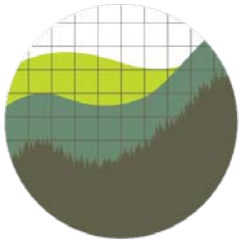

Institute *for*
Policy Integrity
NEW YORK UNIVERSITY SCHOOL OF LAW

August 26, 2019

Council on Environmental Quality
730 Jackson Place, NW
Washington, DC 20503

Submitted online via: https://www.regulations.gov

RE: Draft National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions; RIN 0331–ZA03; Docket No. CEQ–2019–0002

Dear Council on Environmental Quality:

The Institute for Policy Integrity at NYU School of Law[1] respectfully submits these comments on the Council on Environmental Quality's (CEQ) potential revisions to its National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions. Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

The Supreme Court has held that the National Environmental Policy Act (NEPA) prohibits uninformed agency action.[2] But with this draft guidance, CEQ does little to encourage agencies to become informed about the greenhouse gas emissions associated with their project approvals. Rather, the draft guidance makes vague and misleading statements with respect to when and how agencies must analyze the greenhouse gas emissions associated with their project approvals. The result is a confounding document that may guide agencies away from established best practices for NEPA analysis, and as a result, subject them to legal risk. CEQ should correct the errors and deficiencies in this draft guidance in order to align with federal caselaw on NEPA compliance and existing CEQ regulations.

[1] No part of these comments purports to present the views, if any, of New York University.
[2] *See Winter v. Nat. Res. Def. Council*, 555 U.S. 7, 23 (2008) ("Part of the harm NEPA attempts to prevent in requiring an EIS is that, without one, there may be little if any information about prospective environmental harms and potential mitigating measures."); *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 371 (1989) ("By so focusing agency attention, NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late to correct.").

Specifically, CEQ should:

- **Clarify that agencies should quantify upstream and downstream greenhouse gas emissions in their NEPA analysis, including when agencies may need to gather relevant information in order to complete the analysis;**

- **Encourage agencies to conduct proper energy substitution analysis using available tools and models, in order to accurately estimate emissions; and**

- **Clarify that monetized estimates of the Interagency Working Group's Social Cost of Greenhouse Gases are useful in NEPA analysis, are required when other costs or benefits are monetized, and are appropriate tools to assess the significance of an action's incremental contributions to climate change, as required by NEPA.**

The comments that follow discuss each of these points in more detail.

I. The Guidance Should Clarify that Agencies Should Quantify Upstream and Downstream Greenhouse Gas Emissions.

The draft guidance provides for two scenarios in which quantification of greenhouse gas (GHG) consequences may not be required: (i) "[w]hen an agency determines that the tools, methods, or data inputs necessary to quantify a proposed action's GHG emissions are not reasonably available, or it otherwise would not be practicable"; and (ii) "where information necessary for quantification is unavailable, not of high quality, or the complexity of identifying emissions would make quantification overly speculative."[3] In such cases, the draft guidance states that, "[a] qualitative analysis may rely on sector specific descriptions of the GHG emissions for the category of Federal action that is the subject of the NEPA analysis. Agencies need not undertake new research or analysis of potential climate effects and may rely on available information and relevant scientific literature."[4]

Absent in this draft guidance is a clarifying statement that NEPA *requires* agencies to analyze and quantify the reasonably foreseeable greenhouse gas emissions associated with their project approvals, including upstream and downstream emissions. CEQ should make this clear in the final guidance, as it had done in its 2016 final guidance. Contrary to CEQ's statements in the draft guidance, federal courts have repeatedly held that agencies cannot point to uncertainty, speculation, or impracticability as excuses for failure to disclose and quantify emissions. CEQ's draft guidance, by implicitly approving of incomplete NEPA analysis, is likely to open the door to litigation against federal agencies for failure to conduct adequate analysis.

[3] 84 Fed. Reg. 30,097, 30,098 (June 26, 2019).
[4] *Id*.

A. The Draft Guidance Conflicts with Existing NEPA Regulations and Is an Unexplained Departure from the 2016 Final Guidance, and Is Therefore Arbitrary and Capricious.

NEPA requires "hard look" consideration of the effects of each alternative option for major federal government actions. The U.S. Supreme Court has called the disclosure of environmental effects the "key requirement of NEPA," and has held that agencies must "consider and disclose the *actual environmental effects*" of a proposed action in a way that "brings those effects to bear on [the agency's] decisions."[5] The actual environmental effects of an agency action include incremental contributions to climate change caused by reasonably foreseeable upstream and downstream greenhouse gas emissions. NEPA's requirement to take a "hard look" at the environmental impacts of federal actions, and to analyze both direct and indirect (including upstream and downstream) emissions, applies to both environmental impact statements (EISs) and environmental assessments (EAs).[6]

CEQ's existing NEPA regulations make clear that agencies must gather relevant information about environmental effects, including greenhouse gas emissions. With respect to incomplete information, the regulations state:

> If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.[7]

The regulation places the responsibility on the agency to gather essential missing or incomplete information, as long as the costs of obtaining it are "not exorbitant." This stands in contrast to the statement in the draft guidance that quantifying emissions is not required where it is "not practicable"—a vague phrase that potentially opens the door to scenarios in which agencies may claim that the relevant information is not readily at hand. CEQ fails to provide an adequate explanation for its change in policy in this draft guidance, relative to the existing CEQ regulation.[8] CEQ should make clear that, the greater a proposed action's potential contributions to climate change, the more essential it will be to quantify emissions and to assess the significance of actual climate effects, and so the more an agency may need to undertake new research and analysis to quantify emissions.

