**THE WILDERNESS SOCIETY**

**COALITION TO PROTECT AMERICA’S NATIONAL PARKS FRIENDS OF THE EARTH**

**NATURAL RESOURCES DEFENSE COUNCIL**

April 17, 2023

*Submitted via email to* BLM\_NM\_Q2\_2023\_protest@blm.gov

BLM New Mexico State Office Attention: State Director

301 Dinosaur Trail Santa Fe, NM 87508

# Re: May 2023 Protest

Dear State Director Barnes:

The Wilderness Society, Friends of the Earth, and the Natural Resources Defense Council respectfully protest the below-listed parcels in the May 2023 Competitive Oil and Gas Lease Sale. The reference identifications for the Environmental Assessments[1](#_bookmark0) and Findings of No Significant Impact[2](#_bookmark1) for this lease sale are, respectively, DOI-BLM-NM-P000-2022-0001-EA (New Mexico) and DOI-BLM-NM-0040-2022-00345-EA (Oklahoma). On March 17, 2023, the Bureau of Land Management (BLM) New Mexico State Office announced the proposed sale of 45 parcels containing 10,123.91 acres. For the reasons stated herein, our groups protest all 45 parcels:

NM-2023-05-0413 NM-2023-05-0419 NM-2023-05-0420 NM-2023-05-6132 NM-2023-05-6751 NM-2023-05-6752 NM-2023-05-6753 NM-2023-05-6789 NM-2023-05-6790 NM-2023-05-6795 NM-2023-05-6797

NM-2023-05-6798 NM-2023-05-6799 NM-2023-05-6800 NM-2023-05-6801 NM-2023-05-6803 NM-2023-05-6804 NM-2023-05-6805 NM-2023-05-6806 KS-2023-03-0036 KS-2023-03-0037 KS-2023-03-6113

1 BUREAU OF LAND MGMT., PECOS DISTRICT OFFICE OIL AND GAS LEASE SALE, ENVIRONMENTAL ASSESSMENT, DOI-BLM-NM-P000-2022-0001-EA (May 2023) [hereinafter NM EA]; BUREAU OF LAND MGMT., OKLAHOMA FIELD OFFICE OIL AND GAS LEASE SALE, ENVIRONMENTAL ASSESSMENT, DOI-BLM-NM-0040-2022-

0045-EA (May 2023) [hereinafter OK EA].

2 BUREAU OF LAND MGMT., FINDING OF NO SIGNIFICANT IMPACT, MAY 2023 COMPETITIVE OIL AND GAS

LEASE SALE, DOI-BLM-NM-P000-2022-0001-EA (May 2023) [hereinafter NM FONSI]; BUREAU OF LAND MGMT., FINDING OF NO SIGNIFICANT IMPACT, MAY 2023 COMPETITIVE OIL AND GAS LEASE SALE, DOI-BLM-NM-0040-

2022-0045-EA (May 2023) [hereinafter OK FONSI].

KS-2023-03-0038 KS-2023-03-0039 KS-2023-03-0004 KS-2023-03-0005 KS-2023-03-0007 KS-2023-03-0027 KS-2023-03-0029 KS-2023-03-0012 KS-2023-03-0014 KS-2023-03-0030 KS-2023-03-0034 KS-2023-03-0035

KS-2023-03-0008 KS-2023-03-0021 KS-2023-03-0022 KS-2023-03-0010 KS-2023-03-0011 KS-2023-03-0023 KS-2023-03-0026 KS-2023-03-0009 KS-2023-03-0040 KS-2023-03-0042 KS-2023-03-0044

This protest is filed on behalf of The Wilderness Society, Friends of the Earth, and the Natural Resources Defense Council. The names, mailing addresses, and telephone numbers for each organization filing this protest are as follows:

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I, Ben Tettlebaum, have been authorized to file this protest on behalf of the above groups.

1. **INTERESTS OF THE PROTESTING PARTIES**

**The Wilderness Society (TWS)** is a national non-profit membership organization that works to unite people to protect America’s wild places. Founded in 1935, TWS is headquartered in Washington, D.C., with offices throughout the country and over 130,000 total members nationwide. TWS aims to transform federal land management to prioritize climate resilience and biodiversity protection and help develop and advance policies for just and equitable public land conservation on behalf of all people. In working toward its mission, TWS elevates the voices of communities that might otherwise be unable to engage in federal processes affecting public lands and waters. For years, TWS has advocated for reform of BLM’s oil and gas leasing program.

TWS has used in-house science, policy, and legal expertise to comment on and engage in the oil and gas leasing process.

**The Coalition to Protect America’s National Parks** represents over 2,400 current, former, and retired employees and volunteers of the National Park Service, with over 45,000 collective years of stewardship of America’s most precious natural and cultural resources. We are protection rangers and interpreters, scientists and maintenance workers, managers and administrators, and specialists in the full spectrum of the parks’ resources. Our membership also includes former National Park Service directors, deputy directors, regional directors, and park superintendents.

Recognized as the Voices of Experience, the Coalition educates, speaks, and acts for the preservation and protection of the National Park System, and mission-related programs of the National Park Service. More information can be found at [https://protectnps.org](https://protectnps.org/).

**Friends of the Earth (FoE)** is a 501(c)(3) non-profit, membership-based organization with offices located in Berkeley, California and Washington, DC. FoE currently has over 4.7 million activists and over 290,000 members, located across all 50 states and the District of Columbia. FoE is also a member of Friends of the Earth-International, which is a network of grassroots groups in 74 countries worldwide. FoE’s primary mission is to defend the environment and champion a more healthy and just world by collectively ensuring environmental and social justice, human dignity, and respect for human rights and peoples’ rights. FoE is dedicated to fighting climate change and advocating for clean energy alternatives. FoE’s Climate & Energy program directly engages in administrative and legal advocacy to protect the environment and society from climate change, pollution, and industrialization associated with fossil fuel development on public lands and associated greenhouse gas emissions. Key to this work is fighting to reduce greenhouse gas emissions and domestic reliance on fossil fuels, and advance justly-sourced, renewable energy.

**The Natural Resources Defense Council (NRDC)** is an international non-profit membership organization that works to safeguard the earth—its people, its plants and animals, and the natural systems on which all life depends. Founded in 1970, NRDC is headquartered in New York, NY, and works to represent the interests of our over 3 million members and online activists.

Alongside frontline communities across the country, NRDC has worked since its founding to safeguard this country’s critical natural resources using the best available science, data, and legal

analysis. The keystone of this work has long been our advocacy to ensure resilient and thriving ecosystems across the landscapes managed by the federal government, particularly the BLM. As the climate crisis has accelerated, NRDC has devoted ever more resources and expertise to pushing for essential changes to the federal fossil fuel programs, including those managed by the BLM.

