



March 25, 2024

To: Environmental Protection Agency

Re: Clean Water Act Effluent Limitations Guidelines and Standards for the Meat and Poultry Products Point Source Category, 89 Fed. Reg. 4474 (proposed Jan. 23, 2024)

The Institute for Policy Integrity at New York University School of Law (Policy Integrity)¹ respectfully submits this comment letter on the Environmental Protection Agency's (EPA) proposed effluent limitations guidelines and standards (ELGs) for the meat and poultry products (MPP) point source category (the Proposed Rule).² Policy Integrity is a nonpartisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

As EPA details in its benefit-cost analysis (BCA), limiting water pollution from MPP facilities can offer substantial benefits, including health and water-quality improvements, as well as benefits stemming from better-protected habitats for a variety of wild animals.³ That many of these benefits are unquantified does not, of itself, diminish their importance. Though the Proposed Rule and BCA offer useful starting points, this letter details that EPA should take further steps to ensure the complete presentation of regulatory benefits and costs, along with their distribution, and to present its decisionmaking factors transparently. In particular, we offer the following recommendations:

- **EPA should enhance its presentation and discussion of net benefits.** EPA reasonably proposes to regulate despite negative monetized net benefits—i.e., monetized costs that exceed monetized benefits—because many important categories of unquantified benefits exist. While EPA qualitatively describes many of the Proposed Rule's benefits, **EPA should enhance how it presents its comparison of benefits to costs** to feature these unquantified benefits more prominently and specifically. **It should also identify the option that maximizes net benefits**, which may not be the option EPA proposes, even though the proposed option carries the highest *monetized* net benefits of the three.
- **EPA should identify additional benefits associated with protecting wild animals.** While the agency appropriately illustrates many benefits of reducing water pollution to wild animals and consequent benefits for humans, **it should also recognize additional cascading impacts on both threatened and non-threatened terrestrial animals**, based on the links between aquatic and terrestrial ecosystems and the

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

² Clean Water Act Effluent Limitations Guidelines and Standards for the Meat and Poultry Products Point Source Category, 89 Fed. Reg. 4474 (proposed Jan. 23, 2024) [hereinafter Proposed Rule].

³ ENV'T PROT. AGENCY, BENEFIT COST ANALYSIS FOR REVISIONS TO THE EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS FOR THE MEAT AND POULTRY PRODUCTS POINT SOURCE CATEGORY 2-22 to 2-23 tbl.2-5 (December 2023) [hereinafter BCA].

services they provide.

- While EPA’s decision to relegate a 7% discount rate to an appendix is reasonable (indeed, per Circular A-4’s updated guidance, EPA need not use a 7% discount rate), **the agency should use a 2% discount rate in its primary analysis** rather than the outdated 3% rate.
- While EPA’s analysis of some benefit categories’ distribution provides a good starting place for a comprehensive distributional analysis, in line with the updated Circular A-4, **the agency should analyze the distribution of costs, along with additional categories of benefits. It should assess which regulatory option is most distributionally desirable** and explain its choice to forgo the most distributionally desirable option, if it does so. **If missing data prevent a fuller distributional analysis, EPA should outline what would fill the relevant gap.**
- **EPA should use its updated estimates of the social cost of greenhouse gases in its primary analysis.**

We expand upon these points below.

I. EPA Should Assess Which Option Maximizes Net Benefits, Considering the Differences in Unquantified Benefits Between Different Options

EPA compares costs and benefits in its BCA.⁴ In its main comparison table, EPA shows that monetized costs and benefits increase with regulatory stringency.⁵ And EPA acknowledges the existence of unquantified “Other Benefits” with a “+” in the “Total Benefits” column⁶—benefits that it explains thoroughly elsewhere in the BCA.⁷ For each option, monetized costs exceed monetized benefits, but unquantified benefits also exist.⁸

EPA proposes Option 1 as its preferred alternative⁹ despite negative monetized net benefits.¹⁰ This decision is reasonable given that both the 2003 and 2023 versions of Circular A-4 are clear that unquantified effects must be considered in addition to monetized effects.¹¹ Still, EPA should take two steps to bolster its reasoning.

Discussion of Maximizing Net Benefits. EPA should analyze which option maximizes net benefits. Longstanding executive orders and guidance instruct agencies “choosing among alternative regulatory approaches” to “select those approaches that maximize net benefits

⁴ See BCA at 8-1 to 8-2.

