production/files/2017-08/documents/ee-0568-50.pdf>

⁶⁹ PROPOSED RULE RIA, at 143, 150-52.

⁷⁰ *Florida Power & Light Co. v. United States*, 846 F.2d 765, 771 (D.C. Cir. 1988).

⁷¹ *Id.*

In its RIA, EPA provides no detail beyond a vague five-step approach to inform the public about its plans for updating the quantitative methods for estimating the number and economic value of ozone and PM_{2.5} health effects.⁷² This discussion provides the public with no meaningful factual details of the changes EPA anticipates making to its methodologies, and accordingly does not offer any meaningful opportunity to comment on EPA’s potential new methods. EPA cannot conduct its rulemaking “in such a crabwise fashion.”⁷³

C. EPA assigns unreasonably low value to the benefits of carbon dioxide reductions

EPA significantly understates the benefits of carbon dioxide reductions predicted to result from the Proposed Rule, because the agency relies on “interim” estimates of the Social Cost of Carbon that exclude climate damages occurring outside U.S. borders. For further discussion of this issue, see Policy Integrity’s separate comments on improper valuation of climate effects, filed jointly with several other organizations.⁷⁴

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⁷² PROPOSED RULE RIA, at 154-55

⁷³ *McLouth Steel Products Corp. v. Thomas*, 838 F.2d 1317, 1322-23 (D.C. Cir. 1988).

⁷⁴ Comments of Environmental Defense Fund et al., *Improper Valuation of Climate Effects in the Proposed Revised Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS* (Dec. 14, 2020).