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[5] *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council*, 462 U.S. 87, 96 (1983) (emphasis added); *see also* 40 C.F.R. § 1508.8(b) (requiring assessment of "ecological," "economic," "social," and "health" "effects).

[6] *See* 40 C.F.R. § 1508.9; *Ctr. for Envtl. Law & Policy v. U.S. Bureau of Reclamation*, 655 F.3d 1000, 1006 (9th Cir. 2011) ("As part of the [EA] analysis, the agency must consider 'the direct, indirect, and cumulative impacts of the action.'"); *Montana Envtl. Info. Ctr. v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1091 (D. Mont. 2017).

[7] 40 C.F.R. § 1502.22.

[8] *See Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005) ("Unexplained inconsistency is, at most, a reason for holding an interpretation to be an arbitrary and capricious change from agency practice under the Administrative Procedure Act.").

The draft guidance is also an unexplained departure from CEQ's 2016 final guidance on greenhouse gas emissions in NEPA reviews. As the Supreme Court has held, "[a]n agency may not, for example, depart from a prior policy *sub silentio* or simply disregard rules that are still on the books."[9] CEQ has failed to explain its change in policy, which is arbitrary and capricious.[10]

The final 2016 guidance stated:

> This guidance recommends that agencies quantify a proposed agency action's projected direct and indirect GHG emissions. . . . When data inputs are reasonably available to support calculations, agencies should conduct GHG analysis and disclose quantitative estimates of GHG emissions in their NEPA reviews.[11]

The clear directive in the 2016 final guidance to quantify greenhouse gas emissions is missing in this draft guidance, yet CEQ has not provided an adequate explanation for the change in its approach, which is arbitrary and capricious.[12] The 2016 final guidance also makes clear that quantification tools are widely available, stating:

> Quantification tools are widely available, and are already in broad use in the Federal and private sectors, by state and local governments, and globally. Such quantification tools and methodologies have been developed to assist institutions, organizations, agencies, and companies with different levels of technical sophistication, data availability, and GHG source profiles.[13]

Furthermore, while the 2016 guidance counseled agencies that quantification may not be required if "tools, methodologies, or data inputs are not reasonably available,"[14] the draft guidance adds, without explanation, that quantification is also not required where "it otherwise would not be practicable" or "where the amount of emission is [not] substantial enough to warrant quantification."[15] CEQ does not explain what "not otherwise practicable" means, nor what amount of emissions is substantial enough to warrant quantification. These vague additions open the door to inconsistent agency interpretations, and are an unexplained change in policy from the prior guidance.

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[9] *F.C.C. v. Fox Television Stations, Inc*., 556 U.S. 502, 515 (2009) (citing *United States v. Nixon*, 418 U.S. 683, 696 (1974)).
[10] *See Brand X*, 545 U.S. at 981.
[11] CEQ, FINAL GUIDANCE ON THE CONSIDERATION OF GREENHOUSE GAS EMISSIONS AND THE EFFECTS OF CLIMATE CHANGE IN NEPA REVIEWS 11 (2016).
[12] *See Brand X*, 545 U.S. at 981.
[13] *Id*. at 12.
[14] *Id*. at 12-13.
[15] 84 Fed. Reg. at 30,098.

Moreover, the draft guidance would weaken the role of mitigation in the NEPA process, without explanation. The 2016 guidance contained a lengthy description of the importance of greenhouse gas emissions mitigation. The 2016 guidance stated:

> Agencies should consider the potential for mitigation measures to reduce or mitigate GHG emissions and climate change effects when those measures are reasonable and consistent with achieving the purpose and need for the proposed action. Such mitigation measures could include enhanced energy efficiency, lower GHG-emitting technology, carbon capture, carbon sequestration (e.g., forest, agricultural soils, and coastal habitat restoration), sustainable land management practices, and capturing or beneficially using GHG emissions such as methane.[16]

The 2016 guidance recommended that "agencies should consider reasonable mitigation measures and alternatives as provided for under existing CEQ Regulations and take into account relevant agency statutory authorities and policies."[17] Moreover, the existing CEQ regulation on mitigation states, "agencies shall . . . [i]nclude appropriate mitigation measures not already included in the proposed action or alternatives."[18] By contrast, the draft guidance mentions mitigation a single time, stating, "NEPA does not require agencies to adopt mitigation measures."[19] This abrupt change in policy is unexplained and conflicts with existing regulations, and is therefore arbitrary and capricious.[20]

B. Federal Courts Have Consistently Held that Quantifying Upstream and Downstream Greenhouse Gas Emissions Is Feasible and Required Pursuant to NEPA.