⁵ See *id.* at 8-1 tbl.8-1.

⁶ See *id.*

⁷ See *id.* at 2-1 to 2-23 & fig.2-1; 4-1 to 4-10.

⁸ See *id.* at 8-1 tbl.8-1.

⁹ Proposed Rule, 89 Fed. Reg. at 4487.

¹⁰ See BCA at 8-1 tbl.8-1.

¹¹ See OFF. OF MGMT. & BUDGET, CIRCULAR A-4: REGULATORY ANALYSIS 2 (2003), https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/circulars/A4/a-4.pdf [hereinafter PRIOR CIRCULAR A-4] (“[T]he most efficient alternative will not necessarily be the one with the largest quantified and monetized net-benefit estimate. In such cases, you should exercise professional judgment in determining how important the non-quantified benefits or costs may be in the context of the overall analysis.”); OFF. OF MGMT. & BUDGET, CIRCULAR A-4: REGULATORY ANALYSIS 3 (2023), <https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-4.pdf> [hereinafter UPDATED CIRCULAR A-4] (similar).

(including . . . distributive impacts[] and equity),” to the extent permitted by law.¹² Assessing which option maximizes net benefits would help stakeholders transparently understand the likely effects at stake. And the net-benefit-maximizing option is not necessarily the option with the highest monetized net benefits, since unquantified benefits may increase with regulatory stringency.

Indeed, there is reason to expect that, in the Proposed Rule, unmonetized benefits may increase with regulatory stringency at a higher rate than monetized benefits. Option 1 would not impose nitrogen or phosphorus, or “nutrient,” pretreatment standards on MPP facilities that indirectly discharge into publicly owned water treatment works, but Option 2 would add such requirements for some facilities, and Option 3 would do so for even more facilities.¹³

Adding these requirements—that is, moving from Option 1 to Options 2 and 3—increases *monetized* benefits by factors of about 1.6 and 2.0, respectively.¹⁴ But, according to EPA’s estimates, moving to more stringent standards would result in disproportionately more people enjoying reduced nutrient loads in local water bodies (factors of 6.8 and 17.0 for Options 2 and 3, respectively),¹⁵ disproportionately fewer pounds of nutrient pollutions discharged annually (factors of 3.7 and 5.8),¹⁶ and disproportionately more water bodies protected from harmful discharge (factor of up to 13.6).¹⁷ And while EPA does not quantify (or qualitatively discuss) indirect discharges’ effects on threatened and endangered animals (or other wild animals, as discussed below), given that indirectly discharging facilities are much more geographically widespread than directly discharging facilities,¹⁸ that effect—and thus the more stringent options’ level of protection—is likely to be disproportionately larger as well.

This added protection from nutrient pollution would likely create substantial benefits. For instance, EPA documents more than a dozen pathways from nutrient pollution to serious health problems.¹⁹ Consistent with this finding, evidence suggests that nitrogen, phosphorus, and other fecal matter bacteria trigger harmful algal blooms (HABs), which can cause respiratory

¹² Exec. Order No. 12,866 § 1(a), 58 Fed. Reg. 51,735, 51,735 (Oct. 4, 1993); *see also* Exec. Order No. 14,094 § 1, 88 Fed. Reg. 21,879, 21,879 (Apr. 11, 2023) (reaffirming the principles of Executive Order 12,866); PRIOR CIRCULAR A-4, *supra* note 11, at 2; UPDATED CIRCULAR A-4, *supra* note 11, at 2.

¹³ Proposed Rule, 89 Fed. Reg. at 4476.

¹⁴ *See* BCA at 8-1 tbl.8-1 (showing monetized benefits of \$90.2 million for Option 1, \$146.2 million for Option 2, and \$179.7 million for Option 3).

¹⁵ *See* ENV’T PROT. AGENCY, ENVIRONMENTAL ASSESSMENT FOR REVISIONS TO THE EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS FOR THE MEAT AND POULTRY PRODUCTS POINT SOURCE CATEGORY 7-10 (2023) (showing reduced nutrient loads affecting 1.3 million people under Option 1, 8.9 million people under Option 2, and 22.1 million people under Option 3).

¹⁶ *See* ENV’T PROT. AGENCY, TECHNICAL DEVELOPMENT DOCUMENT FOR PROPOSED EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS FOR THE MEAT AND POULTRY PRODUCTS POINT SOURCE CATEGORY 109–10 tbl.11-3 (2023) (showing that annual pounds of nutrient discharges would decrease by 16.5 million pounds under Option 1, 60.9 million pounds under Option 2, and 95.7 million pounds under Option 3).

