

ORAL ARGUMENT NOT YET SCHEDULED

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

No. 18-1128 (consolidated with Case Nos. 18-1144, 18-1220, 18-1225, 18-1226,
18-1233, 18-1256)

DELAWARE RIVERKEEPER NETWORK, *et al.*,
Petitioners,

v.

FEDERAL ENERGY REGULATORY COMMISSION, *et al.*,
Respondent.

New Jersey Division of Rate Counsel, *et al.*,
Intervenors.

On Petition for Review of Orders of the Federal Energy Regulatory Commission,
162 FERC ¶ 61,053 (January 19, 2018) and 164 FERC ¶ 61,098 (August 10, 2018)

**BRIEF OF THE INSTITUTE FOR POLICY INTEGRITY
AT NEW YORK UNIVERSITY SCHOOL OF LAW
AS AMICUS CURIAE IN SUPPORT OF PETITIONERS**

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Certificate as to Parties, Rulings, and Related Case

Parties and Amici. All parties, intervenors, and *amici* appearing in this case are listed in the brief for Petitioners New Jersey Conservation Foundation, The Watershed Institute, Delaware Riverkeeper Network and Maya van Rossum, Homeowners Against Land Taking–PennEast, Inc., Hopewell Township (“Petitioners”), and the brief for Petitioners New Jersey Department of Environmental Protection, Delaware and Raritan Canal Commission, and New Jersey Division of the Rate Counsel (“State Petitioners”), except for the present movant *amicus curiae* in support of Petitioners, as well as Environmental Defense Fund, movant *amicus curiae* in support of Petitioners, and Niskanen Center, movant *amicus curiae* in support of Petitioners.

Rulings Under Review. The following final agency actions by Respondent are under review:

- 1) *PennEast Pipeline Co., LLC*, 162 FERC ¶ 61,053 (2018) (“Certificate Order”)
- 2) *PennEast Pipeline Co., LLC*, 164 FERC ¶ 61,098 (2018) (“Rehearing Order”)

Related Cases. All related cases are as stated in the Brief of Petitioners and Brief of State Petitioners.

Rule 26.1 Disclosure Statement

The Institute for Policy Integrity (“Policy Integrity”) is a nonpartisan, not-for-profit organization at New York University School of Law. Policy Integrity is dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy. Policy Integrity has no parent companies. 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.

Statement Regarding Separate Briefing, Authorship, and Monetary Contributions

On December 13, 2018, this Court set the briefing schedule in this matter, with Petitioners' and State Petitioners' briefs due just eight days later, on December 21, 2018. Doc. No. 1764188. Unlike the parties' joint proposed schedule, Joint Proposal to Establish a Format and Schedule for Briefing, Doc. No. 1756920 (filed Oct. 24, 2018), which asked for a minimum of 14 days between the petitioners' due date and the deadline for supporting *amicus* briefs, the Court's schedule did not alter the default rule on the time for filing *amicus* briefs. Fed. R. App. P. 29(a)(6); D.C. Cir. R. 29(c). Consequently, *amicus* briefs in support of petitioners are due December 28, 2018, barely two weeks after potential *amici* had access to this Court's briefing schedule. Furthermore, only after Petitioners and State Petitioners filed their opening briefs, on December 21, 2018, could the Institute for Policy Integrity at New York University School of Law ("Policy Integrity") thoroughly review Petitioners' arguments on the Social Cost of Carbon and assess the need for an *amicus* brief to provide this Court with additional background on this crucial economic methodology for calculating climate damages. With only a week then left to file an *amicus* brief, including an intervening holiday, Policy Integrity initially had difficulty confirming even the existence of other potential *amici* or what issues they planned to cover, let alone coordinating on the filing a single joint *amici* brief. *See*

Pet'rs Br. (listing in the certificate of parties that “There are presently no amici” as of Dec. 20, 2018). As a result, filing a single brief was not “practicable.”

However, upon learning of other movant *amici*, Policy Integrity coordinated with those movant *amici* and worked to streamline briefing by ensuring that there would be no substantive overlap of issues included in this brief and other *amicus* briefs. Moreover, during that coordination, Policy Integrity learned that movant *amicus* Niskanen Center holds divergent views from Policy Integrity on the use of the Social Cost of Carbon in agency decisionmaking, and so a joint brief among all movant *amici* would not be practicable.

As such, per D.C. Cir. R. 29(d), Policy Integrity now files its own separate *amicus* brief and has attempted to limit verbiage, below even the word count for an individual *amicus* brief that is permitted under Fed. R. App. P.29(a)(5).

Under Fed. R. App. P. 29(a), the Institute for Policy Integrity states that no party’s counsel authored this brief in whole or in part, and no party or party’s counsel contributed money intended to fund the preparation or submission of this brief. No person—other than the *amicus curiae*, its members, or its counsel—contributed money intended to fund the preparation or submission of this brief.

