

October 15, 2018

SDA-Forest Service  
Attn: Director-MGM Staff  
1617 Cole Boulevard, Building 17  
Lakewood, CO 80401

Re: Advance notice of proposed rulemaking on Oil and Gas Resources, 36 CFR 228 Part E

To Whom It May Concern:

The undersigned are submitting comments in response to the advance notice of proposed rulemaking (ANPR) issued by the Forest Service on September 13, 2018 (83 Fed. Reg. 46458), regarding revisions to 36 C.F.R. 228 Part E.

In addition to addressing the specific questions raised in the ANPR, we are highlighting other issues of concern.

**ADDITIONAL OPPORTUNITIES FOR MEANINGFUL PUBLIC INPUT ARE REQUIRED.**

At the outset, we reiterate that the time provided for this comment period is woefully inadequate. The Forest Service is proposing to revise every aspect of how it regulates oil and gas leasing and development for the first time in decades and has provided only thirty days to respond to sweeping questions and a broad statement regarding a new direction for managing this program. In addition, the areas identified for revision are very broad and could encompass various areas of the current regulations. Consequently, the public would benefit from clarification as to the types of changes the Forest Service is contemplating beyond references to “updating” and “clarifying” topics of regulation. We have already requested an additional 60 days to provide scoping comments. We strongly urge the Forest Service to provide additional information and supplemental opportunities for public input prior to releasing a draft of new regulations.

**FOCUSING ON ACCELERATING OIL AND GAS DEVELOPMENT ABOVE OTHER CONSIDERATIONS IS INCONSISTENT WITH THE FOREST SERVICE’S LEGAL MANDATES.**

The stated purpose and direction of the revisions to these regulations is concerning and inconsistent with the Forest Service’s mandate to manage our national forests and grasslands for all Americans. The Forest Service has statutory responsibilities under its Organic Act, the Multiple-Use, Sustained-Yield Act, and the National Forest Management Act to manage its surface resources to protect the environment and to constrain oil and gas leasing and development consistent with the public interest. More specific laws, such as the Wilderness Act, the Clean Water Act, the Clean Air Act, the Endangered Species Act, and the Wild and Scenic Rivers Act, require protective management of particular National Forest System resources, while the National Environmental Policy Act (NEPA) provides a procedural framework to ensure informed and transparent agency decision-making. The Mineral Leasing Act (MLA), as amended

by the Federal Onshore Oil and Gas Leasing Reform Act of 1987, establishes that the Forest Service has an independent responsibility to determine which, if any, Forest Service lands will be available for oil and gas leasing. 30 U.S.C. § 226(h). Consistent with these laws, the Forest Service allows an array of multiple uses, including, if and where appropriate, oil and gas development. It does so by identifying certain lands as available for oil and gas leasing, consenting (or not) to the Bureau of Land Management (BLM) leasing certain available lands, and approving (or not) a surface use plan of operations for developing a lease. *See* 30 U.S.C. § 226(h) (“The Secretary of the Interior may not issue any lease on National Forest System Lands reserved from the public domain over the objection of the Secretary of Agriculture.”). Under long-established law, the Forest Service cannot delegate its independent responsibility to meet statutory requirements, including NEPA compliance, prior to granting or withholding consent to mineral leasing. *See Calvert Cliffs’ Coord. Comm. v. Atomic Energy Comm’n*, 449 F.2d 1109, 1122-23 (D.C. Cir. 1971); *Idaho v. Interstate Commerce Comm’n*, 35 F.3d 585, 595-96 (D.C. Cir. 1994).

The Forest Service’s September 13 ANPR is premised on the notion that there is a need to “streamline” implementation of the agency’s responsibilities with respect to oil and gas leasing and development on National Forest System lands. While it may be the case that Forest Service’s rules could be improved to better ensure robust yet efficient compliance with NEPA and other environmental laws, we strongly disagree that “streamlining the regulations,” as articulated in the ANPR, is needed or appropriate. In our experience, most delays in agency analysis and decision-making regarding oil and gas leasing and permitting and other authorizations result from operational and organizational culture issues – including inadequate funding, staffing, and training – and are not the product of major flaws in existing regulations or policies. Other delays are attributable to oil and gas lessees and operators.<sup>1</sup> Indeed, as the Forest Service recently recognized in synthesizing public feedback from a series of “Environmental Analysis and Decision-Making” roundtables, major challenges include “agency culture,” “personnel policies and staffing decisions,” and “capacity and resources.”<sup>2</sup> Thus, prior to considering any significant regulatory revisions, the agency should first conduct and share an accurate and complete problem analysis that clearly identifies, evaluates, and substantiates the hurdles to effective and efficient oil and gas leasing and permitting. Given existing information, this must include the operational and organizational culture issues that were raised repeatedly in the EADM roundtables.

Moreover, the Forest Service’s multiple-use mandate prohibits the agency from managing the national forests primarily for energy development or in a manner that unduly or unnecessarily degrades other uses. *See* 16 U.S.C. § 1604(e)(1). Instead, the multiple-use mandate provides that the national forests “shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes.” 16 U.S.C. § 528. Further, as co-equal, principal uses of public lands, outdoor recreation, fish and wildlife, grazing, logging, watersheds and rights-of-way must receive the same consideration as energy development. 6 U.S.C. § 528.

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<sup>1</sup> For instance, BLM’s evaluation of the time to complete issuance of permits to drill regularly finds that the bulk of time is attributable to operators, not to agency staff.

[https://www.blm.gov/sites/blm.gov/files/Table12\\_Time\\_to\\_Complete\\_an\\_APD1.pdf](https://www.blm.gov/sites/blm.gov/files/Table12_Time_to_Complete_an_APD1.pdf)

<sup>2</sup> National Forest Foundation, 2018. *Environmental Analysis and Decision Making Regional Partner Roundtables: National Findings and Leverage Points*. May 2018.

Federal courts have consistently rejected efforts to affirmatively elevate energy development over other uses of public lands. In the seminal case, *N.M. ex rel. Richardson v. BLM*, the Tenth Circuit put to rest the notion that BLM or the Forest Service can manage chiefly for energy development, declaring that “[i]t is past doubt that the principle of multiple use does not require BLM to prioritize development over other uses.” 565 F.3d 683, 710 (10th Cir. 2009); *see also S. Utah Wilderness Alliance v. Norton*, 542 U.S. 52, 58 (2004) (defining “multiple use management” as “striking a balance among the many competing uses to which land can be put”). Other federal courts have agreed. *See, e.g., Colo. Envtl. Coalition v. Salazar*, 875 F. Supp. 2d 1233, 1249 (D. Colo. 2012) (rejecting oil and gas leasing plan that failed to adequately consider other uses of public lands). The Forest Service itself acknowledged as much in 1990 in the preamble to its publication of the final oil & gas rules, rejecting the notion asserted by certain commentators that the agency was statutorily obliged to give minerals development a preference over other multiple uses. As the agency explained, “none of the statutes cited or any other statute mandates that surface use for mineral development is to be given preference over other uses of National Forest System lands.” 55 Fed. Reg. 10423-01, 10424 (March 21, 1990). Moreover, the agency emphasized that determinations of which multiple uses were to be allowed or disallowed were to be “considered on their merits and decisions should be made as to which mix of land uses would best meet the needs of the public.” *Id.* This bedrock concept—that National Forest System lands should be managed in the public interest—remains just as strong today as it did in 1990.

Thus, treating energy development as the dominant use of national forests would violate NFMA. However, the ANPR presents the potential revisions to the Forest Service’s oil and gas regulations only in the context of “streamlining” and “speeding up” processing of approving leasing, permitting, and development and discusses reforms to remove perceived “burdens on the agency and applicants” and to “decrease the burden on the industry.” There is no reference to the increased risk to water, fish and wildlife, cultural resources, air quality, recreation or any other multiple use from the host of new technologies that have increased the reach, speed and impacts of oil and gas development. While the Forest Service touts its role as a water provider to millions of people in our country,<sup>3</sup> this ANPR makes no mention of a commitment to ensuring clean water will continue to be provided, other than a rather ominous reference to “updating” language regarding an oil and gas operator’s responsibility to protect natural resources and the environment.

Further, the ANPR states: “The intent of these potential changes would be to decrease permitting times by removing regulatory burdens that unnecessarily encumber energy production.” We note a recent ruling by a federal district court in Idaho, finding that another attempt to “streamline” leasing and remove “burdens” associated with environmental review was inconsistent with the principles of multiple use and the National Environmental Policy Act because “[t]he benefits of public involvement and the mechanism by which public involvement is obtained are not ‘unnecessary impediments and burdens.’”<sup>4</sup> We urge the Forest Service to recall its actual legal responsibilities and ensure those are reflected in these regulations, as discussed in more detail below.

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<sup>3</sup> <https://www.fs.fed.us/managing-land/national-forests-grasslands/water-facts>

<sup>4</sup> *Western Watersheds Project v. Zinke*, No. 1:18-cv-00187-REB (D. Idaho Sept. 21, 2018).

## **COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT**

### **I. THE FOREST SERVICE MUST PREPARE A COMPREHENSIVE ENVIRONMENTAL IMPACT STATEMENT AND CONSIDER A FULL SUITE OF RULEMAKING ALTERNATIVES**

#### **A. NEPA Background**

NEPA “is our basic national charter for protection of the environment.” 40 C.F.R. § 1500.1(a). NEPA’s substantive intent is to:

encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; [and] to enrich the understanding of the ecological systems and natural resources important to the Nation.

42 U.S.C. § 4321. To fulfill this mandate, “it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources” in order that the United States may, *inter alia*, “fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.” *Id.* at § 4331(b)(1).

As the Supreme Court teaches, “the thrust of [NEPA] is ... that environmental concerns be integrated into the very process of agency decision-making.” *Andrus v. Sierra Club*, 442 U.S. 347, 350 (1979). Thus, while “NEPA itself does not mandate particular results, but simply prescribes the necessary process,” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989), agency adherence to NEPA’s action-forcing statutory and regulatory mandates helps achieve NEPA’s noble purpose and policies. *See* 42 U.S.C. §§ 4321, 4331. As explained by NEPA’s implementing regulations:

Ultimately, of course, it is not better documents but better decisions that count. *NEPA’s purpose is not to generate paperwork – even excellent paperwork – but to foster excellent action.* The NEPA process is intended to help public officials make decisions that are based on [an] understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.

40 C.F.R. § 1500.1(c) (emphasis added).

NEPA’s ability to “foster excellent action” is a product of its specific procedural mandates, namely that federal agencies—such as the Forest Service—take a hard look at the direct, indirect, and cumulative impacts of a proposed action; consider reasonable alternatives to that proposed action; meaningfully involve the public in the NEPA process; and, where impacts may be

significant, prepare a thorough Environmental Impact Statement (“EIS”). Below, we detail these responsibilities as they apply to this rulemaking.

We emphasize here the critical importance of effective public involvement. NEPA’s implementing regulations provide that “Federal agencies shall to the fullest extent possible ... encourage and facilitate public involvement in decisions which affect the quality of the human environment” and, further, “[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures.” 40 C.F.R. §§ 1500.2(d), 1506.6(a). As the Ninth Circuit has rightly explained, NEPA works “through the creation of a democratic decisionmaking structure that, although strictly procedural, is ‘almost certain to affect the agency’s substantive decision[s].’” *Or. Nat. Desert Assoc. v. BLM*, 531 F.3d 1114, 1120 (9th Cir. 2008) (quoting *Robertson*, 490 U.S. at 350). By requiring agencies “to place their data and conclusions before the public ... NEPA relies upon democratic processes to ensure—as the first appellate court to construe the statute in detail put it—that ‘the most intelligent, optimally beneficial decision will ultimately be made.’” *Id.* (quoting *Calvert Cliffs’ Coordinating Comm. v. U.S. Atomic Energy Comm’n*, 449 F.2d 1109, 1114 (D.C. Cir. 1971)). This process, in turn, ensures open, honest and public discussion “in the service of sound decisionmaking.” *Id.* at 1143.

NEPA’s democratic decision-making structure is particularly important here. Given the extent of the Forest Service’s forest, grassland, and prairie ecosystems, the colossal threat posed by climate change, chronic staffing and resource limitations, and intensifying questions regarding the propriety and public interest value of oil and gas development on our federal public lands in the face of climate change, the stakes could not be higher. Accordingly, the Forest Service should tread carefully, with an eye towards this rulemaking’s generational impact.

## **B. The Forest Service Must Articulate a Purpose and Need that Furthers and Adheres to the Agency’s Statutory Mandates**

The Forest Service explains that its rulemaking is necessary to “afford an opportunity to modernize and streamline analytical and procedural requirements.” 83 Fed. Reg. 46458, 46459. The agency does not, however, substantiate—beyond stating the obvious, that the rules were originally promulgated in 1990 with a slight modification in 2007—why the regulations require revision. Instead, the expressed “need” for the rulemaking appears clearly driven by the Trump administration’s “Energy Dominance” agenda, as expressed Executive Orders 13212 and 13783. This agenda does not function as a framework for public-interest oriented decisions. Instead, it is a pretext to further private financial and ideological interests at the expense of the public interest through the evisceration of climate, conservation, and public involvement protections.

Insofar as the Trump administration may hold the discretion to advance its Energy Dominance agenda through this rulemaking, we emphasize this agenda is subordinate to existing statutory mandates. An agency’s rulemaking must reflect “the views of Congress, expressed, to the extent that the agency can determine them, in the agency’s statutory authorization to act.” *Natl. Parks & Conserv. Assoc.*, 606 F.3d 1058, 1070 (9<sup>th</sup> Cir. 2010) (quotation omitted). “Where an action is taken pursuant to a specific statute, the statutory objectives of the project serve as a guide by which to determine the reasonableness of objectives outlined in an EIS.” *Alaska Survival v.*

*Surface Transp. Bd.*, 705 F.3d 1073, 1084–85 (9<sup>th</sup> Cir. 2013) (quoting *Westlands Water Dist. v. U.S. Dept. of the Int.*, 376 F.3d 853, 866 (9<sup>th</sup> Cir. 2004)).

Accordingly, we caution the Forest Service to articulate a purpose and need that conforms to the agency’s statutory mandates, as expressed, for example, in the National Forest Management Act and consistent with associated mandates provided by, for example, the Clean Water Act and Endangered Species Act. Given the purpose and need informs the agency’s identification and consideration of reasonable alternatives, we note, relatedly, that, “an alternative is reasonable only if it falls within the agency’s statutory mandate.” *N.M. ex rel. Richardson v. BLM*, 565 F.3d 683, 709 (10<sup>th</sup> Cir. 2009).

In this context, we recommend the Forest Service expressly integrate the following elements into its purpose and need for the NEPA process:

- The rulemaking will conform to and further the agency’s statutory mandates and not elevate the desire for “streamlining” over these mandates.
- The rulemaking will not explicitly or implicitly define “streamlining” as inclusive of actions that eliminate or weaken climate, conservation, or public involvement protections. Instead, “streamlining” will be defined as actions that scale the oil and gas program commensurate to the Forest Service’s operational capacity or otherwise improve internal decision-making without degradation of climate, conservation, or public involvement protections.
- The rulemaking will seek affirmative opportunities to improve the conservation of national forest, grassland, and prairie resources impacted by oil and gas leasing and development. The rulemaking will not, accordingly, be defined by a purpose and need that assumes or will invariably lead to increased oil and gas development or the reduction of climate, conservation, and public involvement protections.
- The rulemaking will explicitly account for the vulnerability of climate change to national forest, grassland, and prairie lands impacted by oil and gas leasing and development.
- The rulemaking will account for agency operational issues, including inadequate or limited funding, staffing, training and expertise.
- The rulemaking will not divert limited operational capacity away from conservation responsibilities to speed or otherwise streamline oil and gas leasing and development decisions.
- The rulemaking will solicit expansive public input to determine how best to reconcile the federal oil and gas program with conservation of national forest, grassland, and prairie lands.
- The rulemaking will neither abdicate nor delegate the Forest Service’s responsibility to protect forest, grassland, and prairie resources to the BLM, state, or private entities. Further, the rulemaking will retain Forest Service authority to:

- (a) Determine whether lands are not suitable for oil and gas development;
- (b) Withhold Forest Service consent from BLM to lease lands identified as suitable for oil and gas development in the agency's discretion;
- (c) Condition leases with Forest Service-defined stipulations designed to conserve forest resources; and
- (d) Impose Forest Service-defined reasonable measures on drilling-stage development.