¹⁷ *See* BCA at 3-3 (showing that direct nutrient discharge affects 188 waterbodies, whereas indirect nutrient discharge affects 2554 waterbodies).

¹⁸ *Compare id.* at 3-3 fig.3-1 (showing directly discharging facilities almost exclusively east of Kansas), *with id.* at 3-4 fig.3-2 (showing many more indirectly discharging facilities, including many west of Kansas).

¹⁹ *See id.* at 2-4 tbl.2-2 (documenting that nutrient pollution “can lead to infant methemoglobinemia, colorectal cancer, thyroid disease, and neural tube defects[,] . . . skin rashes, liver and kidney damage, neurological issues, gastrointestinal symptoms or respiratory problems through ingestion or inhalation[,] . . . poisoning syndromes such as paralytic, diarrhetic, amnesic, or neurotoxic shellfish poisoning[,] . . . [and other forms of] cancer” (citations omitted)).

complications like bronchitis, pneumonia, and asthma attacks.²⁰ In addition, drinking nitrate-contaminated water increases risk of colorectal cancer, thyroid disease, and when consumed by pregnant people, central nervous system defects in infants.²¹ EPA should recognize that Options 2 and 3 would have greater benefits from targeting these serious health harms, further reinforcing a potential conclusion that they may offer greater net benefits.

Moreover, throughout its BCA, EPA reasonably discusses (often qualitatively) how its regulatory options would affect the *likelihood* of certain harmful outcomes—for example: “The regulatory options would lead to reductions in nutrients loadings from MPP facilities and, as a result, reduced occurrence of HABs and incidence of HAB-related illnesses.”²² Throughout the analysis, EPA should also discuss the likely reductions in those outcomes’ *severity* stemming from its regulatory options. Put differently, reducing nutrient pollution can affect both whether HABs occur and how much harm they cause when they do occur. In that example, for instance, EPA could consider adding “and severity” after “occurrence.” The agency should then note explicitly that the more stringent options are likely to reduce both *likelihood and severity* of harmful outcomes like HABs the most.

Put simply, the monetized benefits do not adequately reflect how much more protective Options 2 and 3 are than Option 1. The more stringent options could conceivably carry higher net benefits when considering all quantified and unquantified benefits. EPA should update its BCA to reflect these considerations and should explicitly exercise its judgment as to whether that is the case.

Presentation of Benefits and Costs. EPA should also adjust how it presents its comparison of benefits and costs. Its presentation should reflect the full range of unquantified benefits that it expects, as in Figure 2-1,²³ rather than just a high-level allusion to “[a]dditional non-monetized health, ecological, market[,] and economic productivity benefits” and a citation to two other sections of the BCA.²⁴ That would help ensure that policymakers and other readers who focus on these bottom-line tables give these unquantified values due consideration. EPA’s presentation should also reflect that more stringent regulatory options would offer more of these unquantified benefits, perhaps by simply using more or even larger plus signs for the more stringent options.

II. EPA Should Assess Other Categories of Benefits Stemming from Wild Animal Protection

The Proposed Rule would offer more benefits to wild animals than EPA currently acknowledges. These additional effects include benefits stemming from protecting animals that are not endangered or threatened. People are demonstrably willing to pay to protect individual animals’ lives, even when population-level effects are negligible or nonexistent.²⁵ Willingness to pay for

²⁰ See Barbara Kirkpatrick et al., *Environmental Exposures to Florida Red Tides: Effects on Emergency Room Respiratory Diagnoses Admissions*, 5 HARMFUL ALGAE 526, 529–531 (2006); Stacy Woods, *An Opportunity to Reduce Water Pollution from Slaughterhouses*, UNION OF CONCERNED SCIENTISTS (Jan. 22, 2024), <https://blog.ucsusa.org/stacy-woods/an-opportunity-to-reduce-water-pollution-from-slaughterhouses/>.

²¹ Woods, *supra* note 20.

²² BCA at 2-5.

²³ *Id.* at 2-1 fig.2-1.

²⁴ *Id.* at 8-1 tbl.8-1.