1. **STATEMENT OF REASONS IN SUPPORT OF THE PROTEST OF THE MAY 2023 COMPETITIVE OIL AND GAS LEASE SALE PARCELS**

The Environmental Assessments (EAs) and Finding of No Significant Impact (FONSIs) contain several flaws that undergird this protest and counsel deferral of parcels from this lease sale, including but not limited to the following:

* + The BLM fails to address the best available science on ungulate species, recommending deferral of parcels in crucial wildlife habitat and migration corridors.
	+ The NM EA disregards that the Carlsbad Field Office Draft Resource Management Plan proposes management prescriptions to protect Lands with Wilderness Characteristics (LWCs), Areas of Critical Environmental Concern (ACECs), and Lesser Prairie-Chicken or Dunes Sagebrush Lizard Habitat and is severely outdated.
	+ Several parcels are in areas with critical or high cave, karst potential.
	+ Several parcels are on low development potential lands.
	+ The BLM failed to determine whether greenhouse gas (GHG) emissions and climate impacts are significant, in violation of the National Environmental Policy Act (NEPA).
	+ The EAs failed to adequately analyze mitigation to address the impacts of GHG emissions.
	+ The BLM failed to take a hard look at impacts to groundwater from well construction practices and hydraulic fracturing.
	+ BLM failed to consider its Mineral Leasing Act mandate to take all reasonable precautions to prevent waste.

# The BLM should exercise its authority to defer parcels in these lease sales using the criteria in IM 2023-007.

IM 2023-007 directs deferral of parcels that receive a “low” value leasing preference. If there are “no high preference parcels available for the sale,” the office is guided to select “one or more low preference parcels that present the least conflicts based on the criteria.” While the IM preferences leasing parcels with “[p]roximity to existing oil and gas development,” these areas risk further concentrating and expanding development, exacerbating ongoing and historical degradation to the affected area and the public health of nearby communities. The BLM should therefore not designate as high preference for leasing – and should instead defer – any low development potential parcels that happen to be near existing development. We urge the BLM to prioritize community health and environmental justice, values the Administration has committed to upholding.

In both the NM EA and the OK EA, Appendix C purports to apply the criteria in IM 2023-007, determining that there is a low preference for leasing every parcel.[3](#_bookmark2) Yet, shockingly, the BLM is not deferring a single one of these parcels. The agency justifies this decision by asserting that it can mitigate resource impacts at the development stage.[4](#_bookmark3) But this possible mitigation is merely speculative. And the BLM has failed to adequately explain how the mere possibility of such mitigation allows it to contradict direction in IM 2023-007 regarding offering high preference lease parcels rather than low preference parcels, particularly for parcels that have both low preferencing for recreation/other resources, low proximity to existing development, and low development potential.

Troublingly, the BLM also appears to be claiming that the Inflation Reduction Act (IRA) compels offering these parcels in order to issue rights-of-way (ROWs) for wind or solar energy development.[5](#_bookmark4) But the IRA requires only that 50 percent of the acreage for which EOIs have been submitted for lease sales during the previous one-year period be offered to enable issuance of wind or solar ROWs. The BLM has provided no systematic accounting of how many acres have been validly nominated via EOIs over the relevant time period and thus how many acres it needs to offer.

Failing to defer all 45 low preference parcels – and particularly those parcels that the BLM itself indicates have a low preference for leasing in multiple categories – is arbitrary and capricious.

# The BLM Must Defer Parcels in Crucial Wildlife Habitats and Documented Big Game Migration Corridors.

This sale includes 19 parcels in pronghorn priority corridors. The BLM failed to address the best available science on ungulate species in the EAs. New studies are shaping understanding of how ungulates adapt, or fail to adapt, to oil and gas development and other anthropogenic disturbance. Recent peer-reviewed studies indicate that migratory behavior is not the same across ungulate species.[6](#_bookmark5)

The BLM should defer all 19 parcels in pronghorn priority corridors:

NM-2023-05-0413 NM-2023-05-0419 NM-2023-05-0420 NM-2023-05-6132 NM-2023-05-6751 NM-2023-05-6752 NM-2023-05-6753 NM-2023-05-6789

NM-2023-05-6790 NM-2023-05-6795 NM-2023-05-6797 NM-2023-05-6798 NM-2023-05-6799 NM-2023-05-6800 NM-2023-05-6801 NM-2023-05-6803

3 NM EA at 146–47; OK EA at 112–13.

4 *See* NM EA at 146; OK EA at 112.

5 *See* NM EA at 146; OK EA at 112.

6 Sawyer et al., *Migratory plasticity is not ubiquitous among large herbivores*, Journal of Animal Ecology 88(3) (Nov 17, 2018).

NM-2023-05-6804 NM-2023-05-6805

NM-2023-05-6806

# The BLM Should Have Deferred Parcels Proposed in the Draft Resource Management Plan for Management Prescriptions to Protect Lands with Wilderness Characteristics, Areas of Critical Environmental Concern (ACECs), and Lesser Prairie-Chicken or Dunes Sagebrush Lizard Habitat.

The 19 lease parcels in New Mexico are located within the BLM’s Carlsbad Field Office (CFO) planning area. The current Resource Management Plan (RMP) for the CFO is over 30 years old, having been adopted in 1988 and amended in 1997 and 2008. In 2010, the CFO initiated a revision to its RMP, which governs management within the 6.2 million acre planning area, including 2.1 million surface acres and 2.7 million subsurface acres of BLM-administered land. The Carlsbad Field Office issued a draft RMP and draft Environmental Impact Statement (EIS) in 2018, but the project is currently on hold. It is unclear when the final RMP will be issued.

BLM should exercise its discretion to defer further leasing in the CFO planning area until the RMP revision is complete. As the BLM has recognized, the revised RMP is needed to address management concerns around “renewable energy, recreation, special status species, visual resources, cultural resources, and wildlife habitat.”[7](#_bookmark6)

The RMP revision process presents opportunities for the Biden Administration to meet its conservation and climate goals through the inventory and protection of cultural resources, wildlife habitat and corridors, lands with wilderness characteristics, and other natural resources. During the RMP process, BLM should implement available special designation tools, such as Areas of Critical Environmental Concern (ACECs), Wild and Scenic Rivers, Wilderness Study Areas (WSAs), and Backcountry Conservation Areas, to protect important resources and address concerns in sensitive areas.