### **C. The Forest Service Must Consider A Full Range of Reasonable Climate and Conservation Alternatives**

We recommend that the Forest Service consider a thorough range of reasonable alternatives consistent with the above-recommended elements for inclusion in the NEPA analysis' purpose and need and, further, consistent with the recommendations made elsewhere in this comment letter. We recommend the following reasonable alternatives for detailed consideration:

- **Climate Alignment Alternative:** The Forest Service's rules retain the authority to reach suitability, leasing, and development-stage decisions that are aligned with the science-based temperature guardrails built into the Paris Climate Agreement, which the U.S. remains a signatory to until at least November 4, 2020. To the degree such action requires legislative action, the NEPA analysis will identify the scope of that action. 40 C.F.R. § 1502.14(c) (requiring agencies to “[i]nclude reasonable alternatives not within the jurisdiction of the lead agency). These guardrails provide that the U.S. must aim to “[h]old[] the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.” The Forest Service has the ample responsibility and authority to protect national forests, grasslands, and prairie from climate change by doing its part in accord with the Paris Climate Agreement as well as the U.S. Global Change Research Program's 2017 Fourth National Climate Assessment<sup>5</sup>, including all the science that informs the Agreement and Assessment. Below, we recommend that the Forest Service use a “carbon budget” to inform consideration of this alternative. Substantively, this alternative could include rules that reflect the relationship between oil and gas development and forest, grassland, and prairie carbon sequestration by keeping fossil fuels in the ground and optimizing the role that forest, grassland, and prairie resources otherwise negatively impacted by oil and gas play in mitigating climate change through the ecological sequestration of carbon.
- **Existing, Producing Field Alternative:** The Forest Service should, by rule, confine further oil and gas leasing and development on national forest, grassland, and prairie lands to existing, producing oil and gas fields. Lands without existing, producing fields would be

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<sup>5</sup> Available at: <https://science2017.globalchange.gov>.

deemed, by rule, not suitable for oil and gas leasing and development. Given the importance of watershed, wildlife, and other multiple uses and the vulnerability of these resources and uses to climate change it is reasonable to provide certainty and confidence to the public that management of these lands will center on conservation and other non-mineral multiple uses, with oil and gas leasing and development confined to existing, producing oil and gas fields. This would help the Forest Service focus its limited operational capacity on these fields, making efficient use of limited staff and funding, while also addressing climate emissions. Moreover, BLM already has a significant surplus of existing, non-producing oil and gas leases. As of FY 2016, BLM oversees 27.2 million acres of federal oil and gas leases. Of this total, 12.7 million of these acres are under production.<sup>6</sup> Given the importance of conservation, the value of non-mineral multiple uses, climate realities, and the opportunity for the Forest Service to allocate its limited operational capacity efficiently, the extent of existing oil and gas production, and the surplus of non-producing leases, this alternative is reasonable.

- **Operational Capacity Alternative:** The Forest Service constrains oil and gas suitability, leasing, and development-stage authorizations to the existence of sufficient staff, funding, and training. In this alternative, the Forest Service would identify what operational capacity is necessary to oversee oil and gas leasing and development on national forest, grassland, and prairie and would not consent to leasing and development absent sufficient operational capacity. This recommended alternative is premised on the Forest Service’s own recognition that major challenges to forest, grasslands, and prairie management include “agency culture,” “personnel policies and staffing decisions,” and “capacity and resources.”<sup>7</sup>
- **Inventoried Roadless Area Protection Alternative:** Inventoried Roadless Areas (IRAs) are protected due to the protections they provide for a wide variety of natural and cultural resources, ranging from watersheds to fish and wildlife habitat to sacred sites. *See*, 66 Fed.Reg. 3244 (January 12, 2001). Nevertheless, IRAs are open to oil and gas leasing. While creation of new roads is prohibited, a host of other activities related to oil and gas exploration and development are permitted, including siting of pipelines, that cause significant harm to the very qualities for which IRAs are designated. *See, e.g., Wilderness Workshop v. U.S. Bureau of Land Management*, 531 F.3d 1220 (10th Cir. 2008). The Forest Service should evaluate an alternative to close IRAs to further oil and gas leasing, prioritizing managing these acres for their other values, consistent with the breadth of the discretion afforded to the agency in managing the national forests and grasslands.
- **Categorical Determination of Unsuitability for Areas with Low Development Potential Alternative:** The Mineral Leasing Act (MLA) directs the Department of the Interior to hold periodic oil and gas lease sales for “lands...which are known or believed to contain oil or gas deposits...” 30 U.S.C. § 226(a). These sales are supposed to foster responsible oil and gas development, which lessees must carry out with “reasonable diligence.” 30 U.S.C. § 187. “It is well-settled under the MLA that competitive leasing is to be based upon reasonable

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<sup>6</sup> *See* BLM, Public Land Statistics 2017, Total Number of Acres Under Lease as of Fiscal Year 2016 and Number of Producing Acres on Federal Lands as of Fiscal Year 2016.

<sup>7</sup> National Forest Foundation, 2018. *Environmental Analysis and Decision Making Regional Partner Roundtables: National Findings and Leverage Points*. May 2018.

assurance of an existing mineral deposit.” *Vessels Coal Gas, Inc.*, 175 IBLA 8, 25 (2008). Leasing in low potential areas gives preference to oil and gas development at the expense of other uses because the presence of leases can limit the Forest Service’s ability to manage for other resources, in violation of NFMA’s multiple use mandate. As a result, it is more consistent with both the MLA and the Forest Service’s statutory obligations to provide that low potential lands are categorically determined to be unsuitable for leasing unless and until they can be shown to contain resources that have the potential to be developed. The Forest Service should, by rule, provide that areas with low potential for oil and gas development will be determined to be unsuitable unless and until the Forest Service or BLM can demonstrate that these are “lands...which are known or believed to contain oil or gas deposits...” under the Mineral Leasing Act (MLA). 30 U.S.C. § 226(a).

- **Regulatory Recommendation Alternative:** The Forest Service considers, as a bundled alternative, the specific regulatory recommendations we provide below in response to the six areas specifically identified for input by the Forest Service in the ANPR. These recommendations, detailed below, include: (1) proposed leasing analysis and decision language (36 C.F.R. 228.102(c), 228.102(e)); (2) proposed limits on lease stipulation waivers, exceptions, and modifications; (3) clarification of procedures to develop surface use plans of operation; and (4) clarification of language regarding inspections and enforcement to ensure compliance with lease stipulations and conditions of approval.

These recommended alternatives are designed to further the Forest Service’s statutory mandates, including NEPA’s intent to foster action that will “protect, restore, and enhance the environment.” 40 C.F.R. § 1500.1(c) (emphasis added). The “heart” of the NEPA process is an agency’s duty to consider “alternatives to the proposed action” and to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. §§ 4332(2)(C)(iii), 4332(2)(E); 40 C.F.R. § 1502.14(a). An agency must “[r]igorously explore and objectively evaluate all reasonable alternatives” and specifically “[i]nclude the alternative of no action.” 40 C.F.R. §§ 1502.14(a), (d).

Operating in concert with NEPA’s mandate to take a hard look at impacts, the Forest Service’s consideration of our recommended reasonable alternatives will empower the agency to “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decision maker and the public.” 40 C.F.R. § 1502.14. This conclusion is premised on well-established precedent and authority. As the Tenth Circuit has explained, “[w]ithout substantive, comparative environmental impact information regarding other possible courses of action, the ability of [a NEPA analysis] to inform agency deliberation and facilitate public involvement would be greatly degraded.” *N.M. ex rel Richardson v. BLM*, 565 F.3d 683, 708 (10th Cir. 2009). That analysis must identify multiple viable alternatives, so that an agency can make “a real, informed choice” between the spectrum of reasonable options. *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1039 (9th Cir. 2008).

We emphasize that since the Forest Service has never, to date, completed a programmatic

evaluation of the climate impacts of its oil and gas leasing program, we further recommend that, in order to preserve a reasonable range of alternatives, the Forest Service exercise its discretion under 30 U.S.C. § 226(h) and withhold consent from any additional leasing of National Forest System lands until such an analysis is completed. *See also* 40 C.F.R. § 1506.1 (providing for limitations on actions pending completion of a NEPA process).

**D. The Forest Service Must Take a Hard Look at the Direct, Indirect, and Cumulative Impact of Oil and Gas Leasing and Development**

The Forest Service, through its NEPA analysis, must take a thorough hard look at each of the rulemaking alternatives' impacts and use that hard look to inform the agency's final decision. 40 C.F.R. §§ 1508.7, 1508.8, 1508.25(c). To support this analysis, we recommend that the Forest Service identify, aggregate, and evaluate information and data, including completed NEPA analyses, from the 44 national forests and grasslands with ongoing federal oil and gas interests and operations. 83 Fed. Reg. 46458, 46459. This will help provide the Forest Service with an on-the-ground understanding of the challenges and opportunities presented by the oil and gas program as currently implemented. The Forest Service should also identify, aggregate, and evaluate information and data from BLM, specifically BLM land use plans and "Reasonably Foreseeable Development Scenarios" (RFDS) to identify which additional national forest, grassland, and prairie units may have subsurface federal minerals subject to reasonably foreseeable leasing and development. Such information collection and analysis is critical to inform the rulemaking and the agency's hard look at impacts. Noting that the scope of the agency's duty to take a hard look at impacts to national forest, grassland, and prairie lands is extensive and covers virtually every resource and multiple use, we focus here on two key components of the hard look that we will be tracking carefully.

First, the Forest Service must take a hard look at the cumulative climate impact of the federal oil and gas leasing and development program, at least as that program involves subsurface minerals underlying national forest, grassland, and prairie lands managed by the agency. Moreover, pursuant to 40 C.F.R. § 1508.7, the Forest Service, with BLM assistance, should analyze the climate impact of BLM's entire federal oil and gas program. BLM's oil and gas program extends across 700 million acres of federally-managed subsurface mineral estate. 83 Fed. Reg. 7924, 7925. "In fiscal year (FY) 2016, sales volumes from Federal onshore production lands accounted for 9 percent of domestic natural gas production, and 5 percent of total U.S. oil production." *Id.* An analysis of the climate impacts of the entire program is important to understand and inform how the specific subsurface minerals underlying national forest, grassland, and prairie lands should be managed and constrained.

Second, while we acknowledge that the Forest Service's rulemaking is of nation-wide application, that scope does not absolve the agency from addressing, even if programmatically, forest-specific impacts of the rulemaking where oil and gas development is already occurring or, pursuant to BLM land use plans and RFDS analyses, reasonably foreseeable. Indeed, this forest-specific approach is critical to ensure that the rulemaking accounts for context and intensity-specific circumstances and is shaped by actual, on-the-ground forest-specific dynamics and the impacts of different rulemaking options to forest, grassland, and prairie lands. We note that BLM

excused its failure to complete this analysis for a recently completed nation-wide rulemaking on the basis that the agency employs a tiered approach to decision-making. *See* BLM, Finding of No Significant Impact for Waste Prevention, Production Subject to Royalties, and Resource Conservation; Rescission or Revision of Certain Requirements Final Rule EA, DOI-BLM-WO310-2018-0001-EA (Sept. 14, 2018). We are, however, aware of no legal justification supporting this basis, some of us have challenged this basis in federal court, and caution the Forest Service to avoid making the same mistake.

To inform the Forest Service’s consideration of these two recommended components, we think some elaboration regarding NEPA is constructive. NEPA requires federal agencies to consider “the environmental impact of the proposed action” including “*any adverse environmental effects* which cannot be avoided.” 42 U.S.C. § 4332(2)(C)(i)-(ii) (emphasis added). NEPA defines “effects” or “impacts” (which are synonymous) as inclusive of:

ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.

40 C.F.R. § 1508.8. In a world suffering from climate change and dealing with complex energy issues that demand swift decarbonization, it is worth noting that NEPA compels federal agencies, including the Forest Service, to address “[e]nergy requirements and conservation potential of various alternatives and mitigation measures,” “[n]atural or depletable resource requirements and conservation potential of various alternatives and mitigation measures,” and “[m]eans to mitigate adverse environmental impacts (if not fully covered under 1502.14(f)).” 40 C.F.R. §§ 1502.16(e), (f), (h).

Impacts may be direct, indirect, or cumulative. 40 C.F.R. § 1508.25(c). Direct impacts “are caused by the action and occur at the same time and place.” 40 C.F.R. § 1508.8(a). Indirect impacts are those “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” 40 C.F.R. § 1508.8(b). “Indirect effects may include ... related effects on air and water and other natural systems, including ecosystems.” *Id.* A cumulative impact “is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency ... or person undertakes such other actions.” 40 C.F.R. § 1508.7. “Cumulative impacts can result from individually minor but collectively significant actions take place over a period of time.” *Id.*

Here, in terms of climate emissions, the Forest Service should quantify the direct, indirect and cumulative effects of emissions attributable to oil and gas leasing and development. “Direct” emissions are emissions from production, including venting, flaring, and leaks, of subsurface

federal minerals that underlie national forest, grassland, and prairie lands under the agency’s jurisdiction. “Indirect” emissions include transportation, downstream uses, and combustion of oil and gas produced from those federal subsurface minerals. Courts have held that downstream emissions are “reasonably foreseeable” indirect impacts. *See Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549 (8th Cir. 2003) (agency must evaluate potential air quality impacts associated with increase in coal consumption); *S. Fork Band Council v. BLM*, 588 F.3d 718, 725-26 (9th Cir. 2009) (air quality impacts associated with transport and off-site processing are indirect effects); *Dine Citizens Against Ruining Our Env. v. U.S. Office of Surface Mining Reclamation & Enforcement*, 82 F. Supp. 3d 1201, 1214 (D. Colo. 2015) (agency must discuss the mercury-related indirect effects of proposed mine expansion).

“Cumulative” emissions require consideration of the project’s emissions alongside other foreseeable emissions. With respect to cumulative impacts, NEPA requires that BLM consider incremental climate change impacts “when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. §§ 1508.7, 1508.25(c). Analysis of cumulative impacts protects against “the tyranny of small decisions,” *Kern v. BLM*, 284 F.3d 1062, 1078 (9th Cir. 2002), by confronting the possibility that agency action may contribute to cumulatively significant effects even where impacts appear insignificant in isolation. 40 C.F.R. §§ 1508.7, 1508.27(b)(2). “The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct.” *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008). Applied here, a cumulative impacts analysis should include at least the following past, present, and reasonably foreseeable emissions. Applied here, this includes at least the following past, present, and reasonably emissions:

- Emissions from state or private leases underlying national forest, grassland, and prairie lands;
- Emissions from state or private leases communitized, unitized, or pooled with BLM leases for subsurface minerals underlying national forest, grassland, and prairie lands, whether or not those state or private leases underlie Forest Service-managed surface lands; and:
- Emissions from BLM’s oil and gas program as a whole.

We note that quantification of emissions alone does not satisfy NEPA’s requirement to consider direct, indirect, and cumulative climate effects of an action; an agency must also analyze the *actual effects* of those emissions. *See Ctr. for Bio. Diversity v. Natl. Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008) (while agency “quantifies the expected amount of CO2 emitted from light trucks ... the EA does not discuss the *actual* environmental effects resulting from those emissions”). “The harms associated with climate change are serious and well recognized,” and environmental changes caused by climate change “have already inflicted significant harms” to many resources around the globe. *Mass. v. EPA*, 549 U.S. 497, 521 (2007);

*see also id.* at 525 (recognizing “the enormity of the potential consequences associated with manmade climate change.”).

We note BLM, in the same rulemaking FONSI/EA referenced above (DOI-BLM-WO310-2018-0001-EA (Sept. 14, 2018)), explained that “there are no scientific tools or methodologies that can reliably predict the degree of impact that implementing [its rule] would have on global or regional climate change or on changes to biotic and abiotic systems that accompany climate change.” EA at 10. BLM also claimed “the actual effects of [GHG] emissions [from implementing its rule] on global climate change cannot be reliably assessed and thus are sufficiently uncertain as to be not reasonably foreseeable.” EA at 18. We reject these explanations as little more than excuses detached from any reasoned, informed, and scientific basis and fueled by the Trump administration’s known ideological hostility to climate action and disregard for climate science. We strongly encourage the Forest Service to identify, evaluate, and use well-established tools to assess the actual impact of greenhouse gas emissions to the climate. Such tools include the social cost of carbon (and methane) as defined by the Interagency Working Group (IWG) and carbon budgets.<sup>8</sup>

The IWG on the Social Cost of Carbon most recently estimated that each ton of carbon dioxide costs society up to \$123, with a central value of \$42.<sup>9</sup> Notably, these values likely *underestimate* actual costs because the methodology does not yet include all important climate damages.<sup>10</sup> Nevertheless, the protocol captures many of the climate effects that decisionmakers and the public care about, such as agricultural and forestry impacts, coastal impacts due to sea level rise, impacts to the energy and water sectors, impacts from extreme weather events, vulnerable market sectors impacted by changes in energy use, human health impacts including malaria and

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<sup>8</sup> For political reasons, President Trump disbanded the Working Group. Exec. Order. No. 13,783 § 5(b). But the Working Group’s estimates still reflect the best science and economics. In fact, some agencies under the current administration have continued to use the Working Group’s estimates in both NEPA and regulatory analyses. *E.g.*, U.S. Dep’t of Interior, Bureau of Ocean Energy Mgmt., *Draft Env’tl. Impact Statement: Liberty Development Project* at 3-129, 4-246 (Aug. 2017) (BOEM, Liberty Development Project) (calling the social cost of carbon “a useful measure” and applying it to analyze the consequences of offshore oil and gas drilling); Dep’t of Energy, Energy Conservation Program: Energy Conservation Standards for Walk-In Cooler and Freezer Refrigeration Systems, 82 Fed. Reg. 31,808, 31,811, 31,857 (July 10, 2017) (using the Working Group’s estimates for carbon and methane emissions to analyze energy efficiency regulation, and describing the social cost of methane as having “undergone multiple stages of peer review”).

