Institute *for*
Policy Integrity
NEW YORK UNIVERSITY SCHOOL OF LAW

November 22, 2021

To: Council on Environmental Quality

Subject: Comments on the National Environmental Policy Act Implementing Regulations Revisions, 86 Fed. Reg. 55,757 (Oct. 7, 2021) (CEQ-2021-0002)

The Institute for Policy Integrity at New York University School of Law[1] ("Policy Integrity") respectfully submits the following comments to the Council on Environmental Quality ("CEQ") on its proposed changes to the regulations implementing the National Environmental Policy Act ("NEPA").[2] Policy Integrity—a non-partisan think tank dedicated to improving the quality of government decision-making through advocacy and scholarship in the fields of administrative law, economics, and public policy—has published reports, comment letters, and academic articles on legal requirements and best practices under NEPA.

CEQ's proposal appropriately reverses changes to NEPA's implementing regulations that reflected a misreading of the NEPA statute and a poor assessment of the costs and benefits associated with NEPA review. While CEQ's proposal offers many compelling justifications for reinstating components of the 1978 regulations that predated the rule it promulgated in 2020 ("2020 Rule"),[3] to minimize legal risk, **CEQ should explicitly note several additional reasons that its proposal is more legally defensible and cost-justified than the 2020 Rule. In particular, as detailed in Part I of this comment, CEQ should assess the costs and benefits of the Proposed Rule and highlight fundamental flaws in the regulatory impact analysis that CEQ conducted for the 2020 Rule.[4]**

In the Proposed Rule, CEQ also appropriately recognizes the need for additional rulemaking that ensures "efficient and effective environmental reviews that are consistent with [NEPA's] text and purpose," "promotes better decision making," and "meets environmental, climate change, and environmental justice objectives."[5] **In future rulemaking, CEQ should focus on ensuring that agencies promote social welfare in environmental review, including by focusing on critical impacts that are frequently overlooked. Part II of this letter suggests regulations and guidance that would promote the public welfare and enhance agency consideration of greenhouse gas emissions, climate risk, and environmental justice.**

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

[2] National Environmental Policy Act Implementing Regulations Revisions, 86 Fed. Reg. 55,757 (Oct. 7, 2021) (to be codified at 40 CFR pts. 1502, 1507, and 1508) [hereinafter "Proposed Rule"].

[3] Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 43,304 (July 16, 2020) [hereinafter "2020 Rule"].

[4] Regulatory Impact Analysis, Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 85 Fed. Reg. 43,304 (July 16, 2020) [hereinafter "2020 RIA"].

[5] Proposed Rule, 86 Fed. Reg. at 55,759.

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I. CEQ Should Strengthen the Proposed Rule by Identifying Additional Flaws with the 2020 Rule

The Proposed Rule would appropriately rescind three legally deficient provisions of the 2020 Rule. First, the Proposed Rule would eliminate language in the 2020 Rule that purports to limit agencies' analysis of reasonable alternatives to those that achieve the project proponent's goals.[6] Second, the Proposed Rule would make CEQ's regulations once again a floor for agencies' own processes, rather than a ceiling.[7] Third, the Proposed Rule would make several changes to the scope of the effects agencies must evaluate, including by restoring the terms "indirect" and "direct" to the definition of "effects," reinstating the prior definition of "cumulative impacts," and eliminating language that purports to limit agencies' analysis of geographically or temporally remote effects or effects outside the lead agency's jurisdiction.[8] As Policy Integrity explained in its comments on the 2020 Rule (attached)—and as CEQ recognizes in the Proposed Rule—the provisions CEQ now proposes to rescind contravene NEPA in numerous respects.[9]

While CEQ offers many compelling justifications for now rescinding those provisions, several additions to those justifications could make the Proposed Rule even stronger. First, CEQ should note additional reasons that the NEPA statute requires an expansive alternatives analysis. Second, CEQ should specify that *Department of Transportation v. Public Citizen* applies only in limited circumstances, and therefore does not justify limiting agencies' analysis of indirect effects. Third, CEQ should assess the costs and benefits associated with the Proposed Rule in a separate section. As it balances costs and benefits, CEQ should reconsider components of its 2020 regulatory impact analysis that likely overestimated the benefits of the 2020 Rule. CEQ should also describe the many benefits associated with a robust NEPA process that its 2020 analysis failed to consider—including the public health benefits associated with improved federal decisionmaking, improved project planning, reductions in project cost, avoided investments in projects that may be impractical in the long term, and more rational decisionmaking based on a full understanding of project impacts.

A. CEQ Should Identify Several Additional Reasons that the 2020 Rule Was Contrary to the NEPA Statute

While the Proposed Rule correctly describes many of the legal problems with the provisions of the 2020 Proposal that it proposes to rescind, CEQ should highlight two additional ways in which these provisions contravened both the NEPA statute and case law.

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[6] Proposed Rule at 55,760, 55,769.

[7] *Id.* at 55,761, 55,768.

[8] *Id.* at 55,759–60, 55,762–67, 55,768–69.

[9] Institute for Policy Integrity, Comment Letter on Proposed Rule: Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act (Mar. 10, 2020), https://policyintegrity.org/documents/Policy_Integrity_Submitted_Comments_on_Proposed_CEQ_NEPA_Rule.pdf, at 24–25 (removal of agency discretion to impose more protective NEPA procedures is illegal); 12–15 (describing precedent requiring analysis of cumulative impacts); 3–7 (describing precedent that requires analysis of indirect effects that the 2020 Rule could be interpreted to exclude) [hereinafter "Policy Integrity 2020 Comments"].

First, CEQ should describe several additional reasons that the 2020 Rule's changes to the purpose and need statement and scope of alternatives are contrary to the NEPA statute and case law. While the 2020 Rule limited the scope of reasonable alternatives to those alternatives that meet the goals of the project applicant,[10] Congress intended agencies to take a broad approach to alternatives analysis, considering and evaluating alternatives to a proposed action "to the fullest extent possible."[11] Moreover, the Supreme Court has defined a "major action" for NEPA purposes in reference to agency action, not in reference to a particular proponent or that proponent's goals.[12] While the U.S. Court of Appeals for the D.C. Circuit and the U.S. Court of Appeals for the Seventh Circuit have expressed some disagreement about the precise extent to which agencies should weigh applicant goals in analyzing reasonable alternatives, neither circuit (nor any other) has held that an applicant's goals can exempt agencies from NEPA's statutory obligation to fully analyze reasonable alternatives.[13] While the Proposed Rule correctly removes this legally defective language, CEQ can thus describe this additional context in support of the proposed change.

Second, CEQ should clarify that *Department of Transportation v. Public Citizen* applies only in limited circumstances, and that the 2020 Rule overstated the limitations that case imposed on the effects an agency must consider. The 2020 Rule referred to *Public Citizen* to support its novel requirement that effects be "reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives."[14] In its current proposal, CEQ correctly recognizes that *Public Citizen* limited the effects that an agency *must* consider—not that it *may* consider—and therefore any interpretation of *Public Citizen* that imposes a categorical limitation on the effects that agencies may permissibly analyze is fundamentally misguided.[15]

The rationale CEQ provided in the 2020 Rule also reflected a deeper misunderstanding of *Public Citizen*. In that case, the Supreme Court held that the Department of Transportation was not required to assess the impact of a non-discretionary duty imposed by a separate presidential action that was not itself subject to NEPA.[16] As Policy Integrity explained in its 2020 comments, subsequent case law has firmly explained that the holding of *Public Citizen* is limited to the

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[10] 2020 Rule, 85 Fed. Reg. at 43,330, 43,351.

[11] 42 U.S.C. § 4332.

[12] The Supreme Court was "unanimous in concluding that the essential requirement of NEPA is that before an agency takes major action, it must have taken 'a hard look' at environmental consequences." *New York v. Kleppe*, 429 U.S. 1307, 1311 (1976) (citing *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976)) (internal quotations omitted).

[13] *Compare Van Abbema v. Fornell*, 807 F.2d 633, 638 (7th Cir. 1986) (holding that NEPA requires "evaluation of alternative means to accomplish the general goal of an action; it is not an evaluation of the alternative means by which a particular applicant can reach his goals") *with Citizens Against Burlington v. Busey,* 938 F.2d 190, 196, 199 (D.C. Cir. 1991) (stating that while agencies should consider applicants' goals, they must also "consider the views of Congress, expressed . . . in the agency's statutory authorization to act, as well as in other congressional directives"). *See also* Policy Integrity 2020 Comments at 21 (describing this issue in greater detail).

[14] 2020 Rule, 85 Fed. Reg. at 43,343 (citing *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 767–68 (2004)).

[15] Proposed Rule, 86 Fed. Reg. at 55,766 ("[T]he Court did not hold that agencies may not consider a broader range of effects in other circumstances, as the 2020 Rule suggests. Instead the Court held that FMCSA's effects analysis in the specific factual and legal context of its proposed action was reasonable and not arbitrary and capricious.").

[16] Policy Integrity 2020 Comments at 9 (citing *Pub. Citizen*, 541 U.S. at 767–69; *Tulare Cty. v. Bush*, 185 F. Supp. 2d 18, 28 (D.D.C. 2001) (finding that the U.S. president is not an agency for NEPA purposes)).

narrow circumstance in which an agency has no discretion to alter the activity that causes the effects in question.[17] Accordingly, *Public Citizen* circumscribes the agency analysis that NEPA requires when an agency is not the legal cause of an environmental effect, not merely when effects are geographically or temporally remote as the 2020 Rule suggested.[18]

Moreover, the language that the 2020 Rule referred to in *Public Citizen* describing a "reasonably close causal relationship,"[19] which CEQ described as "analogous to proximate cause in tort law,"[20] had a more specific meaning in its original context.[21] *Metro Edison*, the Supreme Court case in which the phrase "reasonably close causal relationship" originated, used this language to explain why psychological damage from the risk of a nuclear disaster did not fall within the scope of effects an agency was required to analyze, noting that (1) such psychological harms were not effects tied to the physical environment; and (2) the existence of the effects was contingent on a highly uncertain event, and related to the risk of that event.[22] In other words, the Court's invocation of proximate cause was motivated by very different concerns than temporal and geographic remoteness.[23]

For these reasons, *Public Citizen* is far from the mandate that CEQ attempted to make of it in the 2020 Rule. Rather than merely being less categorical than CEQ's 2020 Rule indicated, *Public Citizen* is, at best, only obliquely relevant to the geographic and temporal restrictions that CEQ attempted to draw in 2020. CEQ should therefore expand upon its discussion of *Public Citizen* as further basis for the Proposed Rule.

B. CEQ Should Organize Its Consideration of the Proposed Rule's Costs and Benefits in a Separate Section and Highlight Flaws in the 2020 Regulatory Impact Analysis

In relation to several different provisions, CEQ observes in the Proposed Rule that the benefits of the more robust process prescribed by the 1978 regulations outweigh potential short-term reductions in costs, paperwork, or time associated with the 2020 Rule.[24] CEQ should expand upon this justification in several ways to ensure a complete presentation of the Proposed Rule's costs and benefits.

To begin, CEQ should fully outline its understanding of the costs and benefits associated with the Proposed Rule in a separate section of its rule. This section should contain an explicit

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[17] Policy Integrity 2020 Comments at 9 (citing *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 66 (D.D.C. 2019); *WildEarth Guardians v. Office of Surface Mining, Reclamation, and Enforcement*, 104 F. Supp. 3d 1208, 1230 (D. Colo. 2015)).

[18] *Id.* at 10; 2020 Rule, 85 Fed. Reg. at 43,343.

[19] *Pub. Citizen*, 541 U.S. at 767.

[20] 2020 Rule, 85 Fed. Reg. at 43,343.

[21] Policy Integrity 2020 Comments at 10–11.

[22] *Id.* at 10–11 (citing *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 768, 772–78 (1983)).

[23] Policy Integrity 2020 Comments at 9–10.

[24] Proposed Rule, 86 Fed. Reg. at 55,762 ("Even if the ceiling provisions would reduce costs and delays in some circumstances . . . CEQ considers the benefits of agency flexibility to outweigh the potential costs and delays"); *id.* at 55,763–64 ("CEQ considers the disclosure of both direct and indirect effects to be critical to the informed decision-making process such that the benefits of any such disclosure outweigh any potential for shorter NEPA documents or timeframes.").

determination that the benefits of the proposal exceed its costs, if CEQ finds that to be the case.[25] While CEQ has provided a number of compelling reasons for the revisions it proposes in this rulemaking, a full and separate assessment of costs and benefits would minimize legal risk,[26] and provide a transparent, unified accounting of the tradeoffs CEQ describes throughout its proposal. As detailed throughout this section, there are numerous bases for CEQ to make a reasoned determination that the benefits of the Proposed Rule exceed the costs.

In assessing the costs and benefits of this proposal, CEQ is not bound by its analysis of the 2020 Rule. To the contrary, CEQ should note that the regulatory impact analysis it conducted in connection with the 2020 Rule was flawed in several significant ways, and now amend its assessment of costs and benefits to correct those flaws. In its rationale for the 2020 Rule, CEQ repeatedly referred to the cost savings that the rule would generate in order to justify its dramatic policy change.[27] However, CEQ likely overstated the cost savings from that rule and, in any event, made no serious attempt to weigh those cost savings against the rule's forgone benefits from diminished environmental analysis.

As an initial matter, there is reason to believe that 2020 RIA's valuation of cost savings was an overestimate. In the 2020 RIA, CEQ estimated that the 2020 Rule would save a total of $83 million per year in administrative costs.[28] To reach this figure, CEQ first assumed that the "efficiencies" introduced by its various reforms would reduce the review timeline to two years for those EISs that currently take longer than two years to prepare (a goal that the 2020 Rule also made explicit).[29] Proceeding on the assumption that costs scale linearly with preparation time, CEQ then selected the "midpoint" cost of an EIS across the federal government as representative of EIS preparation cost, used that cost to approximate the cost of a complex EIS, and then calculated the total amount that would be saved under this assumption.[30] CEQ conceded in its 2020 RIA that timeframe "does not necessarily correlate with the total cost" of an EIS,[31] and noted in the 2020 Rule that "[t]here may be underlying permits and consultations (e.g., the Endangered Species Act) and other issues that contribute to a delay [in the environmental review process] and therefore allocating a portion of the cost to the NEPA process would be challenging."[32] Yet CEQ's assessments of the rule's cost savings depended entirely on this assumption, contrary to reliable evidence that the time to complete an EIS is a poor proxy for cost. Indeed, in its comprehensive review of the costs of NEPA across the federal government, the Government Accountability Office ("GAO") noted in relation to environmental review timeframes that "a project may stop and restart for any number of reasons that are unrelated to

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[25] *See* Exec. Order No. 12,866 § 1(b)(6), 58 Fed. Reg. 51,735 (providing that agencies should "adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs").

[26] *Michigan v. EPA*, 576 U.S. 743, 756 (2015) (agencies may not "[give] cost no thought *at all*" in a "decision to regulate") (emphasis in original).

[27] *See, e.g.,* 2020 Rule, 85 Fed. Reg. at 43,325 (referring to reduced costs to justify shortened timeline for EIS process), 44,308 (part of motivation for rulemaking was to reduce costs), 43,352–56 (relying on RIA to justify rule).

[28] 2020 RIA, *supra* note 4, at 9.

[29] *Id.* at 8; 2020 Rule, 85 Fed. Reg. at 43,325. While CEQ did not explicitly list the reforms it hypothesized would lead to this outcome, its provision-by-provision assessment of costs and benefits included a determination that revising section 1502.13 – which CEQ now proposes to rescind – would increase the "timeliness of review." 2020 RIA, *supra* note 4, at 19.

[30] 2020 RIA, *supra* note 4, at 8–9.

[31] *Id.* at 9.

[32] 2020 Rule, 85 Fed. Reg. at 43,352.

NEPA or any other environmental requirements,"[33] and thus longer timeframes do not necessarily correlate with higher cost.[34]

CEQ further overstated the cost savings from the 2020 Rule by arguing that its change to the scope of effects "may lower the amount of litigation under NEPA" by introducing "[a] clear definition that follows Supreme Court case law."[35] That hypothesis was not tenable on the record before CEQ in 2020, in which commenters including Policy Integrity outlined the many ways that CEQ's interpretation ran contrary to NEPA's text and the extensive case law interpreting that text. That position is doubly untenable now: as CEQ noted in the Proposed Rule, at least five separate lawsuits have been filed challenging the 2020 Rule.[36] As some litigants recognized, the existing body of case law on cumulative and indirect effects created certainty and predictability, which the 2020 Rule upended.[37] Moreover, as CEQ has noted in the Proposed Rule, the 2020 Rule contained internally contradictory guidance regarding indirect and cumulative effects that, far from simplifying the NEPA process, merely muddled the waters.[38] Given these additional considerations, CEQ's prior claim that the 2020 Rule would reduce litigation and thereby result in additional cost savings was highly dubious.

CEQ should point out these flaws in its rationale for the Proposed Rule,, which cast serious doubt on the cost savings claimed in the 2020 RIA.[39] But notwithstanding the inaccuracy of those cost savings estimates, the 2020 RIA suffered from a more fundamental flaw: it unlawfully neglected to assess important costs that the 2020 Rule would impose.[40] Specifically, while identifying what CEQ characterized as minor administrative costs and the costs to agencies of updating their NEPA procedures, CEQ omitted any consideration of the 2020 Rule's costs in the form of forgone benefits.[41] But these forgone benefits are considerable. In particular, CEQ's limitation on agency analysis of cumulative and indirect effects would have profoundly affected state governments and local communities alike. For instance, a coalition of states indicated in

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[33] United States Government Accountability Office, National Environmental Policy Act: Little Information Exists on NEPA Analyses 15 (2006), https://www.gao.gov/products/gao-14-370 [hereinafter "GAO NEPA Assessment"] (citing Linda Luther, Cong. Rsch. Serv., R42479, The Role of the Environmental Review Process in Federally Funded Highway Projects: Background and Issues for Congress (2012)).

[34] GAO NEPA Assessment, *supra* note 33, at 14 ("[T]ime frames for completing EISs . . . *can be one element* of project cost"); *id.* at 15 (time frame measures may not account for up-front work that occurs prior to an EIS, and "a 10-year time frame to complete a project may have been associated with funding issues, engineering requirements, or community opposition to the project, to name a few.").

[35] 2020 RIA at 30–31.

[36] Proposed Rule, 86 Fed. Reg. at 55,758 n.13 (listing five different lawsuits challenging the legality of the rule as a whole, along with one other lawsuit challenging components of the rule as part of its challenge to a specific approval).

[37] First Amended Complaint for Declaratory and Injunctive Relief at 75–76, *California v. Council on Environmental Quality,* No. 20-06057 (N.D. Cal. Nov. 23, 2020); First Amended Complaint for Declaratory and Injunctive Relief at 112, *Alaska Cmty. Action on Toxics v. Council on Environmental Quality*, No. 20-5199 (N.D. Cal. Oct. 6, 2020).

[38] Proposed Rule, 86 Fed. Reg. at 55,762, 55,764.

[39] Insofar as CEQ makes any use at all of this questionable estimate, CEQ should also note that $83 million describes the benefits of the 2020 Rule as a whole, not merely the provisions that are being rescinded in the Proposed Rule. *See* 2020 RIA at 21.