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.[21] These courts have explained that some uncertainty with

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[16] CEQ, FINAL GUIDANCE FOR FEDERAL DEPARTMENTS AND AGENCIES ON CONSIDERATION OF GREENHOUSE GAS EMISSIONS AND THE EFFECTS OF CLIMATE CHANGE IN NATIONAL ENVIRONMENTAL POLICY ACT REVIEWS 19 (Aug. 1, 2016) (internal citation omitted).
[17] *Id*. at 18.
[18] 40 C.F.R. § 1502.14(f).
[19] 84 Fed. Reg. at 30,098.
[20] *F.C.C. v. Fox*, 556 U.S. at 515; *Brand X*, 545 U.S. at 981.
[21] *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 Envtl. Info. Ctr. v. U.S. Office of Surface Mining,* 274 F. 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 by* 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

respect to emissions is not an excuse to fail to quantify those emissions using available data, reasonable forecasts, and educated assumptions.

In a case concerning FERC's approval of three interstate natural gas pipelines, the agency claimed that it could not quantify greenhouse gas emissions because of uncertainty with respect to downstream consumption of the natural gas.[22] At the same time, however, FERC estimated the amount of natural gas that the pipelines would carry per day. The D.C. Circuit held that FERC needed to quantify estimated downstream greenhouse gas emissions, or explain more specifically why it could not do so. The Court explained:

> [I]t is impossible to know exactly what quantity of greenhouse gases will be emitted as a result of this project being approved. True, that number depends on several uncertain variables, including the operating decisions of individual plants and the demand for electricity in the region. But we have previously held that NEPA analysis necessarily involves some "reasonable forecasting," and that agencies may sometimes need to make educated assumptions about an uncertain future. Indeed, FERC has already estimated how much gas the pipelines will transport: about one million dekatherms (roughly 1.1 billion cubic feet) per day. . . . As we have noted, greenhouse-gas emissions are an indirect effect of authorizing this project, which FERC could reasonably foresee, and which the agency has legal authority to mitigate.[23]

The Court explained that quantification would permit the agency to, for example, compare the emissions from this project to emissions from other projects. The Court explained that, "without such comparisons, it is difficult to see how FERC could engage in 'informed decision making' with respect to the greenhouse-gas effects of this project, or how 'informed public comment' could be possible."[24]

Federal courts have reached similar holdings with respect to quantifying emissions in NEPA cases concerning fossil fuel lease sales, resource management plans, coal mine

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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 by* 652 Fed.Appx. 717 (10th Cir. 2016); *High Country Conservation Advocates v. United States Forest Service*, 52 F. Supp. 3d 1174, 1190 (D. Col. 2014) (holding that, "[e]ven though NEPA does not require a cost-benefit analysis, it was nonetheless arbitrary and capricious to quantify the *benefits* of the [coal] lease modifications and then explain that a similar analysis of the *costs* was impossible when such an analysis was in fact possible and was included in an earlier draft EIS.") (emphasis original); *see also Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172, 1198 (9th Cir. 2008) (holding that it was arbitrary and capricious for an agency to fail to monetize the benefits of greenhouse gas emissions reduction when setting corporate average fuel economy standards because "it cannot put a thumb on the scale by undervaluing the benefits and overvaluing the costs of more stringent standards.").

[22] *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1373–74 (D.C. Cir. 2017) ("Sabal Trail").

[23] *Id*. at 1374.

[24] *Id*.

expansions (including connected coal train transportation), and pipeline approvals. In each category, courts have held that the agency had the requisite information to make a reasonable assumption as to the quantity of upstream and downstream emissions.[25]

For example, in *San Juan Citizens Alliance v. United States Bureau of Land Management*, the court held that NEPA required BLM to quantify and analyze the effects of foreseeable downstream greenhouse gas emissions from the combustion of oil and gas likely to be developed due to the agency's lease sales.[26] It held that BLM's failure to estimate the quantity of downstream emissions associated with its lease sales in the EIS was arbitrary, and remanded the analysis to the agency.[27]

Similarly, in *Citizens for a Healthy Community v. United States Bureau of Land Management*, the court held that BLM and the Forest Service violated NEPA by not taking a hard look at the foreseeable indirect effects resulting from the combustion of oil and gas in an EIS for a master development plan and related EA for a 25-well project.[28] The court stated, "an agency cannot rely on production estimates while simultaneously claiming it would be too speculative to rely upon the predicted emissions from those same production estimates."[29] The court held that BLM must quantify and analyze the foreseeable indirect effects of the emissions.[30]

In *Western Organization of Resource Councils v. United States Bureau of Land Management,* the court held that downstream emissions are "reasonably foreseeable effects" of Resource Management Plans (RMPs), and that the RMPs "contained enough specifics" to permit a "productive analysis" of the downstream burning of the coal, oil and