<sup>9</sup> Interagency Working Group on Social Cost of Greenhouse Gases, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact analysis Under Executive Order 12866*, at 4 (August 2016).

<sup>10</sup> See EPA, “Fact Sheet: Social Cost of Carbon” (Dec. 2016) at 1, available online at <http://www.epa.gov/climatechange/Downloads/EPAactivities/scc-fact-sheet.pdf> (“The models used to develop [social cost of carbon] estimates do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature because of a lack of precise information on the nature of damages and because the science incorporated into these models naturally lags behind the most recent research”); Peter Howard, *Omitted Damages: What’s Missing from the Social Cost of Carbon* (2014) (some important damage categories are currently omitted due to insufficient data and modeling); Moore, F.C. and D.B. Diaz, “Temperature impacts on economic growth warrant stringent mitigation policy,” *Nature Climate Change* (January 12, 2015) at 2 (current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton).

pollution, outdoor recreation impacts and other non-market amenities, impacts to human settlements and ecosystems, and some catastrophic impacts.<sup>11</sup>

The IWG’s social cost of carbon protocol was expressly developed to assist agencies in predicting the impact of agency rulemaking. *Montana Env’tl. Info. Ctr. v. U.S. Office of Surface Mining Reclamation & Enforcement*, 274 F. Supp. 3d 1074, 1095 (D. Mont. 2017). Moreover, as federal courts have recognized, while there is disagreement about the exact value to use for the social cost of carbon, there is broad agreement that it is not zero. *High Country Cons. Advoc. v. U.S. Forest Service*, 52 F. Supp. 3d 1174, 1192 (D. Colo. 2014) (“[B]y deciding not to quantify the costs at all, the agencies effectively zeroed out the cost in its quantitative analysis”); *Ctr. for Biological Diversity*, 538 F.3d at 1200 (citing a range of values for the value of carbon emissions reductions, and noting that it “is certainly not zero”). The IWG’s social cost of carbon (and extrapolation to evaluate the social cost of methane) provides a valid, science-based methodology that is appropriate for use in the Forest Service’s rulemaking NEPA analysis.

It is, importantly, not enough that the Forest Service includes social cost of carbon and methane calculations in the Regulatory Impact Analysis that will inform the rulemaking; the agency must also use the social cost of carbon and methane to fulfill NEPA’s mandate to take a “hard look” at the rulemaking’s beneficial and adverse effects. The U.S. Supreme Court has called the disclosure of impacts the “key requirement of NEPA,” and held that agencies must “consider and disclose the actual environmental effects” of a proposed project in a way that “brings those effects to bear on [the agency’s] decisions.” *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 96 (1983). Here, the social cost of carbon and methane provide a tool that helps the Forest Service satisfy its duty to take a hard look at both global and domestic climate impacts—and is certainly a tool far more useful than simplistic calculations of total carbon or methane emissions or comparisons of those total emissions to total global or national emissions. Importantly, disclosure of a range of values and discount rates is consistent with NEPA’s alternatives requirements. *See* 42 U.S.C. § 4332(2)(C)(iii); 42 U.S.C. § 4332 (2)(E).

Regardless, the IWG provides the best available science and information regarding the social cost of carbon (and methane) and the IWG’s estimates should be used, in particular for NEPA purposes. Twelve federal agencies participated in the IWG, including the Council of Economic Advisors, the National Economic Council, the Office of Management and Budget (OMB), the Department of the Treasury, the Department of the Interior, the U.S. EPA, the Office of Science and Technology Policy, and the Forest Service’s parent, the Department of Agriculture.<sup>12</sup> The IWG issued its first set of estimates of the social cost of carbon in 2010.<sup>13</sup> These estimates underwent public comment through their use in multiple rulemakings, and the IWG formally updated the estimates in 2013, 2015 and 2016 (the last update included values specifically

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<sup>11</sup> Interagency Working Group on the Social Cost of Carbon’s 2010 Technical Support Document, pp. 6-8.

<sup>12</sup> Interagency Working Group on Social Cost of Carbon, United States Government, *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* (Feb. 2010), [https://www.epa.gov/sites/production/files/2016-12/documents/scc\\_tsd\\_2010.pdf](https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf).

<sup>13</sup> *Id.*

calculated for methane).<sup>14</sup> In 2015, the IWG asked the National Academies of Sciences, Engineering, and Medicine to review and make recommendations on the methodology for estimating the SCC. In 2016, in accordance with a first set of recommendations from the National Academies, the IWG retained the prior estimates while making some changes in the discussion of uncertainty around the estimates.<sup>15</sup> The IWG also issued an addendum to its documentation on the social cost of carbon that endorsed the social cost of methane estimates used in the Waste Prevention Rule, noting that those estimates had “undergone multiple stages of peer review and their use in regulatory analysis has been subject to public comment.”<sup>16</sup> The National Academies issued its final report in 2017, which made recommendations for more comprehensive and longer-term updates to the methodology.<sup>17</sup>

While the Forest Service may be tempted to use the Trump administration’s “interim” estimate of the social cost of carbon and methane, this would be a mistake, at least for purposes of NEPA compliance given its exclusion of global harms. NEPA mandates consideration of global harms by creating a national policy that, among other goals, is intended to “promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man.” 42 U.S.C. § 4321. NEPA also provides that “all agencies of the Federal Government shall . . . recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind’s environment.” 42 U.S.C. § 4332(2)(f). We note that NEPA’s mandate that agencies take broad consideration of more than just domestic environmental harms is especially appropriate now, when, with global climate change, the state of our domestic environment is intertwined with the state of the global environment.

We also note additional concerns with the Trump administration’s “interim” social cost of carbon and methane. The National Academies, in their two extensive and detailed reports on updating the methodologies, did *not* recommend the “interim” changes the administration has made to the social cost of carbon and methane: a shift from global to domestic estimates and the use of a higher discount rate (let alone a 7% rate). In fact, the National Academies final report

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<sup>14</sup> Interagency Working Group on Social Cost of Carbon, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* (May 2013, Revised July 2015), <https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc-tsd-final-july-2015.pdf>; 2016 SCC TSD.

<sup>15</sup> Committee on Assessing Approaches to Updating the Social Cost of Carbon, Board on Environmental Change and Society, National Academies of Sciences, Engineering, Medicine, *Assessment of Approaches to Updating the Social Cost of Carbon: Phase 1 Report on a Near-Term Update* (2016).

<sup>16</sup> Interagency Working Group on Social Cost of Greenhouse Gases, *Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Analysis Under Executive Order 12866: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide 3* (Aug. 2016).

<sup>17</sup> Committee on Assessing Approaches to Updating the Social Cost of Carbon, Board on Environmental Change and Society, National Academies of Sciences, Engineering, Medicine, *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide* (2017).

critiques previous efforts to calculate a social cost of carbon based solely on U.S. damages, and concludes that an accurate assessment of domestic-only impacts is not possible using the existing integrated assessment model methodologies because they are not designed to produce global estimates and do not model all relevant interactions among regions.<sup>18</sup> The National Academies further emphasized that effects that occur internationally may also have significant spill-over effects on the United States, which must be taken into account in any attempt to estimate domestic only impacts.<sup>19</sup> In short, the IWG’s 2016 estimates remain the U.S. government’s best estimate to date of the costs of climate change.

While evaluating the social cost of greenhouse gas emissions released by oil and gas development is useful and important, we also emphasize, here, the role of a “carbon budget.” A carbon budget offers a cap on the remaining stock of greenhouse gases that can be emitted while still keeping global average temperatures below science-based thresholds beyond which climate change impacts may result in severe and irreparable harm to the biosphere and humanity. As articulated by a team of international climate scientists in a 2013 report, “[t]he widely accepted target of limiting human-made global warming to 2 degrees Celsius (3.6 degrees Fahrenheit) above preindustrial level is too high and would subject young people, future generations and nature to irreparable harm.... Observational data reveal that some climate extremes are already increasing in response to warming of several tenths of a degree in recent decades; these extremes would likely be much enhanced with warming of 2°C or more.”<sup>20</sup> “Runaway climate change—in which feedback loops drive ever-worsening climate change, regardless of human activities—are now seen as a risk even at 2°C of warming.”<sup>21</sup> Indeed, the impacts of 2°C temperature rise have been “revised upwards, sufficiently so that 2°C now more appropriately represents the threshold between ‘dangerous’ and ‘extremely dangerous’ climate change.”<sup>22</sup> Notably, a report of thirteen federal agencies, released during the Trump administration in November 2017, also uses the 2°C warming target as a reference point, although cautioning that the threshold may rapidly be exceeded. The report finds that “[s]tabilizing global mean temperature to less than 3.6°F (2°C) above preindustrial levels requires substantial reductions in net global CO<sub>2</sub> emissions . . . and likely requires net emissions to become zero or possibly negative later in the century.”<sup>23</sup>

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<sup>18</sup> *Id.* at 54.

<sup>19</sup> *Id.*

<sup>20</sup> James Hansen, *et al.*, *Assessing “Dangerous Climate Change”: Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature*, 8 PLoS ONE 8 e81648 (2013).

<sup>21</sup> Greg Muttitt, *et al.*, *The Sky’s Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production*, Oil Change International (Sept. 2016) at 6; *see also* David Spratt, *Climate Reality Check: After Paris, Counting the Cost* (March 2016) at 8 (“there is an unacceptable risk that before 2°C of warming, significant “long-term” feedbacks will be triggered, in which warming produces conditions that generate more warming, so that carbon sinks such as the oceans and forests become less efficient in storing carbon, and polar warming triggers the release of significant permafrost and clathrate carbon stores. Such an outcome could render ineffective human efforts to control the level of future warming to manageable proportions.”).

<sup>22</sup> Kevin Anderson and Alice Bows, *Beyond ‘Dangerous’ Climate Change: Emission Scenarios for a New World*, *Phil. Trans. R. Soc.* (2011).

<sup>23</sup> D.J. Wuebbles, *et al.*, *Climate Science Special Report: Fourth National Climate Assessment, Volume I* (2017) U.S. Global Change Research Program, available at: <https://science2017.globalchange.gov/>.

These same science-based climate guardrails are contained in the Paris Climate Agreement, to which the United States is a signatory. In December 2015, President Obama joined with 194 other nations in recognizing “that climate change represents an urgent and potentially irreversible threat to human societies and the planet” and setting the goal of “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C.”<sup>24</sup> The President ratified the Paris Agreement on September 3, 2016.<sup>25</sup> Although President Trump announced on June 1, 2017 that the U.S. would withdraw from the Paris Agreement, the U.S. remains a signatory to the Paris Agreement. Under Article 28 of the Paris Agreement, the United States may not withdraw until November 4, 2020 at the earliest.

The moral, ecological, political, economic, and social urgency to take climate change seriously—an urgency that helped inform the Paris Agreement—was made crystal clear with the Intergovernmental Panel on Climate Change’s special report, *Global Warming of 1.5°C*.<sup>26</sup> In the Summary for Policymakers, the IPCC presents a stark and sober assessment of the world’s trajectory in the face of a warming climate of relevance to the Forest Service’s management of our national forest, grassland, and prairie lands and the critical importance of climate action. As the report explains, there is “high confidence” “[s]trengthening the capacities for climate action of national and sub-national authorities, civil society, the private sector, indigenous peoples and local communities can support the implementation of ambitious actions implied by limiting global warming to 1.5°C.”<sup>27</sup> Further, “[c]ollective efforts at all levels, in ways that reflect different circumstances and capabilities, in the pursuit of limiting global warming to 1.5°C, taking into account equity as well as effectiveness, can facilitate strengthening the global response to climate change, achieving sustainable development and eradicating poverty.”<sup>28</sup> The Agreement recognized the 1.5°C climate target because 2°C of warming is no longer considered a safe guardrail for avoiding catastrophic climate impacts and runaway climate change.<sup>29</sup>

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<sup>24</sup> United Nations Framework Convention on Climate Change, Conference of the Parties (Nov 30-Dec. 11, 2015), Adoption of the Paris Agreement, Art. 2, U.N. Doc. FCCC/CP/2015/L.9 (Dec. 12, 2015), available at: <http://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf> (“Paris Agreement”).

<sup>25</sup> The White House, President Obama: The United States Formally Enters the Paris Agreement (Sept. 3, 2016), available at: <https://www.whitehouse.gov/blog/2016/09/03/president-obama-united-states-formally-enters-paris-agreement>.

<sup>26</sup> IPCC, *Global Warming of 1.5°C*, Summary for Policymakers at (approved Oct. 6, 2018), available at <http://www.ipcc.ch/report/sr15/>.

<sup>27</sup> *Id.* at SPM-30 (D7).

<sup>28</sup> *Id.* at SPM-31 (D7.4).

<sup>29</sup> Hansen, James et al., Target atmospheric CO<sub>2</sub>: Where should humanity aim?, 2 *The Open Atmospheric Science Journal* 217 (2008); Anderson, Kevin & Alice Bows, Beyond ‘dangerous’ climate change: emission scenarios for a new world, 369 *Philosophical Transactions of the Royal Society* 20 (2011); Hansen, James et al., Assessing “dangerous climate change”: Required reduction of carbon emissions to protect young people, future, generations and nature, 8 *PLoS ONE* e81648 (2013); IPCC [Intergovernmental Panel on Climate Change], *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, [Core Writing Team, R.K. Pachauri & L.A. Meyer (eds.)], IPCC, Geneva, Switzerland (2014), [http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR\\_AR5\\_FINAL\\_full\\_wcover.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full_wcover.pdf) at 72-73; U.N. Subsidiary Body for Scientific and Technological Advice, Report on the Structured Expert Dialogue on the 2013-2015 review, FCCC/SB/2015/INF.1 (2015), <http://unfccc.int/resource/docs/2015/sb/eng/inf01.pdf>; Hansen, James et al., Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modeling,

While we would prefer sweeping, effective, and immediate action, this language echoes the Supreme Court of the United States’ decision in *Mass. v. EPA*, where the Court noted that “[a]gencies, like legislatures, do not generally resolve massive problems in one fell swoop, but instead whittle away over time, refining their approach as circumstances change and they develop a more nuanced understanding of how best to proceed.” 549 U.S. 497, 499 (2007) (citations omitted).

In order for the world to stay within a carbon budget consistent with Paris Agreement goals—“holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C”<sup>30</sup>—significant fossil fuel resources must remain in the ground. More specifically, to meet the target of 2°C, globally “a third of oil reserves, half of gas reserves and over 80 percent of current coal reserves should remain unused from 2010-2050.”<sup>31</sup> These fossil fuel reserves represent “unburnable carbon” and as such would be stranded assets in which countries, industries, and companies are heavily invested but on which they would be unable to recoup returns. Citigroup warned investors that “the total value of stranded assets could be over \$100 trillion based on current market prices.”<sup>32</sup>

In this context, scientific research demonstrates we can estimate the global carbon budget—the cumulative amount of climate pollution that can be emitted—for maintaining a likely chance of meeting the Paris climate target of 1.5°C or the higher target of 2°C. To achieve this target, cumulative climate emissions must be net zero (and ideally net negative). According to the Intergovernmental Panel on Climate Change (IPCC), the authoritative international scientific body for the assessment of climate change, total cumulative anthropogenic CO<sub>2</sub> emissions must remain below 400 GtCO<sub>2</sub> from 2011 onward for a 66 percent probability of limiting warming to 1.5°C, and below 1,000 GtCO<sub>2</sub> from 2011 onward for a 66 percent probability of limiting warming to 2°C above pre-industrial levels.<sup>33</sup> Though not directly equivalent to AR5, the IPCC SR1.5 provides modified carbon budgets for both 1.5°C and 2°C applicable to mid-century, and factors in uncertainties for transient climate response to cumulative CO<sub>2</sub> emissions (TCRE), radiative forcing and response, non-CO<sub>2</sub> emissions, and Earth-system feedback such as

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and modern observation that 2°C global warming could be dangerous, 16 *Atmospheric Chemistry and Physics* 3761(2016); Schleussner, Carl-Friedrich et al., *Differential climate impacts for policy-relevant limits to global warming: the case of 1.5C and 2C*, 7 *Earth Systems Dynamics* 327 (2016).

<sup>30</sup> Paris Agreement at Art. 2.

<sup>31</sup> Christophe McGlade & Paul Ekins, *The geographical distribution of fossil fuels unused when limiting global warming to 2°C*, *Nature* (Jan 2015).

<sup>32</sup> Jason Channell, et al., *Energy Darwinism II*, Citi GPS: Global Perspectives & Solutions (August 2015) at 118.