[40] *Compare id.* at 21, 25 *with Sierra Club v. Sigler*, 695 F.2d 957, 979 (5th Cir. 1983) (an agency may not consider only benefits without considering costs).

[41] 2020 RIA at 21, 25–30.

litigation challenging the 2020 Rule that the rule would "[increase] the burden on State[s] to respond to public health disparities flowing from uninformed federal decisions that adversely impact vulnerable communities," and that "[i]ncreased public health and community harms from weakened NEPA reviews [would] require greater expenditures of state and territorial funds to remedy increased public health disparities flowing from uninformed federal action."[42]

The plaintiff states also recognized that the 2020 Rule would worsen existing environmental injustices by limiting consideration of key environmental and public-health impacts. As they observed, "The [2020 Rule] excludes consideration of cumulative impacts to communities that face a historic and disproportionate pattern of exposure to environmental hazards" and those communities "are more likely to suffer future health disparities due to the elimination of cumulative impact review from the NEPA process."[43] Community advocacy groups noted that eliminating the evaluation and disclosure of cumulative impacts would deprive individuals and communities "of crucial information about the environmental impacts of [certain] projects—information they also need to take self-protective measures against the effects of the additional pollution that will be emitted as a result" of projects that proceed though the NEPA process.[44] None of these detrimental impacts were considered, much less fully evaluated, in the 2020 RIA.

CEQ also ignored key benefits of the NEPA process as it existed prior to 2020 in reducing long-term project and environmental costs. Reviewing the efficacy of the 1978 regulations, the GAO concluded, citing a previous Congressional Research Service report, that NEPA "ultimately saves time and reduces overall project costs by identifying and avoiding problems that may occur in later stages of project development."[45] Analyzing an adequate menu of project alternatives—the "linchpin" of an environmental impact statement[46]—contributes to these reduced costs. As GAO summarized one senior agency official's comments, "the [NEPA] process helps planners avoid the multiyear cost of mitigating a project's potential adverse effects up front by identifying and evaluating alternatives that would not otherwise have been identified."[47] By ignoring these key cost savings of an adequate NEPA analysis that includes a full consideration of potential alternatives, CEQ further disregarded the forgone benefits of the 2020 Rule.

Limiting the scope of alternatives to those that fulfill the applicant's goals is particularly costly in light of the changing global climate. An applicant's project goal, on which the 2020 Rule directed agencies to focus their alternatives analysis, may be cost-effective and sensible in

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[42] First Amended Complaint for Declaratory and Injunctive Relief at 65–66, *State of California et al. v. Council on Environmental Quality et al,* No. 20-06057 (N.D. Cal. Nov. 23, 2020).

[43] *Id*.

[44] Amended Complaint at 29, *Environmental Justice Health Alliance v. Council on Environmental Quality*, No. 20-06143 (S.D.N.Y. Dec. 23, 2020).

[45] GAO NEPA Assessment, *supra* note 33, at 17 (citing Linda Luther, Cong. Rsch. Serv., R42479, The Role of the Environmental Review Process in Federally Funded Highway Projects: Background and Issues for Congress (2012)).

[46] *Monroe Cty. Conservation Council, Inc. v. Volpe*, 472 F.2d 693, 697–98 (2d Cir. 1972).

[47] GAO NEPA Assessment, *supra* note 33, at 17 (paraphrasing a senior official's statement; also reporting a statement by Department of Transportation officials that "the NEPA process allows project decision makers to discover and solve design problems that could end up being more costly in the long run").

the current climate but not in the years to come. As the GAO explained, "U.S. energy infrastructure is increasingly vulnerable to a range of climate change impacts—particularly infrastructure in areas prone to severe weather and water shortages."[48] For instance, the Gulf Coast alone contains almost 4000 oil and gas platforms, many of which are now vulnerable to wind and storm surge as sea levels rise.[49] GAO also found that "[c]limate changes are projected to affect infrastructure throughout all major stages of the energy supply chain," including resource extraction and processing, fuel transportation and storage, electricity generation, and electricity transmission and distribution.[50] Failing to incorporate a full range of alternatives could lead to poor investments in infrastructure that may soon become too climate-vulnerable to be functional or profitable. That principle applies equally to the regulatory climate: meeting state and local decarbonization mandates may require shifting away from fossil fuel development projects, lest those assets become "stranded."[51] When CEQ narrowed the scope of the alternatives analysis in the 2020 Rule, it failed to consider any of these associated costs.

Excluding certain geographically and temporally remote effects from NEPA analysis could also lead to chronic and sizeable underestimates of the costs of many projects. For instance, in *Sierra Club v. Coleman*, the U.S. District Court for the District of Columbia noted that the "most significant environmental problem" associated with building a highway through Panama and Colombia was a geographically distant effect with an astronomical cost: the spread of foot and mouth disease in North America, which the agency projected could cause a loss of $10 billion in one year.[52] Insofar as the 2020 Rule could be interpreted to restrict agency assessment of greenhouse gas emissions,[53] those effects would be similarly significant. When assessing a single coal mine expansion, for instance, the Office of Surface Mining recently concluded that a project's emissions were insignificant because they were a relatively small percentage of global emissions, and declined to apply the social cost of greenhouse gases, which would have revealed approximately $9 billion in climate harms resulting from the project as compared with estimated economic benefits of less than $3 billion.[54] In other words, the

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[48] U.S. Government Accountability Office, Climate Change: Energy Infrastructure Risks and Adaptation Efforts "Highlights" (2014), https://www.gao.gov/assets/gao-14-74.pdf.

[49] *Id.* at 12.

[50] *Id.* at "Highlights."

[51] *See* Financial Stability Oversight Council, Report on Climate-Related Risk 113 (2021) , https://home.treasury.gov/system/files/261/FSOC-Climate-Report.pdf (describing stranded assets); *see also* Madison Condon, Sarah Ladin, Jack Lienke, Michael Panfil & Alexander Song, *Mandating Disclosure of Climate-Related Financial Risk* 6–7 (2021), https://policyintegrity.org/files/publications/Mandating_Climate_Risk_Financial_Disclosures.pdf (describing regulatory risk to assets).

[52] 421 F. Supp. 63, 65 (D.D.C. 1976); *see also* Policy Integrity 2020 Comments at 6 (discussing *Sierra Club v. Coleman*).

[53] CEQ has never stated that the 2020 Rule restricted agency assessment of greenhouse gas emissions, and agencies have continued to assess greenhouse gas emissions following the 2020 Rule just as they were before the 2020 Rule was promulgated.

[54] Bull Mountains Mine No. 1 Federal Mining Plan Modification Environmental Assessment D-2 (2018). This project was expected to result in the release of approximately 190 million tons of greenhouse gases, *id.* at 56, which equals about 172.36 million metric tons. Using the central social cost of carbon estimate of $51 per metric ton emitted in the year 2020, this amounts to $8.79 billion in climate harm for 2020 emissions. *See* Interagency Working Group on the Social Cost of Greenhouse Gases, Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide – Interim Estimates Under Executive Order 13,990 at 5 tbl.ES-1 (2021). While OSM did not directly report the total value of extracted coal, it did estimate that the mine expansion will result in 86.8 million tons of coal

agency's failure to robustly assess the greenhouse gas implications of the project through a robust NEPA process likely imposed net costs on the public of at least $6 billion.[55]

In sum, the Proposed Rule will restore a number of the important benefits of the more robust process outlined in the 1978 regulations. This includes improved project and environmental outcomes due to a more comprehensive planning process; avoided investments in infrastructure that will be rendered obsolete by climate impacts or regulatory changes; and a more transparent and comprehensive accounting of the full scope of project impacts, including those that play out over long timeframes and distant geographies. CEQ should highlight these benefits in a separate section accounting for the benefits and costs of the Proposed Rule, and make an informed judgment that the benefits of the proposal outweigh the costs.

C. CEQ Should Include Relevant Comments and Other Documents from the 2020 Rule in the Docket for This Rule

In its proposal, CEQ refers to a number of comments submitted to the 2020 Rule, and recognizes that these comments informed its process in crafting the Proposed Rule.[56] Should CEQ rely on any of the comments or other materials in the 2020 Rule docket when issuing the final rule, CEQ should identify which specific comments or materials and ensure that they are posted in the docket for the present rulemaking. Incorporating such evidence into the record will both help CEQ defend the regulation in the event of possible litigation and ensure transparency to the public.

II. In the Phase II Rulemaking, CEQ Should Prioritize Regulatory Revisions to Promote Public Welfare and Improve Consideration of Greenhouse Gas Emissions, Climate Risk, and Environmental Justice

As CEQ considers further amendments to the NEPA regulations as part of the Phase II rulemaking, it should prioritize regulations that will help ensure that environmental review promotes projects that serve the public welfare and better fulfill the statute's core purpose "to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man."[57]

Properly identifying the environment affected by a major federal action is a fundamental prerequisite for conducting environmental review under NEPA, a statute long identified to be a "basic national charter for protection of the environment" that achieves its purpose by issuing procedures intended to ensure that the "high quality" environmental information is available to inform public decisionmaking.[58] Yet in recent years, NEPA analysis has not always benefitted the public interest. Agencies have frequently approved projects that will exacerbate climate

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per year that will sell for $32.50 per ton. Bull Mountains Mine No. 1 Federal Mining Plan Modification Environmental Assessment 18, G-6 (2018). 86.8 million multiplied by $32.50 equals $2.821 billion.

[55] This figure represents a minimum estimate of the total public health cost and does not reflect the additional environmental costs, including from local air pollution, of extraction and combustion.

[56] Proposed Rule, 86 Fed. Reg. at 55,761–63 and *passim*.

[57] 42 U.S.C. § 4321.

[58] These quotations are from 40 C.F.R. § 1500.1, the purpose provision of CEQ's regulations, as it existed prior to the 2020 Rule. The 2020 Rule substantially altered this provision.

change or disproportionately burden environmental justice communities based on an insufficient environmental review. At the same time, NEPA has sometimes delayed or deterred projects that are environmentally beneficial, namely renewable energy projects that are essential for decarbonization.[59] Solving these multiple challenges will require agencies to carefully assess both beneficial and adverse environmental impacts, and to rationally weigh those competing effects to make a reasoned determination as to whether, and with what mitigation, to approve a project. Careful consideration of crucial impacts—including effects on climate change and environmental justice—are critical to assessing whether the project meets the public interest.

This Part offers recommendations for regulatory revisions and CEQ guidance to better ensure that environmental review facilitates the development of projects that improve social welfare, are appropriate in an era of climate change, and do not burden environmental justice communities. First, this Part suggest that NEPA revise its regulations to promote monetization and cost-benefit weighing in environmental review. It then suggests particular regulatory revisions and guidance that CEQ should issue to facilitate more rigorous and consistent analysis of three critical environmental impacts that have received insufficient attention in environmental review: greenhouse gas emissions, climate vulnerability, and environmental justice.

While this section focuses on new revisions to the NEPA regulations rather than rescinding additional provisions of the 2020 Rule, CEQ should also rescind key provisions of the 2020 Rule that were either unlawful and/or improperly restricted the scope of NEPA review. Policy Integrity's attached 2020 comments focused on several particular revisions that are beyond the scope of the Proposed Rule, namely the 2020 Rule's revisions on the consideration of alternatives,[60] functional equivalence,[61] the assessment of significance by breaking a project into component parts,[62] and information collection.[63] CEQ should rescind these components of the 2020 Rule as part of its Phase II rulemaking. The 2020 Rule's restrictions on the consideration of alternatives are particularly problematic, as they may restrict agencies from identifying alternative proposals that would improve social welfare or limit burdens on environmental justice populations.

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[59] *See* Michael Gerrard, *Legal Pathways for a Massive Increase in Utility-Scale Renewable Generating Capacity*, 47 ENV'T L. REP. NEWS & ANALYSIS 10,591, 10,603–05 (2017); Domenic A. Cossi, *Getting Our Priorities Straight: Streamlining NEPA to Hasten Renewable Energy Development on Public Land*, 31 PUB. LAND & RES. L. REV. 149, 154–59, 173–74 (2010); Jeffrey Thaler, *Fiddling as the World Floods and Burns: How Climate Change Urgently Requires a Paradigm Shift in the Permitting of Renewable Energy Projects*, 42 ENV'T. L. 1101, 1133–35, 1143–55 (2012).

[60] Policy Integrity 2020 Comments at 15–22.

[61] *Id.* at 22–23.

[62] *Id.* at 26.

[63] *Id.* at 29.

CEQ may also wish to explore avenues to streamline environmental review of renewable-energy projects through such mechanisms as prioritization,[64] tiering,[65] and categorical exclusions.[66] While this comment letter does not explore those options further, the recommendations offered below are compatible with those efforts and would further CEQ's initiatives to promote the development of environmentally-beneficial projects while requiring rigorous review of projects that may harm public welfare.

A. CEQ Should Revise 40 C.F.R. § 1502.22 to Promote Monetization, Cost-Benefit Weighing, and Consideration of the Public Interest in Environmental Review

Major infrastructure projects generally have both beneficial and adverse impacts. Fossil-fuel extraction and transmission projects, while having some short-term economic benefits including effects on revenues and jobs, are very detrimental to the climate. Renewable-energy projects are necessary to decarbonize the electricity grid and thus hugely environmentally beneficial, yet may entail some adverse effects such as impacts on sightlines and short-term land impacts associated with construction. Yet currently, agencies lack a consistent or rigorous rubric or methodology to weigh beneficial and adverse project impacts.[67] This raises the possibility that agencies will prioritize short-term or small-scale impacts over larger and more substantial ones.

In other areas of federal decision-making, this problem is addressed through the use of monetization and cost-benefit weighing. While monetization of environmental and public-health impacts was in its nascence when CEQ first promulgated its regulations in 1978, the practice has since become common throughout the federal government. Perhaps most notably, under Executive Order 12,866 agencies must perform a cost-benefit analysis for all significant regulations to ensure "that the benefits of the intended regulation justify its costs."[68] Pursuant to this executive order, agencies routinely monetize key health, environmental, and economic impacts of regulation. Additionally, some agencies also monetize key impacts as part of the weighing of beneficial and adverse impacts in the grantmaking context.[69] The use of

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[64] Gerrard, *supra* note 59, at 10,603–04 (emphasizing the need to prioritize NEPA assessments for clean-energy infrastructure at both the agency level and through the Federal Permitting Improvement Steering Council); Thaler, *supra* note 59, at 1155 ("[T]here should also be memoranda of understanding signed by all relevant federal agencies, comparable to those for transmission line and high-speed rail projects, in order to accelerate the speed of federal permitting and review processes for offshore wind energy development.").

[65] Cossi, *supra* note 59, at 165–68 (calling for the use of programmatic review for renewable energy to hasten review of individual projects); Gerrard, *supra* note 59, at 10,592.

[66] Thaler, *supra* note 59, at 1153–54 (calling for the use of categorical exclusions for offshore wind demonstrating and testing projects); *see also* Irma S. Russell, *Streamlining NEPA to Combat Global Climate Change: Heresy or Necessity*, 39 ENV'T L. 1049 (2009) (providing examples of the use of categorical exclusions in the energy context).

[67] Gerrard, *supra* note 59, at 10,605 (recognizing that current CEQ regulations do not "require agencies to consider the positive as well as the negative environmental impacts of proposed actions when making decisions after environmental review," and suggesting that positive impacts be more thoroughly considered such as "reduced fossil fuel use" from renewable energy projects); *see also* Thaler, *supra* note 59, at 1142 (calling on CEQ to revise the NEPA regulations "so that the benefits of renewable energy sourcing (such as no [greenhouse gas] impacts) are quantified under project impacts," and calling for adequate consideration of climate costs).

[68] Exec. Order No. 12,866 § 1(b)(6), 58 Fed. Reg. 51,735 (Oct. 4, 1993).

[69] *See, e.g.*, Dep't of Transp., Benefit-Cost Analysis Guidance for Discretionary Grant Programs 5 (2021), (explaining that "[t]he information provided in the applicants' [cost-benefit analyses] will be evaluated by [DOT] and used to help ensure that the available funding under the programs is devoted to projects that provide substantial economic benefits … relative to the resources required to implement those projects").

monetization and weighting has been extremely beneficial in these contexts. For instance, key environmental safeguards have been justified on the basis of a rigorous cost-benefit analysis, and attempts to roll back those safeguards have sometimes stalled or been overturned on the basis of an insufficient analysis.[70] Evidence indicates that agencies better protect the environment and public health when they monetize environmental and health effects than when they do not.[71]

When engaging in NEPA review, however, agencies rarely monetize any environmental or public-health impacts unless compelled to do by another legal authority, such as Executive Order 12,866.[72] (The Nuclear Regulatory Commission routinely performs cost-benefit analysis as part of NEPA review, but is the exception rather than the norm.[73]) This is due, at least in part, to the wording of 40 C.F.R. § 1502.22.[74] While this provision encourages agencies to incorporate cost-benefit analysis into NEPA under particular circumstances,[75] it advises agencies not to engage in the "weighing of the merits and drawbacks of the various alternatives in a monetary cost-benefit analysis . . . when there are important qualitative considerations."[76] Though appropriately highlighting the significance of qualitative considerations, this provision unnecessarily discourages the monetization of environmental, social, and health impacts that can elucidate the significance of those effects and provide a scientific basis for agencies to weigh competing alternatives. CEQ should amend 40 C.F.R. § 1502.22 to promote monetization of impacts for which monetization methodologies are established, and further promote the consideration of those monetized impacts, alongside impacts that cannot be monetized, when choosing among project alternatives.

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[70] *See* Bethany A. Davis Noll, *"Tired of Winning": Judicial Review of Regulatory Policy in the Trump Era*, 73 ADMIN. L. REV. 353, 401–06 (2021) (finding that under the Trump administration "courts have been setting aside agency rules that are based on bad analysis" and identifying one instance in which the Trump administration never finalized a deregulatory rule that would have causes enormous public-health costs due to the inability to overcome prior analysis showing substantial net benefits). *See also, e.g.*, *California v. Bernhardt*, 472 F. Supp. 3d 573, 608–14 (N.D. Cal. 2020) (overturning BLM's attempt to rescind regulation requiring prevention of methane waste based on flaws analysis that failed to rationally rebut the agency's previous finding that the benefits of the methane-waste rule exceed the costs).

[71] Michael Livermore & Richard L. Revesz, *Rethinking Health-Based Environmental Standards*, 89 N.Y.U. L. REV. 1184, 1188–89 (2014) (finding that for the majority of EPA regulations analyzed, "[t]he application of cost-benefit analysis . . . would have resulted in cleaner air.").

[72] Under Executive Order 12,866, agencies are required to assess the costs and benefits of any "significant regulatory action." Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Oct. 4, 1993). With some exceptions, agency regulations that significantly affect the quality of the human environment also require the preparation of an environmental impact statement under NEPA.

[73] Nuclear Regulatory Commission regulations require the agency to include "a consideration of the economic, technical, and other benefits and costs of the proposed action and alternatives" in environmental impact statements. 10 C.F.R. § 51.71(d). Commission staff is directed to issue a preliminary recommendation "after considering the environmental effects of the proposed action and reasonable alternatives, and . . . after weighing the costs and benefits of the proposed action." *Id*. § 51.71(f).