In the Draft RMP/EIS, the CFO identified sixteen ACECs for potential designation in the revised RMP.[8](#_bookmark7) Under FLPMA, BLM is required to give “priority to areas of critical environmental concern” through the RMP process.[9](#_bookmark8) BLM should defer leasing within any of the proposed ACECs until the revised RMP has been finalized. At a minimum, all the ACECs should be managed in accordance with the most restrictive prescriptions set forth in the alternatives in the Draft RMP/EIS to prevent impairment of the relevant and important values for which the ACECs were proposed for designation. We appreciate that BLM has not proposed any lease parcels within proposed ACECs at this time, although several of the lease parcels are close to proposed ACECs, including four parcels within about a mile of the Salt Playas ACEC (6132, 6790, 6803, and 6804) and two parcels within about a mile of the Cave Resources ACEC (6752

7 BLM Carlsbad Field Office, Draft Resource Management Plan/Environmental Impact Statement, Vol. 1 at ES-1 (Aug. 2018),

[https://eplanning.blm.gov/public\_projects/lup/64444/153042/187358/BLM\_CFO\_Draft\_RMP\_-\_Volume\_I\_-\_EIS\_-](https://eplanning.blm.gov/public_projects/lup/64444/153042/187358/BLM_CFO_Draft_RMP_-_Volume_I_-_EIS_-_August_2018_%281%29.pdf)

[\_August\_2018\_(1).pdf](https://eplanning.blm.gov/public_projects/lup/64444/153042/187358/BLM_CFO_Draft_RMP_-_Volume_I_-_EIS_-_August_2018_%281%29.pdf) [hereinafter Draft RMP/EIS].

8 *See* Draft RMP/EIS, Vol. 1 at 2-51 to 2-71.

9 *See* 43 U.S.C. § 1711(a).

and 6753). BLM should defer leasing in all proposed ACECs and should manage the ACECs under the most restrictive management prescriptions described in the Draft RMP/EIS, pending finalization of the revised RMP.

In addition to proposed ACECs, in the Draft RMP/EIS the CFO identified Lands with Wilderness Characteristics within 11 inventory units totaling 66,666 acres.[10](#_bookmark9) BLM should defer leasing within all Lands with Wilderness Characteristics until the revised RMP has been finalized. At a minimum, all the identified areas must be managed to protect wilderness characteristics, as described in Alternative B of the Draft RMP/EIS, pending the adoption of the final, revised RMP.[11](#_bookmark10) We appreciate that BLM has not proposed any lease parcels within identified Lands with Wilderness Characteristics at this time and strongly urge BLM to continue managing these areas for their wilderness character while the revised RMP is being finalized.

Although BLM has avoided ACECs and Lands with Wilderness Characteristics in proposing parcels for lease, BLM has not avoided habitat areas that are critical to two species of special concern that may soon be listed under the Endangered Species Act.

**First, six of the proposed lease parcels within the CFO would be located within identified habitat for the lesser prairie-chicken, which the U.S. Fish and Wildlife Service (USFWS) has proposed for listing under the Endangered Species Act.**[**12**](#_bookmark11) **These include parcels 0420, 6751, 6790, 6803, 6804, and 6805**. Under all alternatives proposed in the Draft RMP/EIS, oil and gas activities would be subject to timing limitation stipulations and conditions of approval to protect lesser prairie-chickens during the breeding and nesting season. This would include a prohibition on drilling or 3-D geophysical exploration between March 1 and June 15, a prohibition on new drilling within 656 feet of leks, and other prescriptions.[13](#_bookmark12) Despite acknowledging the disturbance and long-term adverse effects that would result in development of these lease parcels, the BLM nonetheless refuses to consider deferral.[14](#_bookmark13) **The BLM should have deferred new leasing within lesser prairie-chicken habitat until a revised RMP has been adopted** to prevent further impacts to this sensitive species, including destruction and fragmentation of habitat.

Additionally, **three of the proposed lease parcels within the CFO would be located within identified habitat for the Dunes Sagebrush Lizard, for which a listing petition is under review by the USFWS.**[**15**](#_bookmark14) **These include parcels 6751, 6790, and 6803**. **The BLM should have deferred new leasing within dunes sagebrush lizard habitat until a revised RMP has been adopted** with appropriate protections to prevent further impacts to this sensitive species. Alternatively, at a minimum, BLM should impose the most restrictive management prescriptions set forth in in the alternatives analyzed in the Draft RMP/EIS to protect dunes

10 *See* Draft RMP/EIS, Vol. 1 at ES-4.

11 *See* Draft RMP/EIS, Vol. 1 at 2-15 to 2-21 (Table 2.7, Alternatives for Lands with Wilderness Characteristics).

12 *See generally* https://ecos.fws.gov/ecp/species/1924.

13 *See* Draft RMP/EIS, Vol. 1 at 2-9.

14 NM Draft EA at 108.

15 *See generally* https://ecos.fws.gov/ecp/species/6631.

sagebrush lizards from the harmful impacts of oil and gas activities and other development.[16](#_bookmark15)

# BLM Should Have Deferred Parcels in areas with critical or high cave, karst potential.

**Lease parcels 6753, 6789, 6797, 6798, 6800, 6801, and 6752 are within the “high cave, karst potential” area, and parcel 6795 is located within the “critical cave, karst potential” area and risk the resources of Carlsbad Caverns National Park**. Despite acknowledging the threats of leasing in these areas, the BLM failed to defer any of these parcels.[17](#_bookmark16)

**Lands within the “Critical Karst Resource Area” and near Carlsbad Caverns and Guadalupe Mountains National Parks should be deferred from leasing. Parcels 6753, 6789, 6797, 6798, 6800, 6801, and 6752 lie within the area identified by BLM as “high cave, karst potential”** – an area in known soluble rock types and contain a high frequency of significant caves and karst features such as sinkholes, bedrock fractures that provide rapid recharge of karst aquifers, and springs that provide riparian habitat. Parcel 6795 is located within a critical karst zone – an area in known soluble rock types with high density of significant cave systems and/or bedrock fractures that lead to the rapid recharge of karst groundwater aquifers from surface runoff. These areas provide critical drinking water supplies for major communities, ranching operations, and springs that support rivers and vital riparian habitat. Further, those cave and karst areas are very close to the protected cave systems at Carlsbad Caverns National Park and could very well be connected through underground passages or fractures that have not yet been mapped.

The entire area which makes up the Carlsbad Field Office should be studied thoroughly to assess the vulnerabilities present to aquifer resources and fragile karst resources, which can also be home to unique wildlife and habitat, as the cave and karst system throughout the region is deeply interconnected. Carlsbad Caverns is a designated World Heritage Area and indeed attracts visitors from around the world. A single leak from hydraulic fracturing or reinjection of “produced water,” or seismic activity that has been linked to hydraulic fracturing and produced water, could have a devastating and irreversible impact on the National Park and on public health and safety. In recent years exploratory wells have run into empty space at about the same depth as Carlsbad’s caverns. According to a 2007 NPS Geologic Resource Evaluation Report: Hundreds of producing oil and gas wells have been drilled north, east, and south of Carlsbad Caverns National Park. Exploratory wells have been drilled within a few thousand feet of the north and east boundaries of Carlsbad Caverns, and some of these have encountered voids at the same depth as major passages in Lechuguilla Cave (NPS 1996). At least 61 wells drilled near the park have encountered lost circulation zones in the Capitan and Goat Seep Formations, suggesting that unexplored cave passages were intersected during drilling (NPS 1993, 1996).

