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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF WYOMING

STATE OF WYOMING, et al., *Petitioners*, vs. U.S. DEPARTMENT OF THE INTERIOR, et al., *Respondents*.	Civil Case No. 2:16-cv-00285-SWS [Lead] Consolidated with: Case No. 2:16-cv-00280-SWS

BRIEF OF THE INSTITUTE FOR POLICY INTEGRITY AT NEW YORK UNIVERSITY SCHOOL OF LAW AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS-INTERVENORS AND DISMISSAL

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Policy Integrity submits this brief as *amicus curiae* in support of Respondents-Inte]rvenors and in defense of the Bureau of Land Management's ("BLM") "Waste Prevention, Production Subject to Royalties, and Resource Conservation" rule. 81 Fed. Reg. 83,008 (Nov. 18, 2016) ("Waste Prevention Rule" or "Rule").

INTEREST OF AMICUS CURIAE

Policy Integrity is a nonpartisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship on administrative law, economics, and environmental policy.

Policy Integrity has produced extensive scholarship on the balanced use of economic analysis in regulatory decisionmaking. Policy Integrity has a particular focus on the proper scope of costs and benefits in regulatory analysis. Our director, Professor Richard L. Revesz, has published over eighty works on environmental and administrative law, including on regulatory cost-benefit analysis.

Harnessing this academic background, Policy Integrity has filed briefs addressing agency cost-benefit analysis in federal court. *See, e.g.*, Br. for Institute for Policy Integrity as *Amicus Curiae*, *Michigan v. EPA*, 135 S. Ct. 2699 (2015) (Nos. 14-46, 14-47, 14-49) (addressing direct and indirect costs and benefits); Br. of the 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 BLM's consideration of the climate consequences of coal leases); Br. of the Institute for Policy Integrity as Amicus Curiae Supporting Respondent, *Zero Zone, Inc. v. Dep't of Energy*, 832 F.3d 654 (7th Cir. 2016) (Nos. 14-2147, 14-2159, 14-2334) (addressing the U.S. Department of Energy's use of the Interagency Working Group's Social Cost of Carbon).

Additionally, Policy Integrity has participated in the proceedings and litigation surrounding the Waste Prevention Rule. Policy Integrity submitted two sets of comments on the proposed Rule, including comments specifically on use of the Interagency Working Group's ("IWG") Social Cost of Methane ("Social Cost of Methane") to monetize the Rule's climate benefits.[3] Policy Integrity filed a brief supporting plaintiffs' challenge to BLM's recent stay of the Rule. Br. for Institute for Policy Integrity as *Amicus Curiae*, *California v. BLM*, No. 17-03804, 2017 WL 4416409 (N.D. Cal. Oct. 4, 2017). In this case, plaintiffs assert that BLM's consideration of benefits exceeded its statutory authority to prevent waste. Policy Integrity's expertise generally on cost-benefit analysis, and particularly on direct versus indirect benefits and the Social Cost of Methane, afford unique perspective for evaluating those claims.

SUMMARY OF ARGUMENT

In issuing the Waste Prevention Rule, BLM relied on three broad statutes, which together give BLM authority to set waste-prevention rules that focus on private benefits as well as on protecting natural resources and the environment. Acting under that authority, BLM reasonably considered both the benefits to industry in saving natural gas as well as the health and environmental benefits of reducing methane emissions, both of which lead directly from preventing waste.

Moreover, BLM's approach to evaluating the health and environmental benefits of reducing methane emissions was reasonable. In particular, BLM appropriately used the Social Cost of Methane to calculate the climate benefits of reducing methane emissions. The Social Cost of

[3] Policy Integrity, *Comments on Proposed Rule for Waste Prevention, Production Subject to Royalties, and Resource Conservation, 81 Fed. Reg. 6616 (proposed Feb. 8, 2016)* (Apr. 21, 2016) (VF_000033639-63); Policy Integrity et al., *Joint Comments on Use of Social Cost of Methane* (Apr. 22, 2016) (VF_0033664-82) ("Joint Comments").

Methane provides a monetary estimate of the global climate damages of each additional ton of emissions. Contrary to petitioners' assertions that the metric is unreliable, the Social Cost of Methane is rigorously grounded in the best available, peer-reviewed scientific and economic literature.

BLM also appropriately relied on the global estimate of damages. Greenhouse gas emissions pose unique regulatory challenges because they mix throughout earth's atmosphere and cause climate damages globally, and because the United States cannot solve climate change alone. In response to these challenges, the Interagency Working Group adopted the global estimate as the most reliable method to capture all the effects of U.S. emissions on the United States, including effects on the U.S. economy and national security interests that spill over from international climate damages, and U.S. benefits from reciprocal foreign actions. BLM's reliance on the global estimates was reasonable, because setting policy based on the global estimate best advances U.S. interests, consistent with BLM's statutory mandate.

