

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

Civil Action No. 17-cv-3025-PAB

HIGH COUNTRY CONSERVATION ADVOCATES, et al.,

Plaintiffs,

v.

UNITED STATES FOREST SERVICE, et al.,

Federal Defendants, and

MOUNTAIN COAL COMPANY, LLC,

Defendant-Intervenor.

**MOTION OF THE INSTITUTE FOR POLICY INTEGRITY AT NEW YORK
UNIVERSITY SCHOOL OF LAW TO PARTICIPATE AS *AMICUS CURIAE* AND
WITH PROPOSED *AMICUS* BRIEF IN SUPPORT OF PLAINTIFFS**

The Institute for Policy Integrity at New York University School of Law (“Policy Integrity”)¹ hereby moves for leave to file a brief as *amicus curiae*² in support of Plaintiffs in the above-captioned challenge to the Supplemental Final Environmental Impact Statement (“SFEIS”) on Federal Coal Lease Modifications COC-1362 & COC-67232 (“Lease Modifications”).

This Court has long exercised its discretion to permit *amicus* appearances, despite no specific provision in the local rules. *E.g.*, *United States v. Bader*, 2009 WL 2219258, at *1 n.1

¹ No publicly-held entity owns an interest of more than ten percent in Policy Integrity. Policy Integrity does not have any members who have issued shares or debt securities to the public. No part of this brief purports to represent the views, if any, of New York University School of Law.

² Policy Integrity affirms that no counsel for a party authored the proposed brief in whole or in part, and no person other than *amicus* and their counsel contributed any money to fund its preparation or submission.

(D. Colo. July 23, 2009). This Court should exercise its discretion and permit this filing by Policy Integrity. Policy Integrity has a substantial interest in this case and is well-positioned to submit an *amicus* brief that will assist this Court in assessing the relevant standards for economic analysis under the National Environmental Policy Act (“NEPA”).

Policy Integrity is a nonpartisan think tank dedicated to improving government decision-making through advocacy and scholarship in administrative law, economics, and environmental policy. Policy Integrity has produced extensive scholarship on the balanced use of economic analysis in regulatory decisions and resource management, with a particular focus on the proper scope and estimation of costs and benefits, including the social cost of greenhouse gases. Our director, Professor Richard L. Revesz, has published more than eighty articles and books, including substantial work on cost-benefit analysis and the social cost of greenhouse gases.

Harnessing this academic background, Policy Integrity has filed numerous *amicus* briefs addressing agencies’ economic analyses of coal leases and climate impacts. *E.g.*, Br. of Institute for Policy Integrity as Amicus Curiae, *Wildearth Guardians v. U.S. Bureau of Land Mgmt.*, 870 F.3d 1222 (10th Cir. Sept. 15, 2017) (No. 15-8109) (addressing NEPA requirements to consider the climate consequences of coal leases); Br. of Institute for Policy Integrity as Amicus Curiae, *Wyoming v. U.S. Dep’t of Interior*, No. 2:16-cv-00280-SWS (D. Wyo. Dec. 15, 2017) (addressing use of the social cost of methane). Policy Integrity also submitted comments on the failure to use the social cost of greenhouse gases to analyze these Lease Modifications.³

³ Institute for Policy Integrity et al., *Joint Comments on Failure to Use the Social Cost of Greenhouse Gases in the Supplemental Draft Environmental Impact Statement for Coal Lease Modifications COC-1362 & COC-67232* (July 24, 2017) (“Joint Comments”), available at http://policyintegrity.org/documents/2017-07-24_Joint_Comments_Forest_Service_EIS_SCC.pdf.

In this case, Plaintiffs assert that the SFEIS arbitrarily failed to value climate damages under the Lease Modifications. Policy Integrity’s expertise generally in economic analysis—and particularly on the social cost of greenhouse gas metrics and the standards for federal cost-benefit analysis—gives *amicus* a special perspective from which to evaluate those claims.

Counsel for *amicus* has contacted the parties concerning this filing. Plaintiffs consent to the filing; Defendants and Defendant-Intervenor object. If this motion is granted, there will be no delay in the proceedings. The proposed *amicus* brief follows this motion.