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

Pursuant to Circuit Rule 28(a)(3), the following is a glossary of acronyms and abbreviations used in this brief:

Certificate Order	<i>PennEast Pipeline Co., LLC</i> , 162 FERC ¶ 61,053 (2018)
EIS	Environmental Impact Statement
FEIS	PennEast Pipeline Project Final Environmental Impact Statement, Docket No. CP15-558 (April 7, 2017)
FERC	Federal Energy Regulatory Commission
Glick Dissent	<i>PennEast Pipeline Co., LLC</i> , 164 FERC ¶ 61,098 (2018) (Glick, Comm’r, <i>dissenting</i>)
LaFleur Dissent	<i>PennEast Pipeline Co., LLC</i> , 164 FERC ¶ 61,098 (2018) (LaFleur, Comm’r, <i>concurring in part and dissenting in part</i>)
NEPA	National Environmental Policy Act
PennEast Pipeline Project or the Project	the PennEast pipeline system
Petitioners	New Jersey Conservation Foundation, The Watershed Institute, Delaware Riverkeeper Network and Maya van Rossum, Homeowners Against Land Taking–PennEast, Inc., Hopewell Township
Policy Integrity	The Institute for Policy Integrity at New York University School of Law
Rehearing Order	<i>PennEast Pipeline Co., LLC</i> , 164 FERC ¶ 61,098 (2018)

SMP Project Remand

Fla. Se. Connection, LLC,
162 FERC ¶ 61,233 (2018)

State Petitioners

New Jersey Department of Environmental
Protection, Delaware and Raritan Canal
Commission, and New Jersey Division of the
Rate Counsel

Working Group

The Interagency Working Group on the Social
Cost of Greenhouse Gases

INTEREST OF AMICUS CURIAE AND AUTHORITY TO FILE

The Institute for Policy Integrity at New York University School of Law (“Policy Integrity”)¹ submits this brief as *amicus curiae* in support of Petitioners’ petitions for review of the Federal Energy Regulatory Commission (“FERC”) order approving a certificate of public convenience and necessity for the PennEast pipeline system (“PennEast Pipeline Project” or “the Project”), *PennEast Pipeline Co., LLC*, 162 FERC ¶ 61,053 (2018) (“Certificate Order”), and denial of rehearing of that order, *PennEast Pipeline Co., LLC*, 164 FERC ¶ 61,098 (2018) (“Rehearing Order”).

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.²

¹ This brief does not purport to represent the views of New York University School of Law.

² *E.g.*, Richard Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 *Science* 655 (2017).

Harnessing this academic background, Policy Integrity has filed numerous *amicus* briefs addressing agencies' analyses of climate impacts. *E.g.*, Br. of Institute for Policy Integrity as Amicus Curiae, *High Country Conservation Advocates v. U.S. Forest Serv.*, No.17-cv-3025-PAB (D. Colo. Mar. 27, 2018) (addressing failure to use the Social Cost of Carbon in a NEPA review of a coal lease); Br. of Institute for Policy Integrity as Amicus Curiae, *Zero Zone, Inc. v. Dep't of Energy*, 832 F.3d 654 (7th Cir. 2016) (addressing use of the Social Cost of Carbon to support setting energy efficiency standards). Policy Integrity has also provided comments to FERC on the appropriate use of the Social Cost of Carbon in its reviews under the National Environmental Policy Act ("NEPA"), in response to FERC's notice of inquiry on revising its policy for certifying natural gas facilities.³

In this case, Petitioners assert that FERC's review of the environmental impacts of the PennEast Pipeline Project pursuant to NEPA, and subsequent approval of a certificate of public convenience and necessity for the Project based on that review, arbitrarily failed to take into consideration the value of climate damages caused by the Project, despite the availability of a "widely accepted tool"

³ Institute for Policy Integrity et al., *Joint Comments on Using the Social Cost of Greenhouse Gases to Weigh the Climate Impacts of New Natural Gas Transportation Facilities in Environmental Analyses and in Reviews of Public Convenience and Necessity*, Docket No. PL18-1-000 (July 25, 2018), available at https://policyintegrity.org/documents/Joint_Comments_FERC_Pipeline_NOI_Comments_072518.pdf.

to do so: the Social Cost of Carbon. Pet’rs Joint Opening Br. 12, Docket No. 1765338 (“Pet’rs Br.”). Policy Integrity’s expertise generally in economic analysis—and particularly on the Social Cost of Carbon and its appropriate role in NEPA reviews—gives *amicus* a special perspective from which to evaluate those claims.

Policy Integrity has conveyed to the parties its interest in this case, the impracticability of joining a single brief with other movant *amici*, and its efforts to coordinate with other movant *amici* and to limit verbiage, and all parties have consented to the filing of this brief.

SUMMARY OF ARGUMENT

If constructed, the PennEast Pipeline Project will be responsible for greenhouse gas emissions that will result in substantial climate damages. Yet, FERC’s final Environmental Impact Statement (“EIS”) presents only the volumes of greenhouse gases that the Project will emit. Such volumetric calculations do not assess the Project’s actual environmental effects or their significance, as required by NEPA. FERC never mentions the Project’s contributions to such serious climate impacts as property damage, increased energy demand, lost productivity, cardiovascular and respiratory mortality, and scores of other real-world climate consequences. Nor does FERC assess the intensity, context, or significance of any climate impacts.