<sup>33</sup> IPCC [Intergovernmental Panel on Climate Change], 2013: Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F. et al. (eds.)], Cambridge University Press (2013) at 25; IPCC [Intergovernmental Panel on Climate Change], *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)], IPCC, Geneva, Switzerland (2014) at 63-64 & Table 2.2.

permafrost thawing that further reduce the available budget out to 2100.<sup>34</sup>

Problematically, these carbon budgets are severely strained by existing fossil fuels investment and infrastructure. The IPCC estimated in 2014 that global coal, oil and gas resources considered currently economically recoverable contain potential greenhouse gas emissions of 4,196 GtCO<sub>2</sub>,<sup>35</sup> with other estimates as high as 7,120 GtCO<sub>2</sub>.<sup>36</sup> A subsequent 2016 global analysis by Oil Change International found that the carbon emissions that would be emitted from burning the oil, gas, and coal in the world's *currently operating* fields and mines would fully exhaust and exceed the carbon budgets consistent with staying below 1.5°C or 2°C.<sup>37</sup> Further, the reserves in currently operating oil and gas fields alone, even excluding coal mines, would lead to warming beyond 1.5°C. An important conclusion of the analysis is that *most* of the existing oil and gas fields and coal mines will need to be closed before their reserves are fully extracted in order to limit warming to 1.5 degrees.<sup>38</sup> Some existing fields and mines will need to be closed to limit warming to 2 degrees.<sup>39</sup>

In short, there is no room in the carbon budget for *new* fossil fuel extraction *anywhere*, including in the United States.<sup>40</sup> Additionally, action must be taken to phase out and close most of the world's existing oil and gas fields and coal mines before their reserves are fully extracted to meet a 1.5°C target. The U.S. has an urgent responsibility to lead in this transition from fossil fuel production to 100 percent clean, renewable energy as a wealthy nation with ample financial resources and technical capabilities, and due to our dominant role in driving climate change and its harms. The U.S. is the world's largest historic emitter of greenhouse gas pollution, responsible for 26 percent of cumulative global CO<sub>2</sub> emissions since 1870, and is currently the world's second highest emitter on an annual and per capita basis.<sup>41</sup>

Research on the United States' carbon budget and the carbon emissions locked in U.S. fossil

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<sup>34</sup> See IPCC SR 1.5 at 2-17 through 2-21; 2-5 (“Cumulative CO<sub>2</sub> emissions are kept within a budget by reducing global annual CO<sub>2</sub> emissions to netzero. This assessment suggests a remaining budget for limiting warming to 1.5°C with a two-thirds chance of about 550 GtCO<sub>2</sub>, and of about 750 GtCO<sub>2</sub> for an even chance (medium confidence).”).

<sup>35</sup> Michael Raupach, *et al.*, *Sharing a quota on cumulative carbon emissions*, Nature Climate Change (Sept. 2014).

<sup>36</sup> IPCC AR5, Mitigation of Climate Change, Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (2014) at Table 7.2.

<sup>37</sup> Oil Change International, *The Sky's Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production* (September 2016), <http://priceofoil.org/2016/09/22/the-skys-limit-report/>.

<sup>38</sup> Oil Change International, *The Sky's Limit California: Why the Paris Climate Goals Demand That California Lead in a Managed Decline of Oil Extraction*, May 2018, <http://priceofoil.org/ca-skys-limit> at 7, 13.

<sup>39</sup> Oil Change International, *The Sky's Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production* (September 2016) at 5, 7.

<sup>40</sup> This conclusion was reinforced by the IPCC Fifth Assessment Report which estimated that global fossil fuel reserves exceed the remaining carbon budget (from 2011 onward) for staying below 2°C (a target incompatible with the Paris Agreement) by 4 to 7 times, while fossil fuel resources exceed the carbon budget for 2°C by 31 to 50 times. See Bruckner, Thomas et al., 2014: Energy Systems. In: *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Cambridge University Press (2014), [http://ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc\\_wg3\\_ar5\\_chapter7.pdf](http://ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_chapter7.pdf) at Table 7.2.

<sup>41</sup> Global Carbon Project, *Global Carbon Budget* (November 13, 2017) at 10, 18, 32, <http://www.globalcarbonproject.org/carbonbudget/17/presentation.htm>

fuels similarly establishes that the U.S. must halt new fossil fuel production and rapidly phase out existing production to avoid the worst dangers of climate change. To conform to a 1.5°C target, the estimated U.S. carbon budget is 25 GtCO<sub>2</sub>eq to 57 GtCO<sub>2</sub>eq on average,<sup>42</sup> depending on the sharing principles used to apportion the global budget across countries.<sup>43</sup> The estimated U.S. carbon budget consistent with limiting temperature rise to 2°C—a target well above what the Paris Agreement requires—ranges from 34 GtCO<sub>2</sub> to 123 GtCO<sub>2</sub>,<sup>44</sup> depending on the sharing principles used. Under any scenario, the remaining U.S. carbon budget compatible with the Paris climate targets is extremely small.

By way of comparison, federal and non-federal fossil fuel emissions together would produce between 697 and 1,070 GtCO<sub>2</sub>,<sup>45</sup> vastly exceeding the estimated remaining U.S. carbon budget of 34 GtCO<sub>2</sub> to 123 GtCO<sub>2</sub> designed to meet a 2°C target. Potential carbon emissions from already leased fossil fuel resources on U.S. federal lands would essentially exhaust the remaining U.S. carbon budget designed to meet the 1.5°C target. This analysis estimated that recoverable fossil fuels on U.S. *federal lands* would release up to 349 to 492 GtCO<sub>2</sub>eq of carbon emissions, if

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<sup>42</sup> Robiou du Pont, Yann et al., Equitable mitigation to achieve the Paris Agreement goals, 7 *Nature Climate Change* 38 (2017), and Supplemental Tables 1 and 2. Quantities measured in GtCO<sub>2</sub>eq include the mass emissions from CO<sub>2</sub> as well as the other well-mixed greenhouse gases (CO<sub>2</sub>, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and SF<sub>6</sub>) converted into CO<sub>2</sub>-equivalent values, while quantities measured in GtCO<sub>2</sub> refer to mass emissions of just CO<sub>2</sub> itself.

<sup>43</sup> Robiou du Pont et al. (2017) averaged across IPCC sharing principles to estimate the U.S. carbon budget from 2010 to 2100 for a 50 percent chance of returning global average temperature rise to 1.5°C by 2100, consistent with the Paris Agreement’s “well below 2°C” target, and based on a cost-optimal model. The study estimated the U.S. carbon budget consistent with a 1.5°C target at 25 GtCO<sub>2</sub>eq by averaging across four equity principles: capability (83 GtCO<sub>2</sub>eq), equal per capita (118 GtCO<sub>2</sub>eq), greenhouse development rights (-69 GtCO<sub>2</sub>eq), and equal cumulative per capita (-32 GtCO<sub>2</sub>eq). The study estimated the U.S. budget at 57 GtCO<sub>2</sub>eq when averaging across five sharing principles, adding the constant emissions ratio (186 GtCO<sub>2</sub>eq) to the four above-mentioned principles. However, the constant emissions ratio, which maintains current emissions ratios, is not considered to be an equitable sharing principle because it is a grandfathering approach that “privileges today’s high-emitting countries when allocating future emission entitlements.” For a discussion of sharing principles, see Kartha, S. et al., *Cascading biases against poorer countries*, 8 *Nature Climate Change* 348 (2018).

<sup>44</sup> Robiou du Pont et al. (2017) estimated the U.S. carbon budget for a 66 percent probability of keeping warming below 2°C at 60 GtCO<sub>2</sub>eq based on four equity principles (capability, equal per capita, greenhouse development rights, equal cumulative per capita), and at 104 GtCO<sub>2</sub>eq based on five principles (adding in constant emissions ratio, but see footnote above). For a 66 percent probability of keeping warming below 2°C, Peters et al. (2015) estimated the U.S. carbon budget at 34 GtCO<sub>2</sub> based on an “equity” approach for allocating the global carbon budget, and 123 GtCO<sub>2</sub> under an “inertia” approach. The “equity” approach bases sharing on population size and provides for equal per-capita emissions across countries, while the “inertia” approach bases sharing on countries’ current emissions. Similarly using a 66 percent probability of keeping warming below 2°C, Gignac et al. (2015) estimated the U.S. carbon budget at 78 to 97 GtCO<sub>2</sub>, based on a contraction and convergence framework, in which all countries adjust their emissions over time to achieve equal per-capita emissions. Although the contraction and convergence framework corrects current emissions inequities among countries over a specified time frame, it does not account for inequities stemming from historical emissions differences. When accounting for historical responsibility, Gignac et al. (2015) estimated that the United States has an additional cumulative carbon debt of 100 GtCO<sub>2</sub> as of 2013. See Peters, Glen P. et al., *Measuring a fair and ambitious climate agreement using cumulative emissions*, 10 *Environmental Research Letters* 105004 (2015); Gignac, Renaud and H. Damon Matthews, *Allocating a 2C cumulative carbon budget to countries*, 10 *Environmental Research Letters* 075004 (2015).

<sup>45</sup> Dustin Mulvaney, et al., *The Potential Greenhouse Gas Emissions from U.S. Federal Fossil Fuels*, EcoShift Consulting (Aug. 2015) at 16.

fully extracted and burned.<sup>46</sup> Of that amount, *already leased* fossil fuels would release 30 to 43 GtCO<sub>2</sub>eq of emissions if extracted and burned, while as yet unleased fossil fuels would emit 319 to 450 GtCO<sub>2</sub>eq of emissions if extracted and burned. Thus, carbon emissions from *already leased* fossil fuel resources *on federal lands alone* (30 to 43 GtCO<sub>2</sub>eq) would, if extracted and burned, essentially exhaust the U.S. carbon budget for a 1.5°C target (25 to 57 GtCO<sub>2</sub>eq). The potential carbon emissions from unleased fossil fuel resources (319 to 450 GtCO<sub>2</sub>eq) would exceed the U.S. carbon budget for a 1.5°C target up to 18 times.<sup>47</sup> This does not include the additional carbon emissions that will be emitted from fossil fuels extracted on non-federal lands, estimated up to 500 GtCO<sub>2</sub>eq if fully extracted and burned.<sup>48</sup> This research further establishes that the United States must halt new fossil fuel projects and rapidly phase out and close existing fields and mines before their reserves are fully extracted to meet the Paris climate targets.

With specific regard to subsurface minerals underling Forest Service-managed national forest, grassland, and prairie lands, potential climate emissions are significant. Data from the Department of Interior’s 2008 “Inventory of Onshore Federal Oil and Gas Resources and Restrictions to Their Development”<sup>49</sup> shows that federally-managed fossil fuels underlying non-wilderness, non-monument National Forest System lands contain:

Oil: 1791.141889 mmbbl                      Gas: 24138.4565 bcf

The total potential lifecycle greenhouse gas emissions of those EPCA volumes are:

627,407,885.32 tons of CO<sub>2</sub>e for oil  
1,798,477,960.23 tons of CO<sub>2</sub>e for gas, and  
2,425,885,845.55 tons of CO<sub>2</sub>e combined, or, about 2.4 gigatons.

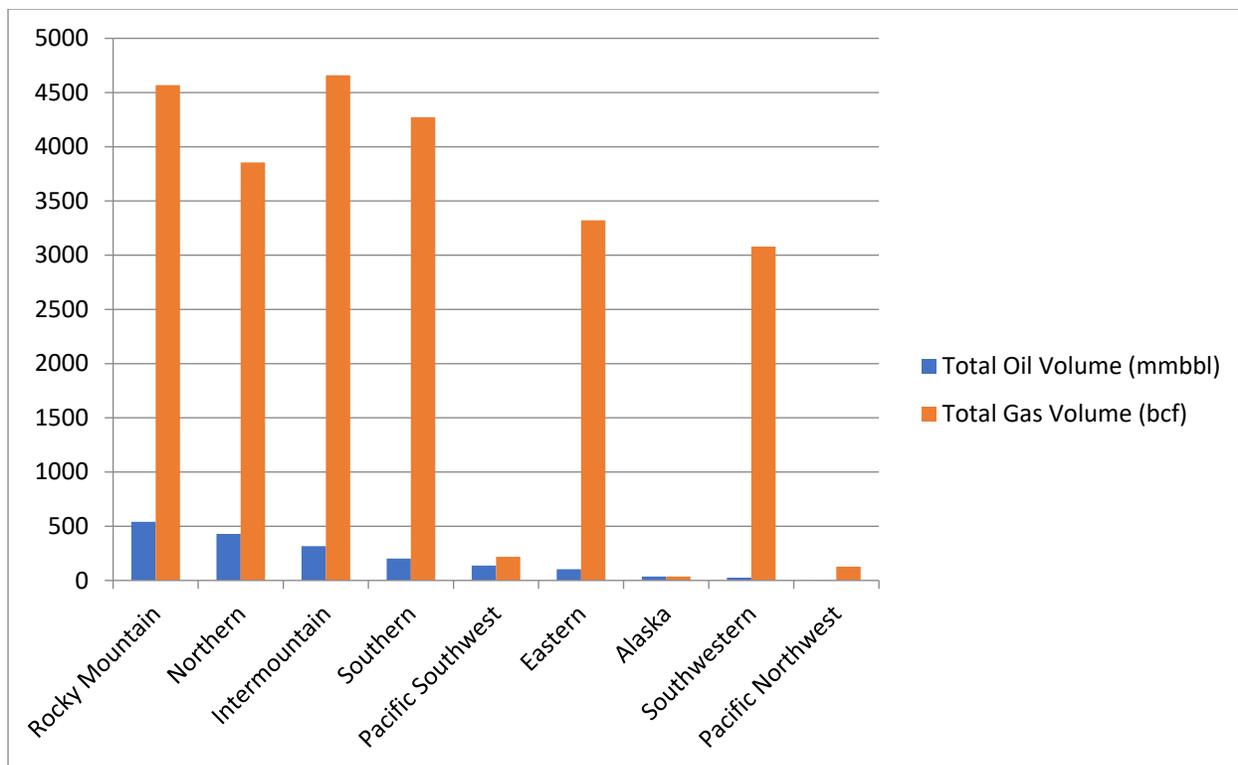
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<sup>46</sup> Ecoshift Consulting, et al., The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels, Prepared for Center for Biological Diversity & Friends of the Earth (2015), <http://www.ecoshiftconsulting.com/wpcontent/uploads/Potential-Greenhouse-Gas-Emissions-U-S-Federal-Fossil-Fuels.pdf>.

<sup>47</sup> Ecoshift Consulting, et al., The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels, Prepared for Center for Biological Diversity & Friends of the Earth (2015), at 4.

<sup>48</sup> Ecoshift Consulting, et al., The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels, Prepared for Center for Biological Diversity & Friends of the Earth (2015), at 3 (“the potential GHG emissions of federal fossil fuels (leased and unleased) are 349 to 492 Gt CO<sub>2</sub>e, representing 46% to 50% of potential emissions from all remaining U.S. fossil fuels”).

<sup>49</sup> U.S. Depts. Of Interior, Agriculture, and Energy, “Inventory of Onshore Federal Oil and Gas Resources and Restrictions to Their Development” (2008), [https://www.blm.gov/sites/blm.gov/files/EPCA\\_III\\_Inventory\\_Onshore\\_Federal\\_Oil\\_Gas.pdf](https://www.blm.gov/sites/blm.gov/files/EPCA_III_Inventory_Onshore_Federal_Oil_Gas.pdf).



Thus, based on available data, known fossil fuel deposits subject to Forest Service oversight under 30 U.S.C. § 226(h) comprise approximately 2.4 gigatons of CO<sub>2</sub> equivalent, or anywhere, depending on assumptions, between approximately 2% and 7% of the total remaining U.S. carbon budget for a reasonable likelihood of limiting warming to 2°C, and between 4% and 10% of the remaining budget for a reasonable likelihood of limiting warming to 1.5°C.

Additional studies reinforce the nature of the problem. In 2012, Stratus Consulting found “the GHG emissions resulting from the extraction of fossil fuels from federal lands by private leaseholders totaled approximately 1,344 MMTCO<sub>2</sub>e.”<sup>50</sup> Between 2003 and 2014, approximately 25% of all United States and 3-4% of global fossil fuel greenhouse gas emissions are attributable to federal minerals leased and developed by the Department of the Interior.<sup>51</sup> Continued development of federal fossil fuel resources commits the world to ‘extremely dangerous’ warming well beyond the 2°C threshold. As one study put it, “the disparity between what resources and reserves exist and what can be emitted while avoiding a temperature rise greater than the agreed 2°C limit is therefore stark.”<sup>52</sup>

Even if the Forest Service concludes that it is beyond the scope of the Forest Service’s rulemaking or authority to evaluate opportunities to constrain development consistent with these

<sup>50</sup> Stratus Consulting, *Greenhouse Gas Emissions from Fossil Energy Extracted from Federal Lands and Waters: An Update* (Dec. 2014) at 9.

<sup>51</sup> See Energy Information Administration, *Sales of Fossil Fuels Produced from Federal and Indian Lands, FY 2003 through FY 2014* (July 2015); see also Stratus Consulting.

<sup>52</sup> McGlade at 188.

limits, it is surely within the agency’s scope to evaluate the climate impacts of the oil and gas program as a basis for evaluating the strength of competing alternatives intended to put in place reasoned and informed nationwide rules to at least account, in some fashion, for them. Moreover, such analysis may inform, at some juncture, necessary legislative options.