²⁵ See Leslie Richardson & Lynne Lewis, *Getting to Know You: Individual Animals, Wildlife Webcams, and Willingness to Pay for Brown Bear Preservation*, 104 AM. J. AGRIC. ECON. 673 (2022) (estimating the preservation

individual animal welfare—which is importantly different from population-level effects—is well documented (often for farmed animals, but no reason exists to presume that this willingness to pay is limited to farmed or even domesticated animals).²⁶ Even nonuse values, including existence value, are not limited to entire species and can apply to individual wild animals.²⁷ Moreover, even if extinction is not threatened, harms to some wild animals can disrupt local food chains, harm local ecosystems, and provide less opportunities for wildlife viewing and other forms of recreation and tourism; at the extreme, killing some animals can cause cascading mortality effects, creating a sort of ecological “tipping point.”²⁸

Furthermore, while EPA recognizes a wide range of benefits from increasing water quality, it should also add more demonstrated pathways from water quality to human benefits through effects on wildlife. For example, it should include that HABs can cause massive bat mortality events that,²⁹ reflecting the Centers for Disease Control and Prevention-endorsed One Health framework,³⁰ can spill back to harming humans through a number of causal pathways. These pathways include cascading impacts on the production of goods and services, land value, and health that EPA should integrate into its BCA.³¹ These sorts of benefits touch on multiple benefit

value for an individual brown bear); Christopher Costello et al., *The Charisma Premium: Iconic Individuals and Wildlife Values*, 122 J. ENV'T ECON. MGMT. 1 (2023) (finding an order of magnitude higher wildlife viewing value for a charismatic individual brown bear).

²⁶ See, e.g., F. BAILEY NORWOOD & JAYSON L. LUSK, COMPASSION, BY THE POUND: THE ECONOMICS OF FARM ANIMAL WELFARE (2011); Carl Johan Lagerkvist & Sebastian Hess, *A Meta-Analysis of Consumer Willingness to Pay for Farm Animal Welfare*, 38 EURO. REV. AGRIC. ECON. 55 (2011); Meike Janssen et al., *Labels for Animal Husbandry Systems Meet Consumer Preferences: Results from a Meta-Analysis of Consumer Studies*, 29 J. AGRIC. & ENV'T ETHICS 1071, 1071 (2016) (finding that “consumers not only had a positive attitude towards more animal welfare-friendly husbandry systems with outdoor access and space allowance but were also willing to pay a price premium for products from such system”); Brian Vander Naald & Trudy Ann Cameron, *Willingness to Pay for Other Species' Well-Being*, 70 ECOLOGICAL ECON. 1325, 1330-31 (2011) (finding a premium on willingness to pay for humanely raised chickens); Christopher A. Wolf & Glynn T. Tonsor, *Cow Welfare in the U.S. Dairy Industry: Willingness-to-Pay and Willingness-to-Supply*, 42 J. AGRIC. RES. ECON. 164, 168 (2017) (finding willingness to pay for different attributes of dairy cow welfare such as clean facilities, outdoor access, and hoof health).

²⁷ See, e.g., Mark L. Plummer et al., *The Role of Eelgrass in Marine Community Interactions and Ecosystem Services: Results from Ecosystem-Scale Food Web Models*, 16 ECOSYSTEMS 237, 243 (2013) (describing how “existence value . . . can be attached to any distinct entity, even an individual animal or plant”); Costello et al., supra note 25, at 15 (“[I]nclud[ing] existence value or biological value . . . would surely raise the value of these individual [animals], so our estimates should be viewed as lower-bounds on the overall value of these individuals and their population.”).

²⁸ See, e.g., Robert T. Paine, *Food Webs: Linkage, Interaction Strength and Community Infrastructure*, 49 J. ANIMAL ECOLOGY 666 (1980); Charlotte Borrvall et al., *Biodiversity Lessens the Risk of Cascading Extinction in Model Food Webs*, 3 ECOLOGY LETTERS 131 (2000); Per Lunberg et al., *Species Loss Leads to Community Closure*, 3 ECOLOGY LETTERS 465 (2000).

²⁹ See, e.g., Muhammad Thuneibat et al., *Summary Report – One Health Harmful Algal Bloom System (OHHABS), United States, 2021*, CTRS. FOR DISEASE CONTROL & PREVENTION (Sept. 12, 2023), <https://www.cdc.gov/habs/data/2021-ohhabs-data-summary.html> (“At least 2,715 animal cases of illness occurred and were reported to [the One Health Harmful Algal Bloom System] for 2021, including a large wildlife mortality event in Washington involving at least 2,000 bats.”).