SUMMARY OF ARGUMENT

This brief’s first section applies economic principles to explain that—by failing to use the social cost of greenhouse gases—the SFEIS obscured the informational context necessary for the public to appreciate the Lease Modifications’ hundreds of millions of dollars in climate damages.

The second section reviews federal guidelines on economic analysis to show that the SFEIS’s calculation of total industry output is a monetized socioeconomic benefit of the Lease Modifications. The SFEIS therefore inconsistently monetized benefits but not climate costs.

The final section details how agencies—as recently as 2017—routinely use the Interagency Working Group’s estimates of the social cost of greenhouse gases in NEPA analyses of resource management decisions, including on projects with far fewer emissions at stake than in this case.

ARGUMENT

I. By Failing to Monetize Greenhouse Emissions, the SFEIS Does Not Provide Required Informational Context on Hundreds of Millions of Dollars’ Worth of Climate Damages.

By failing to use the social cost of greenhouse gas metrics, the SFEIS has obscured the vastly different environmental impacts of the Lease Modifications compared to the no action alternative, concealing from the public hundreds of millions of dollars’ worth of climate damages.

The SFEIS claims that by quantifying the tons of greenhouse gases that will be emitted due to these Lease Modifications and reciting a generic, qualitative description of climate change, it has provided a “meaningful” and “relatable” discussion of climate change that “effectively informs the decision-maker and the public.” SFEIS at 129. In fact, the SFEIS failed to provide the necessary informational context on the scope and magnitude of climate damages, as required by NEPA.

NEPA requires “a reasonably thorough discussion of the significant aspects of the probable environmental consequences,” to “foster both informed decisionmaking and informed public participation.” *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1194 (9th Cir. 2008) (citations omitted). In particular, it is arbitrary to fail to “provide the necessary contextual information about the cumulative and incremental environmental impacts.” *Id.* at 1217. Similarly, NEPA analyses “cannot be misleading.” *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1182 (D. Colo. 2014); *accord. Johnston v. Davis*, 698 F.2d 1088, 1094-95 (10th Cir. 1983) (disapproving of “misleading” statements resulting in “an unreasonable comparison of alternatives”). An agency must provide sufficient informational context to ensure that decisionmakers and the public will not misunderstand or overlook the magnitude of a proposed action’s climate risks compared to the no action alternative.

Economic theory indicates that the SFEIS’s misleading attempts at quantification fall far short of NEPA’s requirements to “provide the necessary contextual information.” For example, many people will be unable to distinguish the significance of 11.91 million tons of carbon dioxide-equivalent (“CO₂e”) emissions from methane releases under the Lease Modifications versus 9.38 million tons under the no action alternative. SFEIS at 109, 111. As the Environmental Protection Agency’s website explains, “abstract measurements” of so many tons of greenhouse gases can be

rather inscrutable for the public, unless “translat[ed] . . . into concrete terms you can understand.” EPA, *Greenhouse Gas Equivalencies Calculator*.⁴ The SFEIS’s abstract volume estimates fail to give the public the required informational context due to a well-documented mental heuristic called “scope neglect.” Scope neglect, as described by Nobel laureate Daniel Kahneman, causes people to ignore the size of a problem when estimating the value of addressing the problem. For example, in one often-cited study, subjects were unable to meaningfully distinguish between the value of saving 2,000 birds from drowning in oil, as compared to saving 20,000 or 200,000 birds. Daniel Kahneman et al., *Economic Preferences or Attitude Expressions? An Analysis of Dollar Responses to Public Issues*, 19 J. Risk & Uncertainty 203, 212-213 (1999);⁵ see also Joint Comments, *supra* note 3, at 5 (explaining the economics behind “[t]he tendency to ignore non-monetized effects”).

This well-documented phenomenon means many readers of the SFEIS will be unable to meaningfully distinguish between the climate risks of methane emissions under the no action alternative versus the Lease Modifications—that is, between 9.38 million tons versus 11.91 million tons CO₂e. While readers certainly can discern that one number is higher, without any context it may be impossible to weigh the relative magnitude of the climate risks. By contrast, the different

⁴ At <https://web.archive.org/web/20180212182940/https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator> (last updated Sept. 2017) (“Did you ever wonder what reducing carbon dioxide (CO₂) emissions by 1 million metric tons means in everyday terms? The greenhouse gas equivalencies calculator can help you understand just that, translating abstract measurements into concrete terms you can understand.”).

