

COMMENT

FORECASTING CLIMATE CHAOS: NEPA’S ROLE IN COUNTERING FOSSIL FUEL EXTRACTION ON PUBLIC LANDS

BY
DANI L. REPLOGLE*

This Comment dissects an influential line of cases out of the Tenth Circuit in order to better understand how courts are holding federal agencies accountable for the climatic effects of fossil fuel extraction on public lands. While the judiciary is beginning to require that agencies quantify downstream emissions and consider the impacts of these emissions, framing requests for this type of relief in proper NEPA terminology and asserting claims at the appropriate stage in the permitting process are critical to success. Viewing the recent movement in the Tenth Circuit through a didactic lens, this Comment offers tips for environmental litigators seeking to make the most of NEPA as a tool to combat climate change. The analysis closes with several policy recommendations that would make NEPA more effective at disclosing the true risks inherent in fossil fuel development.

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*Dani Replogle graduated from Lewis & Clark Law School in 2019 with a Certificate in Environmental and Natural Resources Law. She is a Diehl Fellow and a recipient of the Environmental, Natural Resources, and Energy Law Leadership Award. Dani currently works as a Legal Fellow at Earthrise Law Center where she devotes her time to public interest environmental litigation.

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"It is the continuing policy of the Federal Government . . . to use all practicable means and measures . . . to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans."—The National Environmental Policy Act, 42 U.S.C. § 4331(a).

"Just as NEPA is not a green Magna Carta, federal judges are not the barons at Runnymede."—Justice Clarence Thomas in *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 194 (D.C. Cir. 1991).

I. INTRODUCTION

Perhaps the cruelest joke all environmental law students eventually learn is that statutory sections establishing the "policies and goals" of the federal government are incapable of being enforced. Take, for example, the National Environmental Policy Act (NEPA).¹ To an untrained eye, the policies outlined in NEPA's opening section seem to live up to the comprehensive framework the law's name implies. NEPA declares it the responsibility of the U.S. government to "assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings" and to "attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences."² Yet, even these ostensibly unchangeable mandates are qualified by the preface's provision that the government need only take those protective measures which are "practicable" and "consistent with other essential considerations of national policy."³

¹ 42 U.S.C. §§ 4321–4370h (2012).

² *Id.* § 4331(b).

³ *Id.*

The practicability qualification is not unique to NEPA.⁴ Most commonly, practicability language is added as a loophole to accommodate the hard truth that Americans are eager to ignore: protecting the environment is not always the most economically profitable option in the short-term. NEPA in particular, however, has been further weakened by decades of judicial opinions holding the statute lacks substantive requirements.⁵

Congress's failure to take affirmative action to counter climate devastation has forced environmental advocates to craft a number of creative solutions to fill the legislative void.⁶ Among these makeshift fixes is environmental attorneys' use of a procedural statute, NEPA, to force agencies to take substantive action. For, despite courts' repeated insistence that NEPA is a procedural law, NEPA suits have undeniably been successful in changing circumstances on the ground.⁷ Although ongoing threats to our natural resources mean the protections a NEPA win affords are often short-lived, buying time can be crucial to allow conservation movements to grow. Whether by legislative intervention or subsequent litigation, public investment in a resource can occasionally provide long-term, albeit somewhat insecure, protection for natural resources threatened by agency action.

As the American public begins to feel the disastrous impacts of Earth's changing climate,⁸ eyes are increasingly turning to the source of

⁴ See 40 C.F.R. § 230.10 (1995) (allowing fill of wetlands under the Clean Water Act when there is no less practicable alternative); 50 C.F.R. § 17.22(b)(2)(ii) (1997) (allowing incidental take permits to be issued under the Endangered Species Act when an applicant minimizes takings to the maximum extent practicable); 16 U.S.C. § 1604(g)(3)(B) (2012) (instructing the Forest Service to provide for diversity of trees to a practicable degree).

⁵ See *Robertson v. Methow Valley Citizen Council*, 490 U.S. 332, 333 (1989) ("[I]t is well settled that NEPA itself does not impose substantive duties mandating particular results, but simply prescribes the necessary process for preventing uninformed—rather than unwise—agency action.").

⁶ In addition to the NEPA method discussed herein, innovative attempts to obtain climate justice include the climate necessity defense and the atmospheric trust theory showcased in the much-publicized *Juliana* litigation. Phil McKenna, *Judge Allows 'Necessity' Defense by Climate Activists in Oil Pipeline Protest*, INSIDE CLIMATE NEWS (Oct. 16, 2017), <https://perma.cc/7SAA-AFBW>; *Juliana v. United States*, 217 F. Supp. 3d 1224, 1233 (D. Or. 2016). *But see* *Juliana v. United States*, 947 F.3d 1159, 1170–75 (9th Cir. 2020) (holding plaintiffs' in the atmospheric trust litigation lacked standing due to the judiciary's inability to redress their injury).

⁷ See generally *Metcalf v. Daley*, 214 F.3d 1135 (9th Cir. 2010) (suspending agreement allowing whaling because decision was improperly made prior to completion of NEPA process); *Greater Yellowstone Coal. v. Kempthorne*, 577 F. Supp. 2d 183, 210 (D.D.C. 2008) (vacating agency decision to allow 540 snowmobiles daily in Yellowstone National Park where evidence showed resources were impaired); *Friends of Black Bay v. U.S. Army Corps of Eng'rs*, 681 F.3d 581 (4th Cir. 2012) (requiring mitigation for marina project where mitigation was necessary to avoid significant environmental impacts).

⁸ Jim Morrison, *Flooding Hot Spots: Why Seas are Rising Faster on the U.S. East Coast*, YALE ENV'T 360 (Apr. 24, 2018), <https://perma.cc/SQL9-PHFK>; Henry Fountain, *Scientists Link Hurricane Harvey's Record Rainfall to Climate Change*, N.Y. TIMES (Dec. 13, 2017), <https://perma.cc/L2MF-UC9K>; Kendra Pierre-Louis & Nadja Popovich, *Climate*

many greenhouse gas emissions: fossil fuel resources. Despite the Trump Administration's attempts to resurrect a dying coal industry,⁹ growing numbers of activists are insisting the government "keep it in the ground."¹⁰ Against this political backdrop, headlines announcing the Tenth Circuit Court of Appeals' chastisement of the government for failure to properly consider climate change before issuing coal leases brought jubilation to an increasingly desperate environmentalist community.¹¹ Indeed, judicial opinions that allow fossil fuels to remain asleep beneath public soils are worthy of celebration, especially in light of recent estimations that approximately a quarter of carbon dioxide emissions in the U.S. are attributable to fuels extracted from public lands.¹²

This Comment examines the Tenth Circuit's recent decisions involving NEPA and climate change to better understand the ingredients for a successful challenge to fossil fuel development on public lands. For background, Part II provides an overview of the laws and processes that control fossil fuel leasing on government-owned land. Beginning with *WildEarth Guardians v. U.S. Bureau of Land Management*,¹³ Part III reviews recent caselaw out of the Tenth Circuit dealing with agency analysis of climate impacts in NEPA documents. Particular attention is paid to the factors likely to lead a court to conclude an agency acted arbitrarily and capriciously in its lease or permit approval. Part IV then discusses takeaways from this line of precedent, including legislative modifications that could bolster NEPA's effectiveness at forcing agencies to consider the true environmental consequences of their actions. Finally, Part V suggests that advocates considering NEPA as a tool to challenge fossil fuel leases carefully craft their cases to preserve valuable precedent while strategically pushing

Change is Fueling Wildfires Nationwide, New Report Warns, N.Y. TIMES (Nov. 27, 2018), <https://perma.cc/4T9S-MDKP>.

⁹ Upon taking up the presidency, President Trump reversed a moratorium on coal leasing the Obama administration implemented during a programmatic review of the public costs of energy leasing. Jayni Foley Hein, *Federal Lands and Fossil Fuels: Maximizing Social Welfare in Federal Energy Leasing*, 42 HARV. ENVTL. L. REV. 1, 2–3 (2018); see also *Department of Energy Announces \$38 Million for Improving Existing Coal-Fired Power Plants*, ENERGY.GOV (Jan. 23, 2019), <https://perma.cc/EN2S-HEHD>.

¹⁰ Jeff Brady, *'Keep it in the Ground' Activists Optimistic Despite Oil Boom*, NAT'L PUB. RADIO (Mar. 16, 2018), <https://perma.cc/5H93-ARVZ>; Press Release, Jeff Merkley, Senator (D-Or.), Senators Push Back on Trump's Reopening of Coal Leasing on Public Lands, Re-introduce "Keep it in the Ground" Act (Mar. 28, 2017), <https://perma.cc/5EVS-W4BL>.

¹¹ See, e.g., Umair Irfan, *A Conservative Leaning Court Just Issued a Surprise Ruling on Climate Change and Coal Mining*, VOX (Sept. 19, 2017), <https://perma.cc/BW4W-8HB4>.

¹² MATTHEW D. MERRILL ET AL., U.S. DEP'T OF THE INTERIOR, U.S. GEOLOGICAL SURV., SCI. INVESTIGATIONS REPORT 2018-5131, FEDERAL LANDS GREENHOUSE GAS EMISSIONS AND SEQUESTRATION IN THE UNITED STATES: ESTIMATES FOR 2005–14, at 8 (2018), <https://perma.cc/T8T3-LTMM>. On a related note, the United States is now the world's largest producer of oil and natural gas. *United States Remains World's Top Producer of Petroleum and Natural Gas Hydrocarbons*, EIA.GOV (May 21, 2018), <https://perma.cc/DC9H-4TLB>.

¹³ 870 F.3d 1222 (10th Cir. 2017).

courts to broaden their understanding of what NEPA requires of agencies. Part V closes with the conclusion that, despite NEPA's potential, the environmental movement must continue to demand a comprehensive, substantive law to rid the country of its fossil fuel addiction.

II. MANAGEMENT OF FOSSIL FUEL LEASING ON FEDERALLY-OWNED LANDS

A. Legal Standards for Public Lands Management

Extracting fossil fuels from public lands involves a lattice of federal laws and agencies. The Forest Service manages national forest lands and resources based on the guidelines provided by the National Forest Management Act¹⁴ (NFMA) and the Multiple Use Sustained Yield Act¹⁵ (MUSYA), while the Bureau of Land Management (BLM) manages other public lands¹⁶ pursuant to the Federal Land Policy and Management Act¹⁷ (FLPMA). Among other similarities, all three laws embrace the management philosophy that public lands should be open to a variety of uses, including resource extraction.¹⁸ NFMA and FLPMA also require a degree of environmental stewardship. For instance, NFMA instructs the Forest Service to “provide for outdoor recreation including wilderness” and to “provide for a diversity of plant and animal communities.”¹⁹ Similarly, FLPMA directs BLM to “take any action necessary to prevent unnecessary or undue degradation” of lands under its purview.²⁰

In addition to conveying general management standards, both NFMA and FLPMA contain specific planning requirements for public lands. For example, FLPMA requires land use plans—more commonly referred to as resource management plans (RMPs)—for all public lands within BLM's jurisdiction.²¹ These plans must set out appropriate uses for individual tracts of land in a manner that complies with the spirit of FLPMA's multiple use and sustainability mandates.²² Similarly, NFMA requires comprehensive forest plans that balance environmental values

¹⁴ 16 U.S.C. §§ 472a, 521b, 1600, 1611–1614 (2012).

¹⁵ *Id.* §§ 527–531.