³⁰ See *id.* (“HABs are a One Health issue—they affect the health of people, animals, and our shared environment.”).

³¹ See, e.g., Eyal Frank, *The Economic Impacts of Ecosystem Disruptions: Private and Social Costs from Substituting Biological Pest Control* 14, http://www.eyalfrank.com/wp-content/uploads/2022/01/Frank_Bats_WNS_Ag_IMR.pdf (“In this paper, I demonstrate that farmers compensate for the reduction in biological pest control, provided by bats, by using more insecticides. . . . I estimate higher infant mortality rates following the increase in pesticide use, consistent with associations made in the epidemiological

categories that EPA identifies, including human health effects, ecological conditions, and economic productivity.³² What is more, because of climate change, many of these future harmful effects that EPA identifies, including those stemming from HABs, could be likelier and costlier in the future than EPA’s historical data suggests.³³

EPA should therefore add another subsection discussing more general “cascading” effects stemming from harms to wild animals beyond just members of threatened and endangered species, and it should include further ecosystem services from these animals that would be benefited by increases in water quality. The new subsection should make clear, for example, that nonthreatened wild animals also offer important ecosystem services, so harming or killing them (as through HABs or other water pollution-induced risks) can harm people even if extinction is not a risk. This subsection can use the examples and evidence discussed above as a starting place.

III. EPA Should Align Its Use of Discount Rates with Updated Guidance Reflecting Current Best Practices

In its main analysis, EPA uses a 3% discount rate for all non-climate effects.³⁴ The agency justifies this decision by calling this rate “recommended by the Office of Management and Budget (OMB) in Circular A-4.”³⁵ That claim is no longer accurate. While the 2003 version of Circular A-4 recommended 3% as a consumption-based discount rate, alongside a 7% capital-based discount rate,³⁶ OMB no longer recommends either rate. EPA’s analysis reflects OMB’s new conclusions regarding the capital-based rate, and it should do so for the consumption-based rate as well.

Capital-Based Discount Rate. EPA reasonably relegates its results under a 7% capital-based rate to an appendix, presenting them only “[f]or additional information” and to match what “EPA has historically presented.”³⁷ This decision to remove a capital-based rate from its main analysis aligns with modern best practices. Indeed, even as a sensitivity analysis, a 7% discount rate is an extreme approach to capital effects that will drastically undervalue long-term benefits and costs. EPA should discuss more reasons that accounting for capital effects through the discount rate is no longer “[t]he analytically preferred method” under OMB’s current guidance,³⁸ and it should

literature.”); Dale T. Manning & Amy Ando, *Ecosystem Services and Land Rental Markets: Producer Costs of Bat Population Crashes*, 9 J. ASS’N ENV’T & RES. ECONOMISTS 1235 (2022).

³² See BCA at 2-3 fig.2-1.

³³ See, e.g., Steven C. Chapra et al., *Climate Change Impacts on Harmful Algal Blooms in U.S. Freshwaters: A Screening-Level Assessment*, 51 ENV’T SCI. & TECH. 8933, 8939–40 (2017) (documenting that higher temperatures from climate change will likely make HABs more probable and more severe).

³⁴ BCA at 1-6.

³⁵ *Id.*

³⁶ PRIOR CIRCULAR A-4, *supra* note 11, at 34.

³⁷ BCA at 1-6.

³⁸ UPDATED CIRCULAR A-4, *supra* note 11, at 78; see also ICF INT’L, INDIVIDUAL PEER REVIEWER COMMENTS ON PROPOSED OMB CIRCULAR NO. A-4, “REGULATORY ANALYSIS” 50 (2023), https://www.whitehouse.gov/wp-content/uploads/2023/08/A4-Peer-Reviewer-Comments_508c-Final.pdf (calling eliminating the 7% discount rate “the conceptually correct approach”) (comments of Dr. Joseph Cordes); *id.* at 71 (calling that approach “strongly grounded in the literature”) (comments of Dr. Kenneth Gillingham); *id.* at 82 (calling that approach “justified . . . based on the economic literature”) (comments of Dr. William Pizer); Peter H. Howard et al., *US Benefit-Cost Analysis Requires Revision*, 380 SCIENCE 803, 803 (2023) (eighteen regulatory economic experts endorsing eliminating the 7% discount rate); Richard G. Newell et al., *The Shadow Price of Capital: Accounting for Capital*

follow guidance from the new version of Circular A-4 on the shadow price of capital if significant effects to capital are likely to result from the rule.