This Court may take notice of federal agencies’ publicly available documents. *Winzler v. Toyota Motor Sales U.S.A., Inc.*, 681 F.3d 1208, 1213 (10th Cir. 2012).

⁵ This Court may take notice of basic economic principles and peer-reviewed articles. See *Citizens for Alts. to Radioactive Dumping v. U.S. Dep’t of Energy*, 485 F.3d 1091, 1096 (10th Cir. 2007) (“In dealing with scientific and technical evidence, extra-record evidence ‘may illuminate whether an [environmental impact statement] has neglected to mention a serious environmental consequence . . . or otherwise swept stubborn problems . . . under the rug.’”).

climate risks would have been readily discernible through application of the social cost of greenhouse gas metrics. Using the best available estimates of the social cost of methane—about \$1470 per ton of methane⁶—the 70,000 additional tons of methane (equal to 2.53 million tons in CO₂e)⁷ that will be emitted under the Lease Modifications represent over \$102,000,000 worth of climate damages. The carbon dioxide emitted upon combustion of the coal mined will similarly generate hundreds of millions of additional dollars in climate damages.

In short, monetizing climate damages would have provided the informational context required by NEPA, whereas the SFEIS’s simple tally of emissions volume and qualitative, generic description of climate change are misleading and fail to give the public and decisionmakers the required information about the magnitude of discrete climate effects from the Lease Modifications.

II. The SFEIS Inconsistently Monetizes Some Impacts, But Not Climate Costs

A. The SFEIS’s Calculation of Total Economic Output, Based on Market Prices, Is a Monetized Estimate of Socioeconomic Benefits, and It Was Arbitrary To Fail To Similarly Monetize Climate Costs

The Forest Service concedes it is “arbitrary and capricious” for an environmental impact statement on a federal coal lease “to quantify socioeconomic benefits [of mining] while failing to quantify [climate] costs.” SFEIS at 985 (discussing *Mont. Env’tl. Info. Ctr. v. Office of Surface*

⁶ \$1476 per ton is the central estimate of the social cost of methane most recently calculated by the Federal Interagency Working Group (“IWG”) for year 2020 emissions—IWG, *Addendum to Technical Support Document: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide*, at 7, tbl. 1 (2016), available at https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/august_2016_sc_ch4_sc_n2o_addendum_final_8_26_16.pdf—after adjusting for inflation from 2007\$ to 2018\$ using the CPI Inflation Calculator, <https://data.bls.gov/cgi-bin/cpicalc.pl>.

⁷ The SFEIS uses a global warming potential adjustment for methane of 28 to 36 (depending on if climate feedbacks are included). SFEIS at 98. The SFEIS reports 2.53 million additional tons of CO₂e from methane emissions. Using the more conservative downward-adjustment factor of 36, that equals 70,277 additional tons of methane emitted over the 2.7-year mine extension.

Mining). The agency’s excuse for not monetizing the climate costs of these Lease Modifications is that the SFEIS’s multiple calculations of increased economic output, value added, royalty revenue, and labor income are allegedly “not measures of economic benefits” but rather “economic impacts.” *Id.* Despite this creative nomenclature,⁸ all relevant federal guidelines on cost-benefit and economic analysis—including the Forest Service’s *Manual*—would recognize that calculating increased economic output based on coal’s market price reflects coal’s socioeconomic benefits.

The SFEIS calculates “Total Industry Output” by multiplying “Annual Average Production Rate” by “Average Nominal Coal Prices” as estimated by the U.S. Energy Information Administration (“EIA”). SFEIS at 278 (table 3-38); *id.* (defining “Total Industry Output” as “production volume * price of coal”). EIA estimates coal prices by assessing supply, demand, and competition across energy sources. EIA, *Assumptions to AEO2017* (2017).⁹ The SFEIS therefore used the price of coal—a commodity traded in a competitive market—to estimate that the Lease Modifications would add \$293 million per year in direct economic output. SFEIS at 282.