[74] For instance, agencies and fossil-fuel interests in recent years have routinely cited 40 C.F.R. § 1502.22 as grounds for rejecting the use of the social cost of greenhouse gases in NEPA analyses. *See, e.g.*, Bureau of Land Mgmt., Coastal Plain Oil and Gas Leasing Program: Final Environmental Impact Statement (2019) ("NEPA does not require a cost-benefit analysis… .Without a complete monetary cost-benefit analysis . . . including only a[social cost of carbon] cost analysis would be unbalanced, potentially inaccurate, and not useful to the decisionmaker.").

[75] *See* 40 C.F.R. § 1502.22 ("If the agency is considering a cost-benefit analysis for the proposed action relevant to the choice among alternatives with different environmental effects, the agency shall incorporate the cost-benefit analysis by reference or append it to the statement as an aid in evaluating the environmental consequences.").

[76] *Id.*

Under the Biden administration, the federal government has come to recognize the benefits of monetizing climate impacts in certain parts of environmental analysis. In his first-day Executive Order titled *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, President Biden recognized that using the social cost of greenhouse gases—that is, a monetary estimate of the economic, social, and health costs from a metric ton of greenhouse gas emissions—"facilitates sound decision-making"[77] and called for the metric to be applied beyond regulatory impact analysis including in "decision-making, budgeting, and procurement."[78] In April 2021, Interior Secretary Deb Haaland issued a Secretarial Order recognizing that the social cost of greenhouse gases provides a "useful measure to assess the climate impacts of [greenhouse gas] emission changes for Federal proposed actions, in addition to rulemakings," emphasizing the tool as "relevant to the choice among different alternatives."[79] And numerous agencies have applied the social cost of greenhouse gases in recent NEPA analyses including the U.S. Postal Service,[80] Bureau of Land Management,[81] and Bureau of Ocean Energy Management.[82] BOEM recognized that the social cost of greenhouse gases provides "a useful measure of the benefits of [greenhouse gas] emissions reductions"[83]; and as the Postal Service recognized, the metric "provide[s] a benchmark for the economic evaluation of a proposed action."[84] Numerous federal courts have also recognized the significance of monetizing climate damages in environmental review, as detailed below, including a recent decision from the D.C. Circuit recognizing the social cost of greenhouse gases as a "research method generally accepted in the scientific community."[85]

As these analyses recognize, there are many virtues of monetizing environmental, social, and health impacts in facilitating rational agency decision-making. Whereas volumetric emission totals or estimates of discrete public-health or environmental harms, standing alone without monetizing those values, are both disaggregated and incommensurate with other project impacts, monetization offers decision-makers the opportunity to capture many different impacts of a single environmental impact in a salient metric that can be compared to other project effects, particularly monetized economic impacts. In this sense, monetization also promotes transparency by explicitly demonstrating how an agency considers tradeoffs between alternatives, thus further fulfilling the aims of NEPA.[86] As the U.S. Court of Appeals for the Fifth Circuit has recognized

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[77] Exec. Order No. 13,990 § 5(a), 86 Fed. Reg. 7037 (Jan. 25, 2021).

[78] *Id.* § 5(b).

[79] Department-Wide Approach to the Climate Crisis and Restoring Transparency and Integrity to the Decision-Making Process, Secretarial Order 3399 § 5(b) (Apr. 16, 2021).

[80] U.S. Postal Serv., Draft Environmental Impact Statement: Next Generation Delivery Vehicle Acquisitions 4-15 (2021).

[81] *E.g.*, Bureau of Land Mgmt., Wyoming State Office, Draft Environmental Assessment for 2022 First Quarter Competitive Lease Sale 34 (2021).

[82] Bureau of Ocean Energy Mgmt., Revised Draft Environmental Impact Statement for Cook Inlet Planning Area 48 (2021).

[83] *Id.* at 49.

[84] U.S. Postal Serv., *supra* note 80, at 4-15 to 4-16.

[85] *Vecinos para el Bienestar de la Comunidad Costera v. Fed. Energy Reg. Comm'n*, 6 F.4th 1321, 1327–30 (D.C. Cir. 2021) (analyzing 40 C.F.R. § 1502.21(c)(4)).

[86] *See Balt. Gas & Elec. Co.*, 462 U.S. at 96 ("The key requirement of NEPA . . . is that the agency consider and disclose the actual environmental effects in a manner that will ensure that the overall process . . . brings those effects to bear on decisions to take particular actions that significantly affect the environment.").

in the NEPA context, the use of monetized values to assess environmental and health impacts "is permissible and in many instances desirable," since it enables agencies to "giv[e] weight and consideration to the ecological costs to future generations" and to "decid[e] whether present economic benefits indicate that the depletion of irreplaceable natural resources should proceed."[87]

One recent example neatly illustrates how monetization of key environmental impacts can promote environmental protection, furthering NEPA's purpose. In an assessment that was finalized in January 2021, the Bureau of Land Management declined to apply the social cost of greenhouse gases for a proposed coal mine expansion and deemed the project's emissions insignificant upon a limited examination.[88] Annual greenhouse gas emissions for that project totaled approximately 11.4 million metric tons.[89] Using the current central estimate of climate damages from an interagency working group of $51 per metric ton, this quantity of emissions translates to roughly $581 million in annual climate damages. Yet according to BLM's own analysis, the entire project was expected to produce only $254 million in total revenue[90]—less than half of its *annual* climate cost. Had it monetized key impacts, the agency should have determined not to proceed with this harmful project, since the climate costs alone (not even including other substantial environmental and public-health costs) clearly outweighed the project's economic benefits.

Monetizing key impacts and performing cost-benefit weighing could also help facilitate the development of other critical projects, such as renewable energy. In the Proposed Rule, for instance, CEQ explains that "a utility-scale solar facility could have short-term direct adverse effects, such as land impacts associated with construction," while causing "long-term indirect beneficial effects, such as reductions in air pollution, including greenhouse gas emissions."[91] Without a clear protocol to select an alternative, agencies would have no concrete basis to determine whether the short-term adverse impacts of solar projects outweigh the long-term benefits on the climate and air quality. By monetizing critical economic, environmental, and social impacts, agencies would gain better insight into the relative values of these tradeoffs.[92]

While the social cost of greenhouse gases is the most prominent example of a monetized environmental impact that could bolster NEPA review, monetized values for other environmental and health impacts could also be implemented into NEPA review and similarly facilitate a balanced consideration of key impacts. For instance, agencies have developed estimates for other parameters that are frequently assessed under NEPA, such as local air pollution (both upstream

[87] *Sierra Club v. Morton*, 510 F.2d 813, 827 (5th Cir. 1975).
[88] Bureau of Land Mgmt., Lila Canyon Mine Lease Modifications Environmental Assessment 38–39 & tbl. 3-12 (DOI-BLM-UT-G020-2018-0039-EA) (2021).
[89] *Id.* at 38 tbl. 3-12.
[90] *Id.* at 54.
[91] Proposed Rule, 86 Fed. Reg. at 55,763.
[92] *See id.* at 10 ("By measuring incremental benefits and costs of successively more stringent regulatory alternatives, you can identify the alternative that maximizes net benefits.").

and downstream),[93] noise,[94] energy security,[95] impacts on wetlands,[96] and human-health improvements including a reduction in mortality risk.[97] Economists have also developed valuation studies to monetize impacts on wildlife and other natural resources, which the federal government has sometimes applied.[98] And of course, estimates of a project's economic benefits or costs are normally measured in dollars.[99] CEQ could publish guidance advising agencies of monetized estimates in use by federal agencies.

Given the ubiquity of monetization elsewhere in federal policymaking—and its ability to facilitate rational decisionmaking, including careful attention to key environmental, social, and health considerations—CEQ should amend its regulations to promote rather than discourage monetization in NEPA analysis. For one, CEQ's regulations should provide that established monetization techniques be applied to analyze a project's impacts when feasible (such as when valuations are readily available or the costs of obtaining such valuations are reasonable). CEQ should further amend its regulations to recognize that monetization can aid in decisionmaking even if certain impacts are assessed qualitatively. Agencies should continue to rigorously assess unmonetized impacts[100] and, as they already do in the rulemaking context, "exercise professional judgment in determining how important the non-quantified [and unmonetized] benefits or costs may be in the context of the overall analysis."[101] In other words, the presence of some unmonetized impacts that are assessed qualitatively should not preclude monetization of any impacts, as the current regulations suggest.

CEQ should also amend its regulation to promote the weighing of beneficial and adverse impacts, including both monetized values and key qualitative effects. As courts have recognized, "NEPA mandates a rather finely tuned and systematic balancing analysis" of "environmental costs" against "economic and technical benefits."[102] While NEPA does not require a full and

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[93] *See, e.g.*, EPA, Regulatory Impact Analysis: Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards 7-19 to 7-28 (Aug. 2021)

[94] *Id.* at 3-42 to 3-43.

[95] *Id*. at 3-15 to 3-27.

[96] *See, e.g.*, EPA & Army Corps of Engineers, Final Regulatory Impact Analysis for the Clean Water Rule 43–52 (2015).

[97] EPA, Guidelines for Preparing Economic Analysis 7-8 to 7-15 (describing how to monetize mortality and morbidity impacts).

[98] *Id.* at 7-15 to 7-20 (describing how to monetize ecological benefits). One particularly noteworthy example of the use of valuation techniques in the natural resources context was a research study finding that the lost non-use values resulting from the Exxon-Valdez oil spill (beyond clean-up costs and compensation for immediate victims) totaled approximately $2.8 billion. This finding informed settlement discussions in litigation over the oil spill. Richard T. Carson et al., *Contingent Valuation and Lost Passive Use: Damages from the Exxon Valdez Oil Spill*, 25 ENV'T & RES. ECON. 257 (2003).

[99] *See* Off. of Mgmt. & Budget, Circular A-4: Regulatory Analysis 21 (2003) ("Economists ordinarily consider market prices as the most accurate measure of the marginal value of goods and services to society.").

[100] *See generally* 42 U.S.C. § 4332(2)(B) (directing agencies to "insure that presently unquantified environmental amenities and values . . . be given appropriate consideration in decisionmaking along with economic and technical considerations").

[101] *See* Circular A-4, *supra* note 99, at 2, 27 (advising agencies on consideration of unquantified and/or unmonetized in regulatory impact analysis).

[102] *Calvert Cliffs' Coordinating Comm., Inc. v. U.S. Atomic Energy Comm'n*, 449 F.2d 1109, 1113 (D.C. Cir. 1971) (internal quotation marks omitted). *See also, e.g.*, *Chelsea Neighborhood Ass'ns v. U.S. Postal Serv.*, 516 F.2d 378, 386 (2d Cir. 1975) ("NEPA, in effect, requires a broadly defined cost-benefit analysis of major federal activities."); *Cape May Greene, Inc. v. Warren*, 698 F.2d 179, 188 (3d Cir. 1983) ("In short, the National Environmental Policy

formal cost-benefit analysis, it does "mandate[] at least a broad, informal cost-benefit analysis," and so agencies must "fully and accurately" and "objectively" assess environmental, economic, and technical costs.[103] Monetizing impacts to the extent feasible best enables this weighing that NEPA demands. To facilitate such weighing, CEQ should advise agencies (either through regulations or guidance) to assess major environmental benefits of a proposed action in addition to adverse environmental impacts,[104] so that the agency can compare beneficial and adverse effects.[105] While a full assessment of all beneficial impacts should not be required if this would delay the analysis of beneficial projects, analysis of major impacts—such as reductions in greenhouse gas emissions or local pollution—should be quantified and monetized when doing so is feasible, in order to show that those benefits justify any adverse impacts.

In sum, CEQ should revise 40 C.F.R. § 1502.22 in numerous respects. First, the regulation should provide that established monetization techniques be applied to analyze a project's impacts when feasible, and CEQ should provide additional guidance advising agencies of established monetary valuations for key environmental, health, and social impacts. Second, the regulation should recognize that monetization can aid in decision-making even if certain impacts are assessed qualitatively. And third, the regulation should more affirmatively promote the weighting of beneficial and adverse project impacts consistent with the purposes of NEPA. CEQ may wish to revise additional regulations or guidance to provide that agencies assess major environmental benefits of a proposed action to better facilitate cost-benefit weighing.

B. CEQ Should Update Its Regulations and Guidance in Numerous Respects to Facilitate Improved Agency Consideration of Greenhouse Gas Emissions

As it considers upcoming revisions to the NEPA regulations, CEQ should also prioritize changes that will improve agency assessment of greenhouse gas emissions. Although NEPA and its existing implementing regulations already require agencies to consider a project's impacts on the climate,[106] agency assessments frequently lack sufficient analysis to contextualize the proposal's effects on climate change and to compare them to other project impacts.

Act requires a balancing between environmental costs and economic and technical benefits."); *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446 (4th Cir. 1996) ("NEPA requires agencies to balance a project's economic benefits against its adverse environmental effects.").

[103] *Sierra Club v. Sigler*, 695 F.2d 957, 978–79 (5th Cir. 1983) (holding that NEPA "mandates at least a broad, informal cost-benefit analysis," and so agencies must "fully and accurately" and "objectively" assess environmental, economic, and technical costs). *See also Chelsea Neighborhood Ass'ns v. U.S. Postal Serv.*, 516 F.2d 378, 386 (2d Cir. 1975) ("NEPA, in effect, requires a broadly defined cost-benefit analysis of major federal activities.");

[104] Agencies currently must provide an assessment of both "adverse environmental effects" and "economic benefits," but are not required to assess any beneficial environmental effects. 40 C.F.R. § 1502.16(a)(2), (10).

[105] Thaler, *supra* note 59, at 1154 ("CEQ should revise its NEPA regulations and policies guiding the implementing agencies so that the benefits of renewable energy sourcing (such as no [greenhouse gas] emissions) are quantified under project impacts.").

[106] Courts have repeatedly held that agencies must reasonably assess a project's greenhouse gas emissions under NEPA. *See, e.g.*, *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1216–17 (9th Cir. 2008) (rejecting analysis under NEPA when agency "quantifie[d] the expected amount of [carbon dioxide] emitted" but failed to "evaluate the incremental impact that these emissions will have on climate change or on the environment more generally"); *Sierra Club v. FERC*, 867 F.3d 1357, 1374 (D.C. Cir. 2017) ("[G]reenhouse-gas emissions are an indirect effect of authorizing [a natural gas pipeline] project, which FERC … has legal authority to mitigate" and thus must reasonably assess under NEPA); *WildEarth Guardians v. BLM*, 870 F.3d 1222, 1236 (10th Cir. 2017) (rejecting analysis for unreasonable assessment of greenhouse gas impacts). The Proposed Rule, by

Agencies have frequently deemed a project's considerable greenhouse gas emissions to be insignificant based upon a cursory analysis, causing the agency to effectively and irrationally disregard those emissions in their decisionmaking. For instance, even though agencies are required to analyze greenhouse gas emissions, agencies have sometimes limited their assessment of greenhouse gas emissions to direct project emissions while overlooking considerably larger indirect effects from fossil-fuel extraction or combustion.[107] Even when agencies do fully quantify a project's emissions, they often misleadingly trivialize those emissions by comparing them to larger totals, such as global or national emissions, and irrationally dismiss project emissions as insignificant on the basis of that comparison alone.[108]

Many agencies have also declined to apply the social cost of greenhouse gases in NEPA assessments, despite widespread recognition that it is the best available tool to capture the economic and social impacts from the incremental release of greenhouse gas pollution.[109] And even when agencies have applied the social cost of greenhouse gases, they have sometimes concluded that an assessment of significance is impossible "due to the cumulative and global nature of climate change,"[110] and approved the fossil-fuel project under evaluation without careful consideration of the monetized climate impacts. While courts have rejected analyses suffering from these myriad deficiencies as arbitrary and capricious under the existing legal regime,[111] the persistence of insufficient analysis across different agencies suggests that CEQ should clarify agencies' legal obligations and take other steps to ensure consistent, high-quality analysis. CEQ's pending review (in "Phase II" of its regulatory process) of its regulations and

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restoring the definition of "effects" that was in force when these cases were decided, further solidifies the requirement to consider climate impacts under NEPA.

[107] For instance, the D.C. Circuit has rebuked the Federal Energy Regulatory Commission on numerous occasions for its insufficient attention to downstream emissions. *See Sierra Club*, 867 F.3d at 1372; *Birckhead v. FERC*, 925 F.3d 510, 519 (D.C. Cir. 2019). Indirect emissions typically surpass direct emissions for fossil-fuel extraction and transportation projects. *See* James Bradbury et al., Dep't of Energy, Greenhouse Gas Emissions and Fuel Use Within the Natural Gas Supply Chain 4 (2015) (attributing roughly 80 percent of all greenhouse emissions generated by natural-gas supply chain to combustion).

[108] In one particularly egregious example, the Office of Surface Mining deemed a proposal's carbon dioxide emissions "small" because they comprised 0.44% of the annual global total. *See* Bull Mountains Mine No. 1 Federal Mining Plan Modification Environmental Assessment D-2 (2018). The social cost of greenhouse gases, however, would have shown these climate impacts to cause roughly $9 billion it total cost. *Supra* note 54 and accompanying text. The agency's analysis is currently being reviewed by the U.S. Court of Appeals for the Ninth Circuit. In another example, the Bureau of Land Management projected that a coal mine modification would result in over 11.4 million metric tons of carbon dioxide emissions annually, which it then characterized as 0.2% of total U.S. emissions and concluded was insignificant. Bureau of Land Mgmt., Lila Canyon Mine Lease Modifications Environmental Assessment 38–39 & tbl. 3-12 (DOI-BLM-UT-G020-2018-0039-EA) (2021).

[109] *See generally* Michael Burger, Jessica Wentz & Radley Horton, *The Law and Science of Climate Change Attribution*, 45 COLUM. J. ENV'T L. 57, 148 (2020) (explaining that in most NEPA analyses "no attempt is made to draw a direct link between the action's greenhouse gas emissions and specific on-the-ground impacts of climate change," and recommending "metrics that could be used to better explain how a project will contribute to global climate change" such as the social cost values.

[110] *See, e.g.*, BLM, Draft Finding of No Significant Impact, First Quarter 2022 Oil and Gas Lease Parcel Sale, DOI-BLM-MT-0000-2021-0006-EA (Nov. 1, 2021). The Federal Energy Regulatory Commission has declined to apply the social cost of greenhouse gases for a similar reason, stating that "no basis exists to designate a particular monetized value as significant." *E.g.* Final Environmental Impact Statement 20, North Baja Xpress Project, CP20-27-000 (Oct. 2021).

[111] *See supra* note 106 (compiling appellate case law).

guidance on the consideration of greenhouse gas emissions offers that opportunity. In particular, CEQ should:

1. Further revise the definition of "effects" in 40 C.F.R. § 1508.1(g) to explicitly include climate impacts;

2. Amend its regulations to codify case law holding that NEPA analyses require assessment of "actual environmental effects";

3. Revise 40 C.F.R. § 1502.21 to apply to all impacts assessed under NEPA, not only significant impacts in an environmental impact statement;

4. Rescind provisions of the 2020 Rule indicating that NEPA analysis should be limited to national effects; and

5. Reinstitute and revise its guidance on best practices in the consideration of greenhouse gas emissions, including by endorsing usage of the social cost of greenhouse gases and offering guidance on how agencies should weigh monetized climate impacts (along with other monetized and unmonetized environmental, health, and social impacts) against monetized economic effects.

This section discusses each of these points in turn, recommending particular revisions for CEQ to make to its regulations and guidance in order to improve agency consideration of greenhouse gas emissions.