FERC's excuse for failing to provide any meaningful climate analysis is that there is no suitable method to do so. But this is wrong. The Social Cost of Carbon is a widely-accepted and easy-to-use tool for attributing climate damages to an amount of greenhouse emissions and weighing the significance of those damages. The most widely used and endorsed estimates of the Social Cost of Carbon were published by a federal Interagency Working Group in 2016. Applying the Working Group's central estimate of \$42 in climate costs per ton of carbon dioxide, the Project's greenhouse emissions will cause in excess of \$1 billion per year of climate damages, from property damage, lost productivity, premature deaths, and other quantifiable effects.

FERC's reasons for rejecting the Social Cost of Carbon are inconsistent with its own description of the tool's purpose and use, with the consensus of experts, with the practice of other federal agencies, and with FERC's choices to monetize other effects. Given the availability of this widely-accepted tool, FERC's failure to contextualize and assess the significance of this Project's climate impacts is arbitrary.

ARGUMENT

I. The Social Cost of Carbon Is a Widely-Accepted and Easy-To-Use Tool

The Social Cost of Carbon is a "tool" that "estimates the monetized climate change damage associated with an incremental increase in [carbon dioxide]

emissions in a given year.” Rehearing Order at P 122 n.274. The most widely used estimate of the Social Cost of Carbon was developed by the federal Interagency Working Group on the Social Cost of Greenhouse Gases (“Working Group”), a coordinated effort among 12 federal agencies and White House offices. “In 2010, and updated in 2016,” the Working Group released estimates to “provide a consistent approach for agencies to quantify [climate change] damage in dollars.” *Fla. Se. Connection LLC*, 162 FERC ¶ 61,233, at P 45 (2018) (“SMP Project Remand”). In its 2016 update, the Working Group estimated that, by the year 2020, each additional ton of carbon dioxide released from any source will affect global atmospheric carbon concentrations in ways that will cause an additional \$42 in climate damages, from property damage, lost agricultural productivity, changes in energy demand, human health impacts, and other myriad effects. *See* Interagency Working Group on the Social Cost of Greenhouse Gases, *Technical Support Document* at 3-4 (2016) (providing the “central” estimate in year 2007 dollars).⁴

⁴ *Available at*

https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf. A ton emitted in year 2020 will cause \$42 in cumulative climate damages. Once emitted, carbon dioxide stays in the atmosphere and contributes to climate damages for centuries. The \$42 figure captures that future stream of effects and discounts future damages back at a 3% discount rate. Based on the economic literature, the Working Group used a 3% discount rate to calculate its central estimate and tested the sensitivity of its central estimate to the discount rate assumption by also calculating the value at a 5% rate and a 2.5% rate. *Id.* at 19. The range for those sensitivity analyses is \$12 to \$62 per ton for year 2020

The Working Group's methodology has been widely endorsed. In 2016 and 2017, the National Academies of Sciences issued two reports that, while recommending future improvements to the methodology, supported the continued use of the existing Working Group estimate. Nat'l Acad. Sci., Eng. & Medicine, *Valuing Climate Damages: Updating Estimates of the Social Cost of Carbon Dioxide 3* (2017);⁵ Nat'l Acad. Sci., Eng. & Medicine, *Assessment of Approaches to Updating the Social Cost of Carbon: Phase 1 Report on a Near-Term Update 1* (2016).⁶ Distinguished economists have explained that the Working Group's estimates remain the best numbers available to federal agencies, even after the current Administration disbanded the Working Group. *See* Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 *Science* 655 (2017) (co-authored with Michael Greenstone, Michael Hanemann, Peter Howard, and Thomas Sterner). The U.S.

emissions. *Id.* at 4. A "high impact" estimate that reflects the potential for more catastrophic outcomes and uncertainties is \$123 for year 2020 emissions. *Id.* at 16. These values are all in year 2007 dollars; the \$42 "central" estimate, inflated to year 2017 dollars, is about \$51 per ton. Also, because the consequences of climate change rise as the cumulative stock of greenhouse gases increases, the monetized harm of climate damages rises each year. Even if the Project's annual emissions remained constant, therefore, the Project's annual climate damages would increase each year after 2020.

⁵ Available at <https://www.nap.edu/catalog/24651/valuing-climate-damages-updating-estimation-of-the-social-cost-of>.

⁶ Available at <https://www.nap.edu/catalog/21898/assessment-of-approaches-to-updating-the-social-cost-of-carbon>.