Substantial hydrocarbon reserves and known cave resources exist immediately north of the park boundary. It is probable that exploratory drilling will intersect openings that connect with caves in the park. Resources inside the park could be at risk of contamination from toxic and

16 *See* Draft RMP/EIS, Vol. 1 at 2-13 (Table 2-6, Alternatives for Wildlife); Draft RMP/EIS, Vol. 2 at Map

3.10 (showing dunes sagebrush lizard habitat).

17 NM EA at 59–61.

flammable gases and other substances associated with the exploration and production of oil and gas.[18](#_bookmark17)

A Stanford University study released in April 2018 documents seismic threats in the Permian Basin resulting from injection wells.[19](#_bookmark18) In addition, a Durham University Study released in February 2018 noted that, “The risk of human-made earthquakes due to fracking is greatly reduced if high-pressure fluid injection used to crack underground rocks is 895m away from faults in the Earth's crust.”[20](#_bookmark19) Hydraulic fracking in the Permian basin was not remotely close to current levels 15 years ago. Not only does this underscore the issue of BLM not adequately responding to comments, it also indicates BLM is not using the best available science.

Essentially, NEPA “ensures that the agency, in reaching its decision, will have available and will carefully consider detailed information concerning significant environmental impacts.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). In addition to the potential impacts to cave systems, poorly planned leasing and oil and gas development can have a negative impact on a sustainable local tourism economy. Carlsbad Caverns and Guadalupe Mountains National Parks combined generated over $53 million in local economic output and supported 655 jobs in 2017. According to a National Parks Conservation Association report, however:

The breadth and density of oil and gas development around Carlsbad Caverns is one of the factors that has already taken a toll on the park’s popularity. In the 1980s, Carlsbad received more than 700,000 visitors every year, but from 1993 to 2016 visitation decreased from 690,000 to 470,000, more than 30%.[21](#_bookmark20)

The oil and gas industry has stockpiled an enormous amount of public land through leases and sits on an extraordinary amount of unused, approved permits to drill. In the Carlsbad Field Office, for instance, federal public land is already over 98% leased.

The development that might be driving visitors away includes blighting of the viewshed with drill rigs, pump jacks, and other industrialization, and the loss of dark night skies from excessive lighting and flaring in the area. All of this means the BLM should have taken care in managing leasing and land use activities near Carlsbad Caverns, Guadalupe Mountains, and other publicly accessible caves, recreational areas, and agricultural activities in the area by deferring lease parcels 6753, 6789, 6797, 6798, 6800, 6801, 6752, and 6795.

# The BLM should have deferred parcels on low development potential lands.

Leasing lands with low potential for oil and gas development violates FLPMA’s multiple use mandate. The MLA directs the BLM to hold periodic oil and gas lease sales for “lands . . .

18 Geologic Resources Division, Natural Resource Program Center (2007). Carlsbad Caverns National Park Geologic Resource Evaluation Report. Natural Resource Report NPS/NRPC/GRD/NRR. Denver, CO.

19 [https://news.stanford.edu/2018/02/08/seismic-stress-map-profiles-induced-earthquake-risk-west-texas-](https://news.stanford.edu/2018/02/08/seismic-stress-map-profiles-induced-earthquake-risk-west-texas-new-mexico/) [new-mexico/.](https://news.stanford.edu/2018/02/08/seismic-stress-map-profiles-induced-earthquake-risk-west-texas-new-mexico/)

20 [https://www.sciencedaily.com/releases/2018/02/180227233301.htm.](https://www.sciencedaily.com/releases/2018/02/180227233301.htm)

21 Lund, N. (2017). Out of Balance: National Parks and the Threat of Oil and Gas Development.

Washington, DC: National Parks Conservation Association.

which are known or believed to contain oil or gas deposits.” 30 U.S.C. § 226(a). DOI has, through its internal administrative review body, recognized this mandate. *See Vessels Coal Gas, Inc.*, 175 IBLA 8, 25 (2008) (“It is well-settled under the MLA that competitive leasing is to be based upon reasonable assurance of an existing mineral deposit.”).

In its “Report on the Federal Oil and Gas Leasing Program,” the Interior Department specifically recognized that leasing land with low and no development potential is flawed and wasteful. The report found that it is “common practice” for BLM “to leave the majority of Federal lands open for leasing,” which

allow[s] industry to drive decisions on what areas will be nominated for oil and gas leasing. The burden and expense then fall on BLM to process those

parcels” which often “ignite[s] local community concerns (particularly since low- potential lands are more likely to be in areas that are not accustomed to local oil and gas development) and result in protests that are time-consuming and resource- intensive to adjudicate.[22](#_bookmark21)

Accordingly, the report directed the BLM to “evaluate operational adjustments to its leasing program that will avoid nomination or leasing of low potential lands and instead focus on areas that have moderate or high potential for oil and gas resources and which are in proximity to existing oil and gas infrastructure.”[23](#_bookmark22) The BLM should have complied with this directive, including by deferring any lands with low or no development potential from this lease sale.

For this proposed sale, **three proposed parcels or portions of parcels in the Pecos District Office – NM-2023-05-0419; NM-2023-05-6795; and NM-2023-05-6805 – contain low or very low development potential according to oil or gas deposits** pursuant to data from BLM’s Reasonably Foreseeable Development Scenarios created for each Field Office. Leasing these parcels would therefore violate the multiple use mandate, because the purpose of leasing lands for oil and gas development is to provide for production of oil and gas – low potential lands are unlikely to actually produce these resources. Leases in low potential areas generate minimal to no revenue but can carry significant cost in terms of resource use conflicts. Leases in low potential areas are most likely to be sold at or near the minimum bid and are least likely to produce oil or gas and generate royalties. Worse, those lands will stand encumbered by leases, limiting BLM’s ability to manage for other uses and resources.

In offering the parcels involved in this sale that are in low potential lands, BLM has risked precluding management decisions for other resources and uses, such as wilderness, recreation, and renewable energy development. Prioritizing leasing of low potential land would violate FLPMA’s multiple use mandate and improperly elevate oil and gas leasing above other uses. The BLM therefore should have deferred all parcels or portions of those parcels with low development potential, in accordance with IM 2023-007.