1. CEQ Should Further Revise the Regulatory Definition of "Effects" to Explicitly Include Impacts on the Climate

Under the Proposed Rule, the current 40 C.F.R. § 1508.1(g)(1) would be renumbered and revised back to its pre-2020 form to define "effects," in relevant part, to include "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health" impacts, "whether direct, indirect, or cumulative."[112] Although effects on climate change have ecological, economic, social, and health impacts—and thus undeniably fall under the definition of "effects" as defined in the Proposed Rule—CEQ should consider adding a direct reference in 40 C.F.R. § 1508.1(g)(1) to climate impacts in order to minimize any possible confusion.

Though just a simple wording change, explicitly specifying that impacts on climate change meet the definition of "effects" is particularly important after the confusion caused by the 2020 Rule. In that rule, CEQ revised the definition of "effects" to explicitly require spatial, geographic, and temporal proximity[113]—all unlawful restrictions that CEQ now proposes to

[112] Proposed Rule, 86 Fed. Reg. at 55,769. This slightly modifies the prevailing definition of "effects" in 40 C.F.R. § 1508.1(g)(1), which explicitly mentions employment impacts and lacks the language on "direct, indirect, or cumulative" impacts. *See* 40 C.F.R. § 1508.1(g)(1). The Proposed Rule would renumber this provision to 40 C.F.R. § 1508.1(g)(4); for the sake of consistency, this section uses the current citation to refer to this provision.

[113] 40 C.F.R. § 1508.1(g)(2).

rescind.[114] While CEQ stated when promulgating the 2020 Rule that "[t]he rule does not preclude consideration of the impacts of a proposed action on any particular aspect of the human environment," and "analysis of the impacts on climate change will depend on the specific circumstances of the proposed action,"[115] some opponents of climate change reforms have interpreted the 2020 Rule to preclude consideration of climate impacts under NEPA.[116] CEQ should dispel any confusion about whether climate impacts should be considered under NEPA once and for all by revising the definition of "effects" to explicitly say so.

2. CEQ Should Codify Case Law Holding that NEPA Requires Assessment of "Actual Environmental Effects," Not Mere Emission Volumes

Despite numerous court decisions (both within and outside the context of greenhouse gas emissions) holding that agencies must assess the actual environmental and social effects of a project under NEPA, agency analyses of climate impacts have often fallen short of this requirement by providing volumetric estimates alone while eschewing tools such as the social cost of greenhouse gases that measure the real-world impacts of those emissions. CEQ can clarify agencies' legal obligations by incorporating into its regulations judicial language about the need to consider "actual environmental effects."

Numerous federal court decisions spell out NEPA's requirement that agencies assess the real-world environmental and social impacts of project proposals, and cannot stop at providing volumetric estimates of emissions or other impacts. As the D.C. Circuit has explained, merely listing the quantity of emissions is insufficient if the agency "does not reveal the meaning of those impacts in terms of human health or other environmental values," since "it is not releases of [pollution] that Congress wanted disclosed" but rather "the effects, or environmental significance, of those releases."[117] The court thus concluded that an environmental assessment that "lists the environmental effects of the fuel cycle in terms of the quantity of land, water, and energy used, and of heat, chemicals and radioactivity released" without translating those emissions into real-world impacts was insufficient.[118] Although the Supreme Court reversed this decision on largely unrelated grounds, it agreed that the disclosure of impacts is the "key requirement of NEPA," and held that agencies must "consider and disclose the *actual environmental effects*" of a proposed project in a way that "brings those effects to bear on [the agency's] decisions."[119]

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[114] Proposed Rule, 86 Fed. Reg. at 55,765–67.

[115] 2020 Rule, 85 Fed. Reg. at 43,344.

[116] *See, e.g.*, Eric S. Schmitt et al., Comment on the Use of the Social Cost of Carbon 6, FERC Docket No. PL18–1–000 (Apr. 26, 2021).

[117] *NRDC v. NRC*, 685 F.2d 459, 486–87 (D.C. Cir. 1982), *rev'd on other grounds, Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 106–07 (1983).

[118] *Id.* at 486.

[119] *Balt. Gas & Elec. Co.*, 462 U.S. at 96 (emphasis added). In reversing the D.C. Circuit's holding on the sufficiency of the NEPA analysis in question, the Supreme Court relied principally on the fact that this environmental impact statement was conducted as part of a series of generic Nuclear Regulatory Commission rules to evaluate the environmental effects of a nuclear power plant's fuel cycle, and that "the Commission expressly required licensing boards to consider the socioeconomic and cumulative effects in addition to the health effects of the releases projected" from nuclear facilities. The Supreme Court's decision thus cannot be read as rejecting the D.C. Circuit's holding that NEPA normally requires a detailed assessment of real-world environmental impacts. To

A more recent decision from the U.S. Court of Appeals for the Ninth Circuit is also instructive. In that decision, the court held that a Bureau of Land Management environmental assessment of two timber sales was insufficient after the agency quantified the acres of timber to be harvested and the miles of road to be constructed, paired with a qualitative "list of environmental concerns such as air quality, water quality, and endangered species" with a "checkbox to indicate whether the respective condition . . . will be 'affected.'"[120] As the court explained, the agency's analysis did not constitute a "description of *actual* environmental effects," because the agency failed to assess "the degree that each factor will be impacted."[121] As these various cases therefore make clear, agency analyses under NEPA must assess the degree to which environmental and health values will be affected by the proposed action.

More recent court decisions have applied this doctrine in the climate change context. Multiple courts have now held that an agency's analysis of the climate impacts of a project was deficient due to its failure to capture the real-world impact on environmental and health factors. Most significantly, a 2008 decision by the Ninth Circuit rejected a NEPA analysis of proposed fuel-efficiency standards when the agency quantified the resulting carbon dioxide emissions and compared those emissions to emissions nationwide and from the automobile sector.[122] As the court explained, such an analysis failed to "evaluate the incremental impact that these emissions will have on climate change or on the environment more generally," and this approach impermissibly failed to "discuss the *actual* environmental effects resulting from those emissions" or "provide the necessary contextual information about the cumulative and incremental environmental impacts" that NEPA requires.[123] Several more recent district court opinions have followed suit, rejecting an agency's NEPA analysis as insufficient for merely quantifying greenhouse gas emissions without assessing the real-world impact of those emissions.[124] The social cost of greenhouse gases, by assessing the real-world impacts of greenhouse gas emissions, would have satisfied the concerns of these courts.[125]

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the contrary, the Supreme Court recognized that "health, socioeconomic and cumulative consequences of the environmental impact of a proposed action" is an integral component of agency decision-making. *Id.* at 106–107.

[120] *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 995 (9th Cir. 2004).

[121] *Id.* ("A calculation of the total number of acres to be harvested in the watershed is . . . not a sufficient description of the actual environmental effects that can be expected from logging those acres."); *see also Oregon Natural Res. Council v. Bureau of Land Mgmt.*, 470 F.3d 818 (9th Cir. 2006).

[122] *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1215–16 (9th Cir. 2008).

[123] *Id.* at 1216–17.

[124] *E.g. High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1190 (D. Colo. 2014) ("Beyond quantifying the amount of emissions relative to state and national emissions and giving general discussion to the impacts of global climate change, [the agencies] did not discuss the impacts caused by these emissions."); *Mont. Env't Info. Ctr. v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1095–99 (D. Mont. 2017) (rejecting the argument that the agency "reasonably considered the impact of greenhouse gas emissions by quantifying the emissions which would be released if the [coal] mine expansion is approved, and comparing that amount to the net emissions of the United States"); *California v. Bernhardt*, 472 F. Supp. 3d 573, 623 (N.D. Cal. 2020) (rejecting NEPA assessment of greenhouse gas emissions because the agency's approach of quantifying emissions and comparing them to nationwide totals failed to "communicate the *actual* environmental effects resulting from emissions of greenhouse gas" rather than "just quantify them") (internal quotation marks omitted).

[125] *See Ctr. for Biological Diversity*, 538 F.3d at 1199–1200 (recognizing the significance of monetized climate-damage values); *High Country*, 52 F. Supp. 3d at 1190–91 ("[A] tool is and was available [to assess the actual impacts of project-level emissions]: the social cost of carbon protocol."); *Mont. Env't Info. Ctr.*, 274 F. Supp. 3d at 1095–99 (agreeing with the plaintiffs that "the Social Cost of Carbon Protocol … was an available tool with which

Despite these numerous court decisions, however, many agency analyses under NEPA continue to simply quantify greenhouse gas emissions and compare them to national or global totals, without assessing the real-world environmental, health, and economic impacts of those emissions. This is despite the availability of a tool—the social cost of greenhouse gases developed by a federal interagency working group—that assesses those real-world effects. For instance, the Federal Energy Regulatory Commission has released numerous environmental impact statements in recent months that quantify certain emissions, reject the social cost of greenhouse gases, and fail to make a significance determination with respect to climate impacts.[126] Department of Interior sub-agencies have also typically declined to apply the social cost of greenhouse gases in their analyses of fossil-fuel extraction projects, and while some Interior analyses in recent months have begun adopting the metric, other Interior analyses have continued to disregard it.[127]

CEQ should dispel any lingering confusion about agencies' legal obligations by incorporating judicial language on the consideration of "actual environmental impacts" into the regulatory definition of "effects" under 40 C.F.R. § 1508.1. (As discussed below, guidance from CEQ could further specify that the social cost of greenhouse gases describes the actual effects of a project's greenhouse gas emissions and thus should be routinely used by agencies in environmental review).[128] CEQ should amend its regulations to more explicitly recognize that environmental analyses should not stop at disclosing emissions volumes but rather must, when feasible, take the additional step of estimating the real-world impacts of those emissions. While such a requirement is already spelled out in case law, further clarity on this point is warranted given the repeated insufficiency of agency analyses with respect to climate impacts. Accordingly, CEQ should incorporate judicial language on the need to consider a proposal's "actual environmental effects"[129] "in terms of human health or other environmental values"[130] into its definition of "effects" in the NEPA regulations.

3. CEQ Should Amend 40 C.F.R. § 1502.21 to Apply to All Impacts, Including Impacts in an Environmental Assessment Rather than Only Significant Impacts in an Environmental Impact Statement

Under 40 C.F.R. § 1502.21, an agency facing "incomplete or unavailable information" when evaluating significant adverse effects as part of an environmental impact statement must state "that such information is incomplete or unavailable" and must obtain the information so long as it is "essential to a reasoned choice among alternatives, and the overall costs of obtaining

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the Enforcement Office could, and should, have tied its greenhouse gas emissions calculation to the effects of those emissions"); *Bernhardt*, 472 F. Supp. 3d at 609 ("[T]he social cost of greenhouse gases[] estimates the present value of the damages caused from each additional ton of greenhouse gas emitted at a point in time, or conversely, the present value of the benefits from reducing a ton of greenhouse gas emissions.").

[126] *E.g.* Final Environmental Impact Statement 25–37, East Lateral Xpress Project, Docket No. CP20-527-000 (Sept. 2020).

[127] *E.g.* Bureau of Land Management, Environmental Assessment 20–21, DOI-BLM-NM-P020-2021-0267-EA (Sept. 2021).

[128] *See infra* notes 159–163 and accompanying text.

[129] *Balt. Gas & Elec. Co.*, 462 U.S. at 96.

[130] *NRDC*, 685 F.2d at 486.

it are not unreasonable."[131] If, however, "the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are unreasonable or the means to obtain it are not known," then the agency must provide a "summary of existing credible scientific evidence that is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment," and evaluate such impacts "based upon theoretical approaches or research methods generally accepted in the scientific community."[132]

This provision has been critical to ensuring that agencies fully assess environmental impacts and do not overlook key impacts based on imperfect data,[133] including climate impacts. A recent decision by the D.C. Circuit relied on 40 C.F.R. § 1502.21 in holding that federal agencies (in this case, FERC) cannot fall back on scientific uncertainty as justification for failing to analyze a project's impacts on climate change, but instead must use generally-accepted research methods to assess that uncertainty such as the social cost of greenhouse gases.[134] As the court explained, this regulation "appears applicable on its face" to the social cost of greenhouse gases, and may indeed "obligate[]" FERC "to use the social cost of carbon protocol" in its environmental impact statements, notwithstanding the Commission's various concerns about the methodology.[135] In light of this case, 40 C.F.R. § 1502.21 will likely play a key role in the future in ensuring adequate climate analysis under NEPA.

However, while at least one case suggests that this provision may apply to environmental assessments,[136] the provision on its face it applies only to "reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement."[137] This limitation creates a substantial risk that agencies may attempt to evade an adequate analysis of climate impacts—including application of the social cost of greenhouse gases—by publishing an environmental assessment rather than an environmental impact statement.[138] In recent years, agencies have often disregarded substantial climate impacts as insignificant, and published a finding of no significant impact following an environmental assessment, after declining to apply the social cost of greenhouse gases and trivializing project emissions through misleading

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[131] 40 C.F.R. § 1502.21(a)–(b).

[132] *Id*. § 1502.21(c).

[133] *See, e.g.*, *Native Vill. of Point Hope v. Salazar*, 730 F. Supp. 2d 1009, 1018 (D. Alaska 2010) (rejecting decision to offer nearly 30 million acres of public lands on the Outer Continental Shelf for oil and gas leasing after agency failed to grapple with "missing information about the Chukchi Sea environment and the potential effects of the lease sale on wildlife and subsistence"). This case refers to the provision as 40 C.F.R. § 1502.22, as it was codified prior to the 2020 Rule.

[134] *Vecinos*, 6 F.4th at 1327–30.

[135] *Id.* at 1329.

[136] *Siskiyou Reg'l Educ. Project v. Rose*, 87 F. Supp. 2d 1074, 1091 (D. Or. 1999) (discussing this regulation in the context of an environmental assessment). This case refers to the provision as 40 C.F.R. § 1502.22, as it was codified prior to the 2020 Rule.

[137] 40 C.F.R. § 1502.21(a). CEQ regulations further provide that agencies "may" apply 40 C.F.R. § 1502.21 in the context of environmental assessments, *id.* § 1501.5(g), further suggesting that agencies need not apply "theoretical approaches or research methods generally accepted in the scientific community" in order to determine that a particular impact is not significant.

[138] In a recent oral argument before the D.C. Circuit, for instance, FERC argued that 40 C.F.R. § 1502.21 does not apply to environmental assessments. Oral Argument, *Del. Riverkeeper Network v. Fed. Energy Reg. Comm'n*, No. 20-1206 (D.C. Cir. Sept. 24, 2021).

comparison to massive baselines.[139] Revising 40 C.F.R. § 1502.21 to apply to all impacts—not merely significant impacts in environmental impact statements—would prevent agencies from using environmental assessments to avoid a robust analysis of climate impacts.

The current limited application of 40 C.F.R. § 1502.21 to impacts that the agency has deemed significant is also illogical, since those requirements can be instrumental to the determination of whether an impact is significant in the first place. With climate impacts, for instance, an agency may be ill-equipped to assess significance based purely on volumetric estimates or percentage comparisons. By using the social cost of greenhouse gases—which, the D.C. Circuit recognized, qualifies as a "research method[] generally accepted in the scientific community"[140]—agencies can better examine a project's climate impacts and determine whether they are significant. Requiring application of generally accepted research methods only after the agency has already determined the effect to be significant and decided to prepare an environmental impact statement puts the cart before the horse.

There does not appear to be any principled basis for restricting the requirements of 40 C.F.R. § 1502.21 to impacts that the agency has already deemed significant. While CEQ promulgated these regulatory requirements to "codif[y] … judicially created principles" from cases decided prior to the initial 1978 regulations,[141] those cases do not restrict their holdings to impacts that the agency has already deemed significant. In one key case, for instance, the D.C. Circuit applauded the U.S. Atomic Energy Commission for using sophisticated research methods to determine the risk of a severe reactor accident to be "extremely low."[142] As this case demonstrates, it is appropriate for agencies to deploy rigorous research methods not only to assess the severity of impacts that the agency has already determined to be significant, but also to assess whether an impact is significant in the first place.

In another key D.C. Circuit case prior to the 1978 regulations, the court explained that "the basic thrust of an agency's responsibilities under NEPA is to predict the environmental effects of proposed action before the action is taken," and that because "[r]easonable forecasting and speculation is thus implicit in NEPA," agencies cannot "shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as 'crystal ball inquiry.'"[143] As discussed above, enabling an agency to label an impact "insignificant" based upon a cursory examination—without applying the generally accepted scientific methodologies that 40 C.F.R. § 1502.21 otherwise requires—undercuts NEPA's requirement that agencies forecast environmental impacts.

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[139] As discussed in *supra* note 54 and *supra* note 108, in one recent environmental assessment the Office of Surface Mining deemed the 190 million tons of greenhouse gas emissions from the expansion of a coal mine to be insignificant" because they comprised 0.44% of the annual global total. Bull Mountains Mine No. 1 Federal Mining Plan Modification Environmental Assessment D-2 (2018). Using the Interagency Working Group's conservative "central" estimate of the social cost of greenhouse gases reveals these emissions to cause roughly $9 billion in social cost. Other agencies, such as FERC and the Bureau of Land Management, also frequently publish environmental assessments for fossil-fuel extraction and transmission projects.

[140] *Vecinos para el Bienestar*, 6 F.4th at 1327–30 (citing 40 C.F.R. § 1502.21(c)(4)).

[141] *Sierra Club v. Sigler*, 695 F.2d 957, 969–73 (5th Cir. 1983).

[142] *Carolina Env't Study Grp. v. United States*, 510 F.2d 796, 799–800 (D.C. Cir. 1975).

[143] *Scientists' Institute for Public Information, Inc. v. Atomic Energy Commission,* 481 F.2d 1079, 1092 (D.C. Cir.1973).

Of course, the impact of this suggestion revision would go beyond improving assessment of climate impacts and would also extend to improving agency consideration of other environmental effects. For instance, there is evidence that uncertainty has previously prevented agencies from conducting more thorough assessments of how climate change may increase the vulnerability of a project or worsen its environmental consequences.[144] Revising 40 C.F.R. § 1502.21 to apply to all impacts, and not only significant impacts in an environmental impact statement, would thus help achieve necessary consideration of many environmental impacts.

4. CEQ Should Rescind Provisions of the 2020 Rule Indicating that Analysis Should Be Limited to National Effects

As part of the 2020 Rule, CEQ amended the definition of "human environment" in 40 C.F.R. § 1508.1(m) to cabin that term to refer to "the relationship of present and future generations of Americans with that environment."[145] CEQ also added a similar reference to "present and future generations of Americans" into § 1500.1,[146] and in several places deleted reference to global impacts and indicated that impact and significance assessments should be restricted to the consideration of local or national effects.[147]

Since greenhouse gas emissions present a global externality, these revisions produced confusion as to the proper scope of NEPA analysis regarding climate impacts. As noted above, courts have consistently held that agencies must assess impacts on the global climate under NEPA,[148] and the undersigned are not aware of any agency or court suggesting that the 2020 Rule requires otherwise. Nonetheless, since these regulatory revisions at minimum could create confusion—and could potentially be used in attempt to skirt climate analysis altogether, or to restrict it to domestic impacts such as by applying a purported domestic-only social cost of greenhouse gases that has been rejected as arbitrary and capricious[149]—CEQ should rescind these provisions and restore the pre-2020 regulatory references to global impacts.