¹⁶ Excluding national wildlife refuges, which are managed by the National Park Service and the Fish and Wildlife Service, respectively. Fossil fuel leasing in national parks is relatively uncommon due to strict regulation of leasing park lands in general. *See* 36 C.F.R. § 18.4 (2019). *But see* Nicholas Lund, *National Parks Affected by 9B Rules*, NAT'L PARKS CONSERVATION ASS'N (Feb. 10, 2017), <https://perma.cc/7CBY-3T36> (listing active oil and gas wells within national parks). Wildlife refuges and national monuments are discussed at greater length below. *See infra* notes 26–33 and accompanying text.

¹⁷ 43 U.S.C. §§ 1701–1787 (2012).

¹⁸ *See* 16 U.S.C. §§ 529, 1600(3), 1604(e)(2); 43 U.S.C. §§ 1701(a)(7), 1732(a).

¹⁹ 16 U.S.C. § 1604(g)(3).

²⁰ 43 U.S.C. § 1732(b).

²¹ *Id.* § 1712.

²² *Id.* § 1712(c).

and the multiple use mandate.²³ All activities occurring on national forest lands, including fossil fuel exploration and resource extraction, must comply with the applicable forest plan.²⁴ As discussed in greater detail below, the creation of both RMPs and forest plans are subject to NEPA.²⁵

Another category of public lands impacted by fossil fuel development is national wildlife refuges.²⁶ National wildlife refuges are established pursuant to National Wildlife System Improvement Act.²⁷ Generally, refuges are managed by the U.S. Fish and Wildlife Service²⁸ in accordance with the general conservation purposes of the National Wildlife Refuge System as well as the specific purposes for which each refuge was established.²⁹ However, if a conflict arises between the System's purposes and an individual refuge's purposes, the individual purpose predominates.³⁰ In this manner, wildlife refuges are something of a grab bag: some are designated with purposes protective enough to shield the refuge from new fossil fuel leasing, while others explicitly permit resource extraction in their authorizing legislation. Regardless, each refuge must be managed according to its own comprehensive conservation plan.³¹ Appropriate uses for the refuge are decided by compatibility determinations, documents chronicling the Service's assessment of how suitable a use is for a particular refuge.³² Importantly, both comprehensive conservation plans and compatibility determinations are final agency actions subject to judicial review under the Administrative Procedure Act³³ (APA).

Finally, as the Trump administration's shrinking of Bears Ears and Grand Staircase-Escalante brought to the foreground of the political

²³ 16 U.S.C. § 1604.

²⁴ *Id.* § 1604(j).

²⁵ See 36 C.F.R. § 219.4 (2005) (requiring forest plans to be developed in accordance with NEPA).

²⁶ See, e.g., 16 U.S.C. § 3142 (permitting oil and gas exploration in the Arctic National Wildlife Refuge pursuant to regulations the Secretary of the Interior deems necessary "to ensure that exploratory activities do not significantly adversely affect the fish and wildlife, their habitats, or the environment"). As used here, the term "national wildlife refuge" includes wetland management districts and waterfowl production areas.

²⁷ 16 U.S.C. § 668dd (2012).

²⁸ Refuges in Alaska are sometimes managed by other agencies. *Id.* § 668dd(a)(1).

²⁹ *Id.* § 668dd(a)(3)(A).

³⁰ *Id.* § 668dd(a)(4)(D).

³¹ *Id.* § 668dd(e).

³² 50 C.F.R. § 26.41 (2002).

³³ 5 U.S.C. § 704 (2012) (providing for judicial review of final agency action); see *Ctr. for Food Safety v. Salazar*, 898 F. Supp. 2d 130, 137–38 (D.D.C. 2012) (challenging failure to prepare compatibility determination); *Stevens Cty. v. U.S. Dep't of Interior*, 507 F. Supp. 2d 1127, 1129–30 (E.D. Wash. 2007) (bringing NEPA challenge against compatibility determination within a comprehensive conservation plan); see also 16 U.S.C. § 668dd(e) (requiring public notice and comment procedures and interagency consultation for comprehensive conservation plans).

stage,³⁴ some public lands are managed as national monuments under the Antiquities Act.³⁵ Upon designation by the President, national monuments are managed by various agencies according to whichever was managing the land prior to monument status.³⁶ Consistent with the Antiquities Act's purpose of preserving objects of historic and scientific interest, permits to excavate national monuments may only be granted for archaeological purposes and removing any part of a monument that could otherwise be preserved is forbidden.³⁷ Accordingly, national monument status protects public lands from new fossil fuel development, while revocation of such status removes that protection.³⁸

B. The Mineral Leasing Act & the Surface Mining Control and Reclamation Act

Among the many uses of public lands, fossil fuel extraction is one of the most complexly regulated. In addition to the split management dynamic between the various agencies, fossil fuel leasing is governed pursuant to the Mineral Leasing Act of 1920.³⁹ The Mineral Leasing Act establishes that the Department of the Interior—BLM in particular—has discretion to lease public lands containing deposits of fossil fuels.⁴⁰ However, such leases must be consistent with the comprehensive land management plan created for that particular area.⁴¹ Further, the Mineral Leasing Act establishes special rules for acquired lands,⁴² which

³⁴ Review of Certain National Monuments Established Since 1996, 82 Fed. Reg. 22,016–17 (May 11, 2017) (providing the National Monuments initially being reviewed pursuant to Exec. Order No. 13,792); *see also* Hannah Nordhaus, *What Trump's Shrinking of National Monuments Actually Means*, NAT'L GEOGRAPHIC (Feb. 2, 2018), <https://perma.cc/3ZS5-QF33>; Michael C. Blumm & Olivier Jamin, *The Trump Public Lands Revolution: Redefining "the Public" in Public Land Law*, 48 ENVTL. L. 311, 317–27 (2018).

³⁵ 54 U.S.C. § 320301 (2012).

³⁶ 43 C.F.R. § 3.1 (2019).

³⁷ *Id.* §§ 3.1, 3.2, 3.3; 54 U.S.C. § 320302.

³⁸ Whether the President can legally revoke or diminish a national monument designation is a hotly contested issue currently being litigated in a handful of federal court cases. *See, e.g.*, Complaint for Injunctive and Declaratory Relief, *The Wilderness Soc'y v. Trump*, No. 1:17-cv-02587, 2017 WL 6015958 (Dec. 4, 2017); NRDC Plaintiffs' Opposition to Federal Defendants' Motion to Dismiss, *Hopi Tribe v. Trump*, No. 1:17-cv-02590-TSC (Nov. 15, 2018).

³⁹ 30 U.S.C. §§ 181–287 (2006).

⁴⁰ *Id.* § 201 (coal); *id.* § 226(a) (oil and gas).

⁴¹ *Id.* § 201(a)(3)(A)(i). If the deposits at issue are on national forest lands, the Department of Agriculture (i.e., the Forest Service) must be informed so it can consider compatibility with the appropriate land-use plan. *Id.*; *see also id.* § 226(h) (prohibiting oil and gas leases on national forest lands over the objection of the Secretary of Agriculture); 43 U.S.C. § 1732(a) (2012) (requiring management of BLM lands in accordance with land use plans); 16 U.S.C. § 1604(i) (2012) (requiring permits for use of national forest lands to be consistent with land management plans).

⁴² In this context, "acquired lands" refers to all lands sold or granted to the United States to which the mineral leasing laws would not otherwise apply. 30 U.S.C. § 351.

are only to be leased subject to conditions ensuring “the adequate utilization of the lands for the primary purposes for which they [were] acquired or are being administered.”⁴³

Once the relevant management plan establishes particular lands as open to fossil fuel leasing, the Mineral Leasing Act mandates the leasing process.⁴⁴ Although exact details of this protocol are beyond the scope of this Comment, the fundamental idea is that parties interested in leasing a particular tract within an eligible area can nominate that tract to be offered for leasing.⁴⁵ Then, after requisite public hearings and consultations with other interested bodies,⁴⁶ approved tracts are usually auctioned off through a competitive bidding process.⁴⁷ If another agency is responsible for the administration of lands covered by the lease, BLM must obtain the consent of that agency before approving any lease.⁴⁸ Even after acquiring a lease, auction winners are not immediately entitled to proceed with resource extraction on the ground. Instead, lessees must apply for a permit or get a plan approved to conduct specific development projects.⁴⁹ While the Department of Interior handles permitting for oil and gas and approves coal mining plans for leases under the MLA,⁵⁰ permitting authority for the surface mining of coal is often split with state officials due to the cooperative federalist scheme of the Surface Mining Control and Reclamation Act⁵¹ (SMCRA).

Extracting coal resources on lands within the national forest system is further complicated by SMCRA.⁵² Under SMCRA, surface coal mining⁵³ on national forest lands is presumptively forbidden.⁵⁴ To overcome this presumption, the Secretary of the Interior must determine “there are no significant recreational, timber, economic, or

⁴³ *Id.* § 352.

⁴⁴ *See generally* 30 U.S.C. § 226 (oil and gas, generally); 43 C.F.R. pt. 3100 (2005) (on-shore oil and gas); 43 C.F.R. pt. 3400 (coal).

⁴⁵ *Leasing*, BLM.GOV, <https://perma.cc/6MXG-NMR5> (last visited Apr. 18, 2020); 43 C.F.R. § 3420.3-2 (2005). Prior to leasing, parties interested in mining coal can apply for an Exploration License to investigate whether a lease might be lucrative. *See* 43 C.F.R. pt. 3410.

⁴⁶ *See* 43 C.F.R. § 3420.3-4.

⁴⁷ *See* 30 U.S.C. § 201 (2012) (coal); 30 U.S.C. § 226(b) (oil and gas); *see also* W. Energy All. v. Zinke, 877 F.3d 1157, 1162–63 (10th Cir. 2017) (providing an overview of the oil and gas leasing process).

⁴⁸ 30 U.S.C. § 201(a)(3)(A)(iii); *id.* § 226(h).

⁴⁹ 43 C.F.R. § 3162.3-1(c) (2018); 30 U.S.C. § 207(c); *id.* § 201(b); 43 C.F.R. § 3480.0-6.

⁵⁰ *See* 43 C.F.R. § 3170.1 (assigning authority over onshore oil and gas development to BLM); *id.* § 3480.0-6 (providing a breakdown of authority for administering the coal program); 30 C.F.R. § 746.13 (2018) (Office of Surface Mining Reclamation and Enforcement recommends approval or disapproval of mining operating plans).

⁵¹ *See* 30 U.S.C. § 1256; *see also* John A. Pendergrass, *Coal Mining on Federal Lands*, NAT. RES. & ENV'T, Spring 1986, at 18, 63–64 (distinguishing between mining plans under the MLA and mining plans under SMCRA).

⁵² 30 U.S.C. §§ 1201–1328.

⁵³ Although SMCRA refers to surface mining, the term includes surface impacts of underground mines. Pendergrass, *supra* note 51, at 18.

⁵⁴ 30 U.S.C. § 1272(e)(2).

other values which may be incompatible with such surface mining operations.”⁵⁵ Further, SMCRA requires the Secretary of Agriculture to make a separate determination that surface mining would not violate other federal laws, including NFMA.⁵⁶ Finally, even if both Secretaries concur that surface mining is appropriate, mining cannot go forward unless the permittee is held to stringent restoration standards that preserve all uses the land was capable of supporting prior to mining.⁵⁷

C. NEPA

As previously mentioned, NEPA imposes procedural mandates on agencies considering actions with the potential to significantly impact the human environment.⁵⁸ At its core, NEPA is the policy embodiment of the idiom “look before you leap.” Though the law has been interpreted as not demanding any given environmental outcome, it requires public participation⁵⁹ and informed decision making via analyses contained in environmental assessments and environmental impact statements.⁶⁰ Specifically, an agency must conduct an environmental impact statement (EIS) when an action “significantly affect[s] the quality of the human environment.”⁶¹ To determine whether an action will have any environmental impacts hefty enough to trigger the EIS requirement, agencies can create environmental assessments (EAs) that look at context and intensity of the action.⁶² Importantly, the intensity inquiry is supposed to include “[t]he degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risk.”⁶³ If the EA concludes no significant environmental impacts will result from the proposed action, the agency can issue a Finding of No Significant Impact (FONSI), which allows the action to proceed without further analysis.⁶⁴ If, however, the EA concludes significant impacts may occur, an EIS is necessary.⁶⁵

⁵⁵ *Id.*

⁵⁶ *Id.* § 1272(e)(2)(B).