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[25] *See, e.g*., *Sabal Trail*, 867 F.3d at 1374; *Montana Envtl. Info. Ctr.*, 274 F. Supp. 3d at 1094-97 (stating that indirect effects from coal trains includes "the effects of the estimated 23.16 million metric tons of greenhouse gas emissions the Mining Plan EA concluded would result from combustion of the coal that would be extracted from the Mine"); *Diné Citizens*, 82 F. Supp. 3d at 1213 ("find[ing] that the coal combustion-related impacts of [the coal mine's] proposed expansion are an 'indirect effect' requiring NEPA analysis*"); Citizens for a Healthy Community v. U.S. Bureau of Land Mgmt.*, 377 F. Supp. 3d 1223, 1237 (D. Colo. 2019) (holding that BLM must quantify and analyze the foreseeable indirect effects of the emissions resulting from the combustion of oil and gas in an EIS for a master development plan and related EA for a 25-well project); *W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt.*, No. CV 16-21 GF-BMM, 2018 WL 1475470, *13 (D. Mont. March 26, 2018) ("In light of the degree of foreseeability and specificity of information available to the agency while completing the EIS, NEPA requires BLM to consider in the EIS the environmental consequences of the downstream combustion of the coal, oil and gas resources potentially open to development under these RMPs.").

[26] 326 F. Supp. 3d 1227, 1244 (D.N.M. 2018).

[27] *Id*.

[28] 377 F. Supp. 3d 1223, 1237 (D. Colo. 2019) (citing *Wilderness Workshop v. United States Bureau of Land Management*, 342 F.Supp.3d 1145, 1156 (D. Colo. 2018) (quoting *High Country Conservation Advocates v. United States Forest Service*, 52 F. Supp. 3d 1174, 1196 (D. Colo. 2014))).

[29] *Id*.

[30] *Id*.

gas open to potential development under the RMPs.[31] The court held that BLM could not defer this analysis to the leasing stage and must include it in the EIS for the RMP because the information was highly foreseeable, available to a great degree of specificity, and would lead to informed decision-making. It held that BLM must supplement the two EISs with an analysis of the environmental consequences of downstream combustion of coal, oil, and gas open to development under each RMP. The court reasoned that, "specific projections in the RMPs of the amounts of resources to be extracted, and their foreseeable uses, made such analysis reasonably possible."[32]

Finally, federal courts have made clear that the lack of available information is not a license to assume that a project will have no reasonably foreseeable indirect effects. Courts have held that agencies need not have "perfect foresight when considering indirect effects," but that they must do their best to estimate those effects and cannot write them off as too speculative.[33] For instance, in *WildEarth Guardians v. Zinke*, the court found BLM's statements that quantification would be overly speculative and not helpful in conducting informed decisionmaking to be unreasonable, given the data available to BLM.[34] Accordingly, BLM failed to "take a hard look at the environmental impacts of leasing because it failed to quantify and forecast aggregate GHG emissions from oil and gas development."[35]

In short, these cases make clear that agencies have the tools, data, and expertise to quantify upstream and downstream emissions. Without such information on greenhouse gas emissions, it is difficult to see how agencies can "engage in informed decision making with respect to the greenhouse-gas effects of [their] project[s], or how informed public comment could be possible."[36]

C. Federal Agencies Routinely Quantify Direct and Indirect Greenhouse Gas Emissions Using Available Tools and Methods.

Federal agencies regularly disclose and quantify direct and indirect greenhouse gas emissions, including from upstream extraction and downstream combustion, in their EAs and EISs for fossil fuel-related projects. Several tools exist that have been broadly adopted by agencies to assist in quantifying upstream, downstream, and transportation-related emissions. CEQ should cite to these tools in its draft guidance in order to help agencies

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[31] 2018 WL 1475470, at *13 (D. Mont. Mar. 26, 2018), *appeal dismissed*, No. 18-35836, 2019 WL 141346 (9th Cir. Jan. 2, 2019).
[32] *Id*.
[33] *See Mid States Coal. for Progress v. Surface Transp. Bd*., 345 F.3d 520, 549 (8th Cir. 2003) (stating, "[W]hen the nature of the effect is reasonably foreseeable but its extent is not ... the agency may not simply ignore the effect."); *see also Citizens for a Healthy Community*, 377 F. Supp. 3d at 1237.
[34] 368 F. Supp. 3d 41, 67-71 (D.D.C. 2019).
[35] *Id*. 70-71.
[36] *See Sabal Trail,* 867 F.3d at 1374.

conduct adequate analysis, rather than claiming that emissions may be "speculative" or that it may not be "practicable" to quantify them.[37]

For upstream greenhouse gas emissions, reasonable average emission factors are available that can be used to estimate the quantity of greenhouse gases that will be directly emitted by fossil fuel production. EPA has a set of methods and emission factors that can be used to calculate the quantity of greenhouse gases emitted by coal mines, oil and gas wells, and transportation that were developed to help industry meet its obligations for greenhouse gas reporting.[38] Agencies need only consult these widely-used EPA tools to calculate estimated upstream emissions. The Surface Transportation Board has, for instance, disclosed direct, upstream, and downstream greenhouse gas emissions in its EISs for rail lines that regularly transport coal.[39] In a 2015 EIS, the Surface Transportation Board's lifecycle greenhouse gas emissions analysis considered the direct emissions from construction and operation of a proposed rail line; the indirect upstream emissions from methane leaks from induced production at coal mines; and the indirect downstream emissions from the ultimate combustion of the coal (net of substitution effects).[40]

Agencies can also calculate, or make educated projections about, transportation-related emissions. For example, the U.S. Energy Information Administration's (EIA) Annual Coal Distribution Report provides detailed information on where federal coal originates and is consumed.[41] Agencies can then apply EPA's emissions factors for freight rail transport to the total estimated rail miles traveled in order to calculate transportation emissions.[42] BLM has quantified transportation emissions using these tools in recent EAs.[43] In October 2017, BLM and the Office of Surface Mining Reclamation and Enforcement

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[37] While the draft guidance cites a CEQ webpage with resources for GHG accounting, as of August 21, 2019, the EPA and EIA tools discussed in these comments do not appear on that webpage. *See* https://ceq.doe.gov/guidance/ghg-accounting-tools.html.