Consumption-Based Discount Rate. In its main analysis, EPA should shift its consumption-based discount rate from 3% to 2%. (If it felt it needed to, EPA could also relegate its analysis under the former rate to an appendix.) The 2023 version of Circular A-4 derives a 2% consumption-based rate by applying the same methodology that the 2003 version had used to derive a 3% rate, just using updated data and adjusting for inflation.³⁹ Put differently, using a 3% rate effectively ignores the changed economic conditions in the past twenty years that have yielded lower risk-free interest rates.⁴⁰

EPA acknowledges these recent changes to OMB’s “recommended discount rates,” but it claims that they constitute only “proposed revisions.”⁴¹ This claim was incorrect even when EPA’s BCA was published, as its publication date (Dec. 13, 2023) followed Circular A-4’s finalization (Nov. 9, 2023). The new version of Circular A-4 was finalized even then, and EPA should heed its rigorous updates.

For final rules, the new version of Circular A-4 takes full effect for rules submitted to OMB on January 1, 2025.⁴² But even if EPA submits its analysis before then, the update advises agencies to apply its guidance immediately “[t]o the extent feasible and appropriate.”⁴³ Given the extensive economic support for lower discount rates described above, it is “appropriate” for EPA to apply a 2% discount rate here, as it did in December 2023.⁴⁴ Doing so is also “feasible” given that the discount rate parameter should be easily adjustable in EPA’s modeling. EPA should therefore use only a 2% discount rate in its main analysis.

IV. EPA Should Enhance Its Distributional Analysis

EPA claims that it “evaluated the distribution of estimated benefits *and costs* of the proposed regulatory options across the affected population, with consideration of their distribution among communities with environmental justice concerns.”⁴⁵ In reality, EPA assessed only the distribution of two benefit categories: enhanced drinking water and enhanced fishing opportunities.⁴⁶ Despite its claim, it analyzed no categories of costs. While EPA’s attention to distribution is well placed, it should take several steps to enhance its analysis.

First, EPA should analyze the distribution of more categories of benefits and costs, including

Displacement in Cost Benefit Analysis 4–8 (Nat’l Bur. Of Econ. Rsch., Working Paper No. 31,526, 2023), https://www.nber.org/system/files/working_papers/w31526/w31526.pdf (explaining capital-based discount rates’ theoretical limitations).

³⁹ See UPDATED CIRCULAR A-4, *supra* note 11, at 76–77.

⁴⁰ See also Peter Howard & Jason A. Schwartz, *Valuing the Future: Legal and Economic Considerations for Updating Discount Rates*, 39 YALE J. ON REGUL. 595, 599 (2022) (detailing “the compelling economic evidence for further lowering [Prior Circular A-4’s] default [discount] rates for regulatory analyses”).

⁴¹ BCA at 1-6 n.3.

⁴² UPDATED CIRCULAR A-4, *supra* note 11, at 93.

⁴³ *Id.*

⁴⁴ See ENV’T PROT. AGENCY, REGULATORY IMPACT ANALYSIS OF THE STANDARDS OF PERFORMANCE FOR NEW, RECONSTRUCTED, AND MODIFIED SOURCES AND EMISSIONS GUIDELINES FOR EXISTING SOURCES: OIL AND NATURAL GAS SECTOR CLIMATE REVIEW 1-13 to 1-15 tbls.1-4 to 1-6 (2023).

⁴⁵ Proposed Rule, 89 Fed. Reg. at 4513 (emphasis added).

⁴⁶ *Id.*

those it monetizes and quantifies. Given that EPA knows where regulated facilities are located,⁴⁷ geographically- and thus demographically-specific benefit and cost estimates may be feasible. For example, EPA estimates willingness to pay for water quality improvements.⁴⁸ Breaking down where those beneficiaries are located, and thus the affected communities' makeup in terms of demographics and income, should be feasible.⁴⁹ Similarly, EPA could disaggregate who is expected to experience the air-quality costs (i.e., disbenefits) it identifies.⁵⁰ And it could assess who is likely to bear the compliance costs it identifies,⁵¹ including the degree to which it expects cost pass-through from facility owners to workers or consumers. If EPA is unable to make these assessments quantitatively, it should at least address these questions qualitatively, while noting what specific data it would need to bridge that gap.