⁵⁷ *See id.* § 1265(b)(2).

⁵⁸ *See* 40 C.F.R. § 1501.2 (2012) (instructing agencies to integrate NEPA process into planning “to insure that planning and decisions reflect environmental values”).

⁵⁹ *See id.* § 1506.6.

⁶⁰ *See id.* §§ 1501.2–.4, 1502.1.

⁶¹ 42 U.S.C. § 4332(C) (2012); *see also* 40 C.F.R. § 1502.3.

⁶² 40 C.F.R. §§ 1508.9, 1508.27.

⁶³ *Id.* § 1508.27(b)(5).

⁶⁴ *Id.* § 1508.13.

⁶⁵ 42 U.S.C. § 4332(C). *But compare* *Ocean Advocates v. U.S. Army Corps of Eng’rs*, 402 F.3d 846, 864 (9th Cir. 2005) (“An EIS *must* be prepared if substantial questions are raised as to whether a project . . . *may* cause significant degradation of some human environmental factor.”) (citing *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998)), *with* *Utah Shared Access All. v. U.S. Forest Serv.*, 288 F.3d 1205, 1207 (10th Cir. 2002) (requiring an EIS when an EA determines an action “*will* significantly affect the environment”) (emphasis added).

In NEPA analyses, agencies must assess various alternatives by weighing the environmental impacts of each option.⁶⁶ The scope of this analysis must include direct, indirect, and cumulative impacts.⁶⁷ Of note, indirect impacts are those effects of an action that are “later in time or farther removed in distance but still reasonably foreseeable.”⁶⁸ As will be discussed in the later sections of this Comment, a robust indirect impacts analysis is integral to addressing climate change through NEPA. Cumulative impacts, on the other hand, are the sum of the incremental effects of the proposed action plus the effects of other past, present, and reasonably foreseeable future actions.⁶⁹ According to the Council on Environmental Quality⁷⁰ (CEQ), “the most devastating environmental effects may result not from the direct effects of a particular action, but from the combination of individually minor effects of multiple actions over time.”⁷¹

Another facet of NEPA that must be enforced if agencies are to meaningfully engage with climate impacts is the requirement that agency analyses be supported by scientifically sound evidence and methodologies.⁷² Although actions may commence despite a degree of scientific uncertainty, EISs must disclose the impact that unavailable information may have on the agency’s ability to predict a project’s impacts.⁷³ Unavailable information does not relieve an agency of the obligation to provide “a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts.”⁷⁴ However—even if all evidence suggests negative environmental impacts will result from a proposed action—an agency is not required to reject that option so long as it has taken the requisite “hard look” at the alternatives.⁷⁵

⁶⁶ 40 C.F.R. § 1502.1.

⁶⁷ *Id.* § 1508.25(c).

⁶⁸ *Utahns for Better Transp. v. U.S. Dep’t of Transp.*, 305 F.3d 1152, 1177 (10th Cir. 2002) (quoting 40 C.F.R. § 1508.8(b) (2001)).

⁶⁹ 40 C.F.R. § 1508.7 (2019).

⁷⁰ In addition to gathering environmental data and making policy recommendations, CEQ is the agency tasked with writing NEPA regulations and guidelines for the benefit of all agencies. 42 U.S.C. § 4344; *see also* *Andrus v. Sierra Club*, 442 U.S. 347, 357–58 (1979) (discussing the evolution of CEQ and its role in facilitating NEPA compliance).

⁷¹ COUNCIL ON ENVTL. QUALITY, CONSIDERING CUMULATIVE EFFECTS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT 1 (1997), <https://perma.cc/Y6MB-TZXG>. It should be noted that since the writing of this article, CEQ has taken drastic steps to reverse its position on the importance of indirect and cumulative impacts. *See generally* 85 Fed. Reg. 1684–704 (providing notice of CEQ’s proposal to update the NEPA regulations by, *inter alia*, allowing agencies to forego consideration of indirect and cumulative impacts).

⁷² 40 C.F.R. § 1502.24 (“Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements.”).

⁷³ *Id.* § 1502.22(b).

⁷⁴ *Id.*

⁷⁵ *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (“If the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs.”).

Of course, an agency that chooses a course of action that will degrade the environment must still provide a rational justification to avoid vacatur by a court that deems the decision arbitrary and capricious under the APA.⁷⁶

Crucially, fossil fuel leasing, permitting, and the land management plans to which all leases and permits must adhere, are all subject to the requirements of NEPA.⁷⁷ Thus, NEPA provides multiple avenues for advocates to challenge fossil fuel development on public lands. Namely, NEPA violations may occur in RMPs or forest plans when an agency opens certain lands for leasing; in the decision to approve particular tracts for regional leasing; or in the permitting of specific development actions by a lessee.

III. THE TREE-HUGGING TENTH?

Looking back at the smoke-filled,⁷⁸ waterlogged⁷⁹ summer of 2017, one can hardly be surprised that a U.S. Court of Appeals took a step toward holding government agencies to a higher degree of accountability for decisions with the potential to impact our climate. What did surprise many was the origin of the opinion; for *WildEarth Guardians* is a product, not of the “Nutty Ninth” Circuit known for its liberal lean,⁸⁰ but of the Tenth Circuit. But, before any environmental advocates hang up their hats, a closer look at *WildEarth Guardians* and the line of precedent on the same topic is in order. Although the Tenth Circuit is developing a more robust understanding of the level of analysis NEPA demands from agencies considering climate-altering actions, there is still room within the existing system for agencies to approve new fossil fuel projects on public lands. Nevertheless, by comparing the analyses contained in each of these cases, it is possible to glean several takeaways which help to illuminate the most auspicious path for environmental attorneys interested in using NEPA litigation to spur more responsible administrative decision making.

⁷⁶ See 5 U.S.C. § 706(2)(A) (2018) (allowing courts to “set aside agency action, findings, and conclusions found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law”).

⁷⁷ See, e.g., 42 U.S.C. § 4332(C) (2012) (requiring NEPA analysis for all major federal actions).

⁷⁸ See *Top 20 Most Destructive California Wildfires*, CAL. DEPT OF FORESTRY & FIRE PROT. (Aug. 8, 2019), <https://perma.cc/RJ45-4MUW> (noting that five of the twenty most destructive fires in California’s recorded history occurred in 2017).

⁷⁹ See *Extremely Active 2017 Atlantic Hurricane Season Officially Ends*, NAT’L OCEANIC & ATMOSPHERIC ADMIN. (Nov. 30, 2017), <https://perma.cc/2GS6-WS7R> (noting that “the 2017 Atlantic hurricane season . . . matched NOAA’s seasonal predictions for being extremely active”).

⁸⁰ See Ben Feuer, *Thanks to Trump, the Liberal 9th Circuit is No Longer Liberal*, WASH. POST (Feb. 28, 2019), <https://perma.cc/R33H-9AUT> (referencing the Ninth Circuit’s various nicknames).

A. Jurisdictional Issues

As is true for many environmental cases, defendants in fossil fuel leasing cases are likely to challenge standing. One common argument in this context is predicated on the disparity between harm to local aesthetic and recreational values used by environmental plaintiffs to establish injury and the broad, distant harm caused by climate change. These standing challenges focus on a lack of causation between an agency's erroneous climate analysis and the localized injuries. Helpfully, this argument was posited by BLM in *WildEarth Guardians* and summarily rejected by the Tenth Circuit.⁸¹

In *WildEarth Guardians*, the plaintiffs submitted declarations establishing how individual members of the organizations who regularly recreated at Thunder Basin National Grasslands would be harmed by coal mining in the area.⁸² Grasping at the disparity between local aesthetic harm from mining activities and the dispersed harms attributable to climate change, BLM questioned the plaintiffs' standing to challenge portions of the NEPA analysis pertaining to emissions.⁸³ The Tenth Circuit, however, was unconvinced. Quoting an opinion written by conservative bastion Justice Scalia, the court confirmed that "legal theory and the standing injury need not be linked as long as redressability is met."⁸⁴ Though the opinion acknowledged some disagreement among the circuits as to whether localized, non-climate injuries could buoy standing in NEPA cases specifically alleging failure to consider climate impacts, the court followed the D.C. Circuit in affirming standing under these circumstances.⁸⁵ More specifically, the standing inquiry focuses on whether the requested relief will fix an injury, regardless of the connection between that injury and the government's procedural failure.⁸⁶

B. WildEarth Guardians and Its Progeny

Turning to the merits, in *WildEarth Guardians*, environmentalist plaintiffs asserted BLM's approval of several coal leases in the Powder River Basin region was illegitimate due to inadequate NEPA analysis.⁸⁷ Significantly, the coal extracted pursuant to these leases would have resulted in approximately six percent of the United States' carbon dioxide emissions in 2008.⁸⁸ In the original EIS, BLM concluded that

⁸¹ *WildEarth Guardians*, 870 F.3d 1222, 1231–32 (10th Cir. 2017). This argument was also rejected by the District of Colorado in 2014. *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1186–87 (D. Colo. 2014).

⁸² *WildEarth Guardians*, 870 F.3d at 1231.

⁸³ *Id.*

⁸⁴ *Id.* at 1232.

⁸⁵ *Id.* (citing *WildEarth Guardians v. Jewell*, 738 F.3d 298, 306 (D.C. Cir. 2013)).

⁸⁶ *Id.* at 1231–32.

⁸⁷ *Id.* at 1226.

⁸⁸ *Id.* at 1228.

regardless of whether the leases were issued or denied, the resultant greenhouse gas emissions would be the same because denial would result in the same amount of coal being sourced from another location.⁸⁹ Plaintiffs countered that BLM's analysis amounted to "gross oversimplification" because the heightened cost of acquiring coal from another source increased the probability the coal would be substituted with a lower carbon fuel.⁹⁰ Though the Tenth Circuit noted that plaintiffs had failed to back their theory with any factual support, the court agreed that BLM's conclusion was a "long logical leap."⁹¹ In particular, the court felt BLM's decision required belief in several problematic premises, including the notion that more expensive coal would not affect demand for coal or lower carbon alternatives.⁹² After confirming the record did not support either the theory that supply did not affect demand or the theory that increasing coal prices would result in perfect substitution with more coal, the court deemed the EIS arbitrary and capricious.⁹³

Beyond lacking data sufficient to support the perfect substitution theory, the court also found BLM's internal assumptions too illogical to facilitate the normal level of deference usually afforded to agencies.⁹⁴ The court used a three-factor test to assess whether BLM's assumptions violated the "rule of reason" standard to which agencies are held when undertaking NEPA analyses.⁹⁵ First, the court looked at how heavily the assumption affected the outcome of the EIS and found that no change in coal demand was a primary rationale for approving the leases.⁹⁶ Second, the court looked at the overall treatment of environmental impacts within the analysis, and found BLM had a tendency to underestimate impacts.⁹⁷ Thus, any one mistaken assertion carried an increased risk that the project's true impacts could exceed anything considered in the EIS. Third, the court looked at whether the issue fell within the BLM's realm of special expertise and held that climate science did not qualify as an issue at the "frontiers of science" that would justify an extra layer of deference toward the expert agency.⁹⁸ Ultimately, all three factors contributed to the court's conclusion that BLM's failure to appreciate the difference between approving and rejecting the lease applications

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.* at 1228–29.