22 U.S. DEP’T OF THE INTERIOR, REPORT ON THE FEDERAL OIL AND GAS LEASING PROGRAM 12 (Nov. 2021)

[hereinafter DOI REPORT].

23 *Id.* at 13.

# The BLM should have adhered to recently released Instruction Memorandum 2023-010 and exercise its discretion to limit leasing because the Carlsbad Resource Management Plan is outdated and inadequately addresses climate change impacts.

IM 2023-010, released on November 21, 2022, explains that “state and field offices will examine resource management decisions to determine whether the RMPs adequately protect important resource values in light of changing circumstances, updated policies, and new information.” When an RMP is deemed in need of updating, “the BLM will exercise its discretion regarding whether to defer any oil and gas leasing parcels from lease sales.” The BLM should adhere to this approach for this sale and carefully examine associated land use plans to determine whether it should defer parcels based on the need to update the respective plans.

Indeed, the Carlsbad RMP covering many of the nominated lease parcels is in desperate need of revision to account for climate and other environmental impacts. The BLM Carlsbad contains no discussion of climate change or GHG emissions. Nor does the 1997 Amendment.[24](#_bookmark23) Additionally, this RMP is currently being revised and release of the final EIS/RMP is pending.

Leasing during an RMP revision undermines public involvement in the RMP process.

The agency has previously deferred leasing during RMP revisions, and must do so again now, so that leases are offered in areas identified by an up-to-date RMP informed by the most current, best available science and latest public input.

Given the paucity of climate change analysis and lack of substantive measures to address climate impacts in the RMP covering parcels listed for the New Mexico lease sale, the BLM should have exercised its discretion to substantially limit oil and gas leasing in this resource area.

# Resources Management Plans (RMPs) Must Be Revised or Amended to Account for and Address Climate Change before Any Leasing Could Occur.

The BLM should have withdrawn all parcels from this sale because it has not revised or amended the underlying land use plans to properly account for climate change impacts resulting from GHG emissions. The EAs incorrectly assert that the sale and prospective lease issuance conform to the respective RMPs.[25](#_bookmark24) True, oil and gas leasing is allowed under the relevant RMPs. But because none of the operable land use plans adequately accounts for GHG emissions and climate change impacts, revision or amendment of the RMPs is needed before the BLM could consider offering parcels for lease.

The BLM must manage public lands according to “multiple use” and “sustained yield” and “in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values.” 43 U.S.C. §§ 1701(a)(7) & (8), 1712(c)(1), 1732(a). Multiple use obligates the agency to make the “most judicious use” of public lands and their resources to “best meet the present and future needs of

24 BLM CARLSBAD FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN (SEPT. 1988); BLM CARLSBAD FIELD OFFICE, APPROVED AMENDMENT TO THE RESOURCE MANAGEMENT PLAN (Oct. 1997).

25 NM EA at 1–2; OK EA at 1–2.

the American people.” *Id.* § 1702(c). This requires taking “into account the long-term needs of future generations,” ensuring “harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment.” *Id.* Sustained yield mandates “achiev[ing] and maint[aining] in perpetuity [] a high-level annual or regular periodic output of the various *renewable* resources of the public lands consistent with multiple use.” *Id.* § 1702(h) (emphasis added). Importantly, BLM must also “take any action necessary to prevent unnecessary or undue degradation of the lands.” *Id.* § 1732(b).

These principles undergird the land use planning process. The BLM “shall . . . when appropriate, revise land use plans,” adhering to multiple use and sustained yield. *Id.* § 1712(a); *see id.* §§ 1711(a), 1712(c)(4). The BLM *must* revise an RMP based on “new data, new or revised policy[,] and changes in circumstances affecting the entire plan or major portions of the plan.” 43 C.F.R. § 1610.5-6. Revisions shall “consider the relative scarcity of the values involved,” “weigh long-term benefits to the public against short-term benefits,” and comply with state and federal pollution control laws and “other pollution standards or implantation plans.” 43

U.S.C. § 1712(c)(1), (6), (7) & (8).

The Mineral Leasing Act (MLA) does not contravene FLPMA’s resource conservation requirements, leaving BLM considerable discretion over the onshore leasing program. *See* 30

U.S.C. § 226(a). Courts have repeatedly upheld DOI’s and BLM’s authority over public lands management and, specifically, the onshore leasing program, including whether to issue any oil and gas leases at all. *See, e.g.*, *W. Energy Alliance v. Salazar*, 709 F.3d. 1040, 1044 (10th Cir. 2013) (“The MLA, as amended by the Reform Act of 1987, continues to vest the Secretary with considerable discretion to determine which lands will be leased.”); *New Mexico ex rel. Richardson v. BLM*, 565 F.3d 683, 710 (10th Cir. 2009) (“It is past doubt that the principle of multiple use does not require BLM to prioritize development over other uses Development is

a *possible* use, which BLM must weigh against other possible uses including conservation to protect environmental values ”). The MLA poses no impediment to the BLM fulfilling its

obligations under FLPMA.

Several courts have recently found RMPs inadequate for failure to analyze climate impacts. In *Wilderness Workshop v. Bureau of Land Management*, the court determined that BLM failed to take a hard look at the reasonably foreseeable indirect impacts of oil and gas leasing and development authorized through the Colorado River Valley RMP. 342 F. Supp. 3d 1145, 1156 (D. Colo. 20 18). The court held that “BLM acted in an arbitrary and capricious manner and violated NEPA by not taking a hard look at the indirect effects resulting from the combustion of oil and gas in the planning area under the RMP” and directed BLM to “quantify and reanalyze the indirect effects that emissions resulting from combustion of oil and gas in the planning area may have on [greenhouse gas] emissions.” *Id.*

Similarly, in *Western Organization of Resource Councils v. BLM*, the court directed BLM to prepare supplemental EISs to address deficiencies in the environmental analyses for the 2015 Miles City and Buffalo RMPs. No. CV 16-21-GF-BMM, 2018 U.S. Dist. LEXIS 49635, at

\*55–56 (D. Mont. Mar. 26, 2018). Among other things, the court held that the RMPs failed to consider alternatives that would decrease the amount of coal available for leasing, evaluate the

consequences of downstream fossil fuel combustion, or justify the exclusive use of 100-year global warming potential (GWP). *Id.* at 20–48. The court explained, “Deferral of such analysis ‘based on a promise to perform a comparable analysis in connection with later site-specific projects’ risks defeating entirely the purpose of completing an EIS at the RMP stage.” *Id.* at \*33; *see also id.* at \*40 (“In light of the degree of foreseeability and specificity of information available to the agency while completing the EIS, NEPA requires BLM to consider in the EIS the environmental consequences of the downstream combustion of the coal, oil and gas resources potentially open to development under these RMPs BLM may not defer wholesale such

analysis to the leasing stage.”).