Any attempt in the 2020 Rule to restrict NEPA analysis to domestic impacts is also unlawful. Under the NEPA statute, agencies must "recognize the worldwide and long-range character of environmental problems."[150] Consistent with this statutory command, courts have

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[144] *See infra* note 202 and accompanying text.

[145] 40 C.F.R. § 1508.1(m).

[146] *Id.* § 1500.1.

[147] For instance, while 40 C.F.R. § 1501.3(b)(1) now states that "significance would usually depend only upon the effects in the local area," it previously recognized that significance could consider impacts on the "world as a whole." The prior definition of "significantly," which had been contained in 40 C.F.R. § 1508.27, also recognized that significance could consider impacts on the "world as a whole," but such language was removed as part of the 2020 Rule.

[148] *See supra* note 106.

[149] Whenever agencies have applied the social cost of greenhouse gases in NEPA review, they have used the global valuations developed by the Interagency Working Group on the Social Cost of Greenhouse Gases. Those valuations have been upheld by a federal appellate court, *Zero Zone v. Dept. of Energy*, 832 F.3d 654, 679 (7th Cir. 2016), whereas the purported domestic-only valuations developed under the Trump administration were struck down in the context of regulatory impact analysis for disregarding the best available science and inappropriately ignoring foreign impacts, *California v. Bernhardt*, 472 F. Supp. 3d 573, 623 (N.D. Cal. 2020).

[150] 42 U.S.C. § 4332(2)(F).

held that if a transboundary effect is foreseeable, it must appear in NEPA analysis. For example, in the 2010 case of *Manitoba v. Salazar*, the U.S. District Court for the District of Columbia stated that "NEPA requires agencies to consider reasonably foreseeable transboundary effects resulting from a major federal action taken within the United States."[151] In making this assertion, the court considered CEQ guidance persuasive, but not binding, underscoring that the court was interpreting the NEPA statute rather than merely following CEQ guidance.[152] Similarly, in a 2017 case, the U.S. District Court for the Southern District of California held that the Department of Energy must take into account the effects in Mexico of both the U.S. and Mexico portions of an electric transmission line that ran across the national border.[153] The court explained that "NEPA requires the government to consider the extraterritorial effects stemming from major federal actions (such as the construction and operation of the U.S. Line) undertaken on U.S. soil."[154]

Both because these restrictions were unlawful and because they threaten to undermine required agency analysis of global climate impacts, CEQ should rescind provisions of the 2020 Rule that purported to restrict NEPA analysis to domestic effects.

5. CEQ Should Reinstitute Its Guidance on Best Practices for the Consideration of Climate Impacts, While Strengthening the Guidance in Several Key Respects

In addition to revising its regulations, CEQ should also publish further guidance with more technical instructions on the consideration of greenhouse gas emissions. CEQ's ongoing review of its 2016 guidance[155] offers an opportunity for the agency to fix the shortcomings in that document and publish guidance that ensures consistent, high-quality analysis of greenhouse gas impacts. In particular, CEQ's guidance should reflect the following key principles:

Analyses Should Measure Both Direct and Indirect Greenhouse Gas Emissions

CEQ's 2016 guidance directed that "agencies quantify a proposed agency action's projected direct and indirect [greenhouse gas] emissions, taking into account available data and [greenhouse gas] quantification tools that are suitable for the proposed agency action."[156] This statement is consistent with case law and should be further emphasized in any future guidance on greenhouse gas emissions. In particular, federal courts have consistently held that upstream and downstream greenhouse gas emissions fall within the scope of environmental effects that should be analyzed and quantified pursuant to NEPA.[157] Yet some agencies, such as the Federal Energy

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[151] *Gov't of Man. v. Salazar*, 691 F. Supp. 2d 37, 51 (D.D.C. 2010).

[152] *See id.* at 51 n.13.

[153] *Backcountry Against Dumps v. United States DOE*, No. 3:12-cv-03062-L-JLB, 2017 U.S. Dist. LEXIS 114496, at *12 (S.D. Cal. 2017).

[154] *Id*. at *12–13 (citing 42 U.S.C. § 4332(2)(F)).

[155] Final Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change (issued Aug. 1, 2016; withdrawn Apr. 5, 2017; under review Feb. 19, 2021, for revision and update) [hereinafter "CEQ, Final Guidance"].

[156] *Id.* at 4.

[157] *See, e.g.*, *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1373–74 (D.C. Cir. 2017) (holding that FERC must quantify downstream greenhouse gas emissions in an EIS for a pipeline construction and operation or explain why it cannot do so)("Sabal Trail"); *Montana Env't Info. Ctr. v. U.S. Office of Surface Mining*, 274 F.

Regulatory Commission, have not consistently quantified upstream and downstream emissions.[158] CEQ should clarify any ambiguity by once again specifying that agencies should quantify direct and indirect greenhouse gas emissions.

Agencies Should Apply the Interagency Working Group's Social Cost of Greenhouse Gases to Assess the Impact of Any Quantified Greenhouse Gas Emissions or Emission Reductions

CEQ's 2016 guidance "[r]ecommends that agencies use projected [greenhouse gas] emissions . . . as a proxy for assessing potential climate change effects when preparing a NEPA analysis for a proposed agency action."[159] As discussed above, however, volumetric emission estimates standing alone do not convey the context that NEPA requires regarding the project's real-world effects, and federal courts have rejected analyses that stop at providing volumetric greenhouse gas emission totals.[160]

The social cost of greenhouse gases provides the context that volumetric estimates lack. This metric reflects how the emission of an additional unit of greenhouse gases affects atmospheric greenhouse concentrations, how that change in atmospheric concentrations affects temperature, and how that change in temperature incrementally contributes to the various economic and health costs resulting from climate change.[161] The social cost of greenhouse gases tool therefore captures the factors that actually affect public welfare and assesses the degree of impact to each factor, in ways that merely estimating the volume of emissions cannot. As detailed above, numerous courts have rejected NEPA analyses that fail to apply the social cost of greenhouse gases—including a recent decision by the D.C. Circuit[162]—and numerous agencies have now recognized the utility of monetizing climate impacts in environmental analysis.[163]

Supp. 3d 1074, 1094–97 (D. Mont. 2017) (holding that an agency must quantify and monetize downstream emissions in an EA for a coal mine expansion); *Diné Citizens Against Ruining Our Env't v. U.S. Office of Surface Mining Reclamation & Enforcement*, 82 F. Supp. 3d 1201, 1213 (D. Colo. 2015) ("find[ing] that the coal combustion-related impacts of [the mine's] proposed expansion are an 'indirect effect' requiring NEPA analysis"), *vacated as moot*, 643 Fed. Appx. 799 (10th Cir. 2016); *WildEarth Guardians v. United States Office of Surface Mining, Reclamation & Enforcement*, 104 F. Supp. 3d 1208, 1229–30 (D. Colo. 2015) (rejecting the argument that "coal combustion is not an actual [indirect] 'effect' of the mining plan within the meaning of NEPA because a mining plan does not cause coal combustion"), *order vacated and appeal dismissed as moot* 652 Fed. Appx. 717 (10th Cir. 2016).

[158] *See, e.g.*, *Birckhead v. FERC*, 925 F.3d 510, 517–18 (D.C. Cir. 2019) (recognizing that the court was "troubled … by the Commission's attempt to justify its decision to discount downstream impacts based on its lack of information," although a lack of jurisdiction prevented the court from striking down FERC's "less-than-dogged efforts" to obtain the information necessary to quantify indirect emissions).

[159] CEQ, Final Guidance, *supra* note 155, at 4.

[160] *See supra* notes 117–124 and accompanying text.

[161] Interagency Working Group on the Social Cost of Greenhouse Gases, *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis* 5 (2010).

[162] *Vecinos para el Bienestar*, 6 F.4th at 1327–30.

[163] *See supra* notes 77–84 and accompanying text.

Agencies Should Compare Monetized Greenhouse Gas Impacts to Other Monetized and Unmonetized Project Impacts, Including Economic Effects

As discussed above, a key benefit of monetized impacts is that they allow agencies to compare beneficial and adverse impacts of different alternatives using a common metric.[164] While unmonetized impacts also merit close consideration, monetization facilitates direct comparison and enables regulators to select the alternative that maximizes net benefits—including, potentially, the no-action alternative.[165]

Comparing monetized climate and other social and environmental impacts against any beneficial project impacts is highly valuable when an agency assesses whether (and on what conditions) to approve a project. If the benefits of the project are very small, then even a fairly modest climate cost could itself provide grounds to deny the application. Proposed projects with larger benefits could still fail the cost-benefit test if climate and other costs are comparatively larger. Because federal agencies regularly monetize the economic benefits of proposed projects, use of the social cost of greenhouse gases and other monetized project impacts would help enable an even-handed comparison with climate change impacts and facilitate the careful balancing required. As the Ninth Circuit has explained, "[t]he balancing of the environmental costs of a project against its economic and technological benefits is mandated by NEPA," and "[t]here may well be circumstances in which these goals cannot be achieved unless a sophisticated, numerically-based cost-benefit analysis is provided."[166]

In a recent proposal for fossil-fuel extraction on public lands in northwestern New Mexico, for instance, Interior projected that the additional extraction would yield no more than $720 million in annual oil and gas economic output.[167] Had it monetized climate costs using the social cost of greenhouse gases, Interior would have concluded that the proposal would cause about $850 million in annual climate costs.[168] In other words, if it had applied the social cost of greenhouse gases and then acted rationally in comparing that cost to the project's benefits, Interior would have decided to forgo the extraction plan altogether.

CEQ should publish guidance on incorporating monetized climate impacts into a comparison of the project's beneficial and adverse impacts. At a minimum, agencies should compare monetized climate costs or benefits against monetized economic benefits or costs, while also giving consideration to any non-monetized environmental, health, and social effects. As

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[164] *See supra* notes 86–87 and accompanying text.

[165] *See supra* notes 87–71 and accompanying text.

[166] *Columbia Basin Land Protection Ass'n. v. Schlesinger*, 643 F.2d 585, 594–95 (9th Cir. 1981).

[167] U.S. Department of the Interior, Farmington Mancos-Gallup Draft Resource Management Plan Amendment and Environmental Impact Statement 3-207 tbl. 3-50 (2020). In a competitive market, like for coal, oil, or gas, the market price is typically thought to reflect aggregate willingness to pay based on social utility. Therefore, in calculating and reporting total output, BLM presented a monetized estimate of the supposed social benefits of the resource management plan.

[168] Interior reported total annual average gross greenhouse gas emissions under the preferred alternative, Alternative C1, as 15.08 million metric tons of carbon dioxide equivalent. *Id.* at 3-35 tbl. 3-14. The Working Group's central estimate of the social cost of carbon for year 2025 emissions is $56 (because the emissions from this project would occur through 2037, the year 2025 roughly approximates the midpoint of the project). Interagency Working Group on the Social Cost of Greenhouse Gases, *supra* note 54, at 5 tbl. ES-1. 15.08 million * 56 = $845 million.

noted above, monetizing other impacts when feasible would further enhance the agency's assessment of costs and benefits.

Agencies Should Not Assess the Significance of Project-Level Greenhouse Gas Emissions Through Comparison to Geographic Targets or Inventories

In its 2016 guidance, CEQ appropriately recognized that assessing the significance of project-level greenhouse gas emissions requires "appropriate tools and methodologies" and should not rely exclusively on "calculating a proposed action's emissions as a percentage of sector, nationwide, or global emissions."[169] As it updates this guidance, CEQ should reinforce its previous recognition that "a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA."[170]

Percentage comparisons relative to state, national, or global emissions tend to appear fairly small without further context, and agencies have frequently brushed aside substantial climate impacts presented in such fashion without performing the additional analysis needed. As one federal court recently recognized, "[t]he global nature of climate change and greenhouse-gas emissions means that any single … project likely will make up a negligible percent of state and nation-wide greenhouse gas emissions."[171] Yet agencies all too often fail to recognize, as another federal court explained, that even a seemingly "very small portion of a gargantuan source of … pollution" may "constitute[] a gargantuan source of … pollution on its own terms."[172]

Given the prevalence of percentage comparisons in NEPA analyses, CEQ should advise agencies that percentage comparisons to geographic targets or inventories can be misleading and thus should not serve as the basis for a significance determination. Instead, as discussed above and throughout this section, agencies should monetize climate impacts using the social cost of greenhouse gases and assess significance through comparison to other project impacts.[173]

C. CEQ Should Update Its Regulations and Guidance to Facilitate Improved Agency Consideration of Climate Change Impacts on the Project, Its Surrounding Environment, and Its Environmental Consequences

As part of the Phase II rulemaking, CEQ should also prioritize revisions that will improve agency assessment of climate change impacts *on* the project, its affected environment, and its

[169] CEQ, Final Guidance, *supra* note 155, at 11.
[170] *Id.* at 11.
[171] *WildEarth Guardians v. Bureau of Land Mgmt*., 457 F. Supp. 3d 880, 894 (D. Mont. 2020).
[172] *Sw. Elec. Power Co. v. EPA*, 920 F.3d 999, 1032 (5th Cir. 2019) (internal quotation marks omitted). *See also supra* note 108 (discussing example in which the Office of Surface Mining deemed a proposal's carbon dioxide emissions "small" because they comprised 0.44% of the annual global total).
[173] *See supra* notes 160–168 and accompanying text.

environmental consequences (hereafter referred to collectively as "climate vulnerability and resilience effects").[174]

As climate change has altered the environment, its consideration has become unquestionably necessary when conducting environmental review under NEPA. As synthesized in sobering detail by the sixth IPCC report, the climate has shifted.[175] Climate change impacts include more frequent and intense heat waves, longer fire seasons and more severe wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea-level rise, more intense storms, harm to water resources, harm to agriculture, ocean acidification, and harm to wildlife and ecosystems. As CEQ has previously recognized, "[e]ach of these can make a resource, ecosystem, human community, or structure more susceptible to many types of impacts and lessen its resilience to other environmental impacts apart from climate change."[176] For example, construction of coastal fossil fuel infrastructure could require dredging wetland ecosystems already suffering from saltwater intrusion due to sea-level rise, or projects could require alternative siting or other mitigation to ensure their infrastructure is sufficiently resilient to sea level rise-exacerbated storm surge to prevent fuel leaks.

Although this vein of climate change considerations has received relatively less attention under NEPA than a project's greenhouse gas emissions, agencies must also consider these present and future impacts of climate change or risk failing "the essential requirement of the NEPA" to take "a 'hard look' at [the] environmental consequences" of a proposed action.[177] In more than a dozen instances, federal courts have recognized the relevance of considering climate vulnerability and resilience effects under NEPA.[178] CEQ's since-rescinded 2016 guidance on greenhouse gas emissions and climate change further confirmed that climate vulnerability and resilience considerations "are squarely within the scope of NEPA and can inform decisions on

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[174] The process of analyzing these impacts is sometimes referred to as "reverse environmental impact assessment." *See, e.g.,* Michael B. Gerrard, *Reverse Environmental Impact Analysis: Effect of Climate Change on Projects*, N.Y.L.J. (Mar. 8, 2012).

[175] Intergovernmental Panel on Climate Change, *Summary for Policy Makers*, *in* Climate Change 2021: The Physical Science Basis 4–9 (Valérie Masson-Delmmotte et al., eds., 2021), https://perma.cc/6NYX-JC5K.

[176] CEQ, Final Guidance, *supra* note 155, at 21. For examples of how climate change may impact energy infrastructure, which composes a significant portion of environmental reviews, see U.S. Dep't of Energy, DOE/PI-0013, U.S. Energy Sector Vulnerabilities to Climate Change and Extreme Weather at iii (2013), https://perma.cc/ULE5-4WMA. For a broader and updated discussion of climate change impacts on different resources and sectors, see Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II (D.R. Reidmiller et al., eds., 2018), https://nca2018.globalchange.gov/.

[177] *New York Natural Res. Def. Council, Inc. v. Kleppe*, 429 U.S. 1307, 1311 (1976) (internal quotations omitted).

[178] *See Cent. Oregon Landwatch v. Connaughton*, 696 F. App'x 816 (9th Cir. 2017); *Or. Wild v. Connaughton*, 662 F. App'x 511 (9th Cir. 2016); *Ctr. for Biological Diversity v. Kempthorne*, 588 F.3d 701 (9th Cir. 2009); *Ctr. for Biological Diversity v. United States DOI*, 563 F.3d 466 (D.C. Cir. 2009); *AquAlliance, et al., v. U.S. Bureau of Reclamation*, 287 F. Supp. 3d 969 (E.D. Cal. 2018); *Gov't of Man. v. Zinke*, 273 F. Supp. 3d 145 (D.D.C. 2017); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 184 F. Supp. 3d 861 (D. Ore. 2016); *Idaho Rivers United v. U.S. Army Corps of Engineers*, No. C14-1800JLR, 2016 WL 498911 (W.D. Wash. Feb. 9, 2016); *Kunaknana v. U.S. Army Corps of Eng'rs*, No. 3:13-cv-00044-SLG, 2015 U.S. Dist. LEXIS 67656 (D. Alaska May 26, 2015); *Kunaknana v. U.S. Army Corps of Eng'rs*, 23 F. Supp. 3d 1063 (D. Alaska 2014); *Friends of the Wild Swan v. Jewell*, No. CV 13-61-M-DWM, 2014 U.S. Dist. LEXIS 116788 (D. Mont. Aug. 21, 2014); *S. Utah Wilderness All. v. Burke*, 981 F. Supp. 2d 1099 (D. Utah 2013); *Tongass Conservation Soc'y v. Cole*, No. 1:09-cv-00003 JWS, 2009 U.S. Dist. LEXIS 129952 (D. Alaska Dec. 7, 2009); *N. Slope Borough v. Minerals Mgmt. Serv.*, No. 3:07-cv-0045-RRB, 2008 U.S. Dist. LEX//IS 1503 (D. Alaska Jan. 8, 2008); *Nat'l Audubon Soc'y v. Kempthorne*, No. 1:05-cv-00008-JKS, 2006 U.S. Dist. LEXIS 110152 (D. Alaska Sept. 25, 2006).

whether to proceed with, and how to design, the proposed action to eliminate or mitigate impacts exacerbated by climate change."[179]

Despite these recognitions, surveys of climate change considerations in environmental impact statements have demonstrated a general pattern of minimal and superficial consideration of climate vulnerability and resilience effects that rarely appear to influence decisionmaking.[180] While these surveys have not yet been updated to account for environmental reviews conducted under the Trump administration, it is unlikely that this trend improved in that period.

The Biden administration has articulated a clear priority to address the existential threat of climate change, including by increasing adaptation and resilience,[181] and CEQ has appropriately noted an objective to ensure that its Phase II revisions address the administration's climate objectives.[182] CEQ should implement regulatory amendments and renewed guidance that goes beyond its prior guidance on climate vulnerability and resilience effects if it wants to improve upon prior practice and advance the administration's goals. In particular, CEQ should:

1. Revise the definition of "affected environment" in the current C.F.R. § 1502.15 to explicitly include climate change impacts, and consider whether a further definition of "climate change impacts" would be appropriate;

2. Revise the definition of "effects" in 40 C.F.R. § 1508.1(g) to explicitly include climate vulnerability and resilience impacts;

3. Reinstitute and revise its guidance on best practices in the consideration of climate change vulnerability and resilience factors, including by offering guidance on how agencies should:

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[179] CEQ, Final Guidance, *supra* note 155, at 21.