⁹² *Id.* at 1229.

⁹³ *Id.* at 1234–35.

⁹⁴ *Id.* at 1236.

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.* at 1236–37. In a concurring opinion, however, Judge Baldock questioned the assertion that climate science is not an area on the "frontiers of science." *Id.* at 1241–42 (Baldock, J., concurring).

defeated NEPA's dual purposes of ensuring informed agency decision making and disclosing the basis for decisions to the public.⁹⁹

Though BLM's EIS was invalid, the Tenth Circuit declined to vacate the leases that resulted from the faulty NEPA analysis, choosing instead to remand to the district court.¹⁰⁰ To justify this deviation from the normal remedy for APA cases, the court explained that the parties had not fully briefed the equitable arguments for an injunction.¹⁰¹ Thus, the court felt the district court would be in a better position to craft a remedy, especially given complexities stemming from the relatively narrow scope of the EIS's flaws and the fact that some of the mining at issue was already underway.¹⁰²

On remand, the District of Wyoming sent BLM's EIS and Record of Decision back to the agency to revise the perfect substitution issue.¹⁰³ Accordingly, in June 2019, BLM issued a new EA, but limited its scope to "revision on the narrow aspect associated with BLM's analysis that there was no real world difference between issuing the Wright area leases and declining to issue them."¹⁰⁴ The EA declined to reconsider denying the leases, choosing instead to elaborate on the uncertainty inherent to energy and emissions forecasting.¹⁰⁵ Noting that coal demand is inelastic and that both coal consumption and overall emissions from electricity generation had decreased since the leases were approved, the EA concluded "no additional significant effects would occur beyond those already identified in the [earlier NEPA analysis]."¹⁰⁶ Meanwhile, coal production in the mines at issue in *WildEarth Guardians* continues.¹⁰⁷

Since *WildEarth Guardians*, many district courts in the Tenth Circuit have fallen into the habit of more closely scrutinizing agency analyses of climate change impacts resulting from decisions pertaining to fossil fuel leasing. In *San Juan Citizens Alliance v. U.S. Bureau of Land Management*,¹⁰⁸ for instance, the District Court of New Mexico chided BLM for positing that emissions from combusting oil and gas extracted pursuant to leases in the Santa Fe National Forest were not

⁹⁹ *Id.* at 1237–38 (majority opinion).

¹⁰⁰ *Id.* at 1240.

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ Order Requiring Bureau of Land Management to Revise the Environmental Impact Statement and Record of Decision at 4, *WildEarth Guardians v. U.S. Forest Serv.*, No. 13-CV-42-ABJ (D. Wyo. Nov. 27, 2017).

¹⁰⁴ BUREAU OF LAND MGMT., ENVIRONMENTAL ASSESSMENT DOI-BLM-WY-P000-2018-0002-EA, WRIGHT AREA COAL LEASING TENTH CIRCUIT COURT REMAND 7 (2019), <https://perma.cc/B5RK-BM2V>.

¹⁰⁵ *Id.* at 12, 34–36, 43–45.

¹⁰⁶ *Id.* at 44–45, 49, 55.

¹⁰⁷ See BUREAU OF LAND MGMT., ENVIRONMENTAL ASSESSMENT DOI-BLM-WY-P000-2018-0002-EA, WRIGHT AREA COAL LEASING 10TH CIRCUIT COURT REMAND 29 (2018), <https://perma.cc/Z5H2-836H>.

¹⁰⁸ 326 F. Supp. 3d 1227 (D.N.M. 2018).

reasonably foreseeable indirect impacts of the leases.¹⁰⁹ Citing a laundry list of contrary precedent, the court concluded that BLM must redo the analysis to both quantify emissions likely to result from burning the fuels and consider the effects of those emissions on the climate.¹¹⁰ In light of this result, the court deferred ruling on the plaintiffs' claims that BLM's analysis of cumulative climate impacts was defective.¹¹¹ However, the court did note that in its new analysis, BLM must consider the most updated science.¹¹² Thus, both the EA and leases were vacated with instructions for a more complete analysis on remand.¹¹³

In *Wilderness Workshop v. U.S. Bureau of Land Management*,¹¹⁴ another coalition of environmental groups achieved some success in forcing BLM to consider climate impacts more closely before opening public lands to fossil fuel leasing.¹¹⁵ The *Wilderness Workshop* plaintiffs mounted their challenge during the first phase of BLM's process by asserting an RMP was invalid because, inter alia, the plan inadequately considered indirect and cumulative climate change impacts.¹¹⁶ In particular, BLM acknowledged that greenhouse gas emissions were inevitable, but failed to quantify or analyze the impacts of those emissions with any kind of specificity because of "the speculative nature of forecasting oil and gas production."¹¹⁷ Rather than using quantitative data, BLM defended its decision with theory-based predictions, such as the idea that opening lands for gas leasing could reduce emissions by reducing demand for coal and oil.¹¹⁸

Interestingly, the court responded to the indirect impacts claims differently than the cumulative impacts claims based on where BLM was in its analysis.¹¹⁹ First, citing *WildEarth Guardians*, the court ruled BLM had not properly considered indirect impacts.¹²⁰ The court felt the agency's claim that estimated emissions would be too speculative was belied by the fact that energy output estimates were included in the RMP.¹²¹ Upon turning to cumulative impacts, however, the court sided with BLM, reasoning that "cumulative impacts are undoubtedly more foreseeable" when the agency reviews lease or permit applications.¹²² Additionally, *Wilderness Workshop* confirmed BLM was not required to conduct a cost-benefit analysis that incorporated the social cost of

¹⁰⁹ *Id.* at 1242–44. The EA considered only those emissions likely to result from producing the fuels. *Id.* at 1240.

¹¹⁰ *Id.* at 1242–44.

¹¹¹ *Id.* at 1249.

¹¹² *Id.* at 1249–50.

¹¹³ *Id.* at 1256.

¹¹⁴ 342 F. Supp. 3d 1145 (D. Colo. 2018).

¹¹⁵ *Id.* at 1167.

¹¹⁶ *Id.* at 1154.

¹¹⁷ *Id.* at 1155.

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 1156–58.

¹²⁰ *Id.* at 1156.

¹²¹ *Id.*

¹²² *Id.* at 1158.

carbon because the EIS did not explicitly rely on economic rationale for its conclusions.¹²³ However, the plaintiffs did succeed in invalidating BLM's decision to forego an alternative that excluded areas with low potential for oil or gas extraction from leasing.¹²⁴

C. The Battle for Colorado's North Fork Valley

At the time of this writing, only one district court in the Tenth Circuit has explicitly veered from the main holding in *WildEarth Guardians*.¹²⁵ But, to fully understand the case, some background about the ongoing fight over the Colorado Roadless Rule (CRR) is helpful. In 2012, the Forest Service passed a rule regulating roadless areas in Colorado.¹²⁶ To the dismay of several environmental organizations, the CRR included an exception allowing the construction of temporary roads necessary for coal mining in Colorado's North Fork Valley.¹²⁷ At the time the CRR was enacted, several coal leases were already active in the area¹²⁸ and—after completing an EIS—the Forest Service and BLM agreed to amend those leases to encompass almost a third of the Sunset Roadless Area.¹²⁹ Subsequently, both agencies signed off on an exploratory mining plan for the area, setting the stage for mining to begin in the summer of 2014.¹³⁰

Hoping to keep the coal in the ground, a coalition of environmental organizations brought suit challenging the NEPA analyses underlying the CRR, the lease modifications, and the exploration plan.¹³¹ In response to various allegations of impropriety, the court first held the lease modification EIS to be arbitrary because the document failed to quantify the costs stemming from methane likely to be emitted during mining under the expanded leases.¹³² The court deemed the EIS's quantification of emissions and vague discussion of climate change impacts inadequate in light of the availability of the social cost of carbon protocol.¹³³ Crucially, the agencies included a social cost of carbon

¹²³ *Id.* at 1159–60.

¹²⁴ *Id.* at 1166–67.

¹²⁵ See *High Country Conservation Advocates v. U.S. Forest Serv. (High Country II)*, 333 F. Supp. 3d 1107, 1130–31 (D. Colo. 2018). *But see also* *WildEarth Guardians v. Army Corps*, 2019 WL 7038201 at *19 (D. Colo. Dec. 20, 2019) (distinguishing *WildEarth Guardians* on factual grounds).

¹²⁶ See 36 C.F.R. §§ 294.41–.49 (2013) (correcting 2012 ed.).

¹²⁷ *Id.* § 294.43(c)(1)(ix).

¹²⁸ See *High Country Conservation Advocates v. U.S. Forest Serv. (High Country I)*, 52 F. Supp. 3d 1174, 1184 (D. Colo. 2014).

¹²⁹ *Id.*

¹³⁰ *Id.* at 1185.

¹³¹ *Id.* at 1187, 1194, 1198–99.

¹³² *Id.* at 1189–93.

¹³³ *Id.* at 1190–93. The social cost of carbon protocol is a method for estimating damages likely to result from a marginal increase in greenhouse gas emissions. See *The Social Cost of Carbon*, U.S. ENVT. PROT. AGENCY, <https://perma.cc/X99Q-X5MF> (last updated Jan. 9, 2017).

analysis in the draft EIS, but removed the analysis from the final version without adequately explaining the reason for abandoning all attempts to quantify the costs of the lease expansions.¹³⁴ This move proved unacceptable because, although NEPA does not require agencies to conduct cost-benefit analyses, it is arbitrary (and misleading) to base a decision on quantified benefits without accounting for costs when a tool is available to quantify those costs.¹³⁵ As the court noted, the effect of the omission was to zero out the costs of the emissions, thus skewing the result in favor of approving the modifications.¹³⁶

Like the lease modification EIS, the court found the CRR EIS's resolution of greenhouse gas emissions issues insufficient. First, the court discredited the agencies' claims that emissions from mining operations were too speculative to be analyzed at the rulemaking stage, stating this explanation was "belied by the agencies' decision to include detailed projections and analysis of [the exception's economic benefits]."¹³⁷ Again, the court recognized the capriciousness of detailing benefits, but not costs.

Then, the court pivoted to address the CRR EIS's failure to quantify emissions from the combustion of coal likely to be extracted or analyze the probable impacts of those emissions.¹³⁸ On this point, the agencies argued that estimating emissions from combustion was too speculative an endeavor due to varying degrees of power plant efficiency and the potential for technology to reduce emissions.¹³⁹ Further, the agencies claimed analysis of downstream emissions was irrelevant because coal left untouched in the North Fork Valley would simply be replaced by coal from other locales.¹⁴⁰ However, the court noted the inconsistency between the EIS's provision of "detailed estimates of the amount of coal to be mined" and the claim that "it would be too speculative to estimate emissions from 'coal that may or may not be produced.'"¹⁴¹ Indeed, reminding the agencies they need only provide an estimate, the court dismissed the excuses relating to the speculative nature of combustion.¹⁴² Similarly, the court rejected the perfect substitution argument, articulating that "[a]t some point this additional supply will impact the demand for coal relative to other fuel sources, and coal that otherwise would have been left in the ground will be burned."¹⁴³ Thus,

¹³⁴ *High Country I*, 52 F. Supp. 3d at 1191–93.

¹³⁵ *Id.* at 1191.

¹³⁶ *Id.* at 1192.

¹³⁷ *Id.* at 1195.

¹³⁸ *Id.* at 1196–97.

¹³⁹ *Id.* at 1196.

¹⁴⁰ *Id.* at 1197.