[38] U.S. ENVTL. PROTECT. AGENCY, U.S. Greenhouse Gas Inventory Annexes, available at: https://www.epa.gov/sites/production/files/2015-12/documents/us_ghg_inv_annexes_1990-2007.pdf.

[39] *E.g.,* Surface Transp. Bd., *Draft Environmental Impact Statement for the Proposed Construction and Operation of the Tongue River Railroad* at F-2 (2015), https://www.stb.gov/decisions/readingroom.nsf/UNID/E7DE39D1F6FD4A9A85257E2A0049104D/$file/AppF_Lifecycle+GHG.pdf (quantifying not only downstream combustion emissions of a coal-rail project, but also upstream emissions including the production of the steel and other materials to construct the new rail track).

[40] *See id.*

[41] EIA, ANNUAL COAL DISTRIBUTION REPORT (Nov. 2018), available at: https://www.eia.gov/coal/distribution/annual/ for details on the origins and destinations of U.S. produced coal.

[42] U.S. ENVTL. PROTECT. AGENCY, U.S. Greenhouse Gas Inventory Annexes, Annex 3.2, available at: https://www.epa.gov/sites/production/files/2015-12/documents/us_ghg_inv_annexes_1990-2007.pdf.

[43] *See* BLM, KING II MINE ENVIRONMENTAL ASSESSMENT (2017) at 5; BLM, ENVIRONMENTAL ASSESSMENT FOR THE PEABODY TWENTYMILE COAL, LLC COC54608 LEASE MODIFICATION, Table 6; pp. 34-36(Dec. 2015), https://eplanning.blm.gov/epl-front-office/projects/nepa/41852/67560/73502/DOI-BLM-CO-N010-2014-044-EA.pdf.

(OSMRE) issued a joint EA for a federal coal lease modification and mine permit revision that quantified direct carbon dioxide emissions from equipment to operate the mine and construct the improvements; indirect carbon dioxide emissions from the mine workers' commutes; methane emissions from the coal extraction process; indirect carbon dioxide emissions from transporting the coal; and downstream carbon dioxide emissions from coal combustion.[44] Notably, even though the agencies did not know the exact end uses for all of the coal anticipated to be produced, they "assume[d] that the remaining portion of the maximum year coal to be shipped . . . is eventually combusted,"[45] and made reasonable assumptions about the average emission factor (based on EPA data) to estimate carbon dioxide from combusting that coal.[46]

With respect to downstream greenhouse gas emissions, agencies can also apply standard emissions factors to quantify the amount of greenhouse gas emissions that result from the combustion of fossil fuels.[47] As a default, upper-bound estimate, it is reasonable for agencies to assume maximum resource production, or maximum pipeline transport at 100% capacity. In the 2017 coal mine EA noted above, BLM and OSMRE prepared estimates of all environmental effects associated with the coal mine expansion, including upstream and downstream emissions, based upon "maximum allowable coal recovery." And in the State Department's final supplemental EIS for the Keystone XL Pipeline, released in 2014, the agency calculated the accumulated incremental lifecycle greenhouse gas emissions from the proposed pipeline based on "the maximum throughput of the proposed project (830,000 bpd), assuming operation over the full 365 days in a year." [48] The State Department's final EIS includes direct construction and operating emissions, including fugitive emissions, as well as indirect emissions from production, refining, and combustion of the oil transported by the pipeline. [49]

As another example, the Bureau of Ocean Energy Management (BOEM) prepared a detailed assessment of the upstream and downstream greenhouse gas emissions associated with offshore oil and natural gas leasing pursuant to its five-year program for

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[44] *See* Environmental Assessment, DOI-BLM-CO-S010-2011-0074-EA, Federal Coal Lease (COC-62920) Modification and Federal Mine Permit (CO-0106A) Revision and Renewal 76-82 (Oct. 12, 2017), *available at* https://bit.ly/2ufWNSL [hereinafter "King II Mine EA"].
[45] *Id.* at 81.
[46] *Id*. at 82. The agencies explained that, compared to the very facility-specific emissions of hazardous and criteria pollutants, "there are far fewer parameters" for estimating greenhouse gas emissions from coal combustion. *Id.* at 81. Greenhouse emissions from pipeline gas combustion are even more uniform than for coal combustion.
[47] U.S. Envtl. Protect. Agency, U.S. Greenhouse Gas Inventory Annexes, Annex 2: Methodology and Data for Estimating CO2 Emissions from Fossil Fuel Combustion, available at: https://www.epa.gov/sites/production/files/2015-12/documents/us_ghg_inv_annexes_1990-2007.pdf.
[48] U.S. State Dept., *Final Supplemental Environmental Impact Statement for the Keystone XL Pipeline* at 4.14-41 (2014), https://2012-keystonepipeline-xl.state.gov/documents/organization/221190.pdf.
[49] *Id*. at 4.14-4.