The SFEIS cites an article by Watson et al. for the proposition that this increased output is not a “benefit” but rather a “regional economic impact.” *Id.* at 129. In fact, Watson et al. define “economic impact” narrowly as “new dollars being brought into the region or dollars kept in the regional economy that would otherwise leak out.” Philip Watson et al., *Determining Economic Contributions and Impacts*, 37 *J. Reg’l Analysis & Pol’y* 140, 143 (2007). The SFEIS defines its

⁸ Notably, in a 2011 decision on these same leases, the Forest Service identified these same effects as “economic benefits.” Forest Serv., *Decision Notice and Finding of No Significant Impact: Federal Coal Lease Modifications COC-1362 & COC-67232* at 10 (2011) (“Gunnison and Delta Counties will receive economic benefit (royalties, jobs, local expenditures, etc).”).

⁹ Available at <https://www.eia.gov/outlooks/aeo/assumptions/> (published July 18, 2017; last visited March 21, 2018).

regional “economic study area” as Delta, Montrose, Gunnison, and Mesa Counties, plus Colorado. SFEIS at 276-77. Yet unlike estimates of local mine-related labor income, Total Industry Output as measured by the price of coal cannot be thought of as an “economic impact” within that specific region alone in terms of “dollars kept in the regional economy.” Mountain Coal Company and Ark Land Company are subsidiaries of Arch Coal Inc., a publicly-traded corporation headquartered in Missouri with shareholders that span the globe.¹⁰ The Total Industry Output represents coal sold by Arch Coal and its subsidiaries into a global market of consumers, with revenues returning not exclusively to Delta, Montrose, Gunnison, and Mesa Counties but instead to Arch Coal’s global shareholders and employees. Rather than regional economic activity, Total Industry Output reflects the global market’s willingness to pay for coal from the Lease Modifications.

Federal guidelines on economic analysis universally recognize that willingness-to-pay estimates based on market prices reflect social benefits and costs. For example, the Office of Management and Budget’s *Circular A-4*, at 18 (2003), explains that social benefits and costs are measured by the price that individuals are willing to pay. *See* Forest Serv., *Final Record of Decision: Federal Coal Lease Modifications COC-1362 & COC-67232* at 16 (2017) (hereinafter “FS ROD”) (citing *Circular A-4* as authority on what constitutes “economic benefits and costs”). *Circular A-4* explains that “Market prices provide rich data for estimating benefits and costs based on willingness-to-pay if the goods and services . . . are traded in well-functioning competitive markets.” *Circular A-4* at 19. Furthermore, *Circular A-4* distinguishes distributional “transfer

¹⁰ *See* Nasdaq, Arch Coal, Inc. Institutional Ownership, <https://www.nasdaq.com/symbol/arch/institutional-holdings> (last visited March 22, 2018) (listing New York-based Oppenheimer Funds as the biggest institutional shareholder of Arch). This Court may take notice of factual information found online. *O’Toole v. Northrop Grumman Corp.*, 499 F.3d 1218, 1225 (10th Cir. 2007).

payments,” like “indirect taxes,” from real benefits and costs that represent actual changes in resource use. *Id.* at 38. The Total Industry Output, calculated by coal’s price in a competitive global market, represents an actual change in resource production and consumption, not a mere transfer.

Other guidelines concur. For example, the Environmental Protection Agency’s *Guidelines for Preparing Economic Analyses*, at 7-6 to 7-7 (2010), similarly explains that “in competitive markets . . . market prices can be used to measure the value of market goods and services directly” to value utility or welfare. *See* SFEIS at 983 (citing EPA’s *Guidelines* as authority on cost-benefit analysis). EPA’s *Guidelines*, at 9-15, further explain that methods for estimating distributional economic impacts may overlap with methods for calculating social costs and benefits. In other words, the fact that Total Industry Output may be a factor in calculating regional impacts does not preclude the same measure from also valuing welfare. While the SFEIS first reports Total Industry Output as a parameter in its methodology for calculating regional impacts like labor income, SFEIS at 278, it also independently reports the millions of dollars per year of output as its own economic effect, *id.* at 282. Those millions of dollars directly represent society’s willingness to pay for the coal—i.e., socioeconomic benefits. Finally, even the Forest Service’s *Manual* explains that “benefits . . . are valued primarily by using credible market observations.” Forest Serv., *Manual* at 1971.5 (2008). The SFEIS cites that same section of the *Manual* as distinguishing “economic impacts (jobs and income)” from “economic efficiency.” SFEIS at 275-276 & n.26 (citing section 1971.1). Total Industry Output falls into the latter category of economic efficiency, because it is based on market price observations that reflect social willingness to pay.