Court of Appeals for the Seventh Circuit has held that agency reliance on these estimates to inform decisionmaking was reasonable. *Zero Zone, Inc. v. Dep't of Energy*, 832 F.3d 654, 678 (7th Cir. 2016). The U.S. Government Accountability Office reviewed the Working Group's methodology and concluded that it had followed a "consensus-based" approach and relied on peer-reviewed academic literature. U.S. Gov't Accountability Office, *Regulatory Impact Analysis: Development of Social Cost of Carbon Estimates* 12-19 (2014).⁷

As FERC has recognized, many federal and state agencies use the Social Cost of Carbon to aid their decisionmaking both when crafting regulations as well as when conducting environmental reviews and certifying energy infrastructure. *See* SMP Project Remand at P 37 (citing uses by, for example, the Bureau of Ocean Energy Management and state public utility commissions).

Applying the Social Cost of Carbon to monetize the PennEast Pipeline Project's climate consequences would have been straightforward. To calculate the climate consequence of the Project's emissions in year 2020, for example, FERC needed only to multiply the Project's total quantified direct and indirect greenhouse emissions in 2020 by the Working Group's Social Cost of Carbon estimate for 2020. To calculate the net present value of all damages over the Project's lifespan, FERC

⁷ Available at <http://www.gao.gov/assets/670/665016.pdf>.

would do the same multiplication for each future year, discount future values to the present, and sum across all years. FERC estimates that full combustion of the Project's gas capacity would emit 21.3 million metric tons of carbon dioxide-equivalent emissions per year. PennEast Pipeline Project Final Environmental Impact Statement, Docket No. CP15-558 at 4-254 (April 7, 2017) ("FEIS").⁸ Applying the Social Cost of Carbon of \$42 per ton for year 2020 emissions, the Project's downstream emissions just from year 2020 could cause over \$890 million in climate damages.⁹ Each year of the Project's direct operational emissions—259,717 metric tons of carbon dioxide-equivalent, Certificate Order at P 203—would cause an additional \$10.9 million in damages. Finally, each year of the Project's upstream emissions—approximately three million metric tons, *id.*—would cause \$126 million in climate damages. In total, the Project could cause well over \$1 billion in climate damages each year.

⁸ Emissions of other greenhouse gases, like methane, can be converted into carbon dioxide-equivalent units, based on their relative impacts on climate change.

⁹ This calculation presents damages as they would be valued in year 2020. For their present value, the \$894.6 million in climate damages would be discounted back to 2018, at a rate of 3%. The present value would be about \$843 million.

This calculation uses the Working Group's central estimate. Petitioners present a more "conservative" calculation, Pet'rs Br. 14, using the Working Group's lower-bound estimate of \$12 per ton for year 2020 emissions (based on a 5% discount rate, as compared to the \$42 central estimate based on a 3% discount rate).

II. Monetizing Climate Damages Fulfills NEPA's Requirement to Assess "Effects and Their Significance," While Volumetric Estimates of Emissions Alone Do Not

"[T]he key requirement of NEPA," the U.S. Supreme Court has ruled, is to "consider and disclose the actual environmental effects in a manner that . . . brings those effects to bear on decisions to take particular actions that significantly affect the environment." *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 96 (1983) (emphasis added). NEPA requires that agencies assess "effects and their significance." 40 C.F.R. § 1502.16. Effects are the "ecological . . . aesthetic, historic, cultural, economic, social, or health" impacts caused by actions. 40 C.F.R. § 1508.8. Determining significance "requires consideration of both context and intensity." 40 C.F.R. § 1508.27.

As this Court has found, merely listing "the quantity of . . . heat, chemicals, and radioactivity released" is insufficient under NEPA if the agency "does not reveal the meaning of those impacts in terms of human health or other environmental values." *NRDC v. U.S. Nuclear Reg. Comm'n*, 685 F.2d 459, 487 (D.C. Cir. 1982), *rev'd sub nom. on other grounds Baltimore Gas & Elec. Co.*, 462 U.S. at 106-07 ("agree[ing] with the Court of Appeals that NEPA requires an EIS to disclose the significant health, socioeconomic, and cumulative consequences of the environmental impact of a proposed action," but finding that the specific

“consequences of effluent releases” could be assessed at a subsequent stage in the particular proceeding under review).

Here, FERC lists the volume of greenhouse gases released, FEIS at 4-333–4-334, and vaguely concedes that these emissions would “contribute” to some broad categories of climate impacts like heat waves and crop damages, *id.* at 4-335. However, that approach falls far short of NEPA’s requirements. *See* Rehearing Order at *11 (Glick, Comm’r, *dissenting*) (“Glick Dissent”) (“Quantifying the [greenhouse gas] emissions . . . is a necessary, but not sufficient, step in meeting the Commission’s obligation.”); *id.* at *13 (explaining that despite the “qualitative discussion” of climate change, “the Commission has still failed to make an explicit determination of whether the harm . . . is significant.”). As the U.S. Court of Appeals for the Ninth Circuit explained in an analogous case, quantifying the acres of timber to be harvested does not constitute a “description of *actual* environmental effects” even when paired with a qualitative “list of environmental concerns such as air quality, water quality, and endangered species,” if the agency fails to assess “the degree that each factor will be impacted.” *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 995 (9th Cir. 2004). Courts have applied this principle to the assessment of climate impacts from greenhouse emissions. *See High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1190 (D. Colo. 2014) (“Beyond quantifying the amount of 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'tl. Info. Ctr. v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074, 1096-99 (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”).