2017 to 2022.[50] BOEM quantified and monetized—using the Interagency Working Group's Social Cost of Carbon—the cost of the greenhouse gas emissions from the production, processing, storage, transportation, and ultimate consumption of oil and gas that could be produced in three different price scenarios.[51]

In short, by using available tools and methodologies, agencies can arrive at a reasonably accurate estimation of upstream, downstream, and transportation-rated GHG emissions. Such analysis is nearly always feasible, and several courts have held that agencies cannot claim that such emissions are "speculative."[52] Without substantive environmental impact information, an EA or EIS cannot inform agency deliberation or facilitate public involvement, in derogation of NEPA's purposes.[53] CEQ should explain agency best practices, and discuss these available and widely-adopted quantification tools.

II. CEQ Should Encourage Agencies To Conduct Energy Substitution Analysis Using Available Tools and Models, in Order To Accurately Estimate Emissions.

Agencies should conduct an energy substitution analysis that evaluates how the resources they lease, transport, or approve will interact in the energy market, displacing other energy resources and changing net greenhouse gas emissions. Several models exist to assess substitution effects.[54] CEQ should encourage agencies to use one or more of these models to conduct an energy substitution analysis, as some agencies routinely do.[55] This

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[50] U.S. Bureau of Ocean Energy Mgmt., *OCS Oil and Natural Gas: Potential Lifecycle Greenhouse Gas Emissions and Social Cost of Carbon* 15 (2016), https://perma.Cc/2mxn-Qxbv.

[51] *Id*. at v, 29-31. BOEM declined to conduct energy substitution analysis, and instead "assumed that, for purposes of this analysis and the analysis that forms the basis of the 2017-2022 Program, foreign sources of oil will substitute for reduced OCS supply, and the production and transport of that foreign oil would emit more GHGs." *Id*. at foreword. This omission means that BOEM did not fully analyze greenhouse gas implications associated with its leasing decisions. *See* Part II for more information on how CEQ should instruct agencies to conduct substitution analysis.

[52] *See, e.g., Sabal Trail,* 867 F.3d at 1374*; Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549 (8th Cir. 2003).

[53] *See New Mexico ex rel. Richardson v. Bureau of Land Mgmt*., 565 F.3d 683, 708 (10th Cir. 2009).

[54] *See generally* Peter Howard, THE BUREAU OF LAND MANAGEMENT'S MODELING CHOICES FOR THE FEDERAL COAL PROGRAMMATIC REVIEW (Policy Integrity Report, 2016), http://policyintegrity.org/publications/detail/BLM-model-choice (explaining the criteria for assessing the usefulness of different models to conduct substitution analysis).

[55] BOEM has used MarketSim to conduct substitution analysis of offshore oil and gas leases for several decades. BUREAU OF OCEAN ENERGY MGMT., DEP'T. OF INTERIOR, DRAFT ENVIRONMENTAL IMPACT STATEMENT: LIBERTY DEVELOPMENT PROJECT at 4-50 (Aug. 2017) ("Liberty Development DEIS"); *see also* BUREAU OF OCEAN ENERGY MGMT., PROPOSED FINAL OUTER CONTINENTAL SHELF OIL & GAS LEASING PROGRAM 2012-2017, 110 (2012) (calculating that if the offshore acreage were not leased, 6% of the forgone oil and gas would be replaced by energy conservation). *See generally* Amicus Brief of the Institute for Policy Integrity, WildEarth Guardians v. BLM, No. 15-8109, at pp.19-24 (10th Cir. Feb. 5, 2016), http://policyintegrity.org/documents/10th_Cir_BLM_Brief.pdf (detailing the history of BOEM's use of MarketSim).

would result in a more accurate projection of total greenhouse gas emissions in NEPA reviews.

Basic principles of supply and demand predict that lowering the cost of supply of a commodity like coal, oil, or natural gas will increase the supply of that product; thereby lowering the market price of that product to the consumer; and leading to increased consumer demand for and consumption of that commodity.[56] Despite these basic principles, some agencies have frequently stated that decisions to approve of a lease sale, pipeline, or other fossil-fuel related project will have no net effect on emissions.[57] CEQ should use this guidance to correct this misunderstanding, and direct agencies to conduct proper substitution analysis.