After a court held that the BLM did not sufficiently analyze impacts from the combustion of oil and gas as part of preparing the Colorado River Valley RMP, the agency has now committed to amending the RMP. A recent lawsuit making similar claims with respect to the Grand Junction RMP has led to a pause on leasing in the Grand Junction Field Office. And a recent settlement has put 53 leases on hold until the applicable land use plans can be updated to address climate impacts in the Grand Junction and Colorado River Valley RMPs.[26](#_bookmark25)

The Biden Administration has painstakingly set forth new policy, standards, and plans regarding climate change.[27](#_bookmark26) None of the RMPs covering the parcels under consideration for this lease sale comes close to accounting for or adequately addressing climate change, its adverse environmental impacts on resources and land uses, or GHG emissions in relation to oil and gas leasing and development:

* BLM Roswell Field Office, Approved RMP (Oct. 1997): never discusses climate change or greenhouse gas emissions.[28](#_bookmark27)
* BLM Carlsbad Field Office, Approved RMP (Sept. 1988): no discussion of climate change or GHG emissions; nor does the 1997 Amendment do so.[29](#_bookmark28) Additionally, this RMP is currently being revised and release of the final EIS/RMP is pending.

Because BLM has not adequately analyzed GHG emissions and climate change impacts from oil and gas leasing in the governing land use plans for these regions, those plans must be revised or amended before offering any parcel for lease.

Underscoring the inadequacy of existing RMPs’ consideration of climate change and the need for land use plans to do so, a recent Utah State University study that reviewed 225 papers published between 2009 and 2018 found that active uses on BLM lands, such as energy

26 *See* Sierra Club, *Legal Agreement Blocks Fracking on 53 Oil Leases, Requires Climate Review for Management of 2 Million Acres in Colorado* (Jan. 6, 2021), [https://www.sierraclub.org/press-releases/2021/01/legal-](https://www.sierraclub.org/press-releases/2021/01/legal-agreement-blocks-fracking-53-oil-leases-requires-climate-review-for) [agreement-blocks-fracking-53-oil-leases-requires-climate-review-for.](https://www.sierraclub.org/press-releases/2021/01/legal-agreement-blocks-fracking-53-oil-leases-requires-climate-review-for)

27 *See, e.g.*, Presidential Executive Order 14008, 86 Fed. Reg. 7,619 (Feb. 1, 2021); 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 (December 12, 2015), [http://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf.](http://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf)

28 BLM ROSWELL FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN (Oct. 1997).

29 BLM CARLSBAD FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN (SEPT. 1988); BLM CARLSBAD FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN (Oct. 1997).

development, threaten passive uses such as conservation and ecosystem services.[30](#_bookmark29) Climate change is seriously exacerbating these impacts. Yet, in reviewing 44 RMPs the study found that there was little, if any, consideration of climate change or its impacts to ecosystems and land uses, and adaptive responses to climate change were not considered.[31](#_bookmark30)

The significant adverse impacts caused by burning fossil fuels from oil and gas development on these public lands directly and urgently threaten BLM’s ability to uphold its statutory mandates under FLPMA. The BLM Specialist Report’s discussion of climate impacts for Colorado highlights the need for RMP revisions or amendments before new leasing:

Statewide average annual temperatures are projected to warm by 2.5°F to 5°F by 2050. Projected hotter temperatures increase probabilities of decadal to

multidecadal megadroughts, which are persistent droughts lasting longer than a decade, even when precipitation increases. Increased warming, drought, and insect outbreaks, all caused by or linked to climate change, will continue to increase wildfire risks and impacts to people and ecosystems.[32](#_bookmark31)

The serious ecological and environmental degradation of the climate crisis constitutes new data and a change in circumstances affecting the entirety of the RMPs or, at the least, major portions of them. NEPA requires full and proper analysis of GHG emissions and the resulting climate change impacts. *See, e.g.*, *Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 67–77 (D.D.C. Mar. 19,

2019).

For these reasons, the RMPs are legally flawed, failing to manage the public lands on the basis of multiple use and sustained yield. The BLM should therefore withdraw all lease parcels because the underlying RMPs and accompanying EISs fail to adequately account for GHG emissions and address climate change.

# The BLM Failed to Properly Analyze and Address the Reasonably Foreseeable Greenhouse Gas Emissions and Related Climate Impacts Stemming from this Lease Sale.

The EAs’ discussion of GHG emissions and climate impacts resulting from this lease sale requires additional analysis to take the proper “hard look at environmental consequences” that NEPA demands. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989). On January 9, 2023, the Council on Environmental Quality (CEQ) released updated guidance on how agencies should consider and analyze GHG emissions and climate change in NEPA

30 *See* ELAINE M. BRICE ET AL., IMPACTS OF CLIMATE CHANGE ON MULTIPLE USE MANAGEMENT OF BUREAU OF LAND MANAGEMENT LAND IN THE INTERMOUNTAIN WEST, USA 10–20 (Michael C. Duniway ed., Sept. 16,

2020), [https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/ecs2.3286.](https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/ecs2.3286)

31 *Id.*

32 Department of the Interior, Bureau of Land Management, 2021 BLM Specialist Report on

ANNUAL GREENHOUSE GAS EMISSIONS AND CLIMATE TRENDS 93–94 (2021) (hereinafter 2021 BLM SPECIALIST

REPORT), [https://www.blm.gov/content/ghg/2021/.](https://www.blm.gov/content/ghg/2021/)

reviews.[33](#_bookmark32) The CEQ climate guidance is effective immediately and directs agencies to “use this guidance to inform the NEPA review for all new proposed actions.”[34](#_bookmark33) The guidance reiterates the BLM’s obligation under NEPA to properly consider GHG emissions and climate change.

Application of this climate guidance to this lease sale will inform the BLM’s analysis of the impacts related to climate disruption and consideration of alternatives.