Second, EPA should assess how its unquantified benefits and costs are distributed. For instance, as discussed above, pollution from MPP facilities, including nutrient pollution, causes serious health risks. EPA previously acknowledged that many of the communities facing these serious health risks may be “communities of concern.”⁵² In 2021, EPA screened areas with MPP facilities and found that nearly 74% of slaughterhouse wastewater discharges occur within one mile of communities already facing elevated environmental, health, social, or economic burdens.⁵³ EPA should discuss these previous findings it made, and it should note that this provides reason to potentially conclude that Option 2 and especially Option 3 would be more distributionally desirable than Option 1.

Third, even within the two categories that EPA analyzes, EPA could go further in assessing distribution. For drinking-water-enhancement benefits and for enhanced-fishing benefits, EPA lists the proportions of potentially affected populations that are low income or “Black/African American.”⁵⁴ But it does not distinguish between the regulatory options in terms of how beneficial they would be for these populations. For example, EPA notes that Options 1 and 2 would plausibly benefit the same number of people, as they apply to the same facilities.⁵⁵ EPA should go one step further and note that Options 2 and 3 would be more protective of affected communities than Option 1 because only the more stringent options would protect these communities from indirect nutrient discharges. This finding would provide further reason to potentially conclude that Options 2 and 3 are more distributionally desirable than EPA's

⁴⁷ See BCA at 3-3 fig.3-1 & 3-4 fig.3-2.

⁴⁸ *Id.* ch. 4.

⁴⁹ See, e.g., Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Large Municipal Waste Combustors Voluntary Remand Response and 5- Year Review, 89 Fed. Reg. 4243, 4263 tbl.9 (Jan. 23, 2024) (presenting proximity demographic assessment results for recent proposal involving large municipal waste combustor facilities).

⁵⁰ BCA at 5-13 to 5-15.

⁵¹ *Id.* ch. 7.

⁵² EPA, *Preliminary Effluent Guidelines Program Plan 15*, at 6-2 (Sept. 2021), https://www.epa.gov/system/files/documents/2021-09/ow-prelim-elg-plan-15_508.pdf.

⁵³ *Id.* (explaining that “74% of MPP facilities that directly discharge wastewater to surface waters are within one mile of census block groups with demographic or environmental characteristics of concern,” which it defines as census block groups with “demographic or environmental indexes above the 80th percentile in a state based on data available in the 2020 release of EJSCREEN.”); see also Woods, *supra* note 20.

⁵⁴ Proposed Rule, 89 Fed. Reg. at 4513.

⁵⁵ *Id.* (noting that “Options 1 and 2 . . . impact the same direct discharging facilities and therefore the same service areas,” and only breaking out Option 3 as applying to more people; and performing a similar grouping for fishing benefits).

proposed Option 1.

Fourth, EPA should explicitly incorporate the results of its distributional analysis into its decisionmaking. EPA notes that the prior version of Circular A-4 calls for “a separate description of distributional effects (i.e., how both benefits and costs are distributed among sub-populations of particular concern),”⁵⁶ but the rest of that same sentence makes clear that the purpose of the exercise is “so that decision makers can properly consider them along with the effects on economic efficiency.”⁵⁷ (Again, EPA did not heed that same sentence’s call to assess “both benefits *and costs*.”⁵⁸) The updated Circular A-4 is similarly emphatic: “Production of a distributional analysis may allow for more effective consideration of regulatory alternatives.”⁵⁹ To move beyond simply reporting its distributional analysis in a separate, isolated section, EPA should explicitly determine which option is most distributionally desirable, considering both benefits and costs. And it should explicitly incorporate that consideration into its decision between regulatory options and justify forgoing the most distributionally desirable option if it does so. EPA could, for instance, consider distributional justice as one of the “other factors [that] the Administrator deems appropriate” when assessing the best practicable control technology or best available technology.⁶⁰

The above discussion provides some reasons that Options 2 or 3 may be the most distributionally desirable, as their benefits likely disproportionately accrue to communities with environmental justice concerns, and they likely provide more benefits to those communities than Option 1. But a fuller analysis should also assess who would bear each option’s costs, which may (or may not) yield a conclusion that Option 1 is, on balance, most distributionally desirable. The central point is that EPA should explicitly assess benefits’ and costs’ distribution more fully, should explicitly conclude which option is most distributionally desirable, and should explicitly defend why it would forgo that option, if it does so.