Recently, the U.S. Court of Appeals for the Tenth Circuit explained that it was irrational for BLM to fail to consider in its NEPA analysis how, if its action issuing a coal mine lease will increase the supply of coal, then the price for coal will also drop, demand will rise, and greenhouse gas emissions will increase.[58] BLM used the MarketSim model in some recent EISs,[59] perhaps in response to this Tenth Circuit's ruling that failure to consider energy substitution effects is irrational. However, BLM's application of MarketSim in at least one recent EIS was severely flawed and led to a significant underestimate of emissions, as noted in comments from Policy Integrity.[60] When applying energy substitution models, agencies must make reasonable assumptions, and the models should be applied consistently to measure effects both on emissions and on economic outcomes.[61]

In another notable case, the U.S. Court of Appeals for the Eighth Circuit sharply criticized the Surface Transportation Board for "illogical[ly]" concluding that approving new rail-road lines to Powder River Basin coal mines would not affect the demand for and

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[56] *See* N. Gregory Mankiw, PRINCIPLES OF ECONOMICS 74–78, 80–81 (5th ed. 2008).
[57] For example, FERC has repeatedly assumed that if a particular transportation project is not approved, some other source of gas will enter the market as a perfect and costless substitute, such that the ultimate combustion of natural gas and associated emissions would be exactly the same. This "perfect substitution" assumption is an irrational contradiction of basic economic principles. *See* Jayni Hein et al., PIPELINE APPROVALS AND GREENHOUSE GAS EMISSIONS, Institute for Policy Integrity at NYU School of Law 28 (Apr. 2019), https://policyintegrity.org/files/publications/Pipeline_Approvals_and_GHG_Emissions.pdf (enumerating examples).
[58] *WildEarth Guardians v. BLM*, 870 F.3d 1222, 1235 (10th Cir. 2017) ("this perfect substitution assumption [is] arbitrary and capricious because the assumption itself is irrational (i.e., contrary to basic supply and demand principles).").
[59] *See, e.g.*, BLM, ALPINE SATELLITE DEVELOPMENT PLAN FOR THE PROPOSED GREATER MOOSES TOOTH 2 DEVELOPMENT PROJECT DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (March 2018), Appendix H, https://eplanning.blm.gov/epl-front-office/projects/nepa/65817/127980/155727/Appendix_H-_BOEM_Greenhouse_Gas_Lifecycle_Model_Methodology.pdf.
[60] *See* Policy Integrity's Comments on Arctic Coastal Plain Draft EIS at 13-21 (March 2019), https://policyintegrity.org/documents/Arctic_Coastal_Plain_DEIS_Comments_2019.3.13-final.pdf.
[61] *Id.*

consumption of coal, and for ignoring "widely used" models capable of forecasting such effects. [62] On remand, the Board undertook just such a study using the EIA's National Energy Modeling System (NEMS), which "not only forecasts coal supply and demand but also quantifies environmental impacts."[63]

Most recently, the U.S. District Court for the District of Montana vacated the Department of State's approval of a presidential permit for the Keystone XL Pipeline on the grounds that the Department failed to consider the effect that significant changes in the oil market would have on upstream greenhouse gas emissions due to the relationship between new pipeline capacity and upstream production.[64]

Using one of the available energy substitution models would allow agencies to evaluate how their decisions influence fossil fuel consumption and resulting emissions, including the substitution effects in the electricity sector. CEQ should encourage agencies to use one or more of these models to conduct an energy substitution analysis, as some agencies routinely do. This would result in a more accurate projection of total greenhouse gas emissions in NEPA reviews.

III. CEQ Should Clarify That the Social Cost of Greenhouse Gases Is Useful in NEPA Analysis, Is the Appropriate Tool To Assess Significance, and Is Required When Other Costs or Benefits Are Monetized.

Once agencies quantify greenhouse emissions in their NEPA reviews, they should monetize those emissions by using the Interagency Working Group (IWG)'s social cost of greenhouse gases metric. As explained in more detail in Policy Integrity's joint comments that focus on this issue,[65] the social cost of greenhouse gases metric is a tool designed to aid policymakers in weighing the costs and benefits of any action that affects greenhouse gas emissions. The IWG's social cost of greenhouse gases estimates remain the best available estimates for monetizing climate damages for each additional ton of greenhouse gas emissions,[66] despite Executive Order 13,783, which disbanded the IWG and withdrew the group's technical guidance documents.

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[62] *Mid States*, 345 F.3d at 549-50.
[63] *Mayo Found. v. Surface Transp. Bd*., 472 F.3d 545, 555 (8th Cir. 2006). *See also* Tongue River DEIS at C.1-13 to 1-14 (conducting a substitution analysis, though ultimately finding that the new coal rail line would not change delivered coal prices enough to increase total demand for coal).
[64] *Indigenous Envtl. Network v. United States Dep't of State,* 347 F. Supp. 3d 561, 576–79 (D. Mont. 2018), *order amended and supplemented*, 369 F. Supp. 3d 1045 (D. Mont. 2018), and *appeal dismissed and remanded sub nom. Indigenous Envtl. Network v. United States Dep't*, No. 18-36068, 2019 WL 2542756 (9th Cir. June 6, 2019).
[65] Joint comments were filed in this docket by the Institute for Policy Integrity and other groups, focused on the social cost of greenhouse gases.
[66] *See, e.g.*, Richard Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 SCIENCE 655 (2017); Michael Greenstone et al., *Developing a Social Cost of Carbon for U.S. Regulatory Analysis: A Methodology and Interpretation*, 7 REV. ENVTL. ECON. & POL'Y 23, 42 (2013); Richard L. Revesz et al.,