ARGUMENT

I. BLM Rationally Considered the Impact that the Waste Prevention Rule Will Have on Air Emissions

BLM found that the Waste Prevention Rule was overwhelmingly cost-benefit justified because—as a direct result of reducing waste—the Rule would generate $209–$403 million per year in industry savings and health and environmental benefits. Regulatory Impact Analysis for Revisions to 43 C.F.R. § 3100 and 43 C.F.R. § 3600 at 6, 107 (VF_0000442-608) ("RIA"). Specifically, by reducing waste, the Rule would save industry money because companies will conserve more natural gas to sell or reuse. RIA at 5; 81 Fed. Reg. at 83,069. Those reductions have the added advantage of increasing royalty payments to federal and state governments. 81 Fed. Reg. at 83,069. Additionally, because methane is the "primary constituent" of natural gas and a potent

greenhouse gas, reducing natural gas leaks necessarily reduces harmful methane emissions and provides significant health and environmental benefits. 81 Fed. Reg. at 83,009.

A. The Rule's Health and Environmental Benefits Are Direct Benefits That BLM Was Authorized to Consider

Petitioners concede that BLM has authority to prevent waste of natural gas. *See, e.g.*, Br. in Support of Wyoming and Montana's Pet. for Review of Final Agency Action ("Wyoming Br.") at 22. They further concede that BLM "can consider environmental impacts to the public lands when it chooses to regulate." Wyoming Br. at 29. Given those concessions, petitioners' main challenge is that the Rule's health and environmental benefits are "ancillary" and that the Rule should be set aside for relying too heavily on those benefits, *see e.g.*, Wyoming Br. at 23, 29-30; Br. in Supp. of Western Energy Alliance and Independent Petroleum Assoc. of America's Pet. for Rev. of Final Agency ("WEA Br.") at 20.

But it is inaccurate to describe the Rule's health and environmental benefits as "ancillary." Ancillary benefits are any "favorable impact of the rule that is typically unrelated or secondary to the statutory purpose of the rulemaking." *See* Office of Mgmt. & Budget, Exec. Office of the President, *Circular A-4*, Regulatory Analysis at 26 (2003) ("*Circular A-4*").[4] For example, as *Circular A-4* explains, more stringent fuel economy standards for trucks generate ancillary benefits by reducing refinery emissions. *Id.* And an air regulation targeting one pollutant may have secondary benefits by reducing other pollutants. *See, e.g.*, Clean Air Interstate Rule, 70 Fed. Reg. 25,162, 25,170 (May 12, 2005).

[4] The Office of Management and Budget under President George W. Bush issued Circular A-4 to guide agencies' cost-benefit analyses. The Trump administration instructed agencies to follow *Circular A-4*. *See generally* Office of Mgmt. & Budget, Memorandum: Implementing Executive Order 13,771, Titled "Reducing Regulation and Controlling Regulatory Costs" (Apr. 5, 2017) ("Guidance on Executive Order 13,771").Where urls are available for cited sources, they are provided in the table of authority.

Here, the Rule's direct purpose is to prevent waste, and BLM specifically identified health and environmental benefits as a justification for preventing waste. 81 Fed. Reg. at 83,009. *See also id*. at 83,014. Thus, any description of the health and environmental benefits that result from preventing waste as "ancillary benefits" mischaracterizes both the Rule and BLM's statutory authority. The Rule was issued under BLM's authority to restrict waste; the Rule indisputably prevents waste of natural gas. *See* 81 Fed. Reg. at 83,010-13. As a direct result of reducing waste, the Rule leads to "(1) private cost savings (from the sale of recovered natural gas and natural gas liquids) that would benefit the industry and (2) public benefits to society from reductions in methane emissions." [5] RIA at 5; *see also* 81 Fed. Reg. at 83,014. These are all direct benefits of preventing waste. 81 Fed. Reg. at 83,014. The Waste Prevention Rule is not a rule that is primarily directed at saving industry money, with health and environmental benefits as secondary effects. *See* RIA at 5; 81 Fed. Reg. at 83,014. Rather, it is a rule directed at preventing *waste* of natural gas, which has multiple direct benefits, including environmental benefits.