[180] A 2016 review of climate considerations in federal EISs issued between 2012–2014 found that even as consideration of climate change vulnerability and resilience effects has grown more common, considerations remain brief and uninfluential to decisionmaking. Jessica Wentz, Grant Glovin & Adrian Ang, *Survey of Climate Change Considerations in Federal Environmental Impact Statements, 2012–2014* (2016)). *See also* Saloni Jain et al., *How Did Federal Environmental Impact Statements Address Climate Change in 2016?* (2017) (focusing on how agencies were implementing CEQ's 2016 guidance immediately after its finalization); Jessica Wentz, *Assessing the Impacts of Climate Change on the Built Environment under NEPA and State EIA Laws: A Survey of Current Practices and Recommendations for Model Protocols* (2015) (analyzing a subset of 177 of these 300 projects involving public infrastructure and construction and applying a more targeted set of questions related to environmental vulnerability and resilience); Patrick Woolsey, *White Paper on the Consideration of Climate Change in Federal EISs, 2009-2011* (2012) (analyzing climate change considerations in 227 EISs prepared between 2009 and 2011); Defenders of Wildlife, *Reasonably Foreseeable Futures: Climate Change, Adaptation and NEPA* (2013) (analyzing 154 Final EISs released between July 2011 and April 2012 and considering how well they incorporated the climate vulnerability and resilience elements of the 2010 draft guidance).

[181] Exec. Order No. 13,990 § 1, 86 Fed. Reg. 7037, 7037 (Jan. 25, 2021) (establishing an Administration policy to "bolster resilience to the impacts of climate change"); Exec. Order No. 14,008 § 101, 86 Fed. Reg. 7619, 7619 (Feb. 1, 2021) (declaring the Administration's policy to "move quickly to build resilience, both at home and abroad, against the impacts of climate change that are already manifest and will continue to intensify according to current trajectories").

[182] Proposed Rule, 86 Fed. Reg. at 55,759.

i. Integrate climate change impacts into the specific components and stages of an environmental review; and
ii. Develop and implement appropriate methodologies and accounting tools to estimate climate vulnerability and resilience effects, select data, and manage uncertainty.

This section discusses each of these points in turn, recommending particular revisions for CEQ to make to its regulations and guidance in order to improve agency consideration of climate change vulnerability and resilience factors.

1. CEQ Should Revise the Definition of "Affected Environment" in 40 C.F.R. § 1502.15 to Explicitly Include Climate Impacts and Consider Whether a Further Definition of Climate Change Impacts Would Be Appropriate

Properly identifying the environment affected by a major federal action is a fundamental prerequisite for conducting environmental review under NEPA. Accordingly, when preparing an environmental impact statement under NEPA, agencies must describe the environment of the area affected by the project and under the alternatives being considered (including a "no action" alternative).[183] Courts have recognized that this baseline assessment is integral to an effective evaluation of the project's environmental consequences.[184]

In a world increasingly shaped by the current and future impacts of climate change, an effective baseline assessment of the environment must by definition incorporate forward-looking climate projections rather than relying on historical data. CEQ squarely recognized such an approach in its 2016 guidance, which specified that "the reasonably foreseeable affected environment" included "[t]he current and projected future state of the environment without the proposed action (i.e., the no action alternative)."[185] While the existing case law is sparse, a few court decisions have further corroborated this approach.[186]

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[183] 40 C.F.R. § 1502.15. Affected environment (providing "environmental impact statement shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration…"); *see also* 40 C.F.R. § 1502.14, Alternatives including the proposed action, 40 C.F.R. § 1502.16 Environmental Consequences.

[184] *See, e.g.*, *AquAlliance, et al., v. U.S. Bureau of Reclamation*, 287 F. Supp. 3d 969 (E.D. Cal. 2018) ("This requirement stems from the uncontroversial proposition that it would be 'simply impossible' to evaluate the effects of a project if an agency fails to gather information on the project's environmental conditions.") (quoting *LaFlamme v. FERC*, 852 F.2d, 389, 400 (9th Cir. 1988)).

[185] CEQ, Final Guidance, *supra* note 155 at 21. *See also id*. at 20–25; *id.* at 24 ("Climate change effects on the environment and on the proposed project should be considered in the analysis of a project considered vulnerable to the effects of climate change such as increasing sea level, drought, high intensity precipitation events, increased fire risk, or ecological change.").

[186] *See, e.g.*, *AquAlliance*, 287 F. Supp. 3d at 1028–29 (finding the agency erred in failing to adequately consider how climate change would affect the timing of snowmelt inflow and could result in the need for further groundwater pumping when reviewing a water transfer program); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.,* 184 F. Supp. 3d 861, 875 (D. Ore. 2016) (determining that the Army Corps of Engineers failed to comply with NEPA when it used old EISs that did not reflect new information on how climate change has affected the environment to issue a new order).

Despite this obligation, surveys of environmental impact statements reveal a pattern of superficial review of climate change vulnerability and resilience effects.[187] While CEQ should also issue guidance with further directions on how to determine the adequacy of climate change data and analysis, such non-binding guidance could be made most effective with anchoring clarifications in the regulations delineating the need to consider climate change impacts on the affected environment. Such clarification would be especially helpful in light of any confusion caused by the withdrawal of the 2016 guidance.

The 2020 Rule updated the definition of "affected environment" under 40 C.F.R. § 1502.15, specifying that its consideration should include "the reasonably foreseeable environmental trends and planned actions in the area(s)."[188] In a future rulemaking, CEQ should consider further specifying that "reasonably foreseeable environmental trends" include climate change-related impacts on areas that will bear the environmental consequences of the project. Such an addition would further clarify the need to consider the future climate conditions of these affected areas specifically rather than allow for an environmental impact statement that only describes general climate change trends at the global or national level. CEQ could make this clarification directly in the definition of "affected environment."

CEQ should also consider defining "climate change-related impacts"—or whatever term it uses in 40 C.F.R. § 1502.15 to describe this concept, as recommended in the prior paragraph—in the regulations. Such a definition could include a non-exhaustive list, indicated as such, of climate change impacts recognized by the Intergovernmental Panel on Climate Change and the U.S. Global Change Research Program. Such a definition would better ensure that agencies conduct a fuller sweep of climate change impacts on the project, its surrounding environment, and environmental consequences.

2. CEQ Should Further Revise the Definition of "Effects" to Explicitly Include Climate Vulnerability and Resilience Impacts

Against the baseline of a changing climate, many effects of a project or program could be exacerbated. For example, a project may add heat to a water body that is already at a higher temperature due to climate change, or take water from a water body experiencing a climate change-related drought. In cumulative effects analysis, agencies should consider the combined impacts on the environment of climate change and the project. Thus, CEQ should clarify the need to consider climate vulnerability and resilience effects in both the affected environment (as discussed above) and effects analyses.

As discussed above, under the Proposed Rule, the current definition of "effects" in 40 C.F.R. § 1508.1(g) would be renumbered and revised back to its pre-2020 form. As with greenhouse gas emissions, climate vulnerability and resilience effects unquestionably fall under the Proposed Rule's definition of effects because they include ecological, economic, social, and health impacts. However, a direct reference in 40 C.F.R. § 1508.1(g) to impacts related to climate vulnerability and resilience would reduce any potential confusion caused by the unlawful narrowing of the definition of "effects" in the 2020 Rule. As an alternate to explicitly referencing

[187] *See supra* note 180 and accompanying text.
[188] 40 C.F.R. § 1502.15.

impacts related to "climate vulnerability and resilience," CEQ could add "climate change-related" and include a descriptive parenthetical to indicate that this phrase encompasses both greenhouse gas emissions and climate vulnerability and resilience.

CEQ may also wish to offer additional clarity on the incorporation of climate change vulnerability and resilience effects under the cumulative impacts analysis. CEQ's 2016 guidance confirmed that an "analysis of climate change impacts should focus on those aspects of the human environment that are impacted by both the proposed action and climate change," and specified that climate change can increase vulnerability and exacerbate the effects of the proposed action.[189] An integrated assessment of the cumulative effects of climate change and the proposed action can help accomplish this aim. As in the case of climate vulnerability and resilience considerations for the "affected environment," the limited consideration of this issue by the courts is corroborative.[190] However, here again, agencies do not have a consistent practice of integrating these concerns into review of cumulative effects.[191]

The Proposed Rule defines cumulative effects, under 40 C.F.R. § 1508.1(g)(3) as "effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."[192] Additional language could clarify that reasonably foreseeable environmental trends, including climate change, should also be incorporated into this cumulative analysis.

3. CEQ Should Reinstitute and Revise Its Guidance on Best Practices in the Consideration of Climate Change Vulnerability and Resilience Factors

Whereas the 2016 guidance provided direction on how to incorporate consideration of greenhouse gas emissions through quantification and relevant tools, it provided less specific methodological guidance on climate vulnerability and resilience effects.[193] The development and identification of methodological tools can help identify what constitutes adequate review—and already has in the case of identifying the effects from an action's greenhouse gas emissions.[194] The development and federal adoption of the social cost of greenhouse gases has been particularly instrumental. More specific guidance on incorporating climate change vulnerability and resilience effects into the environmental review process through the appropriate methodologies and accounting tools, and integrating the results of this analysis into agency

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[189] CEQ, Final Guidance, *supra* note 155, at 21.

[190] *See, e.g.*, *Friends of the Wild Swan v. Jewell*, No. CV 13-61-M-DWM, 2014 U.S. Dist. LEXIS 116788, at *31 (D. Mont. Aug. 21, 2014) (recognizing the Fish and Wildlife Service appropriately considered the cumulative impacts of climate change and the taking of bull trout); *Nat'l Audubon Soc'y v. Kempthorne*, No. 1:05-cv-00008-JKS, 2006 U.S. Dist. LEXIS 110152, at *28 (D. Alaska Sept. 25, 2006) (finding that BLM did not act arbitrarily in its discussion of climate change impacts cumulatively with the project's other impacts).

[191] *See, e.g.*, Wentz (2015), *supra* note 180, at 38.

[192] Proposed Rule, 86 Fed. Reg. at 55,769.

[193] *Compare* CEQ, Final Guidance, *supra* note 155, at 9–20 (guidance on considering greenhouse gas emissions) *with id.* at 20–25 (guidance on consideration of climate vulnerability and resilience effects).

[194] *See, e.g.*, *supra* notes 126–127 and accompanying text (discussing how *Vecinos para el Bienestar*, 6 F.4th at 1327–30 clarifies that an agency cannot fall back on scientific uncertainty as justification for failing to analyze a project's impacts on climate change, but instead must use generally-accepted research methods like the social cost of greenhouse gases).

decisionmaking, would aid progress for this other set of climate change effects. In particular, CEQ's guidance should reflect the following key principles:

Agencies Should Integrate Climate Vulnerability and Resilience Effects into the Specific Components and Stages of an Environmental Review

A 2015 survey of federal environmental impact statements for public infrastructure-related projects noted significant inconsistencies in whether and how these reviews incorporated climate change vulnerability and resilience impacts.[195] Analyses that incorporated climate change impacts varied in whether they incorporated discussion of these impacts into the description of the affected environment, cumulative effects, or a separate climate section.[196] Even within a single EIS, the authors observed significant variability in where discussion of different climate impacts were located.[197] Only one-quarter of the EISs considered climate change impacts on the project and only a handful integrated that information into the selection of alternatives and potential adaptation and mitigation measures.[198] However, the analysis also revealed a handful of exemplary EISs indicating the capacity for more robust treatment of these climate impacts.[199]

CEQ should provide guidance related to integrating consideration into all the relevant components and stages of a NEPA analysis. Guidance could especially offer clarity on:

- Ensuring that climate vulnerability and resilience effects are considered early in the scoping process to ensure their meaningful integration into the analysis;
- Integrating climate vulnerability and resilience effects into the discussion of the affected environment and environmental consequences, rather than only as a stand-alone section;
- Ensuring consideration of mitigation measures to reduce climate vulnerabilities and increase resilience of the project and affected environment; and
- Ensuring that alternatives reflect these mitigation measures.

In developing this guidance, CEQ may draw upon state, federal agency, international, and non-governmental models for environmental review.[200] Wentz et al. (2015) propose a model protocol for environmental review assessing climate change impacts on the built environment that demonstrates how guidance could better clarify how to fold climate impacts into the various components of environmental review, which CEQ should also consider.[201]

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[195] Wentz (2015), *supra* note 180, at 30–31, 38–39.
[196] *Id*. at 38.
[197] *Id*.
[198] *Id*. at 39.
[199] *Id*. at 40–42.
[200] *See id*. at 15–26.
[201] *Id*. at 49–58.

Agencies Should Develop and Apply Appropriate Methodologies and Accounting Tools to Estimate Climate Vulnerability and Resilience Effects, Select Data, and Manage Uncertainty

CEQ's 2016 guidance lacked concrete recommendations around accounting tools and quantifying impacts for climate vulnerability and resilience effects. Accordingly, agencies have described uncertainty around what data and tools to use as a barrier to their more substantive consideration of climate vulnerability and resilience effects.[202] Absent further guidance from CEQ on what constitutes an adequate review, this confusion has resulted in analyses with minimalist review of climate vulnerability and resilience effects[203] in which even cursory examination of global and national climate change trends is deemed sufficient.[204] Such bare bones analysis threatens NEPA's goal to provide the best information for decisionmaking.

To help fill this data gap, CEQ should provide guidance related to:

Quantifying and Monetizing Effects When Feasible: CEQ guidance should direct agencies to quantify climate vulnerability and resilience effects when possible. This can include estimated changes in temperature, water availability, precipitation, etc. This can also include effects on the project or proposed action such as fewer days of operation per year due to extreme weather. This quantification will be most helpful if it is scaled down to the level of the project or proposed action and its surrounding environment. For example, agencies should consider changes in temperature, precipitation, or sea-level rise for the local affected environment rather than noting regional, national, or global changes only. Identifying relevant tools will help agencies to understand what is feasible and is an essential complement. Quantification can also be beneficial in considering alternatives and mitigation measures. Consistent with other recommendations throughout this comment, the guidance should also recommend monetizing effects where feasible. The guidance should explain how agencies can determine if quantification or monetization is feasible.

Standards for Qualitative Analysis of Effects: In some cases, it will not be possible to quantify effects. Guidance should explain what adequate qualitative analysis should include, such as being scaled to the affected environment being considered. For example, a qualitative description of national, or even regional, climate trends is not sufficient without grappling with the potential local implications.

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[202] *See, e.g.*, *S. Utah Wilderness All. v. Burke*, 981 F. Supp. 2d 1099, 1111 (D. Utah 2013), *vacated sub nom. S. Utah Wilderness All. v. U.S. Dep't of the Interior*, No. 2:12CV257 DAK, 2017 WL 11516766 (D. Utah May 17, 2017) ("BLM is limited in its ability to predict specific climate change on a regional and local scale because of a lack of scientific tools designed for such purposes.").

[203] *See, e.g.*, *Kunaknana v. U.S. Army Corps of Eng'rs,* 23 F. Supp. 3d 1063, 1098 (D. Alaska 2014) (acknowledging that the Corps "performed only a minimalist review" of climate change impacts in the Arctic, but concluding that without more precise instructions or the identification of more specific climate change information, the Corps' "limited consideration of the topic was adequate").

[204] *See, e.g.*, *Ctr. for Biological Diversity v. United States BLM*, No. 2:14-cv-00226-APG-VCF, 2017 U.S. Dist. LEXIS 137089 (D. Nev. Aug. 23, 2017) (concluding that the agency's qualitative analysis of global and regional climate change trends was sufficient as the court found that nothing in NEPA or the case law indicated more was needed and pointing out that the 2016 CEQ guidance did not indicate that agencies must quantify climate change impacts or specifically predict precise changes).

Relevant Tools and Data Sources: The guidance should point to available tools for estimating effects and sources of high quality data. The guidance may want to draw attention to the various federal tools that exist or are being developed to provide this information such as the Climate and Economic Justice Screening Tool, other resources in the U.S. Climate Resilience Toolkit,[205] and new regulations for climate risk disclosure under consideration at the SEC which may yield additional information about the vulnerability of infrastructure and assets associated with a project.[206]

Geographical Specificity and Quality of Data: The guidance should provide direction on selecting the appropriate geographical scale of data and how to qualitatively or quantitatively assess local effects based on regional data when local data is not available.

Age of Data: The guidance should discuss using up-to-date information, particularly in light of the practice of "tiering" to an old environmental impact statement that may have outdated climate change information.

Managing Uncertainty: The guidance should offer direction on how to proceed with the best possible estimates in the face of uncertainty by acknowledging that uncertainty, providing a range of estimates, or taking other measures. The guidance should explain that uncertainty should not be a bar to proceeding with the analysis—including considering mitigation and alternatives.

D. CEQ Should Update Its Regulations and Guidance in Numerous Respects to Facilitate Improved Agency Consideration of Environmental Justice

CEQ should also prioritize regulatory revisions and additional guidance that will improve agency assessment of environmental justice impacts. While NEPA requires agencies to take a hard look at environmental consequences of their proposed actions, without more specific technical guidance on what that "hard look" should entail, environmental justice analyses have repeatedly failed to meaningfully grapple with the distributional consequences of a proposed action or identified alternatives to mitigate them.[207] Without more specific regulations and guidance, agencies will continue to advance environmental reviews that insufficiently grapple with how an action may overburden environmental justice communities. And without such high-quality reviews, agencies will not be able to make decisions that avoid, or at least, substantially mitigate harmful impacts on environmental justice communities.

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[205] *See generally U.S. Climate Resilience Toolkit*, United States Global Change Research Program, https://toolkit.climate.gov/ (last visited Nov. 19, 2021).

[206] *See generally* Madison Condon et al., Inst. for Pol'y Integrity, Mandating Disclosure of Climate-Related Financial Risk (2021).

[207] *See, e.g.*, *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357 (holding that an EIS for a pipeline project was sufficient, as it "discussed the intensity, extent, and duration of the pipelines' environmental effects, and also separately discussed the fact that those effects will disproportionately fall on environmental-justice communities" even though it determined that 83.7% of the proposed pipeline would cross through "environmental justice communities," and then concluded that since that the project "would not have a 'high and adverse' impact on any population," it would thus "not have a 'disproportionately high and adverse' impact on any population.").

Executive Order 12,898, which requires agencies to identify and seek to address adverse environmental and human-health impacts of all federal administrative programs on minority and low-income populations,[208] has not solved the problem of inadequate environmental justice review, despite specific directives for its incorporation into NEPA.[209] Courts have typically been unwilling to recognize an enforceable right to an environmental justice analysis under Executive Order 12,898.[210] Thus, while arbitrary-and-capricious review applies when an agency chooses to incorporate environmental justice considerations into a NEPA analysis,[211] and NEPA requires a "hard look" at any environmental justice concerns submitted to the record or assessed as part of the agency's analysis,[212] the need for an agency to conduct such an analysis in the first place has not been universally recognized.[213] And when courts do assess an environmental justice analysis, they generally deem that analysis sufficient unless the agency blatantly ignored record evidence or made unsupported conclusory statements.[214]

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[208] Exec. Order No. 12,898 § 1-101, 59 Fed. Reg. 7629, 7629 (Feb. 16, 1994) ("[E]ach Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations . . . .").