We are fully cognizant of the political context. Science, however, is ringing a loud alarm bell compelling action. Science-based emissions reduction pathways for meeting 1.5° or 2°C targets underscore the immediate need for a rapid phase-out of all fossil fuel extraction in the United States. *Global* fossil fuel CO<sub>2</sub> emissions must *end entirely* by mid-century and likely as early as 2045 for a reasonable likelihood of limiting warming to 1.5° or 2°C.<sup>53</sup> Due to the small U.S. carbon budget, the United States must end fossil fuel CO<sub>2</sub> emissions even earlier: between 2025 and 2030 on average for a reasonable chance of staying below 1.5°C, and between 2040 and 2045 on average for a reasonable chance of staying below 2°C.<sup>54</sup> Ending U.S. fossil fuel CO<sub>2</sub> emissions between 2025 and 2030, consistent with the Paris climate targets, would require an immediate halt to new production and rapidly phasing to closure most existing oil and gas fields and coal mines before their reserves are fully extracted.

Ending the approval of new fossil fuel production and infrastructure is also critical for preventing “carbon lock-in,” where approvals and investments made now can lock in decades worth of fossil fuel extraction that we cannot afford. New approvals for wells, mines, and fossil fuel infrastructure—such as pipelines, marine and rail import and export terminals—require upfront investments that provide financial incentives for companies to continue production for decades into the future.<sup>55</sup> Given the long-lived nature of fossil fuel projects, ending the approval of new fossil fuel projects avoids the lock-in of decades of fossil fuel production and associated emissions.<sup>56</sup>

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<sup>53</sup> Rogelj, Joeri et al., Energy system transformations for limiting end-of-century warming to below 1.5°C, 5 *Nature Climate Change* 519 (2015).

<sup>54</sup> See Climate Action Tracker, USA (last updated 6 November 2017), <http://climateactiontracker.org/countries/usa> at Rating figure showing U.S. emissions versus year (last visited Nov. 13, 2017).

<sup>55</sup> Davis, Steven J. and Robert H. Socolow, Commitment accounting of CO<sub>2</sub> emissions, *Environmental Research Letters* 9: 084018 (2014); Erickson, Peter et al., Assessing carbon lock-in, 10 *Environmental Research Letters* 084023 (2015); Erickson, Peter et al., Carbon lock-in from fossil fuel supply infrastructure, Stockholm Environment Institute, Discussion Brief (2015); Seto, Karen C. et al., Carbon Lock-In: Types, Causes, and Policy Implications, 41 *Annual Review of Environmental Resources* 425 (2016); Green, Fergus and Richard Denniss, Cutting with both arms of the scissors: the economic and political case for restrictive supply-side climate policies, *Climatic Change* <https://doi.org/10.1007/s10584-018-2162-x> (2018).

<sup>56</sup> Erickson et al. (2015): “The essence of carbon lock-in is that, once certain carbon-intensive investments are made, and development pathways are chosen, fossil fuel dependence and associated carbon emissions can become “locked in”, making it more difficult to move to lower-carbon pathways and thus reduce climate risks.” Green and Denniss (2018): “When production processes require a large, upfront investment in fixed costs, such as the construction of a port, pipeline or coalmine, future production will take place even when the market price of the resultant product is lower than the long-run opportunity cost of production. This is because rational producers will ignore ‘sunk costs’ and continue to produce as long as the market price is sufficient to cover the marginal cost (but not the average cost) of production. This is known as ‘lock-in.’”

## **E. The Forest Service Must, Given Substantial Questions Regarding the Significance of Impacts, Prepare an Environmental Impact Statement to Evaluate and Inform the Rulemaking**

We strongly recommend that the Forest Service prepare a comprehensive Environmental Impact Statement, rather than Environmental Assessment, to support its rulemaking. We suspect that, if the Forest Service instead chose to prepare an Environmental Assessment, it would either conclude that an EIS is necessary or it would render its rulemaking quite vulnerable to legal challenge. Either way, preparing an EIS would likely prove the most efficient, resource-conscious, and helpful NEPA pathway to inform a credible, lawful rulemaking. We also submit that it is self-evidently necessary as the rulemaking raises “substantial questions whether [the rulemaking] may have a significant effect on the environment” compelling preparation of EIS. *Anderson v. Evans*, 371 F.3d 475, 488 (9th Cir. 2004) (quotation omitted); 42 U.S.C. § 4332(C) (providing that BLM must complete an EIS before undertaking any “major Federal action[] significantly affecting the quality of the human environment”). CEQ’s NEPA regulations define “[s]ignificantly” as requiring “considerations of both context and intensity,” with both criteria underscoring, here, the need to prepare an EIS. 40 C.F.R. § 1508.27.

### **1. Context**

Regarding context, the Forest Service’s rulemaking implications substantial questions at multiple scales. Context requires analyzing “the significance of an action . . . in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality.” *Id.* § 1508.27(a). “Significance varies with the setting of the proposed action,” and for non-site-specific actions, significant may depend on “the world as a whole.” *Id.* “Both short- and long-term effects are relevant.” *Id.* Critically, impacts that may be insignificant in one context, may nonetheless be significant in a different context. *See Anderson*, 371 F.3d 475, 490-92. Here, however, the impacts of the rule are significant in a global, national, and local context.

At the global scale, the rulemaking directly implicates the prospect of continued and perhaps intensified greenhouse gas emissions from further oil and gas development at the precise point there is a serious possibility that the world may breach the Paris Climate Agreement’s temperature guardrails. The actions of the U.S. contribute significantly to this risk, given an abdication of leadership during the Trump administration and, indeed, an overt ideology that seeks to intensify the development of fossil fuels pursuant to an “Energy Dominance” agenda. At the national scale, the rulemaking has the potential to impact each and every national forest, grassland, and prairie—and at least national forest, grassland, and prairie lands with subsurface federal oil and gas minerals. At the local scale, the rulemaking will dictate how oil and gas leasing and development proceeds on specific national forest, grassland, and prairie lands—whether that development is past (and subject to remediation), present (and continuing), or reasonably foreseeable. These forest-specific impacts must be acknowledged and accounted for.

### **2. Intensity**

The other significance factor—which complements consideration of context—is intensity. “[I]ntensity . . . refers to the severity of impact.” 40 C.F.R. § 1508.27(b). CEQ has developed a list of ten factors that should be considered when an agency is determining whether an action has sufficient intensity to be considered significant. *Id.* The presence of any “one of these factors may be sufficient to require preparation of an EIS in appropriate circumstances.” *Ocean Advocates v. U.S. Army Corps of Engrs.*, 402 F.3d 846, 865 (9th Cir. 2005). We reserve the right to assert an EIS is necessary on the basis of any and all factors but, for purposes of these comments, focus on x criteria:

**a. Public Health and Safety**

A key factor in determining intensity is “[t]he degree to which the proposed action affects public health or safety.” 40 C.F.R. § 1508.27(b)(2). An action can be significant because of its public health and safety impacts even if it is not the only cause of the health or safety risk at issue. *See Ctr. for Biological Diversity*, 538 F.3d 1172, 1222 (9th Cir. 2008) (setting vehicle emission standards had significant impact on public health even though it was not the sole cause of global climate change).

Oil and gas leasing and development leads to the emission of climate and air pollutants, including volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). As one court has already recognized, the “additional emissions” from BLM’s decision to suspend its Waste Prevention Rule for a single year would “cause irreparable public health and environmental harm to [members of the public] who live and work on or near public and tribal lands with oil and gas development.” *California v. BLM*, No. 17-cv-7186-WHO, 2018 WL 1014644, at \*14 (N.D. Cal. Feb. 22, 2018). Oil and gas development can specifically contribute to ozone formation, which has national, regional, and local impacts that may prove significant. National forest, grassland, and prairie lands with oil and gas development may fall within airsheds with ozone management problems, whether from oil and gas or from a combination of different ozone-causing industries.

**b. Unique Geographic Characteristics**

While we have not identified or categorized all of the geographic characteristics of the national forest, grassland, and prairie lands implicated by this rulemaking, we think it safe to assume that these lands contain unique characteristics impacted by oil and gas development and vulnerable to climate impacts. These characteristics, assuming they are in fact present, warrant preparation of an EIS. CEQ’s regulations define unique characteristics as inclusive of “proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.” 40 C.F.R. § 1508.27(b)(3).

**c. Controversy**

Intensity is determined by assessing “[t]he degree to which the effects on the quality of the human environment are likely to be highly controversial.” 40 C.F.R. 1508.27(b)(4). An action “is highly controversial when there is a substantial dispute about the size, nature, or effect of the major Federal action rather than the existence of opposition to a use. Put another way, a proposal can be considered controversial if substantial questions are raised as to whether a project may cause significant degradation of some human environmental factor.” *Anderson*, 371 F.3d at 489 (citations and quotations omitted).

There is perhaps no better evidence of the controversy that will surround the Forest Service’s rulemaking than the Trump Administration’s Energy Dominance agenda and its policy implications. Controversy is definitively implicated by the Trump administration’s treatment of climate change, whether in terms of the intent to withdraw from the Paris Climate Agreement and the consequences of that action to agency decision-making, such as in this rulemaking, or the administration’s direction to federal agencies to streamline fossil fuel decision-making by eliminating or weakening climate, conservation, or public involvement protections, again as in this rulemaking. Given the urgency and risk of catastrophic impacts implicated by climate change, the Forest Service’s rulemaking—which may pave the way to significant new fossil fuel infrastructure—is intrinsically and highly controversial. Controversy is also implicated by the abrupt changes to analytical assumptions underlying rulemaking efforts across agencies. This includes the administration’s rejection of the IWG’s calculations for the social cost of carbon and methane and use, in its place, of an un-scientific “interim” social cost of carbon and methane. Even fossil-fuel friendly states such as North Dakota and Texas have deemed the social cost of methane as “a controversial calculation.” *See* *Jt. Open. Br. of the States of N.D. & Tex.* at 33, *Wyoming v. U.S. Dept. of the Int.*, No. 16-cv-00285-SWS (D. Wyo. Oct. 2, 2017), ECF No. 143. Notably, these controversies may also implicate a different intensity criterion—in particular relative to climate change, where the administration has claimed it is unable to assess climate impacts: “the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.” 40 C.F.R. § 1508.27(b)(5).

#### **d. Precedent**

The rulemaking’s nationwide scope and the magnitude of the rulemaking’s implications to national forest, grassland, and prairie lands warrants preparation of an EIS. Significance is determined, in part, by “[t]he degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.” 40 C.F.R. § 1508.27(b)(6). “The purpose of th[is] section is to avoid the thoughtless setting in motion of a ‘chain of bureaucratic commitment that will become progressively harder to undo the longer it continues.’” *Presidio Golf Club v. Natl. Park Serv.*, 155 F.3d 1153, 1162–63 (9th Cir. 1998) (quoting *Sierra Club v. Marsh*, 769 F.2d 868, 879 (1st Cir. 1985)).

#### **e. Cumulative Climate Impacts**

As described above, the Forest Service must take a hard look at the rulemaking's cumulative climate impacts. Given the nation-wide scale of the program, and its interrelationship with BLM's oil and gas program as a whole, we think these cumulative impacts compel preparation of an EIS, in particular because we are unaware of any programmatic EIS the Forest Service can tier to assessing the climate impact of BLM's oil and gas program, its relationship to federal climate policy and programs (or the absence thereof), and how federal programs do or do not contribute to or degrade our collective capacity to take the accelerated climate action demanded of the current moment. As CEQ's regulations explain, an action can be significant if it "is related to other actions with individually insignificant but cumulatively significant impacts." 40 C.F.R. § 1508.27(b)(7).

#### **f. Endangered Species Act Compliance**

The number and extent of endangered and threatened species on national forest, grassland, and prairie lands warrants preparation of an EIS. NEPA requires agencies, in assessing significance, to consider "[t]he degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973." 40 C.F.R. § 1508.27(b)(9).

To inform this determination, we note the Forest Service's ESA responsibilities. Section 7 of the ESA mandates that every federal agency consult with the U.S. Fish and Wildlife Service (FWS) whenever it undertakes activities that may impact an ESA-listed species. 16 U.S.C. § 1536(a)(2). Federal agency actions include those projects "authorized, funded, or carried out by such agency." *Id.* The purpose of consultation is to avoid jeopardizing the continued existence of a listed species. *Id.* To facilitate the consultation process, the "action agency" prepares a "biological assessment," which identifies listed species in the action area and evaluates the proposed action's effect on listed species. 50 C.F.R. §§ 402.02, 402.12. "Formal consultation" is not required if FWS issues a "written concurrence" that concludes the agency's proposed action "may affect," but "is not likely to adversely affect the listed species." *Id.* § 402.14(a) & (b); § 402.13(a). This is commonly referred to as informal consultation. When formal consultation is necessary, FWS provides the action agency with a "biological opinion" as to whether jeopardy to the species is likely to occur. 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(g). During the consultation process, both agencies must "use the best scientific and commercial data available." 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(d).

"The minimum threshold for an agency action to trigger consultation with FWS is low." *W. Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 496 (9th Cir. 2011). "Section 7(a)(2) consultation is required so long as a federal agency retains 'some discretion' to take action for the benefit of a protected species." *Nat. Res. Def. Council v. Jewell*, 749 F.3d 776, 784 (9th Cir. 2014) (en banc). "Actions that have any chance of affecting listed species or critical habitat—even if it is later determined that the actions are 'not likely' to do so—require at least some consultation under the ESA." *Karuk Tribe v. U.S. Forest Serv.*, 681 F.3d 1006, 1027 (9th Cir.

2012) (en banc). Even effects that are mitigated or “trivial” may meet the ‘may affect’ threshold. *Swan View Coal. v. Weber*, 52 F. Supp. 3d 1133, 1145–47 (D. Mont. 2014).

Promulgating nation-wide regulations triggers the consultation obligation. The Ninth Circuit Court of Appeals has construed the term “action” broadly. *See Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1054–55 (9th Cir. 1994); *Connor v. Burford*, 868 F.2d 1441, 1453 (9th Cir. 1988). Interior Department regulations implementing the ESA broadly define the scope of agency actions subject to consultation. *See* 50 C.F.R. § 402.02 (definition of action). “Examples [of actions] include, but are not limited to: . . . (b) promulgation of regulations.” *Id.*; *accord Forest Guardians v. Forsgren*, 478 F.3d 1149, 1159 (10th Cir. 2007) (emphasizing that “the very definition of ‘action’ in § 402.02 tells us that ‘promulgation of regulations’ . . . constitutes ‘action’”). “Actions” that courts have recognized “may affect” listed species include the issuance of a new, nationally-applicable regulation that is less protective than an earlier version of the regulation which “would impose greater protections.” *Cal. ex rel. Lockyer v. U.S. Dept. of Agric.*, 575 F.3d 999, 1019 (9th Cir. 2009); *see also All. for Wild Rockies v. U.S. Dept. of Agric.*, 772 F.3d 592, 598–99 (9th Cir. 2014) (“[W]e have recognized that environmental management plans constitute federal agency actions under the ESA.”); *Citizens for Better Forestry v. U.S. Dept. of Agric.*, 481 F. Supp. 2d 1059, 1097 (N.D. Cal. 2007) (“[P]rogrammatic rules . . . are covered by ESA’s procedural requirements.”).

## **SPECIFIC AREAS OF REGULATIONS**

These six areas were specifically identified for input by the Forest Service in the ANPR. We are providing comments on each.

### **1. Streamlining and reforming the process used by the USDA Forest Service to identify National Forest System lands that the Bureau of Land Management may offer for oil and gas leasing.**

As described above, we disagree with the premise that “streamlining” the process for identifying lands available for leasing and responding to specific leasing proposals is needed or appropriate. The existing regulations and authorities at 36 C.F.R. § 228.102 provide for efficient environmental analysis and decision-making around leasing decisions, while ensuring the agency can satisfy its statutory environmental protection duties. The agency undertakes a planning process to identify lands available for leasing under standard terms and conditions, lands available for leasing subject to lease stipulations necessary to protect surface resources, and lands unavailable for leasing. 36 C.F.R. § 228.102(c). This “leasing availability analysis” can be undertaken for an entire national forest or a part of the forest, and it can be done concurrently with the development or revision of the land and resource management plan (LMP) or subsequent to the plan decision. *See id.* § 228.102(c); Forest Service Handbook (FSH) 1909.12, ch. 20, §§ 21.7 & 23.23i(4)(d). Either way, the analysis and decision must be in accordance with the requirements of the 2012 planning rule, including its substantive provisions at 36 C.F.R. §§ 219.8-219.10 and with NEPA. *See* 36 C.F.R. § 228.102(a) & (c). Following a forest-wide or area leasing availability decision, specific available lands may be considered for leasing. In that instance, the Forest Service must ensure adequate and up-to-date NEPA analysis and consistency

with the governing LMP and leasing availability decision, and then decide whether to consent to leasing. 36 C.F.R. § 228.102(e).