As the statutes make clear, considering the health and environmental benefits of restricting waste was not "secondary to the statutory purpose of the rulemaking." *Circular A-4* at 26. The Federal Land Policy and Management Act ("FLPMA") directs BLM to manage public lands "in a

[5] Amicus API argues that BLM's consideration of industry's cost savings, was "problematic" because industry purportedly would already be capturing these savings if they were available. API Br. at 13-14. However, API mischaracterizes the purpose of cost-benefit analysis. A cost-benefit analysis is designed to assess the expected effects of proposed policies, by comparing the likely outcomes with the proposed rule to the likely outcomes in the absence of the proposal. Crucially, this analysis must be conducted from the perspective of society as a whole, not just from individual actors. *See* Circular A-4 at 2–3; Anthony E. Boardman et. al., *Cost-Benefit Analysis: Concepts and Practice* (2d. ed. 2001) ("In cost-benefit analysis we try to consider all of the costs and benefits to society as whole."). API assumes a world where the proposed rule has not been enacted, and where the only relevant costs and benefits are those to industry. BLM reasonably projected that in the presence of the Rule, oil and gas producers would capture and sell some of the fugitive gas, thus recouping costs. RIA at 107– 08. API provides no support to suggest that producers would leave this money on the table when the Rule takes effect.

manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." 43 U.S.C. § 1701(a)(8); *See also id.* §§ 1702(c), 1732(a). FLPMA further authorizes BLM to issue regulations that are "necessary to prevent unnecessary or undue degradation of the lands." *Id.* § 1732(b). Similarly, the Mineral Leasing Act ("MLA") authorizes BLM to impose on lessees rules designed to protect "the interests of the United States" and to "safeguard[] the public welfare." 30 U.S.C. § 187. The MLA also requires lessees to "use all reasonable precautions to prevent waste of oil or gas developed in the land." *Id.* § 225. Under these statutes, BLM has broad authority to make waste-prevention and leasing decisions that protect natural resources and the environment. *See* 81 Fed. Reg. at 83,019–2 (summarizing BLM's statutory authority). *See also* State Respondents' Opp. to Pets.' Brs. at 6.

BLM's consideration of the Rule's health and environmental benefits falls comfortably within that authority. For example, it is entirely reasonable to consider environmental consequences to determine how much "degradation of the lands" is "unnecessary or undue" 43 U.S.C. § 1732(b). And it was rational for BLM to consider the environmental consequences when selecting what "reasonable precautions" to impose on preventing waste. 30 U.S.C. § 225. *See e.g.*, *Zero Zone, Inc. v. U.S. Dep't of Energy*, 832 F.3d 654, 677 (7th Cir. 2016) (holding that there was no doubt that the agency had authority to consider environmental consequences when tasked with considering the "need for national energy . . . conservation" (quoting 42 U.S.C. § 6295(o)(2)(B)(i)(VI))).

For these reasons, as BLM explained in issuing the Rule, "BLM's regulations governing oil and gas operations on the public lands have always required operators to avoid damaging other natural resources or environmental quality." 81 Fed. Reg. at 83,020. For example, BLM has long required mining operators to "conduct operations in a manner which protects the mineral

resources, other natural resources, and environmental quality." 43 C.F.R. § 3162.5-1(a); *see also* Mining Claims under the General Mining Laws; Surface Management, 65 Fed. Reg. 69,998 (Nov. 21, 2000) (explaining that the "potential benefits" of the rule "are environmental improvements") ("2000 Mining Rule"); Surface Management of Public Lands Under U.S. Mining Laws, 45 Fed. Reg. 78902, 78903 (Nov. 26, 1980) (pledging to engage in monitoring "to ensure that there is no unnecessary or undue degradation of the Federal lands"). BLM has also long considered the environmental impacts of mining in its cost-benefit analysis. For example, in November 2008, BLM found that a new oil shale regulation "could affect a wide range of resources, including groundwater quality and quantity, air quality, cultural resources, wildlife habitat, competing land uses, and local employment and infrastructure" and so analyzed the "environmental and socioeconomic costs and benefits" of the regulation's impact on those areas. Oil Shale Management—General, 73 Fed. Reg. 69,414, 69,449 (Nov. 18, 2008).

B. Even if the Rule's Health and Environmental Benefits Are Considered "Ancillary," It Was Reasonable for BLM to Consider Them

Whether the Rule's health and environmental benefits are labeled "direct" or "ancillary," it was reasonable for BLM to consider them. Executive Order 12,866, the leading executive order on cost-benefit analysis,[6] requires agencies to "propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs." Exec. Order No. 12,866 § 1(b)(6), 58 Fed. Reg. 51,735 (Sept. 30, 1993) ("Executive Order 12,866"). The Order requires agencies to consider effects "on health, safety and the natural environment" when assessing regulator costs and benefits. *Id.* § 6(a)(3)(C)(ii). Agencies must conduct this analysis for direct benefits and for important and expected ancillary benefits. *Circular A-4* at 3, 26. As *Circular A-4*

[6] *See* Guidance on Executive Order 13,771, *supra* (reaffirming the current administration's commitment to the guidelines in Executive Order 12,866).

explains, "[t]o evaluate properly the benefits and costs of regulations" agencies must identify the "expected undesirable side-effects and ancillary benefits" and add them to the "direct benefits and costs." *Circular* A-4 at 2-3. "The same standards of information and analysis quality that apply to direct benefits and costs should be applied to ancillary benefits and countervailing risks." *Id.* at 26.