If incomplete data prevents EPA from conducting a fuller analysis of benefits’ and costs’ distributions, the agency should explicitly identify these gaps and list what data would be useful. It should consult with the National Science and Technology Council Subcommittee on Frontiers of Benefit-Cost Analysis to assess whether those data gaps could be highlighted in future reports on Federal Priorities and Directions for Future Research—the inaugural version of which includes discussion of data gaps concerning distributional analysis.⁶¹

V. EPA Should Apply Its Updated Climate-Damage Estimates in Its Main Analysis

EPA valued climate disbenefits using estimates of the social cost of greenhouse gases (SC-GHG) developed by the Interagency Working Group on the Social Cost of Greenhouse Gases (Working Group).⁶² Although the Working Group’s valuations relied on the best science available at the time of their development, and while EPA robustly explains why these estimates are rigorous,⁶³

⁵⁶ *Id.* (quoting PRIOR CIRCULAR A-4, *supra* note 11, at 14).

⁵⁷ PRIOR CIRCULAR A-4, *supra* note 11, at 14.

⁵⁸ *Id.* (emphasis added).

⁵⁹ UPDATED CIRCULAR A-4, *supra* note 11, at 62.

⁶⁰ 33 U.S.C. §§ 1314(b)(1)(B), 1314(b)(2)(B).

⁶¹ SUBCOMM. ON FRONTIERS OF BENEFIT-COST ANALYSIS, ADVANCING THE FRONTIERS OF BENEFIT-COST ANALYSIS: FEDERAL PRIORITIES AND DIRECTIONS FOR FUTURE RESEARCH ch. 6, 47–48 tbl.6 (2023).

⁶² BCA at 5-3.

⁶³ *See id.* at 5-2 to 5-11.

their underlying data is now largely outdated and their valuations are widely recognized to understate the true costs of climate change. Recognizing this problem, in November 2022, EPA released updated draft climate-damage estimates.⁶⁴ In December 2023, following peer review and public comments, EPA finalized these estimates.⁶⁵

EPA's updated values are the most robust and comprehensive federal climate-damage estimates available. They implement the 2017 roadmap from the National Academies of Sciences for improving the Working Group estimates.⁶⁶ They also incorporate newer scientific and economic evidence.⁶⁷ Expert peer reviewers praised EPA's numbers as a "huge advance,"⁶⁸ a "significant step,"⁶⁹ and a "much-needed improvement"⁷⁰ that "advanc[es] our state of knowledge"⁷¹ and "represents well the emerging consensus in the literature."⁷² While EPA uses these updated values in an appendix, it did not use them in its primary analysis because it finalized these estimates too late.⁷³ For the foregoing reasons, when it conducts its final BCA, EPA should move these updated valuations to its primary analysis.

Respectfully,

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⁶⁴ ENV'T PROT. AGENCY, EPA EXTERNAL REVIEW DRAFT OF REPORT ON THE SOCIAL COST OF GREENHOUSE GASES (2022).

⁶⁵ ENV'T PROT. AGENCY, EPA REPORT ON THE SOCIAL COST OF GREENHOUSE GASES: ESTIMATES INCORPORATING RECENT SCIENTIFIC ADVANCES (2023).

⁶⁶ NAT'L ACADS. OF SCI., ENGINEERING, & MED., VALUING CLIMATE DAMAGES: UPDATING ESTIMATION OF THE SOCIAL COST OF CARBON DIOXIDE (2017).

⁶⁷ See ENV'T PROT. AGENCY, *supra* note 65, at 46 fig.2.3.1 (comparing publication year of studies underlying EPA's estimates to those underlying Interagency Working Group estimates).

⁶⁸ ENV'T PROT. AGENCY, FINAL COMMENTS SUMMARY REPORT, EXTERNAL LETTER PEER REVIEW OF TECHNICAL SUPPORT DOCUMENT: SOCIAL COST OF GREENHOUSE GAS 7 (2023) (comments of Dr. Maureen Cropper).

⁶⁹ *Id.* at 9 (comments of Dr. Chris E. Forest).

⁷⁰ *Id.* at 10 (comments of Dr. Catherine Louise Kling).

⁷¹ *Id.* at 14 (comments of Dr. Wolfram Schlenker).

⁷² *Id.* at 15 (comments of Dr. Gernot Wagner).

⁷³ BCA at 5-13.