Properly analyzing GHG emissions and climate impacts requires a stepwise process. First, the BLM must quantify the reasonably foreseeable GHG emissions – both direct and indirect – of the lease sale, including each alternative.[35](#_bookmark34) Second, the BLM must “[d]isclose and provide context for the GHG emissions and climate impacts associated with the lease sale and alternatives.”[36](#_bookmark35) This includes “monetizing climate damages” using the social cost of greenhouse gas estimates, “placing emissions in the context of relevant climate action goals and commitments, and providing common equivalents . . . to help decision makers and the public understand proposed actions’ potential GHG emissions and climate change effects.”[37](#_bookmark36) As part of its analysis, the BLM must also consider the effects of climate change on the lease sale. This requires evaluating how climate disruption will affect the resources, ecosystem, communities, and oil and gas infrastructure, making it more vulnerable to adverse impacts.[38](#_bookmark37) Finally, the BLM must analyze reasonable alternatives, “including those that would reduce GHG emissions relative to baseline conditions, and identify available mitigation measures to avoid, minimize, or compensate for climate effects.”[39](#_bookmark38)

The climate guidance instructs the BLM not to fractionalize GHG emissions from this lease sale so as to appear insignificant compared to global or national emissions. The BLM’s climate effects analysis “must give a realistic evaluation of the total impacts and cannot isolate a proposed project, viewing it in a vacuum.” *Grand Canyon Trust v. Fed. Aviation Admin.*, 290 F.3d 339, 342 (D.C. Cir. 2002).[40](#_bookmark39)

NEPA requires more than a statement that emissions from a proposed Federal

33 *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and* *Climate Change*, 88 Fed. Reg. 1196 (Jan. 9, 2023).

34 *Id.* at 1212.

35 *Id.* at 1200.

36 *Id.* at 1201.

37 *Id.* at 1201–02.

38 *Id.* at 1208.

39 *Id.* at 1200–02.

40 *See also Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 973–74 (9th Cir. 2006) (holding agency’s cumulative impacts analysis insufficient based on failure to discuss other mining projects in the region); [*Blue*](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2F1.next.westlaw.com%2FLink%2FDocument%2FFullText%3FfindType%3DY%26serNum%3D1998242736%26pubNum%3D0000506%26originatingDoc%3DI1393415064fa11e98c7a8e995225dbf9%26refType%3DRP%26fi%3Dco_pp_sp_506_1212%26originationContext%3Ddocument%26transitionType%3DDocumentItem%26contextData%3D(sc.Search)%23co_pp_sp_506_1212&data=04%7C01%7Cmfreeman%40earthjustice.org%7C97061c4284d04e53fde608d97d197c32%7Cadedb458e8e34c4e9bedfa792af66cb6%7C0%7C0%7C637678370675208651%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=ur9yetAK89UJoicZdaTOTgHXlwZWa%2BRTOhT3BPHfayk%3D&reserved=0)[*Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1214-16 (9th Cir. 1998)](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2F1.next.westlaw.com%2FLink%2FDocument%2FFullText%3FfindType%3DY%26serNum%3D1998242736%26pubNum%3D0000506%26originatingDoc%3DI1393415064fa11e98c7a8e995225dbf9%26refType%3DRP%26fi%3Dco_pp_sp_506_1212%26originationContext%3Ddocument%26transitionType%3DDocumentItem%26contextData%3D(sc.Search)%23co_pp_sp_506_1212&data=04%7C01%7Cmfreeman%40earthjustice.org%7C97061c4284d04e53fde608d97d197c32%7Cadedb458e8e34c4e9bedfa792af66cb6%7C0%7C0%7C637678370675208651%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=ur9yetAK89UJoicZdaTOTgHXlwZWa%2BRTOhT3BPHfayk%3D&reserved=0) (overturning Forest Service EA that analyzed impacts of only one of five concurrent logging projects in the same region); *Kern v. BLM*, 284 F.3d 1062, 1078 (9th Cir. 2002) (holding that BLM arbitrarily failed to include cumulative impacts analysis of reasonably foreseeable future timber sales in the same district as the current sale); *San Juan Citizens All. v. United States BLM*, 326 F. Supp. 3d 1227, 1248 (D.N.M. 2018) (holding that BLM failed to take an hard look at the cumulative impact of GHG emissions (citing *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008) (concluding that an agency “must provide the necessary contextual information about the cumulative and incremental environmental impacts” because even though the impact might be “individually minor,” its impact together with the impacts of other actions would be “collectively significant”))).

action or its alternatives represent only a small fraction of global or domestic emissions. Such a statement merely notes the nature of the climate change challenge, and is not a useful basis for deciding whether or to what extent to consider climate change effects under NEPA. Moreover, such comparisons and fractions also are not an appropriate method for characterizing the extent of a proposed action’s and its alternatives’ contributions to climate change because this approach does not reveal anything beyond the nature of the climate change challenge itself—the fact that diverse individual sources of emissions each make a relatively small addition to global atmospheric GHG concentrations that collectively have a large effect.[41](#_bookmark40)

But the EAs commit precisely this error. They compare the projected GHG emissions from this lease sale to state and national emissions.[42](#_bookmark41) While providing a quantification of emissions is helpful, the BLM must place those emissions in an appropriate context without fractionalizing the impact, which it has failed to do.

The EAs also fail to adequately address the full projected environmental effects of GHG emissions resulting from this lease sale and the cumulative emissions impacts. The EAs lack adequate analysis of climate impacts by making little attempt to discuss and qualify on-the- ground, regional environmental effects of climate change. Providing SC-GHG metrics helps encapsulate impacts but does not relieve BLM of the obligation to adequately contextualize SC- GHG estimates and to discuss, qualitatively, actual climate impacts on the environment and people.

As the D.C. Circuit has explained, merely listing the quantity of emissions is insufficient if the agency “does not reveal the meaning of those impacts in terms of human health or other environmental values,” since “it is not releases of [pollution] that Congress wanted disclosed” but rather “the effects, or environmental significance, of those releases.”[43](#_bookmark42) Although the Supreme Court reversed this decision on largely unrelated grounds, it agreed that the disclosure of impacts is 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.”[44](#_bookmark43)

In another case, the court likewise held that a BLM EA of two timber sales was insufficient after the agency quantified the acres of timber to be harvested and the miles of road to be constructed, paired with a qualitative “list of environmental concerns such as air quality, water quality, and endangered species” with a “checkbox to indicate whether the respective condition . . . w[ould] be ‘affected.’”[45](#_bookmark44) The agency’s analysis did not constitute a “description of *actual* environmental effects,” because the agency failed to assess “the degree that each factor

41 88 Fed. Reg. at 1201.

42 *See, e.g.*, NM EA at 91, table 3.25; OK EA 72, table 3.17.

43 *NRDC v. NRC*, 685 F.2d 459, 486–87 (D.C. Cir. 1982), *rev’d on other grounds, Baltimore Gas & Elec.*

*Co. v. Natural Res. Def. Council*, 462 U.S. 87, 106–07 (1983).

44 *Balt. Gas & Elec. Co.*, 462 U.S. at 96 (emphasis added).

45 *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 995 (9th Cir. 2004).

will be impacted.”[46](#_bookmark45) As these various cases therefore make clear, agency analyses under NEPA must assess the degree to which environmental and health values will be affected by the proposed action. The BLM has failed to do so for this lease sale.