This regulatory direction for leasing availability and subsequent leasing decisions for specific lands – at least in theory – affords the Forest Service significant flexibility in varying the scope and timing of its analysis to, for instance, take advantage of opportunities for efficient and effective programmatic and site-specific analysis and decision-making. In practice, however, implementation of the process can be sloppy, misunderstood, and inconsistent – a reality that likely stems more from operational deficiencies (e.g., inadequate funding, staffing, training and expertise,<sup>57</sup> and failure to properly implement and utilize programmatic and site-specific analyses and direction), as opposed to regulatory deficiencies.<sup>58</sup> That said, the best medicine is likely not “streamlining and reforming” of section 228.102 but rather additional clarification and guidance. Our recommendations are described in more detail below.

### **A. Leasing Availability Analysis - § 228.102(c)**

To ensure compliance with relevant legal obligations and to facilitate efficiency, we recommend the following related to leasing availability planning, analysis, and decision-making:

First, during development of new or revised LMPs, the Forest Service should develop plan components, including standards or guidelines, that guide and set appropriate limits on oil and gas leasing and development. *See* 36 C.F.R. § 219.10(a)(2); FSH 1909.12, ch. 20, § 23.23i. Plan components should be based on the desired condition for those lands, their current capability to support the use, and achieving the planning rule’s substantive requirements of providing for sustainability (§ 219.8), diversity (§ 219.9), and multiple use (§ 219.10). *See also* FSH 1909.12, ch. 20, §§ 22.15 & 23.23i. In addition to the required standards and guidelines, LMPs generally should “identify lands . . . that may or may not be suitable or available for mineral and nonrenewable energy development.” FSH 1909.12, ch. 20, § 23.23i.<sup>59</sup> LMPs in forests with oil and gas development potential should determine suitability for oil and gas leasing, and strongly consider determining suitability for related uses such as road building or ground disturbance related to oil and gas operations.

Suitability determinations should be discerning and selective. We are opposed to BLM’s approach, whereby lands are typically deemed available for leasing effectively by default unless such development is prohibited by law. Often, further analysis reveals serious concerns with

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<sup>57</sup> Especially related to: 1) the relationship of the land and resource management plan and the availability analysis, 2) how the land management plan should set the stage for providing for the protection of the environment in the face of potential oil and gas activities, and 3) how the analysis for the land management plan should address the potential specter of oil and gas activity under each alternative.

<sup>58</sup> *See also* February 1, 2018 comments submitted by The Wilderness Society et al on the agency’s advanced notice of proposed rulemaking regarding National Environmental Policy Act compliance, 83 Fed. Reg. 302 (Jan. 3, 2018); National Forest Foundation, 2018. “Environmental Analysis and Decision Making Regional Partner Roundtables: National Findings and Leverage Points, May 2018.” Available at <https://www.nationalforests.org/assets/pdfs/National-EADM-Report.pdf>.

<sup>59</sup> Importantly, [a] plan’s identification of certain lands as suitable for a use is not a commitment to allow such use but only an indication that the use might be appropriate,” subject to subsequent site-specific analysis and decision-making. *See* FSH 1909.12, ch. 20, § 22.15.

leasing and development on certain lands, including conflicts with communities, wildlife, and other public land multiple uses—resulting in lease deferrals, litigation, weakened agency credibility, and unnecessary or undue resource degradation. This operates to waste limited agency resources and represents a problem that, with effective front-end plan components, could be avoided.

As one example of establishing suitability in an LMP, the 2015 Shoshone National Forest Plan identifies areas suitable for oil and gas surface development, while acknowledging that additional restrictions and stipulations may be identified through a subsequent leasing availability decision.<sup>60</sup> The plan identifies important wildlife habitat, such as grizzly bear primary conservation areas and crucial winter range for ungulates, and areas adjacent to the Wind River Indian Reservation as subject to no surface occupancy stipulations unsuitable for surface disturbance related to oil and gas activity. The Final Environmental Impact Statement for that plan explains that “[o]il and gas leasing decisions are closely linked to forest plans” and that “[k]ey components of the leasing decision – lease stipulations – are derived in large part from forest plan standards, guidelines, and management area direction.”<sup>61</sup>

Second, leasing availability decisions must be consistent with and informed by relevant plan components, including suitability determinations. 16 U.S.C. § 1604(i); 36 C.F.R. § 219.15.<sup>62</sup> Section 228.102(c) could benefit from making this explicit. Specific recommendations for revised regulatory language are included at the end of this section.

Third, the Forest Service should retain discretion to conduct leasing availability concurrently or sequentially with a land management planning process, depending on the circumstances. Where the agency opts to take a sequential approach, it should initiate the leasing availability analysis immediately following the LMP revision. *See* 36 C.F.R. § 219.15(e). Not doing so can leave a disconnect between what is deemed suitable in the LMP and what is assigned as available.

Fourth, in cases where the agency revises or amends its LMP in a way that implicates an existing leasing availability analysis, the Forest Service should affirmatively consider whether it is necessary to also revise the availability analysis and decision.<sup>63</sup> For instance, if the Forest Service amends an LMP to address a new species of conservation concern, it should determine if existing leasing availability decisions must be altered to achieve the ecological conditions necessary for the persistence of that species. *See* 36 C.F.R. § 219.9. It may also be necessary to alter a leasing availability analysis where the BLM revises or amends its resource management plans and decisions on how oil and gas leasing and development will proceed, or there are significant changes to the BLM’s Reasonably Foreseeable Development Scenario. In these instances, a particular forest or grassland may need to impose a temporary moratorium on further leasing and development, pending completion of that revised analysis. 40 C.F.R. § 1506.1. The need to consider whether to revise existing leasing availability decisions, and what happens in

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<sup>60</sup> Shoshone National Forest LMP Record of Decision, pp. 4, 11-12, 14, 40-41 (2015).

<sup>61</sup> Shoshone National Forest LMP Final Environmental Impact Statement, pp. 19-20 (2015).

<sup>62</sup> *See also* Shoshone National Forest LMP ROD and FEIS cited above.

<sup>63</sup> The Shoshone National Forest again provides a recent example, with the Final Environmental Impact Statement for its 2015 plan revision acknowledging that an existing leasing availability decision completed 20 years prior “may need to be amended or replaced depending on the decision made in the revised Forest Plan.” Shoshone National Forest Plan FEIS, pp. 19-20.

the interim, should be identified in the decision document for the LMP revision or amendment. *See* 36 C.F.R. § 219.15(a).

Fifth, the Forest Service must consider a range of reasonable alternatives for its leasing availability analysis. 40 C.F.R. § 1502.14; 36 C.F.R. § 228.102(c)(2). This must include a no-leasing alternative, as currently required under section 228.102(c)(2), to ensure a robust analysis of the trade-offs among alternatives. It must also include one or more reasonable middle-ground alternatives that vary the amount and location of lands available for leasing and/or the conditions on leasing.

Finally, as part of predicting and analyzing the impacts of reasonably foreseeable post-leasing activity under section 228.102(c)(3)-(4), the leasing analysis should analyze and quantify the contribution of carbon and other greenhouse gases (GHGs) to the atmosphere, as well as provide meaningful context for those emissions, under each alternative. Meaningful consideration of GHGs is clearly within the scope of required NEPA review.<sup>64</sup> Although the final CEQ *Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA review* (on the issue of federal agency review of greenhouse gas emissions as foreseeable direct and indirect effects of the proposed action), 81 Fed. Reg. 51,866 (Aug. 5, 2016), has been "withdrawn for further consideration," 82 Fed. Reg. 16,576 (April 5, 2017), the underlying statutory requirement to consider climate change impacts under NEPA, including indirect and cumulative combustion impacts foreseeably resulting from fossil fuels leasing decisions, has not changed.

The following proposed changes (in underlined italics) to section 228.102(c) are designed to capture these recommendations:

*(c) Leasing analyses.* The leasing analysis shall be conducted by the authorized Forest officer *either concurrently and in accordance with a land management planning process under 36 CFR part 219, or sequentially in a separate, subsequent planning process to be initiated expeditiously following the land management planning process. Under either approach, the leasing analysis and decision must be consistent with and informed by relevant plan components in the governing land management plan and supported by the appropriate level of NEPA analysis. Upon completing a land management plan amendment or revision that implicates an existing leasing analysis, the agency shall consider whether the analysis must be revised to ensure consistency with new plan direction. If the analysis must be revised, the agency will initiate the revision expeditiously.* As part of the *leasing* analysis, the authorized Forest officer shall:

(1) . . . *[no proposed changes]*

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<sup>64</sup> *See, e.g., Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008) ("The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct."); *Mid States Coal. For Progress v. Surface Transp. Bd.*, 345 F.3d 520, 532, 549-50 (8th Cir. 2003) (agency violated NEPA when it failed to disclose and analyze the future coal combustion impacts associated with the agency's approval of a railroad line that allowed access to coal deposits); *Sierra Club v. FERC*, 867 F.3d 1357, 1375 (D.C. Cir. 2017) ("An agency decisionmaker reviewing this EIS would thus have no way of knowing whether total emissions, on net, will be reduced or increased by this project, or what the degree of reduction or increase will be. In this respect, then, the EIS fails to fulfill its primary purpose. In this respect, then, the EIS fails to fulfill its primary purpose.").

(2) Identify *a range of reasonable* alternatives to the areas listed in paragraph (c)(1) of this section, including that of not allowing leasing *and one or more alternatives that would vary the amounts and locations of the areas listed in paragraph (c)(1) of this section.*

(3) Project the type/amount of post-leasing activity, *including the contribution of carbon and other greenhouse gasses*, that is reasonably foreseeable as a consequence of conducting a leasing program consistent with that described in the proposal and for each alternative.

(4) . . . [no proposed changes]

## **B. Leasing Decisions for Specific Lands - § 228.102(e)**

To ensure compliance with relevant legal obligations and to facilitate efficiency, we recommend the following related to leasing decisions for specific lands:

First, leasing decisions must be adequately analyzed under NEPA, including addressing all reasonably foreseeable direct, indirect, and cumulative site-specific impacts not previously analyzed in the land management planning or leasing availability processes. Section 228.102(e)(1) requires that the Forest Service “verify[] that oil and gas leasing of the specific lands has been adequately addressed in a NEPA document,” and, “[i]f NEPA has not been adequately addressed, or if there is significant new information or circumstances as defined by 40 CFR 1502.9 requiring further environmental analysis, additional environment [*sic*] analysis shall be done before a leasing decision for specific lands will be made.” While we generally agree with this direction, in our experience, existing NEPA documents for the LMP or leasing availability analysis generally do not adequately address the impacts deferred by the programmatic analysis, including the site-specific impacts associated with a particular leasing proposal; do not consider a legally-mandated “no leasing” alternative for a specific lease proposed for sale;<sup>65</sup> do not consider lease-specific stipulations that may be necessary as a consequence of lease and site-specific NEPA analysis; or are outdated and should not be relied on to support a leasing decision. While agencies often try to justify the lack of analysis on the basis of subsequent, drilling-stage NEPA analysis on an Application for Permit to Drill, they have a duty to assess all reasonably foreseeable impacts at the lease stage—which, for NEPA purposes constitutes the point of commitment—and to consider lease-stage appropriate alternatives. Where site-specific impacts are not deemed reasonably foreseeable, the Forest Service should expressly provide assurances that it retains full authority to prohibit or otherwise subject development to constraints when that site-specific analysis is in fact completed. Under no circumstances should a lessee be afforded contractually-enforceable development rights in the absence of a site-specific analysis of impacts.

Moreover, because the leasing decision is both the point of the agencies’ irrevocable commitment of resources and the Forest Service’s last opportunity to provide input on what lease stipulations are necessary to protect forest resources, it is neither effective nor consistent with NEPA for the Forest Service to contend that analysis of lease-specific impacts can be deferred to some later permitting decision. Where the lease stipulations either do not preclude surface occupancy from an entire parcel, or do not preclude surface occupancy, the sale of that lease

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<sup>65</sup> See *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-30 (9th Cir. 1988) (even in the context of a lease subject to no surface occupancy stipulations, NEPA required that “alternatives—including the no-leasing option—be given full and meaningful consideration”).

typically confers a right to the lease holder to occupy the surface of the parcel and constrains the Forest Service's ability to completely prevent impacts from development. Consequently, once the lease sale occurs, the Forest Service is limited to mitigating the impacts associated with the lease holder's exercise of its right, whereas prior to the sale, the Forest Service has the authority to prevent the impacts altogether. The establishment of the lease holder's right through the lease sale thus represents an irretrievable commitment of resources. The Forest Service cannot lawfully consent to a sale without fully analyzing the environmental impacts of exploration and development occurring on the parcels.

Several recent or ongoing leasing decisions provide instructive examples of how current practices fall short of statutory requirements on some units. If the regulations are revised, they should focus on clarifications that eliminate these unlawful approaches. On the Wayne National Forest in Ohio, the Forest Service's decision to rely on a 2006 Forest Plan EIS, and not accept public comment, to justify its consent to 2017 BLM leasing proposals has frustrated the ability of the public to present relevant information to the agency. Similarly, in 2017, the Forest Service proposed consenting to lease of up to 54,000 acres of National Forest System lands within the Ruby Mountains District of the Humboldt-Toiyabe National Forest, including lands with exceptional recreational and scenic value, and containing habitat for Lahontan Cutthroat Trout, mule deer, greater sage-grouse, and significant cultural resources. The relevant LMP from 1986 predates the 1987 Federal Onshore Oil and Gas Leasing Reform Act, which established the Forest Service's consent requirement for oil and gas leasing, and hence cannot constitute a valid determination of availability nor consent to leasing.<sup>66</sup> Nevertheless, despite substantial new information regarding impacts of climate change, impacts of modern hydraulic fracturing techniques, and impacts of oil and gas development on wildlife species including sage-grouse and mule deer, public involvement has been limited to only a scoping period. Leasing on the Grand Mesa Uncompahgre Gunnison National Forest is currently occurring pursuant to a 30-year old oil and gas leasing decision that failed to consider impacts to more recently listed species, recently implemented administrative rules (e.g., the 2001 Roadless Area Conservation Rule and 2012 Colorado Roadless Rule), and climate change. Potential impacts to these resources are foreseeable and quantifiable at the leasing stage, and they should be analyzed and disclosed to the public as part of any leasing decision.

The regulatory language could thus benefit from some clarifications around NEPA compliance at the leasing stage, including clarification that the Forest Service must provide for public participation, as proposed at the end of this section.

Second, like the leasing availability analysis, leasing decisions for specific lands should be informed by and consistent with the LMP. Here too, the regulatory language could benefit from minor clarifications.

Third, in addition to NEPA compliance and consistency with the LMP, the Forest Service must ensure that leasing decisions are compliant with other federal laws, including the Clean Water Act (CWA) and the Endangered Species Act. Relevant to the CWA, this includes, for example, ensuring that the agency's decision regarding leasing and any subsequent development conforms

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<sup>66</sup> See U.S. Dep't of Agriculture, Amendment #9, White Pine and Grant-Quinn Oil and Gas Leasing Availability Analysis, Humboldt National Forest Land and Resource Management Plan, pp. 1-6 (2000).

to water quality standards. 33 U.S.C. § 1323(a). It also includes, for example, the obligation to consult or reinitiate consultation under section 7 of the Endangered Species Act, 16 U.S.C. § 1536. This consultation must include meaningful lease-specific analysis of impacts to listed and candidate species and critical habitat, not merely inclusion of a general lease notice informing lessees that subsequent consultation must be required. *See Conner v. Burford*, 848 F.2d 1441, 1455-58 (9th Cir. 1988). Issuance of a federal fluid mineral lease conveys, subject to certain specified restrictions, “the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold.” See 43 C.F.R. § 3101.1-2. The Forest Service, as the surface management agency, is best positioned to identify listed species and designated critical habitats that may be affected, and to initiate the appropriate form of consultation with the Fish and Wildlife Service and/or National Marine Fisheries Service. The most appropriate and effective time, therefore, to determine whether issuance of a lease for National Forest System lands may jeopardize listed species or adversely modify critical habitat is at the point of the Forest Service’s decision whether or not to consent to leasing.<sup>67</sup> Further, if consent is granted, that consent decision provides the Forest Service its best opportunity to specify required lease stipulations, including but not limited to No Surface Occupancy stipulations.

Fourth, section 228.102(e) does not currently address the Forest Service’s affirmative obligation and discretion to either consent or deny consent to leasing decisions. Indeed, 36 C.F.R. part 228 subpart E does not even mention the word “consent,” despite the agency’s statutory consent obligation. Section 228.102(e) should be revised to clarify this obligation, as well as the agency’s discretion to withhold its consent (which is addressed in more detail in the following section). For instance, the Forest Service should generally withhold its consent from leasing decisions that are inconsistent with the governing LMP or availability decision, where there is significant public opposition, or where other factors warrant a non-consent decision. Where the agency does contemplate an amendment to the LMP to resolve an inconsistency, it must comply with the procedural and substantive requirements of the planning rule, NEPA, and other relevant laws, regulations, and policies. 36 C.F.R. § 219.13(b).