Courts have long held that when a rule's justification includes economic analysis, agencies may not ignore important costs or benefits, whether the effect is direct or ancillary. For example, the U.S. Court of Appeals for the D.C. Circuit struck down a National Highway Traffic Safety Administration rule for failing to consider potentially significant costs in the form of safety risks associated with the smaller size of more fuel-efficient cars. *See Competitive Enter. Inst. v. Nat'l Highway Traffic Safety Admin.*, 956 F.2d 321, 326–27 (D.C. Cir. 1992); *see also U.S. Telecom Ass'n v. Fed. Commc'ns Comm'n*, 290 F.3d 415, 424–25 (D.C. Cir. 2002) (remanding a rule for failure to consider costs). And when EPA attempted to ban asbestos-lined brakes under the Toxic Substances Control Act, the U.S. Court of Appeals for the Fifth Circuit held that the agency had to consider the safety reduction that would accompany forcing cars to use substitute, asbestos-free brakes. *See Corrosion Proof Fittings v. EPA*, 947 F.2d 1201, 1225 (5th Cir. 1991). Although these precedents focus on the consideration of costs rather than benefits, agencies are required to treat costs and benefits alike with comparable analysis, to offer a full accounting of a rule. *See Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1198 (9th Cir. 2008) (warning agencies not to "put a thumb on the scale by undervaluing the benefits and overvaluing the costs").

Here, BLM complied with its duty to consider the full impacts of its decision on industry, states, and the environment. As BLM explained, the agency's waste prevention rules were three decades old and sorely needed an update. 81 Fed. Reg. at 83,015. While natural gas production

had increased substantially during that time, two major problems were caused by the "significant and growing quantities of wasted natural gas" accompanying that increase. 81 Fed. Reg. at 83,014. First, natural gas is "critical to U.S. energy security and national security" and "provides significant economic benefits as an energy source for electricity generation and industrial and residential use." *Id.* But wasting natural gas "deprive[s] the American public and tribes of the security and economic benefits" of the resource. *Id.* Second, "the waste of natural gas also imposes public health and environmental costs, in the form of air pollution, such as smog and regional haze; emissions of hazardous air pollutants, some of which are carcinogenic; and emissions of methane, a powerful contributor to global warming," and without stronger waste-prevention rules, "the avoidable loss of gas will continue to threaten climate stability and respiratory and cardiovascular health." *Id.* at 81,014–15.

BLM's choice of how to address both these concerns was appropriate and fully within its statutory mandate to protect natural resources. Indeed, ignoring either category of benefits would have been "a serious flaw undermining" BLM's analysis. *See Nat'l Ass'n of Home Builders v. EPA*, 682 F.3d 1032, 1040 (D.C. Cir. 2012); *see also Circular A-4* at 2-3.

II. BLM Reasonably Applied the Interagency Working Group's Social Cost of Methane Values to Evaluate the Rule's Climate Benefits

To evaluate the health and environmental benefits from the Rule's methane reductions, BLM applied the Social Cost of Methane, a metric that uses the best available science and economics to assign a dollar value to the damages expected to result from each ton of methane emitted. *See* Interagency Working Group on Social Cost of Greenhouse Gases, *Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* at 2–3, 12 (2016) (VF_0018736-55) ("2016 IWG Addendum"); RIA at 33-37. Petitioners assert that the Social Cost of Methane is speculative and improperly includes global

effects of methane emissions. But that metric is well-supported and represents the best available scientific and economic analysis of the damages resulting from methane emissions. Additionally, it was reasonable under the statutes and consistent with best economic practices for BLM to use estimates based on global climate damages to capture the Rule's full effects on U.S. welfare.

A. The Social Cost of Methane Is Well-Grounded in the Best Available Peer-Reviewed Science and Economics

Contrary to petitioners' assertions that the Social Cost of Methane is a "highly speculative" and "controversial calculation," *see* Joint Opening Br. of the States of North Dakota and Texas ("Tx. Br.") at 33, it was reasonable for BLM to rely on this metric to analyze the Rule. The Social Cost of Methane values are well-supported, based on peer-reviewed science and economics, and derived from models that have been widely used and accepted. *See* 2016 IWG Addendum at 2-3; RIA at 35-37.

The Social Cost of Methane estimate was developed through a lengthy process that first began in 2009, when an Interagency Working Group assembled experts from a dozen federal agencies and White House offices to "estimate the monetized damages associated with an incremental increase in carbon emissions in a given year" based on "a defensible set of input assumptions that are grounded in the existing scientific and economic literature." Interagency Working Group on Social Cost of Carbon, *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* (2010) (VF_0018791-841) ("2010 TSD").