The Forest Service offers two counter-arguments why Total Industry Output is not a socioeconomic benefit; both arguments fail. The Forest Service first suggests that measures like

Total Industry Output cannot represent the Lease Modifications’ economic benefits because the figures do not capture “the benefits of burning coal to generate electricity, such as providing affordable, reliable electricity and the resultant benefits of having electricity in general, such as human health from medical advancements, comfort, work efficiencies, etc.” FS ROD at 16. This argument misunderstands how market prices work. In a competitive market, like for coal, the price already reflects aggregate willingness to pay based on utility. A company’s willingness to pay for “work efficiencies” that result when employees have coal-fired electricity to light their workspace is one factor that drives prices observed in the market, as is the hospital’s willingness to pay for coal-fired electricity to support “medical advancements,” and the private consumer’s willingness to pay for coal-fired electricity to “comfort[ably]” cool their homes. As for “reliability,” a highly publicized report from the Department of Energy concluded in August 2017 (months before the Final Record of Decision on these Lease Modifications) that “Markets recognize and compensate reliability.” Dep’t of Energy, *Staff Report to the Secretary on Electricity Markets and Reliability* at 11 (2017).¹¹ In short, the market price of coal that the SFEIS used to calculate Total Industry Output already reflects all the benefits of burning coal that consumers care about. What coal’s market price notably does not capture are negative environmental externalities, including on climate change—precisely the effects that the SFEIS refused to monetize.

The Forest Service’s second failed counter-argument claims that measures like Total Industry Output are an “economic impact” and not an “economic benefit” because some people

¹¹ *At*

https://www.energy.gov/sites/prod/files/2017/08/f36/Staff%20Report%20on%20Electricity%20Markets%20and%20Reliability_0.pdf. See *supra* note 4 on judicial notice of agency documents. The Report also, at 11, notes that Americans value uncompensated benefits from specific power plants, such as local jobs and development—but the SFEIS already monetizes those impacts.

may have negative perceptions of, for example, changes in “community qualities” resulting from increased regional economic activity. SFEIS at 986. If that is a true and significant negative effect, then it is yet another important cost that the SFEIS failed to consider. But that failure in no way changes the fact that, as calculated based on market prices and as presented to the public in the SFEIS, Total Industry Output is a monetized socioeconomic benefit of mining. As such, under the case law, it was arbitrary for the agency to fail to also monetize the climate costs. *See* Pls.’ Opening Br. 27 (explaining the rulings in *High Country* and *Mont. Env’tl. Info. Ctr.*).

B. Applying Inconsistent Protocols to Analyze Different Effects Is Arbitrary

Even assuming *arguendo* that the SFEIS had monetized only economic impacts and not socioeconomic benefits, the SFEIS’s inconsistent choices on what to monetize or not would still be arbitrary. *High Country* and *Mont. Env’tl. Info. Ctr.* are simply the latest applications of a broader line of case law in which courts find it arbitrary and capricious to apply inconsistent protocols for analyzing some effects compared to others, especially when the inconsistency obscures some of the most significant effects. *E.g.*, *Bus. Roundtable v. SEC*, 647 F.3d 1144, 1148-49 (D.C. Cir. 2011) (chastising the agency for “inconsistently and opportunistically fram[ing] the costs and benefits of the rule [and] fail[ing] adequately to quantify certain costs or to explain why those costs could not be quantified”); *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1202 (9th Cir. 2008) (holding that the failure to quantify the most significant effect—greenhouse gas emissions—is arbitrary when the agency monetized other effects); *Johnston v. Davis*, 698 F.2d 1088, 1094–95 (10th Cir. 1983) (remanding an environmental impact statement because “unrealistic” assumptions “misleading[ly]” skewed comparison of the project’s positive and negative effects); *Sierra Club v. Sigler*, 695 F.2d 957, 978-79 (5th Cir. 1983) (finding

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).