¹⁴¹ *Id.* at 1196–97.

¹⁴² *See id.*

¹⁴³ *Id.* at 1198.

the EIS analyzing the lease amendments and the portion of the CRR EIS addressing the North Fork exception were invalidated.¹⁴⁴

The North Fork Valley saga did not end there, however. Four years later, the parties were back in court to litigate the updated NEPA documents.¹⁴⁵ While BLM and the Forest Service were creating two supplemental environmental impact statements to assess the deficiencies identified in *High Country Conservation Advocates v. U.S. Forest Service (High Country I)*, the Tenth Circuit decided *WildEarth Guardians*, giving the District of Colorado updated guidance to resolve the dispute.¹⁴⁶ The plaintiffs first asserted several new claims about the range of alternatives evaluated in the North Fork Exception Supplemental Final EIS (SFEIS). Relevant to climate change, plaintiffs argued the SFEIS should have included an alternative requiring best available technology for capture and combustion of methane emissions from fuel extraction.¹⁴⁷ However, the court found detailed study of a single emissions reduction methodology to be premature prior to exploratory operations because the ultimate design and approval of a methane capture system would be highly location dependent.¹⁴⁸ Accordingly, the court found the leases' requirement of annual reports studying the technology and economics of methane mitigation, coupled with "economic triggers" that forced the lessee to reevaluate the viability of capturing methane to be reasonable under the circumstances.¹⁴⁹ In this manner, the court tacitly approved the agencies' decision to forego a methane flaring requirement until implementation was economically feasible.¹⁵⁰

Next, perhaps emboldened by *WildEarth Guardians*, the *High Country Conservation Advocates v. U.S. Forest Service (High Country II)* plaintiffs reinvigorated their "Econ. 101" argument from *High Country I*, averring that the North Fork Exception SFEIS failed to "account for increased demand for electricity resulting from additional coal supplies lowering electricity prices."¹⁵¹ Unfortunately, the second iteration of the

¹⁴⁴ *Id.* at 1200–01; *see also High Country II*, 333 F. Supp. 3d 1107, 1113 (D. Colo. 2018). The Exploration Plan was vacated on other grounds, primarily related to failure to analyze site specific impacts on recreation. *High Country I*, 52 F. Supp. 3d at 1198–201.

¹⁴⁵ *See High Country II*, 333 F. Supp. 3d at 1113.

¹⁴⁶ *Id.* at 1114–16; *see also WildEarth Guardians*, 870 F.3d 1222, 1222 (10th Cir. 2017). In addition to new precedent, it may also be relevant to note that *High Country II* was decided by a different judge than *High Country I*. Compare *High Country I*, 52 F. Supp. 3d at 1174, with *High Country II*, 333 F. Supp. 3d at 1107.

¹⁴⁷ *High Country II*, 333 F. Supp. 3d at 1124.

¹⁴⁸ *Id.* at 1125–27.

¹⁴⁹ *Id.*; *see also* BUREAU OF LAND MGMT., U.S. DEP'T OF INTERIOR, DOI-BLM-CO-S050-2016-0042-EIS, RECORD OF DECISION: UNITED STATES FOREST SERVICE SUPPLEMENTAL FINAL ENVIRONMENTAL IMPACT STATEMENT (SFEIS) FOR FEDERAL COAL LEASE MODIFICATION COC-1362 & COC-67232 (INCLUDING ON-LEASE EXPLORATION PLAN) 13–14 (2017), <https://perma.cc/TX6J-J4HW>.

¹⁵⁰ *High Country II*, 333 F. Supp. 3d at 1125–27.

¹⁵¹ *Id.* at 1129.

argument did not achieve the same success as the first.¹⁵² Unlike the EISs deemed arbitrary in *WildEarth Guardians* and *High Country I*, the court found the Exception SFEIS did not assume other fossil fuel resources would be perfectly substituted for the resources being analyzed.¹⁵³ Rather, in *High Country II*, BLM “disclosed and discussed numerous technological, regulatory, and other factors . . . that influence[d] whether other fuels can be substituted for a particular type of coal.”¹⁵⁴ Seizing upon this distinction, the court explained it was

unpersuaded by plaintiffs’ argument that the Agencies failed to take a hard look at climate impacts because the Agencies disagreed that one factor in a complex analysis, an increased supply of a particular type of coal, would lead to additional climate impacts through a mechanism, namely, the fluctuating demand for electricity, that is itself subject to various disclosed factors.¹⁵⁵

Finally, although the agencies did include analysis based on the social cost of carbon in the Exception SFEIS, the plaintiffs took issue with the Lease Modification SFEIS’s reliance on that analysis due to the Trump Administration’s announcement that it was seeking revocation of the Clean Power Plan.¹⁵⁶ However, the court held that repeal of the Clean Power Plan would do nothing more than possibly lead to reduced substitution of coal with cleaner alternatives.¹⁵⁷ As the court had already determined the SFEIS adequately discussed the complexities of predicting whether fuel substitution would occur, it refused to allow the validity of the SFEIS to turn on “whether one particular regulation is in effect.”¹⁵⁸ Thus, the court upheld both SFEISs.

Considering the breadth of resources expended in fighting both the North Fork Exception and the Lease Modifications over the past six years, it is unsurprising that an appeal of *High Country II* was recently decided by the Tenth Circuit.¹⁵⁹ In this latest installment, the court ruled the Forest Service failed to consider an alternative that would have “provide[d] for conservation in one roadless area and facilitate[d] the development of coal resources in two others,” consistent with the Forest Service’s dual purposes for the North Fork area.¹⁶⁰ However, the court once again refused to impose consideration of a methane flaring

¹⁵² *Id.* at 1130.

¹⁵³ Compare *WildEarth Guardians*, 870 F.3d 1222, 1228 (10th Cir. 2017), and *High Country I*, 52 F. Supp. 3d at 1196, with *High Country II*, 333 F. Supp. 3d at 1129–31.

¹⁵⁴ *High Country II*, 333 F. Supp. 3d at 1132.

¹⁵⁵ *Id.* at 1131.

¹⁵⁶ *Id.* EPA announced it would seek to repeal the Clean Power Plan after the Exception SFEIS was finalized, but before the Lease Modification SFEIS was complete. *Id.*

¹⁵⁷ *Id.* at 1132.

¹⁵⁸ *Id.*

¹⁵⁹ See *High Country Conservation Advocates v. U.S. Forest Serv.*, No. 1:17-CV-03025-PAB, 2020 WL 994988 (10th Cir. Mar. 2, 2020).

¹⁶⁰ *Id.* at *4–7.

requirement.¹⁶¹ According to the court, the applicability of methane flaring “would be part of the mine-permitting process conducted by state agencies, the Office of Surface Mining Reclamation and Enforcement (OSM), and the federal Mine Safety and Health Administration.”¹⁶² Nevertheless, the Tenth Circuit once again vacated the North Fork Exception.¹⁶³ And so the battle for the North Fork continues.

Pending that appellate decision, the *High Country* environmentalist coalition was busy pushing for more robust climate analyses in other contexts. In 2019, the group achieved some success in challenging OSM’s recommendation that BLM approve a company’s proposed plan to mine in the North Fork Valley.¹⁶⁴ Specifically, *WildEarth Guardians v. Bernhardt* centered on allegations that OSM failed to consider a methane flaring alternative, and failed to take the requisite hard look at impacts to the climate and water resources.¹⁶⁵ After dismissing OSM’s claims that the case was precluded by earlier rounds of litigation, the District of Colorado agreed that OSM improperly dismissed a methane flaring alternative from full consideration during its NEPA process.¹⁶⁶ However, the court found that the plaintiffs had waived their objections to the analysis of cumulative climate impacts in the SFEIS on which OSM relied in making its recommendation.¹⁶⁷ Moreover, the court held that while new information pertaining to climate change was “troubling,” OSM “could have reasonably concluded [that information] did not ‘significantly’ alter the analysis.”¹⁶⁸ Thus, OSM’s climate analysis—or lack thereof—was upheld. Nevertheless, recommended approval of the mining plan was remanded to OSM and all mining enjoined until the agency addressed the methane flaring alternative and impacts to perennial streams in the project area.¹⁶⁹

Movement on mandatory climate change forecasting and mitigation is mounting in other jurisdictions as well. For instance, in the Ninth Circuit, the District of Montana recently ruled for the plaintiffs in a NEPA case, holding two RMPs invalid for, inter alia, failing to consider the indirect impacts of downstream coal combustion.¹⁷⁰ NEPA fans should also refer to the D.C. Circuit’s recent opinion, *WildEarth Guardians v. Zinke*,¹⁷¹ where WildEarth Guardians and company

¹⁶¹ *Id.* at *7–8.

¹⁶² *Id.* at *7.

¹⁶³ *Id.* at *9.

¹⁶⁴ *WildEarth Guardians v. Bernhardt*, No. 19-cv-001920-RBJ, 2019 WL 5853870, at *3 (D. Colo. Nov. 8, 2019).

¹⁶⁵ *Id.* at *5.

¹⁶⁶ *Id.* at *6, *8–10.

¹⁶⁷ *Id.* at *11.

¹⁶⁸ *Id.* at *12.

¹⁶⁹ *Id.* at *14–15.

¹⁷⁰ *W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt.*, No. CV 16-21-GF-BMM, 2018 WL 1475470, at *13 (D. Mont. Mar. 26, 2018).

¹⁷¹ 368 F. Supp. 3d 41 (D.D.C. 2019).

recently emerged victorious from another battle against fossil fuel leasing.¹⁷² This time, the coalition was protesting federal approval of nearly 400 oil and gas leases “encompassing 379,950 acres of public lands across three western states—Colorado, Utah, [and] Wyoming.”¹⁷³ All in all, a push for holding agencies accountable for decisions that contribute to climate change is underway in courts across the nation.

IV. LESSONS FROM THE TENTH

Given the number of NEPA cases challenging fossil fuel extraction on public lands that have sprung up over the past few years, fossil fuel rich jurisdictions can expect emissions forecasting cases to continue.¹⁷⁴ Even now, eager environmental advocates are likely plotting ways to use *WildEarth Guardians* and the other cases discussed herein as leverage to protect public lands and prevent further greenhouse gases from making themselves at home in the atmosphere. For those hatching such plans, several lessons from the Tenth Circuit caselaw should be taken into consideration. But, the allure of using tools currently available notwithstanding, strong incentives still exist to continue pursuing more stringent regulation to curb climate change. Although recent movement in the Tenth Circuit has shed light on ways in which agencies might be pushed toward more environmentally conscious decision making, at the end of the day, NEPA’s procedural mandate can only get us so far. Ultimately, we need comprehensive climate legislation with substantive limits on fossil fuel development and consumption.

A. Strategies for Staging a Successful NEPA Claim

Although somewhat limited in scope, the Tenth Circuit precedent outlined above provides several strategies that can be implemented against fossil fuel leasing across the country. The first of these litigation

¹⁷² *Id.* at 51. *But see* *WildEarth Guardians v. Bernhardt*, No. 16-1724 (RC), 2019 WL 3253685, at *4 (D.D.C. July 19, 2019) (denying plaintiffs’ motion to enjoin issuance of new drill permits during a voluntary remand of NEPA documents for the Colorado and Utah leases, and holding the plaintiffs would need to amend their complaint to challenge the new NEPA analysis for the Wyoming leases).

¹⁷³ *See* Complaint for Declaratory Judgment and Injunctive Relief, *WildEarth Guardians v. Jewell*, No. 1:16-cv-01724, 2016 WL 4485860 (D.D.C. Aug. 25, 2016).