To conduct this analysis, the IWG used three frequently used and cited models that were built to predict the economic costs of the physical impacts of each additional ton of carbon.[7] 2010

[7] These models are DICE (the Dynamic Integrated Model of Climate and the Economy), FUND (the Climate Framework for Uncertainty, Negotiation, and Distribution), and PAGE (Policy Analysis of the Greenhouse Effect).

TSD at 5. The IWG ran these models using a baseline scenario including inputs and assumptions drawn from the peer-reviewed literature, and then ran the models again with an additional unit of carbon emissions to determine the increased economic damages. *See* 2010 TSD at 24-25; Interagency Working Group on Social Cost of Greenhouse Gases, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866* at 16 (2016) (VF_0018756-90) ("2016 TSD"). The group's Social Cost of Carbon estimates were first issued in 2010 and have been updated several times to reflect the latest and best scientific and economic data. *See* 2016 TSD at 5–29.

Following the development of estimates for carbon dioxide, the same basic methodology was used to develop the Social Cost of Methane—an estimate that captures the distinct heating potential of methane emissions. *See* 2016 IWG Addendum at 2; RIA at 35. The valuation of the Social Cost of Methane used the same economic models, the same treatment of uncertainty, and the same methodological assumptions that the IWG used to develop the Social Cost of Carbon, and it underwent rigorous peer-review. *See* 2016 IWG Addendum at 3. The IWG approved and officially adopted the Social Cost of Methane value in August 2016, and BLM thereafter used these values in assessing the Waste Prevention Rule. RIA at 37.

The methodology for developing the Social Cost of Greenhouse Gases has been repeatedly endorsed by reviewers. In 2014, the U.S. Government Accountability Office reviewed the methodology and concluded that it had followed a "consensus-based" approach, relied on peer-reviewed academic literature, disclosed relevant limitations, and adequately planned to incorporate new information through public comments and updated research. Gov't Accountability Office, Regulatory Impact Analysis: Development of Social Cost of Carbon Estimates 12-19 (2014). 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 IWG estimates.[8] And in 2016, the U.S. Court of Appeals for the Seventh Circuit held that the Department of Energy's reliance on the Social Cost of Carbon was reasonable. *Zero Zone,* 832 F.3d at 679. It is, therefore, unsurprising that scores of leading economists and climate policy experts have endorsed the Working Group's values as the best available estimates.[9]

Agencies have applied the Social Cost of Carbon and Methane estimates in scores of rulemakings and subject to extensive public comment. Agencies have used the Social Cost of Carbon in nearly a hundred regulatory proceedings, and counting. *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). EPA, the U.S. Forest Service, the Pipeline and Hazardous Materials Safety Administration, the Department of Energy, and the National Highway Traffic Safety Administration have all used the Social Cost of Methane in regulatory

[8] Nat'l Acad. Sci., Engineering & Med., *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide* 3 (2017); Nat'l Acad. Sci., Engineering & Med., *Assessment of Approaches to Updating the Social Cost of Carbon: Phase 1 Report on a Near-Term Update* 1–2 (2016).

[9] *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., *Global Warming: Improve Economic Models of Climate Change*, 508 Nature 173 (2014) (co-authored with Nobel Laureate Kenneth Arrow, among others); Decl. of Michael Hanemann ¶ 17, ECF No. 69-1 (The estimates that the Working Group prepared for the costs of methane are "the best available estimate of the environmental cost of an additional unit of methane emissions.").

analyses.[10] These proceedings all included public comment periods, which allowed interested commenters to offer feedback on the Social Cost of Methane. *See also* RIA at 34.

In March 2017, President Trump withdrew the technical support documents that set out the Social Cost of Carbon and Methane methodology, and disbanded the IWG. Exec. Order No. 13,783 § 5(b), 82 Fed. Reg. 16,093 (Mar. 28, 2017). But contrary to petitioners' suggestion, *see* WEA Br. at 24, n.14; Tx. Br. at 33, that withdrawal in 2017 does not call into question BLM's decision to rely in 2016 on the Social Cost of Methane. Moreover, Executive Order 13,783 did not to undermine the value of the peer-reviewed research that formed the foundation of Social Cost of Methane. To the contrary, Executive Order 13,783 offered no new conclusions at all to cast doubt on the reasonableness or scientific reliability of those the estimates.[11]

Additionally, Executive Order 13,783 presumes that agencies will continue "monetizing the value of changes in greenhouse gas emissions." Exec. Order No. 13,783 § 5(c). Agencies that conduct cost-benefit analyses of regulations that involve significant greenhouse gas emissions must monetize the societal costs of those emissions. For example, in *Center for Biological Diversity*, 538 F.3d at 1200, the National Highway Traffic Safety Administration had issued fuel