Despite the SFEIS’s attempts to use terminology to distinguish the impacts it wants to monetize from those impacts it would prefer not to monetize, NEPA regulations group all these impacts under the same category of “effects”: economic and social impacts are listed as “effects” alongside ecological and health impacts. 40 C.F.R. § 1508.8. It is arbitrary to apply inconsistent protocols for analysis of some effects compared to others, and to monetize some effects but not others that are equally monetizable. *See* Joint Comments, *supra* note 3, at 3 (“When agencies quantify and monetize the financial and distributional effects of resource management decisions, they must also treat climate effects with proportional analytical rigor.”).

The SFEIS argues that “[d]ue to the complexities involved with . . . possible fuel substitutions,” among other factors, “it is not possible to translate” its emission estimates “into incremental climate change impact” using the social cost of greenhouse gases. SFEIS at 986. This statement reveals an arbitrarily inconsistent approach toward monetizing climate damages as compared to monetizing royalties. The SFEIS announces the Lease Modifications will generate “\$69.2 million more” in royalties “than what the Federal government would collect under the no-action alternative.” *Id.* at 285. The SFEIS seems unconcerned, in touting these additional royalties, whether “due to the complexities involved with . . . possible fuel substitutions,” these royalties would come at the expense of other federal royalties. Over 40 percent of U.S. coal already comes from federal leases, and the federal government already collects royalties on those leases. EIA, *Sales of Fossil Fuels Produced from Federal and Indian Lands* 2 tbl. 1 (2015).¹² If West Elk coal

¹² Available at <http://www.eia.gov/analysis/requests/federallands/pdf/eia-federallandsales.pdf>.

simply substitutes for other sources of coal, *see* FS ROD at 16 (“substitute sources of . . . coal around the nation are likely to decrease in response”), at least some of those substitute sources—perhaps 40 percent or more—would have been other federal leases, which then would no longer generate federal revenue. *See* Joint Comments, *supra* note 3, at 22 (making this argument). In short, the SFEIS is methodologically inconsistent, monetizing the royalty effects it wants to count despite lack of a full fuel substitution analysis, while insisting that same lack of a fuel substitution analysis precludes use of the social cost of greenhouse gas metrics to monetize climate damages.

III. Agencies Routinely Use the Interagency Working Group’s Estimates of the Social Cost of Greenhouse Gases in NEPA Analyses of Resource Management Decisions

The SFEIS claims that “there is no standard methodology to determine how a project’s incremental contribution to [greenhouse gas emissions] would result in physical effects on the environment.” SFEIS at 984. In fact, a rigorous methodological tool is available: the social cost of greenhouse gas estimates developed by the Interagency Working Group (“IWG”). Plaintiffs detail IWG’s methodology and endorsements. Pls.’ Br. 29-30; *see also Zero Zone, Inc. v. U.S. Dep’t of Energy*, 832 F.3d 654, 679 (7th Cir. 2016) (finding the agency reasonably relied on IWG’s estimates); Richard Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 *Science* 655 (2017) (explaining why IWG’s estimates remain the best available). This section shows that agencies—as recently as 2017—have repeatedly used IWG’s estimates in NEPA analyses, including for resource management decisions with far fewer emissions at stake than in this case.

Agencies have used IWG’s social cost of greenhouse gas estimates not only in scores of rulemakings but also in NEPA analyses for resource decisions. *See* Peter Howard & Jason Schwartz, *Think Global: International Reciprocity as Justification for a Global Social Cost of Carbon*, 42 *Columbia J. Envtl. L.* 203, 270-84 (2017) (listing all uses by federal agencies through

July 2016). Most obvious to this case, the Forest Service used the social costs of carbon and methane in its Colorado Roadless Rule environmental impact statement. *But see* Pls.’ Br. 35-39 (explaining why that analysis was ultimately flawed and cannot satisfy NEPA obligations for this SFEIS). Additional applications of the social cost of greenhouse gases in NEPA analyses include:¹³