¹⁷⁴ However, such cases are not inevitable. Several Democratic 2020 presidential hopefuls claim they would ban further fossil fuel leasing on public lands if elected. Dino Grandoni, *The Energy 202: Fossil Fuel Ban on Public Lands Becomes Issue in 2020 Democratic Race*, WASH. POST (Apr. 25, 2019), <https://perma.cc/P9SY-C83M>. Further, a judicial opinion out of the District of Montana recently ordered that the Department of the Interior must conduct environmental analysis pursuant to NEPA before lifting a ban on coal leasing on public lands. *Citizens for Clean Energy v. U.S. Dep’t of Interior*, 384 F. Supp. 3d 1264, 1277–79 (D. Mont. 2019). However, the Court has not yet decided whether to enjoin coal leasing pending that analysis. *Id.* at 1283.

tips is to properly label claims alleging agency failure to consider climatic impacts from greenhouse gas emissions. The main takeaway here is that cumulative impacts claims are less likely to be successful than indirect impacts claims. As the District of Colorado summarized in *Wilderness Workshop*, courts generally agree “combustion emissions are an indirect effect of an agency’s decision to extract those natural resources.”¹⁷⁵ This is true regardless of whether a plaintiff is challenging a planning document, lease approval, or permit.¹⁷⁶ Thus, framing an agency’s failure to quantify downstream emissions and consider the likely impacts of those emissions as a failure to properly analyze indirect impacts is a solid strategy.

Unfortunately, while successful indirect impacts claims may slow down a project, they are relatively unlikely to change an agency’s ultimate decision or cause widespread public outcry precisely because of their nature as indirect—not cumulative—impacts. Consideration of indirect impacts can be limited to the effects of the quantity of emissions at issue.¹⁷⁷ Even at the planning stage, these emissions alone are just a drop in the atmospheric bucket.¹⁷⁸ The true danger in approving fossil fuel development on public lands comes from cumulative climatic impacts of all greenhouse gas emissions.¹⁷⁹ This fact is evidenced by the recent finding that if U.S. public lands were an independent country, they would be the fifth most greenhouse gas emitting country in the world,¹⁸⁰ spewing the equivalent of fifty-eight coal-fired power plants into the atmosphere every year.¹⁸¹

But, alleging an agency should have considered the cumulative impacts of fossil fuel development is not so flexible a claim. In *Wilderness Workshop*, the District of Colorado deemed it unnecessary to consider specific cumulative climatic impacts at the planning stage.¹⁸² On the other hand, in *San Juan Citizens Alliance*,¹⁸³ the District of New

¹⁷⁵ *Wilderness Workshop*, 342 F. Supp. 3d 1145, 1155 (D. Colo. 2018).

¹⁷⁶ See *id.* (describing precedent instructing agencies to consider indirect impacts of downstream emissions at various stages of the process).

¹⁷⁷ Michael Burger & Jessica Wentz, *Downstream and Upstream Greenhouse Gas Emissions: The Proper Scope of NEPA Review*, 41 HARV. ENVTL. L. REV. 109, 179–80 (2017).

¹⁷⁸ Although, some drops are bigger than others. See *WildEarth Guardians*, 870 F.3d 1222, 1227, 1228 (10th Cir. 2017) (explaining that the coal leases at issue represented almost 20% of the U.S.’s annual coal production and 6% of emissions in 2008). As always, good facts make for good law.

¹⁷⁹ Indeed, this point was made by the Council on Environmental Quality (CEQ) in its 2016 Final Guidance on Greenhouse Gases and Climate Change. Memorandum for Heads of Federal Departments and Agencies from Christina Goldfuss, Council on Env’tl. Quality (Aug. 1, 2016), <https://perma.cc/DY7S-GM9J>.

¹⁸⁰ Press Release, Alex Thompson, The Wilderness Society, New Report Details the Hidden Climate Impacts of Fossil Fuel Development on U.S. Public Lands (Jan. 25, 2018), <https://perma.cc/KNS2-TBVH>.

¹⁸¹ Complaint for Declaratory Judgment and Injunctive Relief, *supra* note 173, at 27.

¹⁸² *Wilderness Workshop*, 342 F. Supp. 3d 1145, 1158 (D. Colo. 2018).

¹⁸³ *San Juan Citizens All. v. U.S. Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227 (D.N.M. 2018).

Mexico suggested (albeit in dicta) emerging science might be used to translate emissions into cumulative impacts on the climate at the leasing stage.¹⁸⁴ As scientific methods continue to improve, litigants need to push agencies toward an honest assessment of a project's cumulative impacts at the leasing and permitting stage.¹⁸⁵ Considering cumulative impacts at the leasing stage could save agencies time and energy that would otherwise be spent considering—and litigating—permits destined to be rejected or judicially invalidated at the permitting stage because of climate considerations. Moreover, granting fewer leases sends an important market signal to industry that the U.S. government will no longer ignore environmental externalities when weighing the cost of fossil fuel extraction.

Choosing the appropriate stage of the leasing process at which to file a climate-related NEPA claim is another important lesson from these Tenth Circuit cases. In general, challenging agency decision making later in the process—and especially at the permitting phase—tends to be more lucrative. Given the deference courts owe to land management decisions made by BLM and the Forest Service,¹⁸⁶ judges usually respect agency explanations that more detailed information will be available at the most specific stage of review. However, proper timing depends on the content of the particular claim, including what type of fuel is at issue and what deficiencies exist in the agency's analysis.

Case	Stage Challenged	Outcome
<i>High Country I</i>	CRR—planning stage	Vacated for failure to estimate and consider downstream coal combustion impacts
	Lease modifications—leasing stage	Vacated for failure to quantify emissions associated with leases or predict associated costs
	Exploration plan—permitting stage	Vacated for failure to consider site-specific impacts
<i>WildEarth Guardians v. BLM</i>	Leasing stage	Leases invalidated—remanded to district court for remedy briefing
<i>San Juan Citizens Alliance</i>	Leasing stage	Leases vacated for failure to estimate and consider impacts of downstream impacts

¹⁸⁴ *Id.* at 1249–50.

¹⁸⁵ For legislative solutions designed to correct the cumulative impacts problem, see discussion *infra* Part IV.B.

¹⁸⁶ See *San Juan Citizens All.*, 326 F. Supp. at 1238–39.

<i>High Country II</i>	North Fork Exception— planning stage	Upheld—justifiably deferred specific mitigation; adequately discussed complexity of predicting substitution
	Lease modifications— leasing stage	Upheld—adequately discussed complexity of predicting substitution
<i>Wilderness Workshop</i>	Planning stage	RMP invalidated for failure to quantify downstream emissions; but, remedy briefing ordered
<i>WildEarth Guardians v. Bernhardt</i>	Exploration plan recommendation— permitting stage	Recommendation vacated and NEPA process remanded to OSM for failure to consider methane flaring alternative; but, challenge to cumulative impacts section of SFEIS underlying the decision was waived because not raised during leasing stage

Claims that an agency should require certain forms of mitigation to reduce emissions are best asserted at the final stage of review—permitting.¹⁸⁷ Mitigation is necessarily a factually dependent issue, discussion of which often entails highly technical analysis of the type that general law judges are not necessarily well suited to critique, especially before all the relevant facts have developed. So, although possible mitigation strategies should at least be mentioned at the resource planning and leasing phases, emissions reduction methods are often billed as so context dependent that judges feel justified in allowing agencies to postpone these analyses.¹⁸⁸ Of course, attorneys seeking to maximize emissions reductions must remain vigilant and involved throughout all phases of the review process—even when not actively litigating—to ensure potential mitigation strategies are included in public comments at the planning and leasing stages and thus judicially challengeable if the agencies do not adequately consider them at the permitting stage.¹⁸⁹

¹⁸⁷ See *id.* at 1244–46; *High Country II*, 333 F. Supp. 3d at 1107, 1124–26; see also *Western Org. of Res. Councils*, 2018 WL 1475470, at *10–11; *WildEarth Guardians v. Bernhardt*, 2019 WL 5853870, at *9.

¹⁸⁸ *High Country II*, 333 F. Supp. 3d at 1124–26.

¹⁸⁹ See *WildEarth Guardians v. Bernhardt*, 2019 WL 5853870 at *10–11.

While postponing mitigation challenges until site specific permits are approved seems reasonable in the context of oil and gas leasing where federal agencies retain control throughout the process, this strategy creates some practical problems when applied to coal. Specifically, SMCRA often places coal permitting in the hands of state actors, but lease approval remains a federal responsibility.¹⁹⁰ Thus, it can be difficult to ensure promises to consider mitigation later in the process made by federal agents during the coal leasing stage are upheld by state officials during the permitting stage. Indeed, once a state's SMCRA program is federally approved, federal oversight of coal extraction at the permitting stage is reduced to discretionary monitoring,¹⁹¹ leaving state officials to make the final call on whether a permit applicant's mining plan provides sufficient environmental protections.

This scheme has practical implications for litigants. Namely, because NEPA's applicability is limited to major *federal* actions, the opportunity to bring a NEPA challenge against a coal permit is obliterated.¹⁹² Furthermore, the Fourth Circuit Court of Appeals has ruled that, despite SMCRA's citizen suit provision,¹⁹³ the Eleventh Amendment precludes citizens from suing their state governments in federal court for improperly permitting environmentally disastrous coal removal projects.¹⁹⁴ Because a state granted "primacy" status under SMCRA gains the *exclusive* right to regulate coal development, the Fourth Circuit felt citizens should have to sue in state court under the citizen suit provision proffered by state law.¹⁹⁵ Determined plaintiffs might have more luck establishing federal jurisdiction by using the APA's failure to act provision¹⁹⁶ to allege OSM illegally abrogated its duty to oversee state enforcement.¹⁹⁷ In fact, on at least one occasion, plaintiffs tested a version of this tactic by seeking to compel OSM to revoke federal approval of a state SMCRA program.¹⁹⁸ However, as evinced by the failed attempt in *Dacotah Chapter of Sierra Club v.*

¹⁹⁰ See discussion *supra* notes 39–51.

¹⁹¹ 30 U.S.C. § 1267(a) (2012); see also *Bragg v. W.V. Coal Ass'n*, 248 F.3d 275, 293 (4th Cir. 2001) ("SMCRA was expressly designed to hand over to the States the task of enforcing minimum national standards for surface coal mining, providing only limited federal mechanisms to oversee State enforcement.").

¹⁹² See 42 U.S.C. § 4332(C) (2012). Of course, some states have their own versions of NEPA under which citizens might be able to challenge coal extraction permitting, but these suits would be relegated to state court.

¹⁹³ 30 U.S.C. § 1270(a)(2).

¹⁹⁴ *Bragg*, 248 F.3d at 298.

¹⁹⁵ *Id.* at 294–97.

¹⁹⁶ 5 U.S.C. § 706(1).

¹⁹⁷ See 30 U.S.C. §§ 1254(b), 1271 (providing for federal SMCRA enforcement when states are not diligently enforcing).

¹⁹⁸ *Dacotah Chapter of Sierra Club v. Jewell*, No. 1:12-cv-065, 2013 WL 12109410, at *4–5 (D.N.D. Oct. 10, 2013).