Moreover, consistent with the agency’s duty to supplement its NEPA analysis where there is significant new information or circumstances, if the agency’s leasing availability analysis did not contemplate projects like the one proposed (e.g., reasonably foreseeable impacts of post-leasing activity projected under § 228.102(c)(3) fails to reflect current technology), or did not provide the requisite hard look at lease and site-specific impacts and consider lease-specific alternatives, the Forest Service must also revise its availability analysis and decision, consistent with NEPA. The same would be true for an LMP that did not contemplate projects like the one proposed.

Finally, certain procedural requirements should apply to the leasing consent process and be reflected in section 228.102(e). The Forest Service should provide public notice and an opportunity for public comment when it considers whether or not to consent to BLM leasing of specific lands and an opportunity for public comment. The notice should address NEPA, Clean

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<sup>67</sup> As the Ninth Circuit held in *Conner v. Burford*, the structure of the Mineral Leasing Act and Endangered Species Act do not permit deferral of consultation from the leasing to the permit stage solely based on a general lease notice. *Id.* at 1458.

Water Act, and Endangered Species Act compliance, conformity with the governing LMP, and any other relevant legal obligations. The 36 C.F.R. part 218 objection regulations should apply to the consent decision. Note that section 228.103 currently references the now outdated part 217 appeal regulations and should be updated.

The following proposed changes (in underlined italics) to section 228.102(e) are designed to capture these recommendations:

*(e) Leasing decisions for specific lands. At such time as specific lands are being considered for leasing, the Regional Forester shall review the area or Forest-wide leasing decision and shall determine, after providing reasonable public notice and no less than 30 days opportunity for comment, whether or not to consent to the Bureau of Land Management offering specific lands for lease. A consent decision should be based on the following considerations:*

*(1) Whether oil and gas leasing of the specific lands has been adequately addressed in a NEPA document, is consistent with the Forest land management plan and with an existing availability analysis that reasonably reflects the leasing proposal, and is compliant with the Clean Water Act and Endangered Species Act.*

*(A) If NEPA has not been adequately addressed, including a failure to address site-specific impacts, or if there is significant new information or circumstances as defined by 40 CFR 1502.9 requiring further environmental analysis, additional environmental analysis shall be done before Forest Service consent and Bureau of Land Management leasing decisions for specific lands can be made.*

*(B) If there is inconsistency with the Forest land management plan, the Responsible Official shall withhold consent for leasing unless the plan is amended or revised. Any such amendment or revision must be consistent with the requirements of 36 CFR part 219 and all other relevant laws and policies and be supported by a full NEPA analysis.*

*(C) If the existing availability analysis did not contemplate the leasing proposal (e.g., reasonably foreseeable impacts of post-leasing activity projected under § 228.102(c)(3) fails to reflect current technology), the Responsible Official shall withhold consent for leasing unless the leasing analysis is amended or revised, consistent with the requirements of § 228.102(c) and supported by a full NEPA analysis. An amended or revised leasing analysis may also require amendment of the land management plan.*

*(2) Whether conditions of surface use or occupancy identified in § 228.102(c)(1) are properly included as stipulations in resulting leases.*

*(3) The extent to which lease stipulations and governing land management plan direction would permit operations and development on the proposed lease.*

*(4) Information obtained through a minimum 30-day public comment period, following public notice that the Forest Service is considering consenting to BLM leasing of specific lands.*

*(5) Information obtained through consultation with the Fish and Wildlife Service and/or National Marine Fisheries Service, as applicable, pursuant to Section 7 of the Endangered Species Act.*

## **2. Updating regulatory provisions concerning lease stipulation waivers, exceptions and modifications.**

The Forest Service must ensure that the use of modifications, waivers and exceptions to lease stipulations are limited, based on carefully crafted criteria. The resource protections provided by lease stipulations are only reliable and effective to the extent that the safeguards are actually applied. Waivers (permanent exemptions that apply to the entire leasehold), exceptions (one-time exemptions for a particular site within the leasehold) and modifications (changes to the lease stipulation, either temporarily or for the term of the lease, which can apply to the entire leasehold or certain areas) all permit an operator to avoid compliance with the requirements of a stipulation. Where these loopholes are permitted and used, the protections that the stipulations are supposed to provide can be undermined.

It is vital that protections associated with oil and gas development are reliably applied and, as a result, that waivers, exceptions and modifications are not broadly used to weaken those protections. The Forest Service should only authorize narrowly prescribed waivers, exceptions and modifications to lease stipulations that are based on very specific criteria.

The current regulations state: “An operator submitting a surface use plan of operations may request the authorized Forest officer to authorize the Bureau of Land Management to modify (permanently change), waive (permanently remove), or grant an exception (case-by-case exemption) to a stipulation included in a lease at the direction of the Forest Service.” § 228.104(a). The regulations go on to describe how the Forest Service is to review such requests, and then conclude that “Any decision to modify, waive, or grant an exception to a lease stipulation shall be subject to administrative appeal only in conjunction with an appeal of a decision on a surface use plan of operation or supplemental surface use plan of operation.” § 228.104(d)(2). It is unclear whether operators can request, and the Forest Service can authorize, modifications, waivers and exceptions outside of the SUPO process. In revising the regulations, the Forest Service should clarify that modifications, waivers and exceptions may **only** be requested and authorized when an operator is submitting a SUPO or supplemental SUPO.

Limiting such requests and authorizations to the SUPO process ensures that they will be subject to NEPA and public review, in accordance with § 228.104(b), provisions which should also be retained in the revised regulations. The ANPR states that the Forest Service will continue to honor its environmental stewardship responsibilities and maintain robust public participation and the procedures set out in this regulation are part of this commitment. Further, considering requests for modifications, waivers and exceptions on leases on Forest Service lands outside of the SUPO process would require additional, separate NEPA processes, creating inefficiencies in the permitting process.

The Forest Service must also retain § 228.104(c) in order to ensure other agencies have the opportunity to submit information for consideration prior to granting modifications, waivers and exceptions. The regulations should clarify that the Forest Service will not authorize modifications, waivers or exceptions to stipulations adopted at the request of another agency without approval from that agency.

Finally, the regulations should require the Forest Service to track waivers, exceptions and modifications requested and those granted, and make that information available to the public. These records will provide important insight into how the stipulations are being applied and the

potential impact of waivers, exceptions and modifications on the overall function of the plans. This information will also allow the Forest Service to determine if the availability of or criteria for granting waivers, exceptions and modifications are adequately tailored or, if so many are being granted that they are undermining the intent of the stipulation, they need to be further narrowed in order to ensure sufficient protection for other resources.

### **3. Clarifying procedures for review and approval of surface use plans of operations.**

The Surface Use Plan of Operations (SUPO) process is generally well-tailored and necessary. It is certainly appropriate that no Application for Permit to Drill (APD) on National Forest lands be granted without analysis and approval from the Forest Service, and the public should have meaningful opportunities to engage in that decision-making process. Analysis and public participation are critically important at this stage of the process and must not be eliminated or diluted.

To the extent that delays occur in this process, many are attributable to operators failing to provide necessary and required information with their first submittal. In some cases, operators draw out the process to hold leases they do not intend to develop immediately. This type of speculation is not appropriate under the Mineral Leasing Act and it does not further the public interest. As discussed below, the Forest Service should impose deadlines and provide explicit expiration dates for approvals to curb any speculation that occurs through the SUPO process. Operators commonly file incomplete proposals. To help operators file complete proposals and reduce the amount of back and forth between agencies and project proponents, the Forest Service should make the minimum requirements for a SUPO readily available to oil and gas operators and the public in the agency's regulations and on the agency's website. As it is, the minimum requirements are not explicitly described in the Forest Service regulations. *See* § 228.106(c) (directing proponents to the effective Onshore Oil and Gas Order with no more detail on specific requirements).

As mentioned above, operators sometimes draw out the SUPO process intentionally to hold leases and units they do not intend to develop immediately. The Forest Service should specify that a Supplemental SUPO is necessary and appropriate any time new information or changed circumstances render pending proposals or prior approvals and analysis stale. *See* § 228.106(d). Making it clear that uncertainties increase with the amount of time that operators wait to finalize and implement a surface use plans may help motivate operators to diligently complete and implement their plans.

The Forest Service should also consider putting an expiration date on approvals. For example, the agency could require that SUPOs be completed by a project proponent within 18 months of filing an initial proposal. Failure to comply with the timeline will result in denial of a proposed SUPO. The agency could also make SUPO approvals effective for no more than 5 years. Such regulations would ensure that operators are actually diligently working toward approval and then diligently working to implement their plans to develop oil and gas.

Better coordination between the Forest Service and BLM may help improve SUPO processing. For example, rather than requiring submission of a proposed SUPO to BLM for that agency to

transmit to the Forest Service, an operator could submit a proposed SUPO to the Forest Service and BLM offices at the same time. *See* 228.106(a). This may have the additional benefit of pushing operators to proactively communicate with Forest Service staff, which is something that current regulations encourage, but not something that operators are required to do. *See* 228.106(b).

To the extent that SUPOs are not being processed quickly, budgetary constraints are an important reason. Allowing project proponents to do more of the legwork associated with SUPO processing would eliminate some of the burden on agencies. Here again, requiring proponents to submit proposals to the Forest Service and BLM, rather than requiring BLM to reproduce and transmit proposals to the Forest Service could improve the process. *See* 228.106(a).

Requirements of § 228.107 are critical to these management decisions and those requirements should remain in effect. For example, a meaningful NEPA review of any proposed surface use is necessary prior to approval. § 228.107(a). Such review is imperative at this stage because, surface impacts can be pinpointed with specificity for the first time with submittal of a proposed SUPO. In addition, NEPA review is critical for proposed surface use because years often pass between the time when NEPA compliance occurs to support a leasing decision and when surface use is actually proposed. During that time, changed circumstances and new information frequently arise that have never been considered before.

Opportunities for public comment are also guaranteed by 30 U.S.C. § 226(f) and critical to ensuring the Forest Service makes a durable decision. The same is true of appeal - now objection - opportunities after a decision is made. The Forest Service's objection process enables interested members of the public to engage in the decision-making process and help craft a plan that is not the subject of time consuming and costly litigation. Eliminating these opportunities could, in many cases, add uncertainty, cost, and time to the SUPO process.

Similarly, the surface use requirements outlined in § 228.108 are necessary to ensure the Forest Service can achieve its multiple use mission. Oil and gas development is an intensive use that often results in substantial conflicts with and impacts to other public land values. The emphasis of these regulations on protecting and preventing damage to other resources, and reclaiming lands after construction and development occurs, is imperative to ensuring the Forest Service can continue to achieve its mission. These regulations should not be weakened in any way.

#### **4. Updating the language addressing the operator's responsibility to protect natural resources and the environment.**

Section 228.108(a) generally requires operators to "conduct operations . . . in a manner that minimizes effects on surface resources [and] prevents unnecessary or unreasonable surface resource disturbance." The remainder of § 228.108 provides specific requirements and best practices for protecting various resources such as watershed, fish and wildlife, and cultural resources. These common-sense requirements should be maintained and, in some instances, strengthened, to ensure that operations on National Forest System lands do not damage surface resources or jeopardize the Forest Service's ability to satisfy its statutory and regulatory environmental protection responsibilities.

For instance, the National Forest Management Act and associated planning regulations require that land and resource management plans provide for ecological sustainability and the diversity of plant and animal communities. 36 C.F.R. §§ 219.8, 219.9. This includes, among other things, maintaining or restoring air quality, soils, water quality, the ecological integrity of riparian areas, and the diversity of ecosystems and habitat types, as well as maintaining viable populations of species of conservation concern and contributing to the recovery of threatened and endangered species. *Id.* Projects and activities, including oil and gas development, must, of course, be consistent with the plan. 16 U.S.C. § 1604(i); 36 C.F.R. § 219.15. Leasing availability decisions, leasing stipulations, consent decisions to lease specific parcels, and surface use plans of operations help ensure development activities are consistent with the governing land and resource management plan and do not degrade air, soil, water quality, riparian areas, or habitat for at-risk species, but do not always prevent unnecessary or unreasonable damage to surface resources associated with oil and gas operations.

As noted above, the ANPR does not provide specific references as to the regulatory provisions it intends to “update” regarding an operator’s responsibility to protect natural resources and the environment. As part of revising these regulations, the Forest Service should maintain requirements to ensure operations minimize or prevent unnecessary or unreasonable damage to surface resources, as well as other natural resources and expand regulatory requirements for operators to monitor operations regarding compliance with this requirement and provide annual reports. This includes action to protect air quality and to reduce climate emissions.

#### **5. Clarifying language regarding inspections and compliance.**

In “clarifying” language in the regulations regarding inspections and compliance, the Forest Service cannot relieve operators of requirements to comply with applicable laws. The provisions in the existing regulations related to compliance and inspection are designed to proactively resolve problems that may occur on National Forest lands during the oil and gas development process. Identifying and addressing such problems early reduces time-consuming and expensive remedies that may be necessary when minor issues become major problems. Any clarifications to this section should maintain or bolster the Forest Service’s ability to inspect operations early and often and to ensure any noncompliance issues are addressed before they become significant problems that can cause substantial harm to natural resources.

The revised regulations should not remove the general requirements outlined in § 228.112(a) and (c), including specifically the Notices to Lessees. Further, the regulations should clarify that the Forest Service must routinely inspect compliance with lease stipulations and conditions of approval (COAs) attached to leases and permits, by specifying in § 228.112(e) that Forest Service officers shall periodically inspect the area of operations to determine and document whether operations are being conducted in compliance with lease stipulations, COAs, the approved SUPO, and other applicable laws and regulations.

The Forest Service should fortify its commitment to regular inspections in the revised regulations. Inspections are the federal agencies’ primary mechanism to verify operators’ compliance with lease and permit requirements, including best management practices, and to initiate enforcement actions. The current regulations generally state that Forest Service officers

shall “periodically inspect the area of operations” to monitor compliance with approved activities. § 228.112(e). This is inadequate to ensure that inspections are occurring as necessary to monitor impacts to National Forest resources and enforce regulations and other requirements. The regulations should commit the Forest Service to a minimum number of inspections during specific time periods, which may vary according to the state of operations or likelihood of non-compliance.

Setting out specific requirements for inspections and compliance are necessary in light of past and ongoing concerns with inspections and enforcement of federal oil and gas operations documented by the Government Accountability Office (GAO), and in order to secure funding to adequately carry out the agency’s inspections and compliance program. For example, in a 2013 report, the GAO reviewed data on approximately 60,330 federal oil and gas wells found no record in BLM's database of 24,840 wells *ever* having received an environmental inspection.<sup>68</sup> GAO noted that without inspection information, agencies are unable to assess whether operations pose any current environmental risks or whether sufficient environmental mitigation has occurred.<sup>69</sup> The Forest Service should ensure the revised regulations preempt these types of failings by committing to specific intervals for regular inspections of all operations on Forest Service lands.

Finally, the USFS’s ability to impose penalties when unauthorized operations are undertaken is critical to effective management. That authority may exist regardless of these regulations, but explicit acknowledgement of it in these regulations is important to put operators on notice and to ensure that this important aspect of the Forest Service’s management authority does not lose primacy in future evaluations about funding and budgets. Section 228.112(d) must remain in effect.

#### **6. Addressing geophysical/seismic operations associated with minerals related matters in a manner that mirrors the Bureau of Land Management (BLM) regulations.**

The Forest Service has requested comment on the issue of “[a]ddressing geophysical/seismic operations associated with minerals related matters in a manner that mirrors the Bureau of Land Management (BLM) regulations.” 83 Fed. Reg. at 46,460.

As a general matter, we agree that the Forest Service must adopt regulations governing geophysical and/or seismic operations on National Forests and Grasslands. Given the Forest Service’s independent statutory obligations, mission, and the nature of the resources managed by the agency, however, we disagree that precisely mirroring the Bureau of Land Management regulations, 43 CFR Subpart 3150, is the appropriate approach.

Currently, there is a serious contradiction in the rules and policies governing review and approval of geophysical and seismic operations on lands administered by the Forest Service. The Forest Service currently has no approved regulations specifically governing seismic and geophysical operations, *see* 36 C.F.R. Subpart E, but instead takes the position in its manual that

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<sup>68</sup> GAO-13-572 (BLM Needs Better Data to Track Permit Processing Times and Prioritize Inspections), p. 35.

<sup>69</sup> *Ibid.*

such operations on existing fluid mineral leaseholds are governed by the terms of the Department of Interior lease, while off-leasehold operations may be authorized by a Forest Service temporary use permit. Forest Service Manual § 2862.3. BLM regulations, however, specifically provide that BLM procedures for oil and gas operation exclude leases where “the surface is administered by the U.S. Forest Service.” 43 C.F.R. § 3150.0-1.

Although the BLM and Forest Service currently utilize a common form – BLM Form 3150-4 and FS Form 2800-16 – to provide notice of intent to conduct oil and gas geophysical exploration operations, this approach does not appear consistent with the existing Department of Interior rule at 43 C.F.R. § 3150.0-1, which excludes Forest Service-administered lands. This problem is not merely a semantic one, because the BLM’s regulations, 43 C.F.R. § 3150.2, provide only for procedures for adversely affected parties to appeal geophysical and seismic decisions to the Interior Board of Land Appeals under 43 C.F.R. § 4.21.