The final EIS does not assess the Project’s degree of impact on heat waves or crop damages, and does not mention at all other critical climate impacts such as property damages from sea-level rise and extreme weather, increased energy demand for heating and cooling in the face of new temperature extremes, lost productivity due to temperature effects, cardiovascular and respiratory mortality from heat-related illnesses, and scores of other serious consequences. *See* FEIS at 4-335 (citing the *Third National Climate Assessment*’s Northeast Region section, but not mentioning impacts to property, energy demand, mortality, et cetera); *compare* U.S. Glob. Change Research Program, *Third National Climate Assessment* 373-381 (2014)¹⁰ (projecting that the Northeast’s key climate impacts include sea-level rise, hurricanes, heat-related deaths, vulnerability of energy infrastructure, and fishery disruptions).

¹⁰ Available at

http://nca2014.globalchange.gov/system/files_force/downloads/low/NCA3_Climate_Change_Impacts_in_the_United%20States_LowRes.pdf.

Instead, FERC alleges impossibility, claiming “we cannot determine the projects’ incremental physical impacts on the environment caused by climate change.” FEIS at 4-335; *accord*. Rehearing Order at P 118. Yet FERC knows that statement is false. Elsewhere, FERC admits that “[t]he Social Cost of Carbon tool estimates the monetized climate change damage associated with an incremental increase in [carbon dioxide] emissions in a given year,” *id.* at P 122 n.274, and that “the Social Cost of Carbon methodology does constitute a tool that can be used to estimate incremental physical climate change impacts,” SMP Project Remand at P 48.

FERC further claims that “we cannot determine whether the projects’ contribution to cumulative impacts on climate change would be significant.” FEIS at 4-335; Certificate Order at P 210. This statement again overlooks the readily available Social Cost of Carbon tool, which can translate the Project’s annual emissions into a contribution of over \$1 billion in additional climate damages per year, *see supra* at note 9 and accompanying text. Judging the significance of over \$1 billion in monetized climate damages from sea-level rise and other physical impacts will certainly require FERC’s professional judgment. Yet FERC routinely evaluates the relative importance of monetized benefits, weighing them against qualitative impacts. *See* FEIS at 4-183–4-184 & 4-195–4-197 (monetizing the Project’s economic output, labor income, and tax revenue); *id.* at ES-13 (assessing the

socioeconomic impacts as “minor” and the tax revenue as “minor to moderate”). Translating 24.5 million metric tons per year of operational, upstream, and downstream emissions into over \$1 billion per year in climate damages would have contextualized the impact, making it more accessible to the public and decisionmakers, and aiding FERC’s significance determination.

By contrast, FERC’s attempt to “put these emissions in to context” by comparing them to national and regional inventories of greenhouse gas emissions, Certificate Order at P 209,¹¹ is unhelpful. These comparisons completely fail to provide the meaningful context required by NEPA. First, as Commissioner LaFleur observes, by defining the “regional” comparison to encompass “22 states,” FERC in fact “provides little context for a project that [is] based in Pennsylvania and New Jersey.” Rehearing Order at *4 n.15 (2018) (LaFleur, Comm’r, *concurring in part and dissenting in part*) (“LaFleur Dissent”). Second, by belittling the Project’s contributions as “[i]n any case” less than “1 percent,” Certificate Order at P 209, FERC attempts to mislead the public into thinking the emissions are close to zero or are relatively unimportant. Yet once the Project’s emissions are translated into over \$1 billion in climate damages per year, the significance becomes apparent. Finally,

¹¹ Note that these comparisons did not appear in the draft or final EIS. Consequently, even if such comparisons provided useful context under NEPA (and again, they do not), the public had no opportunity to comment on these figures during the NEPA process.

FERC itself has elsewhere recognized that using regional comparisons “as a benchmark for significance . . . is problematic” because the exact same quantity of emissions may misleadingly appear “widely different” simply by changing the denominator from a state to a regional inventory, or to a national inventory. *See* SMP Project Remand at P 28. *See also High Country*, 52 F. Supp. 3d at 1190 (finding that by merely “quantifying the amount of emissions relative to state and national emissions,” the agencies had insufficiently “discuss[ed] the impacts caused by these emissions”); *Mont. Env'tl. Info. Ctr.*, 274 F. Supp. 3d. at 1094 (rejecting the agency’s contention that it had sufficiently assessed the action’s emissions by “comparing that amount to the whole of U.S. greenhouse gas emissions”).

Because the final EIS does not identify the Project’s actual effects on climate change, does not assess those effects’ intensity and significance, and does not provide meaningful context, the final EIS violates NEPA.