Jewell,¹⁹⁹ winning such a case is exceedingly difficult given the high volume of discretionary language in the enforcement section.²⁰⁰

Given these restrictions on challenging coal permits, litigators would be wise to treat claims of inadequate mitigation consideration differently for coal than for oil and gas. While inadequate mitigation requirements for oil and gas extraction can likely be successfully challenged by asserting a claim for the first time at the permitting stage, it may be beneficial to challenge mitigation for coal projects at the leasing stage, if only to create a record that the proposed mitigation should be considered by the permitting authority. Explicit instructions from a federal court can be compelling evidence in state court and might inspire the permitting authority to impose mitigation of its own accord, thus obviating the need for another lawsuit. However, cautious litigants may desire a didactic opinion in the oil and gas context as well—even if it means enduring a loss at the leasing stage—to help discourage agencies from playing the “shell-game.”²⁰¹ But, as always, enlisting the help of a court can be risky, as exemplified by the *High Country II* Court’s approval of the Forest Service’s decision to only require mitigation when implementation is profitable.²⁰²

Claims related to failure to quantify downstream emissions and predict the related climate impacts are more flexible. The beauty of the line of cases discussed herein is the affirmation that agencies are responsible for quantifying emissions where they have quantified an estimate of the recoverable fuel as part of the planning stage.²⁰³ Indeed, the sentiment that agencies must consider downstream impacts as early as possible, regardless of the opportunity to consider them again at a later part of the process, is now being echoed in other parts of the country.²⁰⁴ Thus, it is now relatively well-established that when an

¹⁹⁹ *Id.* at *6–7.

²⁰⁰ See 30 U.S.C. § 1254(b) (“the Secretary *may* provide for federal enforcement”) (emphasis added); *id.* § 1271 (conditioning federal intervention on the Secretary of the Interior’s finding of a violation); see also *Norton v. S. Utah Wilderness All.*, 542 U.S. 55, 64 (2004) (“§ 706(1) empowers a court only to compel an agency to perform a ministerial or non-discretionary act.”); *Dacotah Chapter*, 2013 WL 12109410, at *6 (“SMCRA does not impose a mandatory duty on the Secretary to substitute direct federal enforcement over North Dakota’s surface mining program.”).

²⁰¹ The shell-game, a metaphor coined by the plaintiffs in *High Country I*, refers to the agency practice of postponing consideration of something until a later stage of review, but then tiering to the earlier review at the later stage in an apparent attempt to evade ever having to make the consideration. *High Country I*, 52 F. Supp. 3d 1174, 1199 (D. Colo. 2014).

²⁰² *High Country II*, 333 F. Supp. 3d 1107, 1125 (D. Colo. 2018).

²⁰³ Compare *High Country I*, 52 F. Supp. 3d at 1195, and *Wilderness Workshop*, 342 F. Supp. 3d 1145, 1154–56 (D. Colo. 2018), with *High Country II*, 333 F. Supp. 3d at 1115, 1131 (upholding a planning EIS that disclosed costs of downstream emissions using the social cost of carbon protocol).

²⁰⁴ *W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt.*, No. CV 16-21-GF-BMM, 2018 WL 1475470, at *4–5 (D. Mont. Mar. 26, 2018) (“The Ninth Circuit has rejected the argument that future statutory safeguards against an alleged injury preclude a challenge to a programmatic decision that makes such injury possible.”).

agency estimates fuel output to predict economic benefit at *any* stage in the process, the agency cannot subsequently refuse to use those estimates to predict environmental harm. However, recent developments in *WildEarth Guardians v. Zinke* suggest courts might soon recognize that waiting until the permitting stage to fully analyze climate impacts is too late because an irreversible commitment of resources occurs at the leasing stage.²⁰⁵ Hence, unlike claims related to mitigation, claims related to downstream emissions and resultant climate impacts are best asserted as early as possible.

This development is unquestionably helpful, but also raises a few troubling possibilities. One concern is that agencies will go out of their way to avoid calculating the amount of fuel a site is capable of producing. As agencies are fond of reminding courts, NEPA does not require cost-benefit analyses. By speaking of the economic benefits a fossil fuel project could sow in more qualitative terms, agencies may hope to circumvent having to calculate emissions and their impacts with the specificity necessary to make informed decisions on climate-altering activities. Indeed, language in *High Country I* made clear that quantification of emissions was necessary because BLM calculated and relied upon the leases' economic benefits in its EIS.²⁰⁶ However, this strategy is easily countered by the lack of any benefits to fossil fuel leasing aside from short-term economic gains and energy security. Environmental organizations should be ready to point out that without proof of profitability and productivity, any decision to approve fossil fuel development is arbitrary. Referencing examples of prior NEPA documents in which the agency included quantified data and explicitly requesting the agency do so again in comments is a crucial step to ensuring the government is held accountable. Only after the agency has relied on quantified data can plaintiffs recommend methods for quantifying costs with any hope of a court forcing the agency to conduct that analysis.

A related—and more perilous—possibility is that agencies will generate expansive explanations of the uncertainty that plagues climate predictions in order to pad the portion of analysis dealing with negative impacts.²⁰⁷ This uncertainty is fueled by administrative records flooded with conservative data that likely underestimates the true risks associated with climate change.²⁰⁸ When harms are speculative, people

²⁰⁵ In *WildEarth Guardians v. Zinke*, even the defendants conceded that once leases were issued, BLM could no longer put a moratorium on all drilling. *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 69 (D.D.C. 2019). This admission led the court to the conclusion that leasing is an irreversible commitment of resources and ultimately helped the plaintiffs win their case.

²⁰⁶ *High Country I*, 52 F. Supp. 3d at 1191.

²⁰⁷ See *supra* notes 151–155 and accompanying text.

²⁰⁸ See, e.g., Salvador Herrando-Perez et al., *Statistical Language Backs Conservatism in Climate Science*, 69 *BIOSCIENCE* 209, 216 (2019) (“The reality is that contrarian views against anthropogenic climate disruption can lobby the scientific community, and the

feel more comfortable going forward with risky actions. Furthermore, strategic disclosure of uncertainty allows agencies to make honest, but misleading choices in NEPA documents. For instance, in the North Fork Exception SFEIS at issue in *High Country II*, the Forest Service used “[c]onservative assumptions about potential future activities and associated [greenhouse gas emissions] . . . to estimate impacts of the different alternatives.”²⁰⁹

Certainly, this method of proceeding with the analysis in the face of uncertainty is a permissible choice under NEPA, but conservative estimates skew public perception of the project. One may query whether conservative emissions estimates are the wisest choice in light of the dire need to make energy choices that minimize emissions, if not eradicate them completely.²¹⁰ Conservative estimates increase the likelihood that we will underestimate cumulative impacts of fossil fuel development and overshoot emissions targets. This is a risk we simply cannot afford to be taking at this moment in history.

Unfortunately, milking uncertainty is precisely how the government was able to convince the court that providing cheap coal from the North Fork area would not necessarily increase emissions in *High Country II*.²¹¹ This opinion, though subject to potential alteration on appeal, illuminates the hazard of relying on NEPA in place of comprehensive climate legislation that places substantive limits on fossil fuel extraction and combustion. Even as the world hurtles toward climate crisis, judges do not feel comfortable challenging scientific analyses conducted by agencies.²¹² So, although agencies almost certainly act arbitrarily and capriciously in making fossil fuel decisions without quantifying downstream emissions, there remains a significant risk that agencies will leverage discussion of uncertainty to justify underreporting probable climatic impacts. To counter this move, it is crucial that environmental plaintiffs continue to point courts to scientific evidence demonstrating that, regardless of uncertainty as to precise climate impacts, assuming cumulative impacts are insignificant is unreasonable under the three-factor test in *WildEarth Guardians*.²¹³

IPCC in particular, to be conservative and so reinforce contrarian views in a vicious, self-reinforcing circle—a phenomenon called seepage.”).

²⁰⁹ U.S. DEP’T OF AGRIC. RULEMAKING FOR COLORADO ROADLESS AREAS: SUPPLEMENTAL FINAL ENVIRONMENTAL IMPACT STATEMENT 35, <https://perma.cc/MR32-QQHH> (last visited Apr. 18, 2020).

²¹⁰ See generally James Hansen et al., *Assessing “Dangerous Climate Change”: Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature*, PLOS ONE 12, Dec. 2013, at 1, 5 (describing the perils of runaway climate change and emphasizing the urgency of reducing atmospheric carbon to 350 ppm).

²¹¹ *High Country II*, 333 F. Supp. 3d 1107, 1129–31 (D. Colo. 2018).

²¹² See *id.* at 1131 (citing *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council*, 462 U.S. 87, 105 (1983) (“It is not our task to determine what decision we, as Commissioners, would have reached.”)).

²¹³ See *WildEarth Guardians*, 870 F.3d 1222, 1236 (10th Cir. 2017).

Ultimately, NEPA is a tool, perhaps best likened to a wrench, capable of slowing fossil fuel development on public lands by ratcheting down agencies' ability to speed through NEPA analyses without meaningful consideration of climate impacts. The litigation chronicled in Part III demonstrates how NEPA has been used to delay extraction of fossil fuels and provide needed checks on under-inclusion of emissions analysis and mitigation by agencies. Though undoubtedly useful in this context, this strategy also has the potential to be applicable to other agency decisions with climate implications, such as timber harvesting. However, as illustrated by the outcome of *High Country II*, NEPA can only delay agency actors committed to resource extraction²¹⁴ for so long. What we really need are comprehensive legislative and administrative policy changes that account for the true cost of fossil fuel extraction and combustion.

B. Policy Changes to Facilitate Meaningful NEPA Review and Cool the Planet

One trend apparent throughout the cases discussed in Part III is that courts uphold agency decisions about appropriate emission levels when those emission levels are based on law.²¹⁵ Thus, the federal government's dearth of law restricting greenhouse gas emissions is hugely problematic, especially given the lack of any required methodology for considering climate impacts under NEPA. When agencies can point to localized indirect impacts within legal limits from the relatively small scale of the emissions and simultaneously excuse themselves from meaningful consideration of cumulative impacts due to uncertainty, the result is continued emissions at a time when lives depend on immediate and drastic emissions reductions.²¹⁶ Throwing the NEPA wrench into the mix is a worthy endeavor in the short-term, but eventually we need legislative and policy changes to facilitate successful NEPA challenges, and hopefully eradicate the need for such lawsuits in the long-run. This section explores a few policy changes that would help to solve the problems of continued fossil fuel development on public lands.

First, whatever specific rule changes end up being proposed, we need to ensure decision makers and consultants include persons with the necessary background and authority to speak on behalf of the

²¹⁴ Yes, the agencies are committed to expanding fossil fuel extraction on public lands. See Oil and Gas Resources, 83 Fed. Reg. 46458, 46459 (Sept. 13, 2018) (seeking public comment for suggestions to "streamline" the Forest Service's oil and gas regulations because "[i]t is in the national interest to promote clean and safe development of our Nation's vast energy resources."); see also Scott Streater, *BLM's 'Energy Guy' May Signal the End of Big Renewables*, E&E NEWS (Mar. 31, 2017), <https://perma.cc/E98U-GBC5> (describing BLM's focus on removing barriers to fossil fuel development in the Trump era).

²¹⁵ See *San Juan Citizens Alliance*, 326 F. Supp. 3d 1227, 1251–52 (D.N.M. 2018); *High Country II*, 333 F. Supp. 3d at 1124–26.

²¹⁶ See generally Hansen et al., *supra* note 210, at 9, 16, 19.

environment. Despite the increasingly desperate atmospheric situation, climate experts are still denied a voice in an alarming number of decisions related to fossil fuels. For instance, regional leasing levels are currently set by the Secretary of the Interior pursuant to recommendations from regional coal teams (RCTs).²¹⁷ The recommendations are primarily a product of the BLM State Director, who suggests a range of leasing levels based on land use planning data and industry interest.²¹⁸ This range is then whittled down to the final leasing level based on a variety of factors, including economic, social, and environmental considerations.²¹⁹ Ultimately, this number will become the basis for the proposed action in the EIS for each regional coal lease sale.²²⁰ Interestingly, although consultation on this decision is required, the Environmental Protection Agency and equivalent state agencies are conspicuously absent from list of mandatory consultants.²²¹ By involving environmental experts in this process, regulators could make a more informed baseline decision about appropriate land use and avoid creating a record largely devoid of environmental input.