[10] *See, e.g.*, EPA, Emission Standards for New and Modified Source, 80 Fed. Reg. 56,593, 56,654 (Sept. 18, 2015); EPA, Standards of Performance for Municipal Solid Waste Landfills, 80 Fed. Reg. 52,162, 52,103, 52,143 (Aug. 27, 2015); Forest Service, Roadless Area Conservation, 81 Fed. Reg. 91,811 (Dec. 19, 2016); Dep't of Energy, Pipeline and Hazardous Materials Safety Administration, *Regulatory Impact Analysis: Underground Natural Gas Storage Interim Final Rule* 6-4 to 6-5 (2016); 82 Fed. Reg. 31,808, 31,857 (July 10, 2017); National Highway Traffic Safety Administration, *Phase 2 Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles Final EIS* 5-30 to 5-31 (2016).

[11] Executive Order 13,783 also instructed agencies to "ensure" that any monetized value of emissions changes are "consistent with the guidance contained in OMB Circular A-4." *See* Exec. Order No. 13,783 § 5(b), 82 Fed. Reg. 16,096 (Mar. 28, 2017) (citing Circular A-4 at 1). Contrary to petitioners' arguments, *see* WEA Br. at 24-25, the Interagency Working Group's Social Cost of Carbon and Methane estimates are, in fact, consistent with Circular A-4. *See* Denise Grab, *Trump's Alternative Economics of Climate Change*, The Regulatory Review (Apr. 24, 2017).

economy standards for trucks but failed to assess the social costs of greenhouse gas emissions, claiming that such costs were "too uncertain to support their explicit valuation and inclusion among the savings in environmental externalities from reducing gasoline production and use." *Id.* at 1192. The court, however, rejected that argument as arbitrary and capricious, holding that "while the record shows that there is a range of values, the value of carbon emissions reduction is certainly not zero." *Id.* at 1200. Similarly, when agencies consider and rely on the monetary benefits of leasing decisions, they must also monetize the climate damages caused by those decisions. *Montana Envtl. Info. Ctr. v. U.S. Office of Surface Mining*, No. 15-106, 2017 WL 3480262, at *14-*15 (D. Mont. Aug. 14, 2017) (finding that it was arbitrary and capricious to quantify the benefits but not the greenhouse gas-costs of lease modifications); *High Country Conservation Advocates v. U.S. Forest Service*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014) (same).

Following Executive Order 13,783, federal agencies have continued to rely on the estimates, and have emphasized the usefulness and analytical rigor of those estimates. *E.g.*, U.S. Dep't of the Interior, Bureau of Ocean Energy Mgmt., *Draft Envtl. Impact Statement: Liberty Development Project* at 3-129, 4-246 (Aug. 2017) (calling the Social Cost of Carbon "a useful measure" and applying it to analyze the consequences of offshore oil and gas drilling); Dep't of Energy, Energy Conservation Standards for Walk-In Cooler and Freezer Refrigeration Systems, 82 Fed. Reg. 31,808, 31,811, 31,857 (July 10, 2017) (using the Social Cost of Carbon and Methane to analyze energy efficiency regulation, and describing the Social Cost of Methane as having "undergone multiple stages of peer review"). In sum, nothing in Executive Order 13,783 undermines BLM's decision to use the Social Cost of Methane to analyze the costs and benefits of the Waste Management Rule, and it would have been arbitrary and capricious if BLM had failed to monetize the climate effects.

B. BLM's Consideration of Global Damages in the Social Cost of Methane Is Reasonable under Statutory Authority and Consistent with Best Economic Practices

Petitioners argue that BLM lacked statutory authority to consider the Social Cost of Methane, and must focus instead only on "domestic benefits." WEA Br. at 25; *accord* WY Br. at 29; TX Br. at 33.[12] But petitioners misunderstand the purpose of the Social Cost of Methane. The Social Cost of Methane considers global damages in order to accurately capture the true costs of climate change to U.S. interests. Because of climate change's unique characteristics, an estimate based on global damages was the only defensible way for BLM to value the Rule's costs, consistent with statutory mandates and best economic practices. By contrast, a domestic-only estimate arbitrarily ignores key factors that are relevant under the governing statutes, such as how global climate damages will directly affect U.S. economic, public health, and national security interests.

The Rule's Regulatory Impact Analysis relied on the global estimates of the Social Cost of Methane, explaining that a global perspective is necessary because methane is a "global pollutant." RIA at 35. BLM also incorporated the technical findings supporting the global Social Cost of Methane into the Regulatory Impact Analysis. *See* RIA at 37.