More generally, placing a dollar value on a proposed action's contributions to climate damages provides the public and decisionmakers with more information and context than simply comparing those emissions with the total greenhouse gas emissions of a specific state or the entire country, as such comparisons often make the emissions from a single action look misleadingly small. It also makes comparisons among alternatives much easier to understand in terms of actual climate impacts. The Supreme Court has held that agencies must "consider and disclose the *actual environmental effects*" of a proposed action in a way that "brings those effects to bear on [the agency's] decisions."[67] Using the social cost of greenhouse gases metric enables agencies to make a specific causal link between emissions and climate change effects. NEPA also requires agencies to assess the "significance" of an action's incremental contributions to environmental effects. This draft guidance fails to identify any tool for assessing the significance of an action's incremental contributions to climate change. For reasons explored further in Policy Integrity's separate joint comments, the IWG's social cost of greenhouse gases is the appropriate tool to assess significance.

CEQ makes a number of inaccurate statements in the draft guidance in steering agencies away from using the social cost of greenhouse gases metrics.[68] The aforementioned joint comments explain how CEQ's reasoning is flawed and why it should encourage agencies to use the social cost of greenhouse gases.

Moreover, the draft guidance conflicts with legal precedent concerning monetization of climate change effects in NEPA reviews that monetize other costs or benefits. The draft guidance states:

> Monetization or quantification of some aspects of an agency's analysis does not require that all effects, including potential effects of GHG emissions, be monetized or quantified. Where an agency decides to quantify some effects but not others, the agency should explain the choices it has made in its analysis.[69]

However, several federal courts have held that where agencies provide an estimate of the monetary benefits of a project, such as expected royalties or tax revenue from lease sales, agencies must provide an estimate of expected costs, including climate costs.

In *Montana Environmental Information Center*, the court held that it was arbitrary and capricious to include the socioeconomic benefits of the action without quantifying the climate costs when a method existed for doing so—the IWG's Social Cost of Carbon.[70]

Global Warming: Improve Economic Models of Climate Change, 508 NATURE 173 (2014) (co-authored with Nobel Laureate Kenneth Arrow, among others).

[67] *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 96 (1983) (emphasis added); *see also* 40 C.F.R. § 1508.8(b) (requiring assessment of "ecological," "economic," "social," and "health" "effects).

[68] 84 Fed. Reg. at 30,099.

[69] 84 Fed. Reg. at 30,099.

[70] 274 F. Supp. 3d at 1097–99.

OSMRE had compared the estimated yearly amount of greenhouse gas emissions from the coal mine to the estimated total amount of greenhouse gas emissions in the United States. OSMRE's mining plan EA concluded that there would be no effects from the greenhouse gas emissions, because other coal would be burned if the mine was not approved. The court stated, "This conclusion is illogical, and places the Enforcement Office's thumb on the scale by inflating the benefits of the action while minimizing its impacts. It is the kind of '[i]naccurate economic information' that 'may defeat the purpose of [NEPA analysis] by impairing the agency's consideration of the adverse environmental effects and by skewing the public's evaluation of the proposed agency action.'"[71] The court held that OSMRE failed to consider the cost of greenhouse gas emissions from coal combustion, rendering its analysis inadequate.

Similarly, in *High Country Conservation Associates*, the court found that BLM acted arbitrarily and capriciously when it quantified the expected monetary benefits of coal lease modifications, yet claimed that analyzing the costs of the lease modifications was impossible.[72] The court held that the IWG's Social Cost of Carbon could have been used to monetize the cost of greenhouse gas emissions.[73] The *High Country* court was guided by the Ninth Circuit's decision in *Center for Biological Diversity v. National Highway Traffic Safety Administration*, where the Ninth Circuit held it was arbitrary and capricious for the National Highway Traffic Safety Administration to fail to monetize the benefits of greenhouse gas emissions reduction when setting corporate average fuel economy standards.[74] There, the Circuit court held that, "[e]ven if [the Agency] may use a cost-benefit analysis to determine the 'maximum feasible' fuel economy standard, it cannot put a thumb on the scale by undervaluing the benefits and overvaluing the costs of more stringent standards."[75]

As explained in more detail in Policy Integrity's joint comments, the IWG's social cost of greenhouse gases metric remains the best available tool to weigh the costs and benefits of any action that affects greenhouse gas emissions. CEQ should encourage agencies to use it in NEPA analyses, especially where other project costs or benefits are monetized.

IV. Conclusion

CEQ should amend the draft guidance to correct the misleading statements and omissions detailed in these comments.

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[71] *Id*. at 1098 (citing *NRDC v. U.S. Forest Serv*., 421 F.3d 797, 811 (9th Cir. 2005) (quotations omitted) (finding Forest Service's reliance on mistaken market demand projections that inflated the economic benefits and discounted the environmental impacts of revision of the Tongass Land Management Plan violated NEPA)).
[72] 52 F. Supp.3d at 1189-90.
[73] *Id*. at 1190.
[74] 538 F.3d 1172, 1198 (9th Cir. 2008).
[75] *Id*.

Respectfully submitted,

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