[209] Executive Order 12,898, requires agencies to identify and seek to address adverse environmental and human-health impacts of all federal administrative programs on minority and low-income populations. In 1994, President Clinton issued a memorandum to accompany Executive Order 12,898, instructing each agency to analyze the environmental effects on minority communities and low-income communities when such analysis is required by NEPA. It also directing that "whenever feasible," mitigation measures outlined in EAs, EIS, and RODs, "should address significant and adverse environmental effects of proposed Federal actions on minority communities and low-income communities." Certain agencies have responded to these directions and responsibilities in their environmental justice plans by instructing their component programs to take these measures in NEPA reviews.

[210] *See, e.g.*, *Morongo Band of Mission Indians v. FAA*, 161 F.3d 569, 575 (9th Cir. 1998) (finding that E.O. 12,898 does not create a right to judicial review for alleged noncompliance). *See generally* Nina M. Hart & Lind Tsang, Cong. Rsch. Service, LSB10590, Addressing Environmental Justice Through NEPA 4 (updated Sept. 21, 2021) (recognizing that "E.O. 12898, by its own language, does not create enforceable rights to challenge federal agency compliance with the Order in court," and that one district court has "foreclose[ed] all judicial review of environmental justice analyses based on its reading of E.O. 12898").

[211] *Cmtys. Against Runway Expansion, Inc. v. FAA*, 355 F.3d 678, 689 (D.C. Cir. 2004) ("When an agency includes an environmental justice analysis of the effects on minority and low-income populations in its EIS, then the environmental justice analysis can be reviewed under NEPA and the APA."); *Coliseum Square Ass'n, Inc. v. Jackson*, 465 F.3d 215, 232 (5th Cir. 2006) (environmental justice study part of NEPA analysis reviewed as part of administrative record subject to arbitrary and capricious review).

[212] *California v. Bernhardt*, 472 F. Supp. 3d 573, 621–22 (N.D. Cal. 2020) (finding NEPA's "hard look" requirement was not met when BLM concluded there would be no significant impact on minority or low-income populations while ignoring contrary evidence in the record); *Standing Rock Sioux Tribe v. U.S. Army Corps of Eng'rs*, 255 F. Supp. 3d 101, 140 (D.D.C. 2017) (holding agency's "bare-bones" environmental justice analysis concluding that Tribe would not be disproportionately harmed violated NEPA's hard look requirement); *Vecinos para el Bienestar*, 6 F.4th at 1330–31 (finding FERC's decision to limit its environmental justice analysis under NEPA to communities within two miles of certain fossil fuel-related infrastructure to be arbitrary and capricious because FERC also determined that environmental impacts would extend beyond this two-mile radius).

[213] *See Iseke v. City & Cty. of Honolulu*, 2017 WL 6803423, at *11 (D. Haw .Sept. 20, 2017) (agency's "decision not to consider environmental justice concerns "[i]s not arbitrary, capricious, an abuse of discretion, or contrary to law").

[214] Cong. Rsch. Service, *supra* note 210, at 4–5 ("Of the federal courts of appeals that reached the merits . . . most have rejected claims that the environmental justice analyses in NEPA documents were arbitrary and capricious or that the relevant agency failed to take the requisite "hard look" in the analysis. . . Of roughly 30 federal district court decisions reviewing an environmental justice analysis on the merits, plaintiffs were successful in only three cases."); *see also Vecinos para el Bienestar*, 6 F.4th at 1327 (explaining that the court's mandate is not to "flyspeck an

Under the existing framework, and without more clarity on judicial enforcement, even environmental reviews that incorporate environmental justice considerations may not meaningfully weigh distributional effects on environmental justice communities. While not specific to NEPA analysis, surveys of equity analyses conducted under Executive Order 12,898 have found these analyses are not typically robust or influential on policy outcomes. For instance, one study finds that agencies typically either ignore Executive Order 12,9898 or satisfy its demands through "boilerplate rhetoric" that is "devoid of detailed thought or analysis."[215] Another survey concludes that interest in environmental justice has waxed and waned across presidential administrations and that agencies have sometimes passed off environmental-protection measures that they would have taken anyway as "environmental justice."[216]

CEQ can improve the quality of environmental justice analysis by better defining what a reasonable analysis must include. As demonstrated in the greenhouse gas emissions NEPA litigation, courts will look to existing methodologies to determine the adequacy of analysis. While the specifics of selecting a methodology is generally the realm of guidance, CEQ should consider a regulatory revision that complements such guidance by confirming that an environmental justice is a mandatory component of review and, ideally, defining environmental justice effects in a way that obligates a proper distributional analysis.

In particular, to meaningfully advance the Biden administration's environmental justice goals, CEQ should:

1. Further revise the definition of "effects" in 40 C.F.R. § 1508.1(g) to explicitly include impacts on environmental justice communities;
2. Incorporate regulatory language that further explains what must be considered under environmental justice effects;
3. Revise its guidance on best practices in the consideration of environmental justice, drawing on the work of the Interagency Working Group on Environmental Justice and White House Environmental Justice Advisory Council, including by offering guidance on:
    i. Integrating environmental justice into the different phases of NEPA review;
    ii. Ensuring meaningful participation from affected communities; and
    iii. Using best practices and methodologies for distributional analysis.

1. CEQ Should Further Revise the Definition of "Effects" to Explicitly Include Disproportionate Impacts on Environmental Justice Communities

As already discussed, an agency must consider ecological, economic, social, and health impacts of an action in their NEPA review. Disproportionate impacts on environmental justice

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agency's environmental analysis," but "simply to ensure that the agency has adequately considered and disclosed the environmental impact of its actions" (internal quotation marks omitted)).

[215] Elizabeth Ann Glass Geltman, Gunwant Gil & Miriam Jovanic, *Beyond Baby Steps: An Empirical Study of the Impact of Environmental Justice Executive Order 12898*, 39 FAMILY & CMTY. HEALTH 143, 143 (2016).

[216] Denis Binder et al., *A Survey of Federal Agency Response to President Clinton's Executive Order No. 12898 on Environmental Justice*, 31 ENV'T. L. REP. NEWS & ANALYSIS 11,133 (2001).

communities undoubtedly fall within the sweep of these effects. But while such an analysis should encompass impacts on minority and low-income populations—groups that often bear "disproportionately high and adverse human health or environmental effects of [federal] programs, policies, and activities"[217]—some courts have not identified an enforceable requirement to consider environmental justice effects under NEPA,[218] even though other courts recognize that a hard look requires consideration of environmental justice concerns raised during the NEPA process[219] and have questioned whether the failure to consider environmental justice analysis at all would fail the hard look test.[220] The lack of a clear requirement to consider disparate impacts of federal programs on environmental justice communities can create confusion when an environmental justice analysis is challenged in court, and creates the risk that an agency may forgo such an analysis altogether or fail to consider alternatives that mitigate disproportionate impacts on underserved communities.

CEQ should clarify the requirement for agencies to consider environmental justice impacts through the NEPA regulations, which are currently silent on the issue, to ensure the environmental reviews capture these effects as consistent with the purpose of NEPA. While guidance may be the preferable forum to describe particular methodologies for environmental justice analysis, CEQ should complement that guidance with regulatory revisions that clarify the requirement to consider environmental justice effects under NEPA. Specifically, CEQ should further redefine "effects" in 40 C.F.R. § 1508.1(g) to explicitly include disproportionate impacts on minority and low-income populations, consistent with the text of Executive Order 12,898.

Beyond merely specifying that agency analyses must consider environmental justice impacts, explicitly defining "effects" to include environmental justice impacts will have other key benefits. For instance, many agency analyses currently assess only whether the preferred alternative has disproportionate impacts on low-income or minority populations, without assessing whether project alternatives have more equitable environmental justice impacts.[221] For instance, if CEQ returned to the pre-2020 requirement that agencies assess "[t]he environmental effects of alternatives including the proposed action,"[222] then incorporating environmental justice into the definition of "effects" would require agencies to assess the environmental justice

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[217] Exec. Order No. 12,898 § 1-101, 59 Fed. Reg. 7629, 7629 (Feb. 16, 1994).

[218] *See, e.g.*, *Citizens Concerned About Jet Noise, Inc. v. Dalton*, 48 F. Supp. 2d 582, 604 (E.D. Va. 1999) ("NEPA does not require an environmental justice analysis, and, as the Navy correctly points out, Executive Order 12898 specifically states that any agency actions taken pursuant to the provisions of the Order are not subject to judicial review."); *Iseke v. City & Cty. of Honolulu*, 2017 WL 6803423, at *11 (D. Haw . Sept. 20, 2017) (agency's "decision not to consider environmental justice concerns "[i]s not arbitrary, capricious, an abuse of discretion, or contrary to law").

[219] *See* sources cited *supra* note 212.

[220] *Sierra Club*, 867 F.3d at 1369 (D.C. Cir. 2017) (upholding EIS that discussed disproportionate impacts on environmental-justice communities while recognizing that plaintiffs "[p]erhaps would have a stronger claim if the agency had refused entirely to discuss the demographics of the populations that will feel the pipelines' effects").

[221] *See, e.g.*, FERC, Rio Grande LNG Project Final Environmental Impact Statement 4-233 to 4-238 (2019) (recognizing that most affected communities around proposed pipeline facilities would be environmental justice populations, but failing to consider environmental justice impacts of alternative siting). The D.C. Circuit found FERC's environmental justice analysis to be arbitrary and capricious, although it did not specifically focus on the lack of consideration for project alternatives. *Vecinos para el Bienestar*, 6 F.4th at 1330–31. For a discussion of why it is important to consider environmental justice impacts across alternatives, *see* Revesz & Yi, *infra* note 236 (manuscript at 33–35).

[222] 40 C.F.R. § 1502.16(d) (rescinding as part of 2020 Rule).

impacts of each alternative. Because that provision was rescinded as part of the 2020 Rule, however, CEQ should reinstate that provision or add alternative regulatory language to ensure that agencies consider the environmental justice impacts of alternatives.

2. CEQ Should Consider Additional Regulatory Revisions, Including Definitional Provisions, Based on Recommendations from the White House Environmental Justice Advisory Council

While expanding the definition of "effects" to explicitly include disproportionate impacts on environmental justice communities would be a good start, CEQ may wish to consider additional regulatory revisions to further enshrine meaningful consideration of environmental justice impacts. Recent recommendations from the White House Environmental Justice Advisory Council ("WHEJAC") on amendments to Executive Order 12,898 offer some insights into what form these revisions could take.[223]

For one, CEQ may wish to adopt the definition of "environmental justice" and "environmental justice communities" recommended by WHEJAC. WHEJAC provided the following definition for environmental justice: "the just treatment and meaningful involvement of all people regardless of race, color, national origin, or income, or ability, with respect to the development, implementation, enforcement, and evaluation of laws, regulations, programs, policies, practices, and activities, that affect human health and the environment."[224] WHEJAC also provides a definition for "environmental justice communities."[225]

Further, CEQ may wish to further define the populations that must be considered in an environmental justice analysis. WHEJAC recommends that relevant populations encompass "populations of color, tribal and indigenous populations, and low-income populations," and supplies definitions for each of those terms.[226] CEQ should review those recommendations and incorporate them into the NEPA regulations to the extent it deems appropriate. If it adopts the WHEJAC definition, CEQ may wish to define additional terms in that definition such as "just treatment," which WHEJAC also defines. [227]

CEQ may additionally wish to review other language in the WHEJAC recommendations for Executive Order 12,898 for further areas of the NEPA regulations that may benefit from textual changes. Perhaps most notably, certain provisions of WHEJAC's recommendations explicitly reference NEPA and could provide relevant language to incorporate into CEQ's regulations regarding NEPA's purpose, policy, and requirements for public participation.[228] For

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[223] White House Environmental Justice Advisory Council, *Final Recommendations: Justice40 Climate and Economic Justice Screening Tool & Executive Order 12898 Revisions* 77–92 (2021), https://www.epa.gov/sites/default/files/2021-05/documents/whiteh2.pdf.

[224] *Id*. at 79.

[225] *Id*.

[226] *Id.* at 77–81.

[227] *Id.* at 80.

[228] *Id*. at 83 ("[A]s required by the National Environmental Policy Act (NEPA) and other Federal laws, [agencies must] analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on communities of color, Tribal and indigenous communities, low-income communities, and people with disabilities; and ensure to the maximum extent practicable that mitigation measures outlined or analyzed

example, regulatory language could clarify that mitigation measures should aim to maximally lessen disproportionate effects on environmental justice communities, among their other goals, and that presented alternatives each include an environmental justice analysis.

Other elements of WHEJAC's recommendations, though not specific to NEPA, may also be useful guideposts for future CEQ rulemaking. For instance, CEQ may wish to implement the definition of "meaningful participation"—which includes "consultation with Tribal and indigenous communities and . . . providing culturally appropriate information, access for people with disabilities, and language access for persons with Limited English Proficiency (LEP), considering issue of access raised by location, transportation, and other factors affecting participation"[229]—into the existing regulations on scoping and participation in 40 C.F.R. § 1501.9.

While improved guidance will be essential to delineating the appropriate methodologies and standards for meaningful analysis of environmental justice effects, the inclusion of key definitions and edits to CEQ's regulatory provisions will yield additional benefits. Anchoring environmental justice into the NEPA regulations would clarify both the existence and scope of the legal requirement to consider environmental justice effects during environmental review and provide guiding principles for agencies developing their own NEPA regulations and practices.

3. CEQ Should Revise Its Guidance on Best Practices in the Consideration of Environmental Justice to Better Standardize Meaningful Distributional Analysis Under NEPA

Following the issuance of Executive Order 12,898, CEQ issued guidance on considering environmental justice under NEPA in 1997 ("1997 EJ Guidance").[230] Over two decades have passed since this guidance was published and, as indicated by examples from the case law and scholarly research, this guidance has not standardized meaningful environmental justice analysis. Accordingly, CEQ should now revise this guidance to reflect the best practices for environmental justice analysis.

In developing guidance, CEQ does not need to work off of a blank slate. For one, CEQ should look carefully at the practices identified by the Federal Interagency Working Group on Environmental Justice and NEPA Committee its EJ Promising Practices Report.[231] While this report specifies that it should not be construed as guidance,[232] its recommendations create a

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in an environmental assessment, environmental impact statement, or record of decision address significant and adverse environmental effects of proposed Federal actions on communities of color, Tribal and indigenous communities, low-income communities, and people with disabilities; (d) as required by the National Environmental Policy Act (NEPA) and other Federal laws, ensure opportunities for meaningful participation in decision making and adequate access to public information relating to human health or environmental planning, regulations, and enforcement. . .").

[229] *Id.* at 80–81.

[230] CEQ, Environmental Justice Guidance Under the National Environmental Policy Act (1997). https://www.epa.gov/sites/default/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf.

[231] Fed. Interagency Working Grp. for Env't Justice & NEPA Comm., Promising Practices for EJ Methodologies in NEPA Reviews 21 (2016), https://perma.cc/JPM7-RKGG [hereinafter PROMISING PRACTICES].

[232] *Id.* at 6.

foundation for CEQ to now develop into guidance. CEQ should also look toward the Environmental Protection Agency's Technical Guidance for Assessing Environmental Justice in Regulatory Analysis, which provides the most detailed guidance to date on "methods for analysts to use when assessing potential environmental-justice concerns in national rules."[233] Though not directly applicable in the context of project-level assessments, many of the recommendations in this EPA guidance remain highly relevant and merit consideration from CEQ.

Updated guidance will prove essential to establishing what qualities mark an adequate analysis, putting meat on the bones of the suggested regulatory changes and offering clarity to agencies and the courts. In particular, a robust analysis will require integrating environmental justice considerations throughout the stages of environmental review, utilizing appropriate methodologies and data, and ensuring that stakeholder participation informs decisionmaking.

Agencies Should Integrate Environmental Justice into the Different Phases of NEPA Review

For environmental justice considerations to meaningfully influence decisionmaking, they should be reflected throughout the different stages of an environmental review, including in the early scoping stages to define the significance and scope of effects and in development of alternatives and mitigation strategies to address those effects. The 1997 guidance offers both general principles and recommendations for considering environmental justice at specific phases of the NEPA process including scoping, public partition, determining the affected environment, analysis, alternatives, record of decision, and mitigation. CEQ should update these recommendations in light of lessons learned from best practices over the past two decades, especially as highlighted in the EJ Promising Practices Report.

The EJ Promising Practices Report includes information on best practices gleaned since the 1997 guidance and which go well beyond the seven-page summary in that earlier guidance, including more concrete steps that agencies can take to improve their consideration of environmental justice. For example, in discussing scoping, the EJ Promising Practices Report lays out best practices such as holding several small scoping meetings for minority and low-income populations to foster better participation, using a Geographic Information System tool (e.g., EJSCREEN) to identify any affected low-income and minority populations at this stage, developing a public participation plan, inviting potentially affected minority and low-income communities when conducting public scoping, using neutral facilitators, and considering modifying alternatives and potential mitigation options, even late in the process, if new and significant information about effects on minority and low-income populations is revealed. As another example, the EJ Promising Practices Report provides nine pages elaborating on conducting a high-quality impacts analysis as compared to two paragraphs in the 1997 guidance. These best practices offer clarity, explaining for instance to consider exposures as well as impacts, and the importance of considering how certain effects can have an amplified impact on minority and low-income communities, as well as making recommendations for where agencies can access the relevant background data.

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[233] EPA, Technical Guidance for Assessing Environmental Justice in Regulatory Analysis (2016), https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf [hereinafter "EPA Technical Guidance"].

The 1997 guidance additionally makes the recommendation that in circumstances in which an environmental impact statement or environmental assessment will not be prepared, and a disproportionately high and adverse human health or environmental impact on environmental justice communities may exist, "agencies should augment their procedures as appropriate to ensure that the otherwise applicable process or procedure for a federal action addresses environmental justice concerns."[234] It further recommends that in this scenario, agencies ensure adequate public participation, and fully develop and consider alternatives as they would have been required to do under NEPA. CEQ should keep and consider elaborating on this instruction.

CEQ should additionally address the need to consider distributional impacts of alternatives and prioritize alternatives that promote equity. As noted above, agencies frequently assess the distributional impacts of the proposed project only, without assessing the distributional impacts of alternatives as they more often do for other impacts.[235] This makes it difficult for agencies to identify project alternatives that would mitigate or minimize adverse impacts on environmental justice communities, or to develop such project alternatives in the first place. CEQ should advise agencies to develop project alternatives that will limit impacts on environmental justice populations, such as through alternative siting or other localized mitigation measures, and to evaluate the environmental justice impacts of all alternatives. CEQ should provide further guidance on how agencies should weigh the distributional impacts of different alternatives against other beneficial and adverse impacts, explaining how to compare unquantified distributional benefits and how agencies can use quantitative tools to assist in their assessment.[236]

Agencies Should Ensure Meaningful Participation from Affected Communities

Meaningfully consulting affected communities can help ensure adequate analysis of localized and distributional impacts. Affected communities are experts on the real-world consequences of project-level decisions because of their personal experiences, including living nearby to or downwind from a pollution source. Community members can thus provide information and a depth of understanding of these consequences that can only be gleaned from

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[234] CEQ, Environmental Justice Guidance Under the National Environmental Policy Act, *supra* note 230, at 17.