III. FERC’s Failure to Use an Available Tool to Monetize Climate Costs While Monetizing Project Benefits Is Arbitrary

Courts have repeatedly warned agencies against inconsistent treatment of costs versus benefits. *E.g.*, *Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1203 (9th Cir. 2008) (explaining that because the agency’s regulatory analysis had monetized other effects like traffic and noise, its “decision not to monetize the benefit of carbon emissions reduction was arbitrary and capricious”); *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”).

Similarly, agencies cannot selectively monetize benefits in environmental impact statements to support their decisions while refusing to monetize the costs of their actions. *High Country*, 52 F. Supp. 3d at 1191. In *High Country*, the U.S. District Court for the District of Colorado found that it was “arbitrary and capricious to quantify the *benefits* of the lease modifications and then explain that a similar analysis of the *costs* was impossible when such an analysis was in fact possible.” *Id.* The court explained that, to support a decision on coal mining, the agencies had “weighed several specific economic benefits—coal recovered, payroll, associated purchases of supplies and services, and royalties,” but arbitrarily failed to monetized climate costs using the readily available Social Cost of Carbon tool. *Id.* Similarly, in *Montana Environmental Information Center*, the U.S. District Court for the District of Montana likewise held an environmental assessment to be arbitrary and capricious because it quantified an action’s benefits (*i.e.*, employment payroll, tax revenue, and royalties) while failing to use the Social Cost of Carbon to monetize costs. 274 F. Supp. 3d at 1094-99.

Here, as Commissioner Glick explained in his dissent on rehearing, FERC “fails this test by simultaneously refusing to use the Social Cost of Carbon to

monetize the impact of [greenhouse gas] emissions while monetizing the Project's long-term socioeconomic benefits related to construction and operations from employment, tourism, and local taxes [from] construction, operation and consumption, as well as the consumption-related benefits of access to lower-cost fuel due to access to new production." Glick Dissent at *12-13; *see also* FEIS at 4-183-4-184 & 4-196-4-197 (monetizing millions of dollars in output, income, and taxes, such as \$8.3 million in annual income).

FERC unsuccessfully attempts to distinguish *High Country* and *Montana Environmental Information Center*. Rehearing Order at P 123 n.277. Specifically, FERC cites prior orders that claim FERC's NEPA analyses "do[] not quantify the Project's overall benefits" and only express "socioeconomic impacts . . . in dollars because those effects occur, and are directly comprehensible, in those units." *Millennium Pipeline* 164 FERC ¶ 61,039, at P 28 (2018); *see also* *Dominion Cove Point*, 151 FERC ¶ 61,095, at P 55 (2015). Yet, here, FERC specifically refers to the generation of output, income, and taxes as this Project's "benefits," FEIS at 5-13, and it was an agency's monetization of the same kind of socioeconomic impacts while failing to monetize climate costs that the court found arbitrary in *Montana Environmental Information Center*. *See* 274 F. Supp. 3d at 1096 (discussing monetization of payroll and government revenue); *id.* at n.9 (explaining that the

agency's attempt to distinguish these monetized socioeconomic effects as "impacts" rather than "benefits" was "a distinction without a difference").

There is no rational reason to monetize those economic benefits but not climate costs. Employment effects, for example, could easily be presented quantitatively as changes in job-years rather than monetized as labor income, or could be discussed qualitatively in terms of general effects on sectoral labor markets. FERC instead chose to monetize labor income to help the public and decisionmakers understand the nature and degree of the Project's employment effects. Yet the Social Cost of Carbon would have provided similarly meaningful context on the significance of this Project's climate effects. FERC's choice to monetize labor income but not climate costs, despite the availability of a tool to do so, is arbitrary.

IV. FERC's Objections to the Social Cost of Carbon Are Inconsistent and Arbitrary

FERC offers a handful of reasons why the Social Cost of Carbon is not applicable in its NEPA reviews, primarily pointing to its reasoning in a previous order. Rehearing Order at P 123 & n.277 (citing SMP Project Remand at PP 30-51 and "adopt[ing] that reasoning here"). All these reasons are easily rebutted.

FERC suggests that the Social Cost of Carbon "is not appropriate in project-level NEPA reviews." Rehearing Order at P 123. But elsewhere, FERC has noted approvingly that the Social Cost of Carbon has been "appropriately used" in project-level NEPA reviews, such as by the Bureau of Land Management, by the Office of

Surface Mining, and, in a July 2017 environmental impact statement, by the Bureau of Ocean Energy Management. SMP Project Remand at P 37 & n.76; *see also id.* at P 37 & n.77 (noting that other agencies, like the Forest Service, “have been faulted” by the courts for “fail[ing] to quantify [climate] costs given that [the] Social Cost of Carbon tool was available”). In the July 2017 EIS cited by FERC, the Bureau of Ocean Energy Management explained that the Social Cost of Carbon was “a useful measure to assess the benefits of [carbon dioxide] reductions and inform agency decisions.”¹²