The IWG's technical findings explain that a global perspective on the Social Cost of Methane is reasonable because methane imposes global externalities, because solving climate change requires reciprocal foreign actions that will benefit the United States, and because

[12] Petitioners also suggest that putting the rule's effects in a "global context" requires comparing the rule's methane reductions with total global greenhouse gas emissions, and further suggest that such a comparison reveals the rule's benefits to be "effectively zero." WEA Br. at 5. This argument misunderstands how the Social Cost of Methane works. It is a marginal measure that values the economic effects of adding a single additional unit of methane emissions. Each ton of methane reductions carries a non-zero, monetized benefit that does not depend on resolving the entire problem of global climate change in one fell swoop. In this way, the Social Cost of Methane allows agencies to develop step-by-step, cost-benefit justified actions to reduce methane emissions. *See Massachusetts v. E.P.A.*, 549 U.S. 497, 524 (2007) ("Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop.").

international climate damages will spill back onto the U.S. economy and other U.S. interests. 2016 IWG Addendum at 5. First, the IWG explained that methane's costs should be calculated on a global basis because methane imposes "a global externality." *Id.* Methane pollution does not stay within geographic borders, but rather mixes in the earth's atmosphere and affects climate worldwide. Consequently, methane emissions "contribute to damages around the world even when they are emitted in the United States, and conversely, greenhouse gases emitted elsewhere contribute to damages in the United States." *Id.* The climate is a global common resource, meaning it is freely available to all countries, but any one country's use—i.e., pollution—imposes harms on the polluting country as well as the rest of the world. To avoid a global "tragedy of the commons" that could irreparably damage all countries, including the United States, every nation should set policy according to a global Social Cost of Greenhouse Gas value. *See* Joint Comments at 5-10; Garrett Hardin, *The Tragedy of the Commons*, 162 Science 1243, 1244 (1968) ("[E]ach pursuing [only its] own best interest . . . in a commons brings ruin to all.").

As the IWG recognized, if all countries set their greenhouse gas emission levels based on only domestic costs and benefits, ignoring the large global externalities, the aggregate result would be substantially sub-optimal climate protections and significantly increased risks of severe harms to all nations, including the United States. Thus, basic economic principles demonstrate that the United States stands to benefit greatly if all countries apply a Social Cost of Greenhouse Gas value in their regulatory decisions. It is therefore rational for the United States to adopt the Social Cost of Methane because it will encourage other countries to follow suit. *See* Robert Axelrod, *The Evolution of Cooperation* 10-11 (1st ed. 1984) (on repeated prisoner's dilemma games). Indeed, several significant players—including the United Kingdom, Sweden, Germany, and Norway—have already developed their own analogous estimates of the Social Cost of Greenhouse Gases.

See Joint Comments at 7–8. Canada and Mexico have explicitly borrowed the Social Cost of Carbon to set their own fuel efficiency standards. *Id.* at 7. The United States stands to gain hundreds of billions of dollars in direct benefits if other countries continue to take efficient actions on climate change that account for the global externalities of their emissions. *Id*. Were the United States to depart from this collaborative dynamic, that could induce other countries likewise to ignore how their emissions affect the United States, thereby jeopardizing emissions reductions underway in other countries that are already benefiting the United States. *See generally* Howard & Schwartz, *supra,* at 223-232; Matthew J. Kotchen, *Which Social Cost of Carbon? A Theoretical Perspective* (Nat'l Bureau of Econ. Research, Working Paper No. 22246, 2016) (showing that the optimally strategic Social Cost of Carbon will be higher than the domestic value for all countries).

Finally, the IWG explained that a global value is the most reasonable estimate for calculating U.S. regulatory costs and benefits because "adverse impacts on other countries can have spillover effects on the United States, particularly in the areas of national security, international trade, public health, and humanitarian concerns." 2016 IWG Addendum at 5. Historically, economic disruptions in one country can cause financial crises that reverberate globally at breakneck speed. Similarly, "national security analysts . . . increasingly emphasize that the geopolitical instability associated with climatic disruptions abroad poses a serious threat to the United States." Joint Comments at 10 (citing Department of Defense, Climate Change Adaptation Roadmap (2014)). A global framework for the Social Cost of Greenhouse Gases properly recognizes that climate change will threaten the United States with significant international spillover effects. These significant spillover effects currently can only be captured by adopting the Social Cost of Greenhouse Gases; existing models cannot accurately calculate a domestic-only estimate and do "not account for how damages in other regions could affect the United States (e.g.,

global migration, economic and political destabilization)." 2010 TSD at 11. Trying to define U.S. interests according to strict geographic boundaries would arbitrarily ignore how climate damages in other countries will cause harms to the United States.