Aside from ensuring knowledgeable and unbiased climate scientists are involved in decision making surrounding fossil fuel development and other emissions-heavy activities on public lands, regulators could ensure more honest NEPA evaluations by updating the regulations to standardize a methodology for assessing cumulative climate impacts. As climate change is a root cause of so many significant environmental impacts, it is somewhat unbelievable that our “basic national charter for the protection of the environment”²²² specifies no uniform treatment of the issue.²²³ This failure poses a major roadblock for environmental litigators looking to use NEPA to ensure the true impacts of climate change are accounted for in public lands decisions.²²⁴

Regulators have several alternatives as to how the cumulative impacts of greenhouse gas emissions might be calculated. This section proceeds with an explanation of some of these options, in order from

²¹⁷ 43 C.F.R. § 3420.2 (2018).

²¹⁸ *Id.* § 3420.2(a)(1).

²¹⁹ *Id.* § 3420.2.

²²⁰ *Id.* § 3420.2(f).

²²¹ *Id.* § 3420.2(b), (d). Among those who must be consulted are the Secretary of Energy and the Governors of affected states. *Id.* § 3420.2(a)(3), (b).

²²² 40 C.F.R. § 1500.1(a) (2018).

²²³ Although CEQ issued its Final Guidance on Greenhouse Gases and Climate Change in 2016, those instructions were subsequently withdrawn and replaced by the Trump administration's new Draft Guidance. See *Guidance on Consideration of Greenhouse Gases*, NEPA.GOV, <https://perma.cc/F685-652Y> (last visited Apr. 18, 2020) (“If the 2019 Draft Guidance is finalized, the result would replace the Final Guidance that was issued in 2016 and withdrawn in 2017 for further consideration pursuant to Executive Order 13783.”). Of course, this unilateral backsliding would not have been possible had CEQ passed binding regulations on this topic.

²²⁴ See, e.g., *Wilderness Workshop*, 342 F. Supp. 3d 1145, 1159–60 (2018) (“Simply put . . . BLM was not required to perform a cost-benefit analysis. It chose not to do so, provided sufficient support in the record to show this, and thus satisfied NEPA.”).

most radical to least, with the understanding that at this late hour the most radical options are the most attractive in terms of safeguarding human health and biodiversity.²²⁵

The first and most logical way to calculate cumulative climate implications is to use a version of the carbon budget methodology. The basic idea of a carbon budget is that humans have a certain allotment of total greenhouse gases that can be emitted before global warming exceeds 1.5°C.²²⁶ Thus, we should be emitting only what is essential, while taking dramatic steps to replace as many greenhouse gas producing energy sources with renewables as possible. Of course, researchers are far from consensus as to exactly how much carbon is left in our carbon budget.²²⁷ Indeed, generating an *exact* carbon budget is impossible both because of the uncertainty inherent to any climate model, and because of unknowable inputs such as what carbon sequestration technologies and policies will eventually come down the pipeline.²²⁸ However, this limitation certainly does not preclude us from implementing a carbon budget approach to NEPA.

A carbon budget analysis is entirely appropriate for NEPA documents. As courts have repeatedly pointed out, NEPA does not require omniscience as a condition precedent to conducting a detailed analysis.²²⁹ In practice, regulators make policy decisions in the face of uncertainty all the time. Furthermore, using a carbon budget approach is far more grounded in the reality of climate change than simply claiming emissions from individual leases and permits are insignificant in the grand scheme of things. As already emphasized in this paper and elsewhere, continuing to ignore the cumulative impacts of greenhouse gas emissions is a decision we make at our own peril.

²²⁵ See generally Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009) (warning a decade ago that climate change will endanger public health and welfare); see also Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,661, 64,677 (Oct. 23, 2015) (calling the need for emissions reductions “urgent”); Supplemental Declaration of Dr. James E. Hansen at 1, 3, *Juliana v. United States*, 217 F. Supp. 3d 1224 (No. 6:15-cv-01517-TC) (2016), <https://perma.cc/Z4SR-GQE8> (last visited Apr. 18, 2020).

²²⁶ Chelsea Harvey, *How the “Carbon Budget” is Causing Problems*, SCI. AM. (May 22, 2018), <https://perma.cc/4JWE-L4A8>; see also INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SUMMARY FOR POLICYMAKERS: GLOBAL WARMING OF 1.5°C, (2018), <https://perma.cc/FV8T-CA3C> (explaining the benefits of containing global warming to 1.5°C rather than 2°C).

²²⁷ See Zeke Hausfather, *Analysis: How Much ‘Carbon Budget’ is Left to Limit Global Warming to 1.5°C?*, CARBON BRIEF (Sept. 4, 2018), <https://perma.cc/FLZ6-KC5D>; Harvey, *supra* note 226.

²²⁸ See Harvey, *supra* note 226.

²²⁹ *High Country I*, 52 F. Supp. 3d 1174, 1196 (10th Cir. 2014) (“[R]easonable forecasting and speculation is . . . implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as ‘crystal ball inquiry.’”) (quoting *Scientists’ Inst. for Pub. Info. v. Atomic Energy Comm’n*, 481 F.2d 1079, 1092 (D.C.C. 1973)).

The exact size of the ideal carbon budget is a question beyond the scope of this Comment that should be answered instead by unbiased legislators and CEQ staff after the benefit of briefing by climate scientists who have no affiliation with the fossil fuel industry. However, it is worth noting that NEPA impliedly favors caution in the face of the unknown. Indeed, the CEQ regulations instruct agencies to consider “[t]he degree to which the possible effects [of an action] are highly uncertain or involve unique or unknown risks.”²³⁰ With the earth as we know it on the line, this policy makes good sense, especially in light of the fact that according to some studies we have already exceeded emissions quota to keep warming below 1.5°C.²³¹ As such, the smaller the carbon budget, the smaller the risk of losing invaluable lives, property, and ecosystems. Unfortunately, implementing an appropriate budget will require a significant amount of upheaval; but, the alternative is worse.

Another option for updating the NEPA regulations—one that will be slightly more familiar to agencies—is to require that the social cost of carbon be used in all-emissions related decision making. From the CEQ regulations, one can discern that the drafters expressly excused agencies from conducting cost-benefit analyses because they did not want to omit considerations that were not easily monetized.²³² The social cost of carbon is designed to overcome that very obstacle. The purpose of the framework is to convert invaluable assets, like the existence of a species or the benefit of good health, into a language policy-makers can understand: money.²³³ Having done away with the barrier of valuation, agencies have no legitimate reason²³⁴ to omit cost-benefit analyses from the EIS process. When an agency touts an action as having economic benefits, that agency should no longer be allowed to avoid quantifying the hitherto unquantifiable harms of that same project.

Mandating a cost-benefit analysis using the social cost of carbon analysis or a similar framework would also overcome the hair-splitting that causes different outcomes in like cases. For instance, the social cost of carbon had to be considered in the *High Country* cases because the agencies included it in a draft and then removed the discussion without sufficient explanation while expressly relying on quantified benefits.²³⁵

²³⁰ See 40 C.F.R. § 1508.27(b)(5) (2013).

²³¹ See Hausfather, *supra* note 227.

²³² “[T]he weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations, including factors not related to environmental quality, which are likely to be relevant and important to a decision.” 40 C.F.R. § 1502.23 (2019).

²³³ See *The Social Cost of Carbon*, ENVTL. PROT. AGENCY, <https://perma.cc/9JBK-L627> (last visited Apr. 18, 2020).

²³⁴ As explained in the preceding paragraphs, uncertainty is not a legitimate reason to forego action at this late hour.

²³⁵ *High Country I*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014); see also *Wilderness Workshop*, 342 F. Supp. 3d 1145, 1159 (2018).

Thus, the court's ruling that cost-benefit analysis in general and the social cost of carbon in particular needed to be included turned on the agency's phrasing of the EIS. But, disclosing a full comparison of harms and benefits to the public should not be so easily malleable by agency actors.

Wilderness Workshop provides another example in which an agency turn of phrase was enough to excuse a lack of cost-benefit analysis. In that case, BLM was able to avoid quantifying emissions by asserting localized economic benefits included in the analysis were "not large enough to have any measurable effect on economic diversity or dependency."²³⁶ By disclaiming reliance on economic factors in the EIS, BLM was able to convince the court no cost-benefit analysis had been used at all.²³⁷ Of course, this fiction ignores the economic interests of the decision makers themselves,²³⁸ which underlie every resource planning document, and the money that would ultimately be made by the companies who would eventually extract the oil and gas at issue in that case.

In truth, every resource management decision includes a cost-benefit analysis. Our decisions should not depend on how well an agency can downplay that reality in a finalized NEPA document. Instead, we should require a full and honest accounting of the costs and benefits at the time in the decision-making process when impacts are foreseeable enough to count. Such a protocol would also reduce litigation costs and assuage the burden on court resources that comes from parties bringing NEPA challenges at too early a stage in the process. Cost-benefit analysis makes the most sense at the leasing stage to avoid unnecessary costs and efforts for industry. Allowing a party to go through the time and cost intensive leasing process is pointless if an agency is ultimately going to deem the activities the lease was acquired to conduct too environmentally degrading to be approved. Requiring cost-benefit analysis at the leasing stage will also prevent agencies from feeling obligated to appease lessees by skewing environmental analysis later in the process. Regardless of the methodology chosen, implementing binding rules that require a cost-benefit analysis in NEPA analyses of greenhouse gas emitting projects is essential.

V. CONCLUSION

Holding public lands managers accountable for decisions that bear on climate change is crucial because resource extraction on public lands is a huge contributor to global greenhouse gas emissions. As a primary driver of disastrous climate change, the U.S. government has a moral,

²³⁶ *Wilderness Workshop*, 342 F. Supp. 3d at 1159.

²³⁷ *Id.*

²³⁸ See, e.g., Rep. Ryan K. Zinke: Campaign Finance Summary, OPENSECRETS, <https://perma.cc/5CJX-5WS9> (last visited Apr. 18, 2020) (listing Oasis Petroleum as Zinke's top campaign contributor).

as well as legal, obligation to incorporate the most up-to-date science into its NEPA documents. So long as agencies continuously fail to quantify emissions both directly attributable to and downstream from fossil fuel development, NEPA provides a powerful analysis-forcing tool. Similarly, when agencies provide one-sided cost-benefit analyses that zero out the costs of emissions, NEPA suits are an apt response that litigators should continue to employ in the fossil fuel context and beyond.

However, when agencies eschew cost-benefit analyses in favor of more qualitative assessment methods, the power of NEPA is quickly diminished. The same is true when extractive industry actors are careful to load the administrative record with science that underestimates climate impacts through exploitation of uncertainty. Ultimately, when agencies fully disclose a rational basis for their decisions, the potency of NEPA as an elixir to cure climate change is diluted. Thus, although the Tenth Circuit cases discussed herein are an exciting development, we must not fall into the trap of believing NEPA as it currently exists is sufficient to prevent public lands managers from making decisions that recklessly continue to pour greenhouse gases into the atmosphere. Rather, reversing climate chaos requires a comprehensive strategy composed of structural and substantive policy changes.

One of the most crucial tasks facing regulatory leaders in the short-term is to decide upon a single method of evaluating the cumulative impacts of greenhouse gas emissions. Regardless of whether regulators choose to implement a carbon budget approach, employ the social cost of carbon protocol, or create some other cost-benefit analysis method capable of accurately assessing cumulative climate impacts, a decision needs to be made soon to sustain any hope of keeping the planet habitable. Only with a unified strategy can resource managers take a “hard look” at climate consequences and understand the true costs of their actions.