There is no rational explanation for why the Social Cost of Carbon would be “appropriate” for the Bureau of Ocean Energy Management’s NEPA reviews but inappropriate for FERC’s. FERC has previously attempted to suggest that unlike other agencies, FERC is not directly responsible for fossil fuel production or consumption. SMP Project Remand at P 37. Yet no meaningful distinction of law, science, or economics supports FERC’s argument. First, greenhouse gases cause the same climate impacts regardless of whether they are emitted by leaking gas pipelines or oil rigs or power plants. Second, even setting aside upstream and downstream effects, FERC’s project approvals are undeniably directly responsible for operational

¹² Bureau of Ocean Energy Mgmt., *Liberty Development Project: Draft EIS* at 3-129 (2017), available at <https://www.boem.gov/2016-010-Volume-1-Liberty-EIS> (discussed at SMP Project Remand at P 37 n.76).

emissions—in this case, 259,717 metric tons of carbon dioxide-equivalent emissions per year, which will cause \$10.9 million in climate damages. Moreover, in *Sierra Club v. FERC*, this Court held that FERC is a “legally relevant cause” of downstream emissions from pipelines. 867 F.3d 1357, 1373 (D.C. Cir. 2017). Finally, FERC admits it was appropriate for the Department of Energy to use the Social Cost of Carbon to set refrigerator efficiency standards, SMP Project Remand at P 37 & n.76 (citing *Zero Zone*, 832 F.3d at 679). But such standards do not directly control fossil fuel production or consumption any more than FERC’s decisions; they only indirectly do so by altering how much electricity is required to operate equipment, thus changing consumers’ energy costs and so changing consumers’ demand for electricity generated by fossil fuel combustion. Quite similarly, FERC’s pipeline certifications affect greenhouse gas emissions by changing the supply, price, and demand of natural gas. FERC’s conclusions that the Social Cost of Carbon was an appropriate tool for the Department of Energy’s efficiency standards and the Bureau of Ocean Energy Management’s NEPA reviews also confirm that the Social Cost of Carbon is an appropriate tool for FERC’s NEPA reviews.

FERC also claims that the Social Cost of Carbon “was developed to assist in rulemakings” and “no longer represents government policy.” Rehearing Order at P 123. FERC is alluding to the fact that the Working Group’s *Technical Support Documents* were originally published to guide regulatory analyses, but those

technical documents were withdrawn in March 2017 by Executive Order 13,783. Exec. Order No. 13,783 § 5(b), 82 Fed. Reg. 16,093 (Mar. 28, 2017). However, FERC’s argument misunderstands the Social Cost of Carbon and its development. Though the Working Group originally developed its estimates to harmonize federal agencies’ regulatory analyses, the Social Cost of Carbon measures the marginal cost of any additional ton of carbon dioxide emitted into the atmosphere, and those marginal climate damages per ton are the same regardless of whether the emissions resulted from regulations or projects. The Working Group’s methodology and central estimate have been endorsed as the best estimates available to federal agencies, even following Executive Order 13,783. *See* Revesz et al., *supra*; *see also* *Liberty Development Project: Draft EIS, supra*, at 3-129, 4-247 (continuing to use the Working Group’s estimates, in a non-regulatory NEPA review, several months after Executive Order 13,783). Moreover, as an independent agency, FERC has not explained how an Executive Order would affect its access to the Working Group’s estimates or the methodology underlying those estimates. Even if the Working Group’s particular estimates were somehow not available to FERC, FERC would still be obligated to select another reasonable estimate and monetize climate damages to the best of its abilities. *Cf.* Exec. Order No. 13,783 § 5(c) (assuming agencies will continue to “monetize[e] the value of changes in greenhouse gas emissions”).

FERC also vaguely alleges that parts of the Social Cost of Carbon’s “methodology are contested.” Rehearing Order at P 123. Presumably, FERC intends to refer to its prior claims that the choice of a discount rate for weighing the present value of future climate damages “remains a contentious issue” and that the choice “introduces substantial variation” in the estimation of the Social Cost of Carbon. SMP Project Remand at P 49; *see also* Rehearing Order at P 123 (citing *EarthReports, Inc. v. FERC*, 828 F.3d 949, 956 (D.C. Cir. 2016), which accepted FERC’s 2014 reasoning that uncertainty in discount rates justified its failure to use the Social Cost of Carbon). But, to the extent there ever was a lack of consensus about the appropriate discount rate, recent reports from the National Academies of Sciences, among other sources, make clear that a 3% discount rate or lower is appropriate. *See* Nat’l Acad. Sci., Eng. & Medicine, *Valuing Climate Damages*, *supra*, at 27-28 (2017) (explaining that a consumption rate of interest, approximately 3%, is the appropriate basis for a discount rate for climate effects). This Court has recently ordered FERC to reassess whether its reasoning that led to the decision in *EarthReports* “still holds.” *Sierra Club*, 867 F.3d at 1375. Yet FERC has failed to grapple with these new developments.¹³ Moreover, other agencies have had no

¹³ FERC has already disclaimed another of its justifications at issue in *EarthReports* by admitting that “[o]n further review, we accept that the Social Cost of Carbon methodology does constitute a tool that can be used to estimate incremental physical climate change impacts.” SMP Remand Order at P 48.