- In August 2017, the Bureau of Ocean Energy Management called IWG’s estimates “a useful measure to assess the benefits of CO₂ reductions and inform agency decisions,” and applied the metric to monetize a 5 million ton-per-year difference in emissions between an oil development and the no-action baseline, *Draft Environmental Impact Statement—Liberty Development Project in the Beaufort Sea, Alaska* at 3-129, 4-50 (2017)¹⁴;
- In 2016, the Army Corps of Engineers monetized carbon emission from coal plants ramping up generation as the Corps’ river management project decreases hydropower, *Draft Missouri River Recovery Management Plan & EIS* at 3-335 (2016)¹⁵;
- The Office of Surface Mining explained in 2015 that using IWG’s social cost of carbon to assess resource management decisions “provide[s] further context and enhance[s] the discussion of climate change impacts in the NEPA analysis.” *Final Environmental Impact Statement—Four Corners Power Plant and Navajo Mine Energy Project* at 4.2-24 to 4.2-27 (2015)¹⁶ (calculating \$7.8 billion in cumulative climate damages from its proposed action, compared to the no action alternative, from 70,251 tons per year of CO₂e);

¹³ See *supra* note 4 on taking judicial notice of another agency’s publicly available documents.

¹⁴ Available at <https://cdxnodengn.epa.gov/cdx-enepa-II/public/action/eis/details?eisId=236901>. 89,940,000 tons minus 64,570,000 tons is about 25 million tons over a 5-year period.

¹⁵ Available at <https://cdm16021.contentdm.oclc.org/digital/collection/p16021coll7/id/3094>.

¹⁶ Available at <https://www.wrcc.osmre.gov/initiatives/fourCorners/documents/FinalEIS/Section%204.2%20-%20Climate%20Change.pdf>.

- The Bureau of Land Management’s Idaho office calculated over \$3 million in annual climate costs associated with over 63,000 additional tons of CO₂e from the Little Willow Creek Protective Oil and Gas Lease. *Final Environmental Assessment*, DOI-BLM-ID-B010-2014-0036-EA, at 35, 81, 83 (2015) (describing IWG’s estimates as developed by “EPA and other federal agencies”)¹⁷; and
- The Bureau of Land Management’s Montana office calculated \$38,499 in annual climate costs associated with 837 additional tons of CO₂e per year from its Miles City Oil and Gas Lease Sale. *Environmental Assessment*, DOI-BLM-MT-C020-2014-0091-EA at 51, 76 (2014) (describing IWG’s estimates as developed by “EPA and other federal agencies”).¹⁸

Notably, all these applications of IWG’s social cost of greenhouse gas estimates in past NEPA analyses on resource management decisions involved significantly lower annual quantities of greenhouse gases than the emissions at stake from these Lease Modifications.

CONCLUSION

The SFEIS’s failure to use the social cost of greenhouse gas metrics violated NEPA.

Dated: March 27, 2018

/s/ Jason A. Schwartz
 Jason A. Schwartz (admitted in Virginia, D. Colo.)
 Institute for Policy Integrity
 139 MacDougal Street, 3rd Floor,
 New York, NY 10012
 Telephone: (617) 571-9672
 Email: jason.schwartz@nyu.edu
Counsel for Amicus Curiae Institute for Policy Integrity

¹⁷ See pdf pages 66 & 72-74 of the pdf file available at <https://eplanning.blm.gov/epl-front-office/projects/nepa/64290/77147/85662/WEG.pdf>.

¹⁸ Available at https://www.blm.gov/sites/blm.gov/files/MT-DAKs%20MCFO%20EA%20October%202014%20Sale_Post%20for%2030%20day.pdf.

CERTIFICATE OF SERVICE

I hereby certify that on March 27, 2018, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system, which will send electronic notification to the following:

John S. Most
U.S. Dep't of Justice, Natural Res. Section
P.O. Box 7611
Washington, D.C. 20044
Tel: (202) 616-3353
Email: john.most@usdoj.gov
Counsel for Federal Defendants

Michael Drysdale
DORSEY & WHITNEY LLP
50 South Sixth Street, Ste. 1500
Minneapolis, MN 55402-1498
Tel: (612) 340-5652
Email: drysdale.michael@dorsey.com

Scott P. Sinor
DORSEY & WHITNEY LLP
1400 Wewatta Street, Suite 400
Denver, CO 80202
Tel: (303) 629-3400
Email: sinor.scott@dorsey.com

/s/ Jason A. Schwartz
Jason A. Schwartz