[235] *See supra* note 221 and accompanying text. This is likely due to the fact that distributional analysis is conducted not pursuant to the NEPA regulations but rather under Executive Order 12,898, which requires that agency action not cause "disproportionately high and adverse human health or environmental effects on minority populations and low-income populations" but does not require an assessment of alternatives. Exec. Order No. 12,898 § 3-302(a), 59 Fed. Reg. 7629, 7631 (Feb. 16, 1994). As detailed above, firmly anchoring assessment of environmental justice within the NEPA regulations—along with rescinding provisions of the 2020 Rule that weakened requirements around the assessments of alternatives—would solve this problem.

[236] *See* Richard L. Revesz & Samantha P. Yi, *Distributional Consequences and Regulatory Analysis*, 52 ENV'T L. (forthcoming 2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3927277. Revesz and Yi offer recommendations for developing guidance to OMB, which was directed by President Biden's Memorandum on Modernizing Regulatory Review to "propose procedures that take into account the distributional consequences of regulations . . . to ensure that regulatory initiatives appropriately benefit and do not inappropriately burden disadvantaged, vulnerable, or marginalized communities." Memorandum from President Joseph Biden on Modernizing Regulatory Review to the Heads of All Dep'ts & Agencies § 2(b)(ii), 86 Fed. Reg. 7223, 7223 (Jan. 26, 2021). The recommendations that Revesz and Yi offer are informative to distributional analysis conducted for environmental review.

lived experience.[237] CEQ should identify best practices from agencies' previous technical work and experience to inform its stakeholder engagement. While stakeholder engagement must be tailored to the specific needs of a particular project or proposed action, common best practices could help guide this tailoring. These practices could include adjusting guidelines for participation by the type of project or proposed action, engaging affected communities early in the process, employing targeted community outreach efforts, reducing logistical barriers to participation, providing public liaisons, and providing technical assistance.[238] The EJ Promising Practices Report also offers recommendations on meaningful engagement that can inform future guidance.[239]

Agencies Should Utilize Best Practices and Improved Methodologies for Distributional Analysis

In developing guidance on best practice and methodologies, CEQ should build upon its past iterations of draft guidance and recommendations from the aforementioned EJ Promising Practices Report[240] and EPA's 2016 technical guidance on methods for analysts to use when assessing potential environmental-justice concerns in national rules.[241] Recent scholarship explores opportunities to further improve upon the methods outlined by EPA to standardize a robust approach to distributional analysis that identifies if environmental justice communities are disproportionately burdened by a regulatory action and integrates that analysis into decisionmaking.[242]

In particular, CEQ should provide methodological recommendations at the level of detail that would enable standardization of key approaches across agencies and across analyses. Standardization would serve the important goal of "interoperability," enabling the comparison and aggregation of distributional impacts across NEPA actions and, viewing standardization on a broader scale, across agencies.[243] Standardization would also enable agencies to better assess the cumulative impacts of multiple actions. Moreover, interoperability is the only means by which agencies can objectively determine when particular distributional consequences are cause for concern.[244] A standardized approach to distributional analysis would also reduce the risk that

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[237] Cynthia R. Farina et al., *Knowledge in the People: Rethinking "Value" in Public Rulemaking Participation*, 47 WAKE FOREST L. REV. 1185, 1197 (2012) (explaining that these communities have "situated knowledge" of the "impacts, ambiguities and gaps, enforceability, contributory causes, and unintended consequences that are based on the lived experience in the complex reality into which the proposed regulation would be introduced"); Eileen Gauna, *The Environmental Justice Misfit: Public Participation and the Paradigm Paradox*, 17 STAN ENV'T L.J. 3, 72 (1998) ("[F]ormal expertise cannot capture the knowledge that exists within affected communities.").

[238] For a further discussion of these recommendations to improve stakeholder engagement in the context of NRC regulatory proceedings, *see* Inst. for Pol'y Integrity, Comments on "Systematic Assessment for How the NRC Addresses Environmental Justice in Its Programs, Policies and Activities," 86 Fed. Reg. 36,307 (July 8, 2021), at 10–17 (Oct. 29, 2021), https://policyintegrity.org/documents/Policy_Integrity_Comments_on_NRC_EJ_Policy.pdf.

[239] Promising Practices *supra* note 231, at 8–14.

[240] *See generally*, Promising Practices, *supra* note 231.

[241] EPA Technical Guidance, *supra* note 233.

[242] *See* Revesz & Yi, *supra* note 236 (manuscript at 38–39). *See also* Jack Lienke et al., Inst. for Pol'y Integrity, Making Regulations Fair: How Cost-Benefit Analysis Can Promote Equity and Advance Environmental Justice 6–22 (2021).

[243] *See id.* at i; Jason Schwartz, Inst. for Pol'y Integrity, Enhancing the Social Benefits of Regulatory Review 12 (2020).

[244] Revesz & Yi, *supra* note 236 (manuscript at 3–4).

such analyses could be manipulated to reach a preferred result.[245] Crucially, standardizing its approach to distributional analysis does not mean that agencies must conduct each analysis in precisely the same way. Rather, it means that there is a standardized set of guiding principles for choosing the methodological elements of the analysis and explaining those choices.[246]

Although this comment letter does not seek to provide comprehensive recommendations for future environmental justice guidance, it highlights a few key suggestions below.

Agencies Should Match the Unit of Analysis to the Nature of the Environmental Problem

CEQ guidance should designate that the unit of analysis correspond to the nature of the environmental or public health effect being analyzed. Assessing distributional consequences will necessarily require agencies to analyze regulatory impacts at a granular and disaggregated level.[247] In general, agencies should prefer smaller units (e.g., census blocks) to larger units (e.g., census tracts).[248] However, in selecting the geographic unit, agencies must consider the appropriately sized unit and ensure there is sufficient justification for the choice such that it will not inaccurately portray the size of the affected environmental justice population by "diluting their representation," or miss an environmental justice population entirely. [249]

For example, if the toxic emissions from an industrial plant caused harmful effects only with a 1000-foot radius, using a 1-mile radius or other larger unit of analysis might mask an otherwise statistically significant disproportionate impact.[250] On the other hand, pollution harms may reach much more distant areas along very narrow paths because of wind patterns or water pathways. In such cases, a radial unit of analysis—no matter how granular—would be likely to aggregate affected areas with unaffected ones and would thus be unlikely to capture the disproportionate impact borne by communities along the route of pollution.[251] The solution in

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[245] *Id.* at 25 (contending that the lack of consensus on how to conduct distributional analysis and the failure to explain methodological choices creates a risk of manipulation).

[246] Revesz and Yi identify the following as a non-exhaustive list of the methodological elements of the analysis: selection of the unit of analysis, categorization of race and ethnicity, the measure of socioeconomic status, assessment of the level of civic engagement, determination of disproportionate impact, and gender. Revesz & Yi, *supra* note 236 (manuscript at 14 & n.94); *see also* Schwartz, *supra* note 243, at 11–12.

[247] *See* Lienke et al., *supra* note 242, at 6–7 ("Measuring impacts at aggregate scales can hinder [identification of who is being affected by a regulation and to what degree].").

[248] *Id.* at 7; *see also* Rachel Nuwer, *Study Shows How Cities Can Consider Race and Income in Household Energy Efficiency Programs*, PRINCETON SCHOOL OF ENGINEERING AND APPLIED SCIENCE (June 7, 2021), https://environment.princeton.edu/news/study-shows-how-cities-can-consider-race-and-income-in-household-energy-efficiency-programs/ (finding that energy use inequality is more visible in relatively smaller units of analysis).

[249] Promising Practices, *supra* note 231, at 21.

[250] *See* Revesz & Yi, *supra* note 236 (manuscript at 28); *see also* Lienke et al., *supra* note 242, at 6–7 (citing Janet Currie et al., *Environmental Health Risks and Housing Values: Evidence from 1,600 Toxic Plant Openings and Closings*, 105 AM. ECON. REV. 678 (2015)) (observing that, in this study, in which harmful were found to be confined to narrow areas around industrial plants, a relatively small unit of analysis such as a county would have nonetheless obscured the disproportionate impact found in the study).

[251] *See* Lienke et al., *supra* note 242, at 7 ("[I]n the case diffuse pollutants, such as fine particulate matter or arsenic contamination of drinking water, . . . adverse effects can propagate through narrow paths across large spatial areas. . . . [L]imiting the exploration of environmental injustices to nearby, 'frontline' communities—even in cases of pollutants that are often considered 'local,' such as primary particulate matter—might [therefore] be overly

this case therefore would not necessarily be a smaller unit of analysis, but rather a unit of analysis that tracks the pollution plume or water pathway.[252]

Concern with the potential dilution of environmental justice populations due to the geographic unit choice has been an ongoing issue raised by environmental and community organizations agency proceedings. For example, in challenging the Federal Energy Regulatory Commission's certification of the Southeast Market Pipelines Project, intervenors pointed out that FERC's use of census tract data obscured the presence of a 100% Black census block due to its location in a majority-white census tract.[253] In the Atlantic Coast Pipeline proceedings, environmental and neighborhood groups raised similar concerns about a census tract analysis that masked the 85% Black and biracial community living downwind from a proposed facility and therefore at highest risk of exposure.[254] An EPA workgroup has also long cautioned against this potential outcome, pointing out that "pockets of minority or low-income communities, including those that may be experiencing disproportionately high and adverse effects, may be missed in a traditional census tract-based analysis."[255]

Agencies Should Select an Appropriate Comparison Population

Determining whether there are disproportionate impacts entails comparing a project's effects on environmental justice populations with its effects on a "comparison population," in order to determine whether the impacts on environmental justice communities are disproportionate.[256] The comparison group selected will thus inevitably affect the determination of disproportionate impact.[257] Choosing an improper comparison population can lead to artificial distortion of environmental justice impacts, including where the comparison group is too narrow geographically or too similar demographically to the affected population. Agencies are less likely to find a disproportionate impact where the comparison group has an unrepresentatively high proportion of minority or low-income individuals.[258] Restricting the comparison population in a way that ensures the comparison population has a high percentage of minority or low-income individuals will therefore mask disproportionate impacts.

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simplistic in certain cases." (citing H. Spencer Banzhaf, *Regulatory Impact Analyses of Environmental Justice Effects*, 27 J. LAND USE & ENV'T L. 1, 13–14 (2011)); *see also* Revesz & Yi, *supra* note 236 (manuscript at 29).

[252] Revesz & Yi, *supra* note 236 (manuscript at 29).

[253] *See Sierra Club*, 867 F.3d at 1370.

[254] *See* Request for Rehearing of Shenandoah Valley Network et al. at 131, *Atlantic Coast Pipeline, LLC*, Docket Nos. CP15-554-000 et al. (Nov. 13, 2017).

[255] Env't Prot. Agency, Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses at unnumbered p. 16 (1998).

[256] Revesz & Yi, *supra* note 236 (manuscript at 41–42).

[257] EPA Technical Guidance, *supra* note 233, at 55. For example, as the EPA explained, "a comparison group of all minorities in the United States, while informative about the burden of risk among minorities, will not directly provide information about whether this burden is *higher* among minorities relative to non-minorities." *Id*. at 55 n.55.

[258] Bradford Mank, *Proving an Environmental Justice Case: Determining an Appropriate Comparison Population*, 20 VA. ENV'T L.J. 365, 387 (2001). The Interagency Working Group on Environmental Justice has also explained that it may be appropriate for an agency to use multiple comparison groups in certain instances. Promising Practices, *supra* note 231, at 41. The EPA has likewise recommended the use of sensitivity analyses with alternative comparison groups where appropriate. Env't Prot. Agency, *supra* note 257, at 55.

Consider the dilemma created by recent FERC reviews of pipelines, where FERC has found that a project will affect *only* minority and low-income communities. In recent cases, FERC concluded that the affected community as a whole was made up of environmental justice communities and thus determined that the only question to ask was whether the project would disproportionately affect these communities due to factors unique to the population (for example, due to disproportionate health conditions).[259] In other cases, FERC has compared the affected populations of different alternatives, found that each would have nearly the same impact on environmental justice populations, and thus concluded that the preferred alternatives could not be said to cause disproportionate impacts.[260]

Agencies Should Carefully Look at the Risks Posed by Pollutants Below the Legal Limits in Communities Made More Vulnerable by Other Health Disparities

The impacts analysis should require that agencies consider whether a project's environmental and health impacts are disproportionately high and adverse even when they are below a legal threshold. For example, in analyzing a project's air quality impacts, agencies often find that adherence to NAAQS as synonymous with a project having no adverse impacts.[261] This standard can miss disproportionate burdens on environmental justice communities that could be revealed through an improved distributional analysis.

Carbon monoxide, lead, particulate matter, ozone, nitrogen dioxide, and sulfur dioxide (the six criteria pollutants regulated under the NAAQS) are all non-threshold pollutants, meaning that they have acknowledged health impacts even when found in levels below the legally permissible limits.[262] EPA has identified health benefits from reducing pollutant levels below the legal standard for almost all of its regulated criteria pollutants.[263] That is, EPA has said in

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[259] *E.g.*, Brief of Respondent Federal Energy Regulatory Commission at 51, *Vecinos para el Bienestar de la Communidad Costera v. Fed. Energy Reg. Comm'n*, No. 20-1045 (D.C. Cir. filed Sept. 23, 2020) ("[T]he Commission first examined the racial and ethnic makeup of the affected communities (*i.e.*, those within a 2-mile radius of the Terminal or Pipeline) and found that virtually all were minority or low-income populations, as defined by the relevant EPA Guidance."); Brief of Respondent Federal Energy Regulatory Commission at 43, *Vecinos para el Bienestar de la Communidad Costera v. Fed. Energy Reg. Comm'n*, Nos. 20-1093 & 20-1094 (D.C. Cir. filed Nov. 10, 2020) ("The Commission identified the immediate area surrounding the projects as environmental justice communities. . . . But the Commission also found that the entire Cameron County qualified as an environmental justice community.").

[260] *Sierra Club*, 867 F.3d at 1369–70.

[261] Courts have recognized compliance with the NAAQS program as sufficient to indicate no adverse air pollution impacts. *Sierra Club* 867 F.3d 1357 at 1370 n.7 ("FERC appropriately relied on EPA's national ambient air quality standards (NAAQS) as a standard of comparison for air-quality impacts. By presenting the project's expected emissions levels and the NAAQS standards side-by-side, the EIS enabled decisionmakers and the public to meaningfully evaluate the project's air-pollution effects by reference to a generally accepted standard."); *Citizens for a Healthy Cmty.*, 377 F. Supp. 3d at 1243–44 ("Defendants [using NAAQS and CARMMS] explained their decision and stated they would update their information if they deemed it necessary. With the deference I must afford to Defendants, I find that they took a sufficiently hard look at the Projects' cumulative impacts to air quality."); *Sierra Club v. Fed. Highway Admin.*, No. 17-CV-1661-WJM-MEH, 2018 WL 1610304, at *7 (D. Colo. Apr. 3, 2018). ("[T]he case law is nearly unanimous that federal agencies may rely on NAAQS compliance to conclude that human health will not be seriously affected by a transportation project.").

[262] Kimberly M. Castle & Richard L. Revesz, *Environmental Standards, Thresholds, and the Next Battleground of Climate Change Regulations*, 103 MINN. L. REV. 1349, 1357 (2018).

[263] *Id.* at 1392–97 (discussing EPA's calculations of benefits below NAAQS levels and explicit findings on the lack of evidence of thresholds for ozone, carbon monoxide, and nitrogen dioxide).

multiple rulemakings that there are health risks associated with exposure to criteria pollutants at levels below the NAAQS.[264] Therefore, as a general matter, it is inappropriate to assume that where a project does not violate the NAAQS, there are no significant health impacts.

Furthermore, reliance on the NAAQS is particularly inappropriate for assessing impacts to populations that are sensitive to pollution, including those with respiratory and other health issues.[265] For such sensitive populations, exposure to criteria pollutants below the NAAQS may be particularly harmful. Minority individuals are more likely to belong to such sensitive populations because of the health disparities they face. For example, asthma exists in higher rates among minority populations and increases health risks from exposure to ozone, particular matter, and sulfur dioxide.[266] And health risks from such exposure may be more severe as asthma hospitalizations and mortality have also been observed at higher rates in minority communities.[267]

Accordingly, CEQ guidance should require that agencies assess the actual human health impacts on environmental justice communities, and not rely on compliance with the NAAQS to disregard any localized air-quality impacts.

CEQ Should Provide Additional Guidance on Relevant Subpopulations

Insofar as CEQ does not provide further definition to key terms such as "minority population" and "low-income population" in the regulations, it should do so through guidance. Clearly specifying relevant populations can affect the visibility of distributional consequences and are key to understanding how impacts are distributed. As noted above, CEQ should consider definitions of environmental-justice groups offered by WHEJAC.[268] Public participation from environmental justice communities will be crucial to understanding how affected communities self-identify.

CEQ Should Provide Additional Guidance on Selecting Data

CEQ should also offer guidance to ensure data is sufficient, current, and without unaddressed gaps. Out-of-date data can be a particular concern when an EIS tiers back to a previous analysis and communities have shifted boundaries in the interim. CEQ should design the guidance to best utilize EPA's new Climate and Economic Justice Screening Tool, which can help set a baseline for adequate data to inform an analysis.[269]

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[264] *Id.* at 1390–91.

[265] *See id.* at 1354, 1374.

[266] *See* Review of the Primary National Ambient Air Quality Standards for Sulfur Oxides, 84 Fed. Reg. 9866, 9878–79 (Mar. 18, 2019); Env't Prot. Agency, EPA 240-R-13-001, America's Children and the Environment 21 (3d ed. 2013), https://perma.cc/K2EV-EKS2.

[267] *See* Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. 35,520, 35,527 (June 22, 2010); *Health Effects of Ozone in Patients with Asthma and Other Chronic Respiratory Disease*, ENV'T PROT. AGENCY, https://perma.cc/FQ3P-Y7XD (June 23, 2020).

[268] *See supra* notes 223–229 and accompanying text.

[269] *See EJSCREEN: Environmental Justice Screening and Mapping Tool*, U.S. Env't Prot. Agency, https://www.epa.gov/ejscreen (last visited Nov. 18, 2021).

Conclusion

As detailed in this comment letter, the Proposed Rule appropriately reverses several provisions of the 2020 Rule that violated the NEPA statute, improperly limited the scope of environmental review, and created substantial confusion. While CEQ offers many compelling justifications for these rescissions, it could provide additional legal justifications including by recognizing flaws in the regulatory impact analysis accompanying the 2020 Rule and concluding that the benefits of the Proposed Rule exceeds the costs.

CEQ also appropriately recognizes the need for additional rulemaking that will bolster environmental review, in particular to meet climate change and environmental justice objectives. As part of that Phase II rulemaking, CEQ should consider specific regulatory revisions to promote rational weighting of environmental and public-health impacts and particularly to bolster assessment of climate impacts, effects related to climate risk and vulnerability, and environmental justice. This comment letter suggests particular regulatory revisions and additional guidance that CEQ could provide in each of these areas.

Respectfully,

Dena Adler, Research Scholar
Max Sarinsky, Senior Attorney
Amanda Zerbe, Legal Fellow

Attachment: Inst. for Pol'y Integrity, Comments on "Proposed Rule: Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act," Docket No. CEQ-2019-0003 (Mar. 10, 2020).