problem using the manageable range of estimates that the Working Group calculated based on different discount rates. The Working Group recommends a “central” estimate based on a 3% discount rate, but for sensitivity analysis also provides estimates based on a 5% or 2.5% discount rate. *Technical Support Document, supra* note 4, at 4.¹⁴ Agencies like the Bureau of Ocean Energy Management have found applying that range of estimates to its NEPA reviews to be “useful.” *Liberty Development Project: Draft EIS, supra*, at 3-129, 4-247. Furthermore, the idea that agencies can avoid monetizing climate damages just because there is some variation in estimates has been specifically rejected by the courts. *Ctr. for Biological Diversity*, 538 F.3d at 1200 (“[W]hile . . . there is a range of values, the value of carbon emissions reduction is certainly not zero.”).

FERC implies it cannot use the Social Cost of Carbon “because not every harm it accounts for is necessarily significant with[in] the meaning of NEPA.” Rehearing Order at P 123. Yet, the regulations on implementing NEPA acknowledge that effects may be “individually insignificant but cumulatively significant,” and warn agencies that “[s]ignificance cannot be avoided . . . by breaking [an action] down into small component parts.” 40 C.F.R. § 1508.27(b)(7). The Social Cost of Carbon helpfully groups together all the monetizeable categories of climate damages

¹⁴ The Working Group also provides “high impact” estimate that tries to reflect the potential for uncertain, catastrophic impacts.

from greenhouse emissions and, consistent with NEPA regulations, enables agencies to assess whether all those impacts—sea-level rise, property damage, lost agricultural productivity, changes in energy demand, human health impacts, et cetera—are cumulatively significant. This Project’s contributions to cumulative climate damages, for example, are in excess of \$1 billion per year.

Finally, FERC has elsewhere argued that it could not monetize climate costs using the Social Cost of Carbon without conducting a full cost-benefit analysis, and that some effects are not currently quantifiable. SMP Project Remand at PP 40-41. Of course, this argument did not prevent FERC from monetizing employment effects and other so-called socioeconomic benefits. FEIS at 4-183–4-184, 4-196–4-197, & 5-13. NEPA requires assessing the intensity, context, and significance of each important effect. 40 C.F.R. § 1508.27. When monetization of an effect reveals its intensity, context, and significance—as the Social Cost of Carbon does for climate effects—then monetization is appropriate and useful under NEPA even if other costs or benefits are only discussed qualitatively. While NEPA regulations do state that if there are “important qualitative considerations,” then the ultimate “weighing of the merits and drawbacks of the various alternatives” should not be displayed exclusively as a “monetary cost-benefit analysis,” nevertheless NEPA regulations also acknowledge that when monetization of costs and benefits is “relevant to the choice among environmentally different alternatives,” “that analysis” can be

presented alongside “any analyses of unquantified environmental impacts, values, and amenities.” 40 C.F.R. § 1502.23. In other words, monetization of some impacts does not require monetization of all impacts. *See also High Country*, 52 F. Supp. 3d at 1191 (requiring monetization of climate impacts “[e]ven though NEPA does not require a cost-benefit analysis”). As Commissioner LaFleur observed in her partial dissent on rehearing, in previous comments to FERC, the Environmental Protection Agency concluded that “even absent a full [benefit-cost analysis], [Social Cost of Carbon and other greenhouse gases] estimates may be used for project analysis when FERC determines that a monetary assessment of impacts . . . provides useful information in its environmental review.” LaFleur Dissent at *6.

In short, FERC offers no rational argument against using the Social Cost of Carbon. And as the previous two sections of this *amicus* brief showed, a project’s climate costs should be monetized to fulfill NEPA’s requirements to assess actual, real-world effects along with their intensity, context, and significance, and a project’s climate costs must be monetized when, as here, the agency has monetized a project’s economic benefits. Consequently, FERC’s failure to use the Social Cost of Carbon was arbitrary and violated NEPA.

CONCLUSION

This Court should vacate and remand FERC’s environmental impact statement for the PennEast Pipeline Project as arbitrary and capricious.

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 29(a)(4)(G) and Fed. R. App. P. 32(g)(1), Counsel hereby certifies that this brief complies with the type-volume limitations of Fed. R. App. P. 29(a)(5) because it contains 5632 words (as counted by counsel's word processing system) excluding those portions exempted by Fed. R. App. P. 32(f) and D.C. Cir. R. 32(e)(1), which is not more than half the length of a parties' principal brief under the rules.

Counsel further certifies that this brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type-style requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in a proportionally spaced typeface in a 14-point Times New Roman font.

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CERTIFICATE OF SERVICE

Pursuant to Fed. R. App. P. 25(d), I hereby certify that on December 28, 2018, I filed the foregoing *Amicus Curiae* Brief in Support of Petitioners and Rule 26.1 Disclosure Statement through the Court's CM/ECF system, which will send a notice of filing to all registered CM/ECF users.

DATED: December 28, 2018

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