In short, a global perspective on climate change directly *promotes* national welfare, and therefore, the Social Cost of Methane is consistent with and reasonable under BLM's statutory authority. FLPMA instructs the Department of Interior to manage public lands to "best meet the present and future *needs* of the American people," 43 U.S.C. § 1702(c) (emphasis added), including the need for "ecological, environmental, air and atmospheric" protections, *id.* § 1701(a)(8). Under this language, it is reasonable for BLM to consider the need to protect the American people from global climate effects that will spill back onto the U.S. economy and national security, as well as the need to encourage reciprocal foreign actions on climate that will directly advance U.S. welfare. Failing to do so would be just as irrational as a homeowner dumping trash in her neighbor's yard without considering whether that might attract pests and generate odors on her property, affect her property value, or provoke her neighbor to retaliate in kind.

The U.S. Court of Appeals for the Seventh Circuit addressed this same issue in *Zero Zone v. Department of Energy*, interpreting similar statutory language. 832 F.3d at 679. Under the Energy Policy and Conservation Act's instructions to set energy efficiency standards according to "the need for national energy conservation," 42 U.S.C. § 6295(o)(2)(B)(i)(VI), the Department of Energy had used the Social Cost of Carbon. The Department of Energy explained its use of the Social Cost of Carbon complied with the statute "because of the distinctive nature of the climate change problem" and the fact that the United States cannot solve climate change on its own. Dep't of Energy, Energy Conservation Standards for Commercial Refrigeration Equipment, 79 Fed. Reg. 17,726, 17,777 (Mar. 28, 2014). The Seventh Circuit agreed, concluding that the agency acted

reasonably when it used the Social Cost of Carbon to set energy efficiency standards to advance the national need to conserve wasted energy. *Zero Zone,* 832 F.3d at 679. Here too, it was reasonable for BLM to use the Social Cost of Methane to set standards to advance the needs of the American people to conserve wasted gas.

For similar reasons, Petitioners' appeals to executive branch guidance on cost-benefit analysis fail, as that guidance actually supports the Social Cost of Methane. *Contra* WEA Br. at 25. To focus on the benefits and costs accruing to U.S. citizens as recommended by *Circular A-4*, agencies must consider the U.S. interests in preventing international spill overs and the U.S. interests in reciprocal foreign actions. Contrary to Petitioners' argument, *Circular A-4* does not require a one-size-fits-all approach to regulatory analysis that limits focus to within geographic boundaries. Rather, *Circular A-4* reminds agencies that "you cannot conduct a good regulatory analysis according to a formula . . . . Different regulations may call for different emphases in the analysis, depending on the nature and complexity of the regulatory issues and the sensitivity of the benefit and cost estimates to the key assumptions." *Circular A-4* at 3. The very nature of climate change—the global externality, the international spillovers, the need for reciprocal foreign actions—requires such a different, broader perspective to capture all benefits and costs accruing to U.S. citizens, and so requires use of the Social Cost of Methane.

Finally, petitioners are factually wrong that the Rule improperly compares global benefits with "costs borne only by domestic producers." WEA Br. at 25. Of the oil and gas producers that lease land from BLM and so are subject to this Rule's compliance obligations, many such companies have foreign investors and foreign customers who will bear some portion of those compliance costs. For example, ConocoPhillips, which has a significant number of BLM's oil and

gas leases in Alaska,[13] is a public company with many foreign investors. The Government Pension Fund of Norway, for instance, owns over seven million shares of ConocoPhillips as of 2017.[14] U.S. producers also increasingly export oil and gas to foreign consumers. *See* U.S. Energy Info. Admin., *U.S. Natural Gas Exports and Re-Exports by Country* (Nov. 30, 2017). The share of compliance costs borne by such foreign investors and consumers is not reported separately in the Rule, nor do petitioners suggest such costs should be ignored. And, just as in *Zero Zone*, petitioners "point to no [other] global costs that should have been considered alongside these benefits." 832 F.3d at 679.

In sum, BLM's use of the Social Cost of Methane was consistent with best economic practices and was reasonable.

[13] *See* e.g., Bureau of Land Management, *2013 NPR-A Oil & Gas Current Lease Report* (2013).

[14] *See* Morningstar, ConocoPhillips Major Shareholders (last visited Dec. 12, 2017).

CONCLUSION

For the foregoing reasons, this Court should deny the petitions for review.

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Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH RULE 32(a)(7)

Counsel hereby certifies that, in accordance with Federal Rule of Appellate Procedure 32(a)(7), the foregoing Brief contains 6456 words, as counted by counsel's word processing system, and this complies with the applicable word limit established by the Court.

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 this document has been prepared in a proportionally spaced typeface using Microsoft Word 2013 in 12-point Times New Roman font.

Dated: December 15, 2017 /s/ Mark Squillace
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CERTIFICATE OF SERVICE

I hereby certify that on January 11, 2018, I filed the foregoing *Amicus Curiae* Brief in Support of Respondents-Intervenors which will send notice of filing to all registered CM/ECF users.

Dated: January 11, 2018

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