Given the Forest Service’s independent obligations under NFMA, MUSYA, NEPA, and other statutes to safeguard multiple forest resources, including watersheds, wildlife, and recreational values, the minimal procedures and 5-day approval period applicable to BLM operations outside Alaska, 43 CFR § 3151.1, are inappropriate for seismic operations on Forest Service lands. Seismic operations can involve not only erosion and sedimentation, noise, and dust associated with operation of heavy equipment and detonation of explosives, but, under existing Forest Service NEPA regulations, can also authorize the construction of new roads of up to one mile without any NEPA review of the environmental consequences. 36 C.F.R. § 220.6(e)(8) (establishing categorical exclusion for “Short-term (1 year or less) mineral, energy, or geophysical investigations and their incidental support activities that may require cross-country travel by vehicles and equipment, construction of less than 1 mile of low standard road, or use and minor repair of existing roads.”). This exemption for road construction associated with geophysical and seismic operations poses significant risks to Forest Service-administered water and wildlife resources, since it appears to lack any significant safeguards to ensure that such roads will not create impact streams, watersheds, sensitive wildlife habitat, or important roadless and wildlands values. It is well understood among land managers and extensively documented within the scientific literature that roads pose serious impacts (direct, indirect, and cumulative) to lands and waters within the National Forest System.<sup>70</sup> There is an extensive body of peer-reviewed scientific literature dealing with impacts of oil and gas development in the U.S. and Canada, including specifically impacts correlated with (a) distance to roads, and (b) seismic line density.<sup>71</sup> One study, for example, on songbirds in Canada found that ground and shrub nesting birds that had territories spanning seismic lines expanded their territories, perhaps because of a

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<sup>70</sup> For example, see: Gucinski et al. (2000), Trombulak and Frissell (2000), Fahrig and Rytwinski (2009), Furniss et al. (1991), Robinson et al. (2010) and USDA Forest Service (2000). Also see: The Wilderness Society, 2014. *Environmental Effects of Transportation Infrastructure on National Forests and Grasslands: A Literature Review*, May 2014. Denver, CO.

<sup>71</sup> For a comprehensive summary of peer-reviewed relevant U.S. and Canada studies, see Joseph M. Northrup, *Behavioral Response of Mule Deer to Natural Gas Development in the Piceance Basin*, Table A1.1 (Doctoral Dissertation, Colorado State University, Spring 2015).

decrease in food availability along the seismic lines.<sup>72</sup> Ovenbirds were also found to have declined in abundance, likely moving their territories away from seismic lines.<sup>73</sup> Noise from blasting and other disturbance associated with seismic exploration is also demonstrated to adversely affect both large ungulates and avian species. In another study, experiments testing the response of wild woodland caribou to simulated seismic exploration found that caribou responded to noise disturbance by increasing movement rates, displacement distances, and energy expenditure, though effects were relatively short-lived.<sup>74</sup> A study of response to simulated drilling noise by white tailed deer found that deer avoided areas near loud noise sources but did not increase their home range sizes or movement rates relative to control animals.<sup>75</sup> A recent study from New Mexico found that birds that nest near anthropogenic sources of loud noise experience elevated levels of stress-associated hormones, and have stunted offspring.<sup>76</sup>

A more appropriate alternative regulation, given the Forest Service's independent statutory obligations and the resources in its charge, would be threefold.

First, the Forest Service should amend 36 C.F.R. § 228.106(a) to clarify that surface-disturbing activities associated with geophysical and seismic operation, including road construction, can only take place on Forest Service-administered lands pursuant to a surface use plan of operations. Specifically, 36 C.F.R. § 228.106 should be amended to read as follows:

§ 228.106 Operator's submission of surface use plan of operations.  
(a)General. No permit to drill **or authorization for geophysical or seismic exploration** on a Federal oil and gas lease for National Forest System lands may be granted without the analysis and approval of a surface use plan of operations covering proposed surface disturbing activities. An operator must obtain an approved surface use plan of operations before conducting operations, **including road construction associated with geophysical or seismic exploration**, that will cause surface disturbance. The operator shall submit a proposed surface use plan of operations as part of an Application for a Permit to Drill to the appropriate Bureau of Land Management office for forwarding to the Forest Service, unless otherwise directed by the Onshore Oil and Gas Order in effect when the proposed plan of operations is submitted.

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<sup>72</sup> Machtans, C. S. 2006. *Songbird response to seismic lines in the western boreal forest: a manipulative experiment*. Canadian Journal of Zoology 84:1421-1430.

<sup>73</sup> *Id.*

<sup>74</sup> Bradshaw, C.J.A., Boutin, S., Hebert, D.M. 1997. *Effects of petroleum exploration on woodland caribou in northeastern Alberta*. Journal of Wildlife Management 61, 1127-1133; Bradshaw, C.J.A., Boutin, S., Hebert, D.M. 1998. Energetic implications of disturbance caused by petroleum exploration to woodland caribou. Canadian Journal of Zoology 76, 1319-1324.

<sup>75</sup> Drolet, A., Dussault, C., Côté, S.D. 2016. *Simulated drilling noise affects the space use of a large terrestrial mammal*. Wildlife Biology 22, 284-293.

<sup>76</sup> Kleist, N. et al. 2017. *Chronic anthropogenic noise disrupts glucocorticoid signaling and has multiple effects on fitness in an avian community*. Proceedings of the National Academy of Sciences. [www.pnas.org/cgi/doi/10.1073/pnas.1709200115](http://www.pnas.org/cgi/doi/10.1073/pnas.1709200115)

(b)Preparation of plan. In preparing a surface use plan of operations, the operator is encouraged to contact the local Forest Service office to make use of such information as is available from the Forest Service concerning surface resources and uses, environmental considerations, and local reclamation procedures.

(c)Content of plan. The type, size, and intensity of the proposed operations and the sensitivity of the surface resources that will be affected by the proposed operations determine the level of detail and the amount of information which the operator includes in a proposed plan of operations. However, any surface use plan of operations submitted by an operator shall contain the information specified by the Onshore Oil and Gas Order in effect when the surface use plan of operations is submitted.

(d)Supplemental plan. An operator must obtain an approved supplemental surface use plan of operations before conducting any surface disturbing operations that are not authorized by a current approved surface use plan of operations. The operator shall submit a proposed supplemental surface use plan of operations to the appropriate Bureau of Land Management office for forwarding to the Forest Service, unless otherwise directed by the Onshore Oil and Gas Order in effect when the proposed supplemental plan of operations is submitted. The supplemental plan of operations need only address those operations that differ from the operations authorized by the current approved surface use plan of operations. A supplemental plan is otherwise subject to the same requirements under this subpart as an initial surface use plan of operations.

Second, a more appropriate model for Forest Service regulations regarding geophysical exploration would be the BLM's regulations governing geophysical exploration in Alaska, 43 C.F.R. Subpart 3152. The BLM's Alaska regulations provide for a far more reasonable timeframe – 90 days as opposed to 5 – for review of applications, as well as making clear that additional time may be allowed if “compliance with statutory requirements such as the National Environmental Policy Act of 1969 . . . delays this action.” 43 C.F.R. § 3152.2(a). Furthermore, the Forest Service should include provisions ensuring protection of National Forest System resources, analogous to 43 C.F.R. § 3152.2(b), which requires that “[t]he authorized officer shall include in each geophysical exploration permit terms and conditions deemed necessary to protect values, mineral resources, and nonmineral resources.” The Forest Service should further consider a rule that ensures management in a manner consistent with the purposes for which National Forest System lands have been reserved, analogous to 43 C.F.R. § 3152.2(d), which provides that, for lands subject to section 1008 of the Alaska National Interest Lands Conservation Act, “exploration shall be authorized only upon a determination that such activities can be conducted in a manner which is consistent with the purposes for which the affected area is managed under applicable law.

Third, and finally, the Forest Service, in considering how to administer oil and gas operations on National Forests and Grasslands, should carefully review and reconsider 36 C.F.R. § 220.6(e)(8), which provides for a categorical exclusion from National Environmental Policy Act review for geophysical and seismic activities, including some road construction. The Forest Service should

consider the substantial existing scientific literature regarding impacts of road construction on watersheds, water quality, wildlife habitat, particulate pollution, habitat fragmentation, and other resources and evaluate whether (a) a one-mile categorical exclusion is justified by the agency's record, and (b) whether additional safeguards are needed to determine whether use of the categorical exclusion is justified.

## **CONCLUSION**

The undersigned appreciate the opportunity to comment and look forward to remaining engaged in this process as it moves forward. We reiterate the importance of providing the public with meaningful opportunities to engage in this process, including prior to issuing draft regulations and through preparation of an EIS for this proposed rulemaking. We also urge the Forest Service to focus on its responsibility to protect our national forests and grasslands. The narrow purpose described in the Federal Register notice, focused only on speeding up oil and gas development, is inconsistent with the Forest Service's legal mandates and cannot guide this rulemaking process. Instead, these regulations should be updated to ensure careful evaluation and management of any and all oil and gas leasing and development that is permitted on National Forest lands.

Sincerely,

Nada Culver  
Senior Counsel and Senior Director, Agency Policy and Planning  
The Wilderness Society  
1660 Wynkoop Street, Suite 850  
Denver, CO 80202  
[Nada\\_Culver@twc.org](mailto:Nada_Culver@twc.org)

Peter Hart  
Staff Attorney  
Wilderness Workshop  
PO Box 1442  
Carbondale, CO 81623  
[peter@wildernessworkshop.org](mailto:peter@wildernessworkshop.org)

Jim Scheff  
Director  
Kentucky Heartwood  
P.O. Box 1486  
Berea, KY 40403  
[jim@kyheartwood.org](mailto:jim@kyheartwood.org)

Jimbo Buickerood  
Lands and Forest Protection Program  
Manager  
San Juan Citizens Alliance  
1309 East 3rd Avenue #5  
Durango, CO 81301  
jimbo@sanjuancitizens.org

Luke Schafer  
West Slope Director  
Conservation Colorado  
529 Yampa Ave.  
Craig, CO 81625  
luke@conservationco.org

Erik Molvar  
Executive Director  
Western Watersheds Project  
319 S. 6th Street  
Laramie, WY 82070  
emolvar@westernwatersheds.org

David Nickell  
Chair  
Heartwood  
P.O. Box 543  
Tell City, IN 47586  
info@heartwood.org

Michael J. Painter  
Coordinator  
Californians for Western Wilderness  
P.O. Box 210474  
San Francisco, CA 94121  
mike@caluwild.org

Thomas Wheeler  
Executive Director  
Environmental Protection Information  
Center  
145 G. St., Suite A  
Arcata, CA 95521  
tom@wildcalifornia.org

Kimberly Baker  
Executive Director  
Klamath Forest Alliance  
PO Box 21  
Orleans, CA 95556  
klam\_watch@yahoo.com

Aaron Mintzes  
Senior Policy Counsel  
Earthworks  
1612 K Street, N.W. Suite 904  
Washington, DC 20006  
amintzes@earthworks.org

Steve Holmer  
Vice President of Policy  
American Bird Conservancy  
4301 conn ave nw 451  
Washington, DC 20008  
Sholmer@abcbirds.org

Michael Saul  
Senior Attorney  
Center for Biological Diversity  
1536 Wynkoop Street, Suite 421  
Denver, CO 80220  
msaul@biologicaldiversity.org

Rebecca Fischer  
Climate Guardian  
WildEarth Guardians  
2590 Walnut Street  
Denver, CO 80205  
rfischer@wildearthguardians.org

John Robison  
Public Lands Director  
Idaho Conservation League  
PO Box 844  
Boise, ID 83701  
jrobison@idahoconservation.org

Christine Canaly  
Director  
San Luis Valley Ecosystem Council  
P.O. Box 223  
Alamosa, CO 81101  
info@slvec.org

Judy Calman  
Staff Attorney  
New Mexico Wilderness Alliance  
142 Truman St. NE #B-1  
Albuquerque, NM 87108  
judy@nmwild.org

Jordan Vaughan Smith  
Executive Director  
CAVU  
518 Old Santa Fe Trail ste 1405  
Santa Fe, NM 87505  
jordan@cavu.org

Erik Schlenker-Goodrich  
Executive Director  
Western Environmental Law Center  
208 Paseo del Pueblo Sur  
Taos, NM 87571  
eriksg@westernlaw.org

Jeff Kuyper  
Executive Director  
Los Padres ForestWatch  
PO Box 831  
Santa Barbara, CA 93102  
info@LPFW.org

Jason Christensen  
Director  
Yellowstone to Uintas Connection  
P. O. Box 280  
Mendon, UT 84325  
jason@yellowstoneuintas.org

Mike Petersen  
Executive Director  
The Lands Council  
25 West Main Ave  
Spokane, WA 99201  
mpetersen@landscouncil.org

Eric Engle  
Chairman  
Mid-Ohio Valley Climate Action  
324 Point Drive  
Parkersburg, WV 26101  
ericengle85@yahoo.com

Heather Cantino  
Steering Committee Chair  
Athens County Fracking Action Network  
33 Cable Lane  
Athens, OH 45701  
heather.cantino@gmail.com

Tom Sobal  
Director  
Quiet Use Coalition  
POB 1452  
Salida, CO 81201  
quietuse@gmail.com

Alison Gallensky  
GIS & IT Director  
Rocky Mountain Wild  
1536 Wynkoop St, Suite 900  
Denver, CO 80202  
alison@rockymountainwild.org

Larry Campbell  
Conservation Director  
Friends of the Bitterroot  
PO Box 442  
Hamilton, MT 59840  
lcampbell@bitterroot.net

Tabitha Tripp  
Educational Director  
Shawnee Forest Sentinels  
PO Box 199  
Anna, IL 62906  
tabicats2@gmail.com

Tabitha Tripp  
Board of Directors  
Southern Illinoisans Against Fracturing Our  
Environment  
PO Box 1325  
Vienna, IL 62995  
saveilwater@gmail.com

Marla Fox  
Rewilding Attorney  
WildEarth Guardians  
80 SE Madison Street, Suite 210  
Portland, OR 97214  
mfox@wildearthguardians.org

Vivian Stockman  
Vice Director  
OVEC-Ohio Valley Environmental  
Coalition  
PO Box 6753  
Huntington, WV 25704  
vivian@ohvec.org

Matt Reed  
Public Lands Director  
High Country Conservation Advocates  
PO Box 1066  
Crested Butte, CO 81224  
matt@hccacb.org

Roxanne Groff  
Chair  
Buckeye Environmental Network  
14222 Marietta Run Road  
Amesville, OH 45711  
rgroff1227@gmail.com

Rocky Smith  
Forest Management Analyst and Consultant  
1030 Pearl St. #9  
Denver, CO 80203  
303-839-5900  
2rockwsmith@gmail.com

Roseanna Sacco  
Chairperson  
Preserve Monroe  
PO Box 76  
Union, WV 24983  
preservemonroe@gmail.com

Michelle Roos  
Executive Director  
Environmental Protection Network  
3100 Ellicott Street  
Washington, DC 20009  
michelle.roos@environmentalprotectionnet  
work.org

Joseph Zupan  
Executive Director  
Amigos Bravos  
PO Box 238  
Taos, NM 87571  
jzupan@amigosbravos.org

Nathan Matthews  
Senior Attorney  
Sierra Club  
2101 Webster St., Suite 1300  
Oakland, CA 94612  
nathan.matthews@sierraclub.org

Nathan Johnson  
Public Lands Director  
Ohio Environmental Council  
1145 Chesapeake Ave., Suite I  
Columbus, OH 43212  
NJohnson@theOEC.org

Marissa Knodel  
Legislative Counsel  
Earthjustice  
500 New Jersey Ave. NW, Suite 700  
Washington, DC 20001  
mknodel@earthjustice.org

Beth Kaeding  
Board Chair  
Western Organization of Resource Councils  
220 South 27th St.  
Billings, MT 59101  
scawley@worc.org

Bobby McEnaney  
Senior Director, Dirty Energy Project  
Natural Resources Defense Council  
1152 15th St NW, Suite 300  
Washington, DC 20005  
bmcaney@nrdc.org

Mark Salvo  
Vice President for Landscape Conservation  
Defenders of Wildlife  
1130 17th Street NW  
Washington, DC 20036  
msalvo@defenders.org

Ani Kame'enui  
Legislative Director  
National Parks Conservation Association  
777 6th Street NW, Suite 700  
Washington, DC 20001  
akameenui@npca.org

Patrick Dooling  
Interim Director  
Western Slope Conservation Center  
PO Box 1612  
Paonia, CO 81428  
patrick@theconservationcenter.org

Judy Rodd  
Executive Director  
Friends of Blackwater  
571 Douglas Road  
Thomas, WV 26292  
info@saveblackwater.org

Larry V. Thomas  
President  
West Virginia Highlands Conservancy  
PO Box 306  
Charleston, WV 25321  
larryvthomas@aol.com

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