# BLM Failed to Determine Whether GHG Emissions and Climate Impacts Are Significant, in Violation of NEPA.

The assertion in the FONSIs that BLM cannot evaluate the significance of GHG emissions[47](#_bookmark46) is arbitrary and capricious. The Specialist Report and the tremendous wealth of high- quality information on climate change combined with BLM’s long history of environmental analyses under NEPA provide the agency with ample resources to ascertain whether this action presents significant environmental effects.

NEPA requires an agency to prepare an EIS for any major federal action that may significantly affect the quality of the human environment. 42 U.S.C. § 4332(2)(C). An agency can rely on an EA only if it makes an affirmative finding that environmental impacts will not be significant. If there are “substantial questions” whether leasing may have a significant effect on the environment, an EIS is required. *Anderson v. Evans*, 371 F.3d 475, 488 (9th Cir. 2004); *WildEarth Guardians v. Zinke*, No. CV 17-80-BLG-SPW-TJC, 2019 U.S. Dist. LEXIS 30357, at

\*38 (D. Mont. Feb. 11, 2019) (“[A] plaintiff need not show that significant effects will in fact occur, but raising substantial questions whether a project may have a significant effect is sufficient.” (citing *Ocean Advocates v. U.S. Army Corps of Eng’rs*, 402 F.3d 846, 864–65 (9th Cir. 2005))); *Ctr. for Biological Diversity v. BLM*, 937 F. Supp. 2d 1140, 1154 (N.D. Cal. 2013).

The recent case, *350 Montana v. Haaland*, is instructive. No. 20-35411, 2022 U.S. App.

LEXIS 8918 (9th Cir. Apr. 4, 2022). There, BLM similarly found that a project’s GHG emissions would have no significant impact. *Id.* at \*7. The agency failed “to articulate any science-based criteria for significance.” *Id.* But the “lack of a science-based standard for significance,” *Id.* at 23, did not excuse the agency from providing a “convincing statement of reasons to explain why [the] project’s impacts [we]re insignificant.” *Id.* at 7 (first alteration in original) (internal citation and quotation marks omitted).

Climate change is precisely the type of thorny problem that the cumulative impacts analysis is meant to address.[48](#_bookmark47) The “incremental” addition of GHG emissions that will result from a particular lease sale cannot be dismissed as insignificant merely because it constitutes a small percentage increase compared to state, regional, or national emissions. *See* 40 C.F.R. § 1508.1. This flips on its head the entire point of NEPA’s cumulative impacts analysis. “Cumulative effects . . . result from the incremental effects of the action *when added to the effects of other past, present, and reasonably foreseeable actions* . . . [and] can result from *individually minor but collectively significant* actions taking place over a period of time.” *Id.* (emphases added).

46 *Id.* (“A calculation of the total number of acres to be harvested in the watershed is . . . not a sufficient description of the actual environmental effects that can be expected from logging those acres.”); *see also Oregon Natural Res. Council v. Bureau of Land Mgmt.*, 470 F.3d 818 (9th Cir. 2006).

47 NM FONSI at 4; OK FONSI at 4.

48 *See* 88 Fed. Reg. at 1206.

GHG emissions that cause climate change are just such an “individually minor but collectively significant” problem. No source of GHG emissions by itself constitutes a *sufficient* cause of overall climate change. But those sources collectively are *necessary* causes of climate change. An incremental increase in GHG emissions, such as from this lease sale, must be considered in the context of the proper environmental baseline of cumulative GHG emissions and climate change impacts. The BLM must place emissions and climate damages “in the context of relevant climate action goals and commitments, . . . summarizing and citing to available scientific literature to help explain real world effects.”[49](#_bookmark48)

In that proper context, what crystalizes is that the emissions and resulting impacts from this lease sale are likely significant. Recent analysis finds that for developed nations, including the United States, in order to maintain a 67% chance of avoiding 1.5°C of warming, the United States must end oil and gas production by 2031.[50](#_bookmark49) Leases and resulting application for permits to drill (APDs) covering hundreds of thousands of acres that would extend well beyond 2031, including in terms of production, quite clearly have an impact that the BLM must not disregard.

However, the BLM claims it cannot determine whether GHG emissions and resulting climate impacts are significant,[51](#_bookmark50) asserts that this sale is not anticipated to substantially affect the rate of change in climate effects,[52](#_bookmark51) and thus finds they are insignificant by issuing Draft FONSIs.[53](#_bookmark52) The Draft EAs fail to explain how it arrives at this insignificance conclusion or how the estimated emissions from this sale will not substantially affect the rate of climate change effects. This finding does not square with the estimated SC-GHG range of over $73 million to over $800 million in climate damages projected to result from the lease sale.[54](#_bookmark53) It is arbitrary and capricious for the BLM to assert that it cannot determine whether the GHG emissions from this sale are significant while simultaneously contending that the emissions’ impacts are insubstantial. The EAs and FONSIs do not justify these conclusions.

A finding of no significant impact also appears arbitrary in light of the Specialist Report’s conclusion that “[s]taying within the 1.5°C carbon budget implies that CO2 emissions need to start declining this decade to maintain reasonable progress to reach net zero by about 2050.”[55](#_bookmark54) Rather than fulfill its legal obligations under NEPA and grapple with the imminent threat posed by locking in future GHG emissions through leasing, the BLM asserts that “there is no scientific data in the record, including scientific data submitted during the comment period for these lease sales, that would allow the BLM, in the absence of an agency carbon budget or similar standard, to evaluate the significance of the greenhouse gas emissions from this proposed lease sale.”[56](#_bookmark55)

But the BLM does have the responsibility to make a non-arbitrary significance determination. Otherwise, no matter the size of the project or the amount of GHG emissions, the BLM will

49 *Id.*

50 D. Calverley and K. Anderson, *Phaseout pathways for fossil fuel production within Paris-compliant carbon budgets*, Tyndall Centre, University of Manchester (2022).

51 NM FONSI at 4; OK FONSI at 4.

52 NM EA at 92; OK EA at 76.

53 *See* NM FONSI; OK FONSI.

54 NM EA at 95, table 3.27; OK EA at 79, table 3.21.

55 *See* 2021 BLM SPECIALIST REPORT, *supra* note 32.

56 NM FONSI at 4; OK FONSI at 4.

*always* find them to be insignificant, which is contrary to the best available climate science and the BLM’s mandate “to prevent unnecessary or undue degradation of the lands” under FLPMA. *See* 43 U.S.C. § 1732(b).

The FONSIs’ assertions that the Proposed Actions are in conformance to the RMPs[57](#_bookmark56) is inapposite. First, the BLM has not affirmatively determined whether climate impacts from estimated GHG emissions are significant. Second, the existing Carlsbad RMP and associated EIS utterly fails to analyze GHG emissions or climate impacts. As such, the implication that the NM EA found no significant effects beyond what the RMP and EIS have already analyzed is true only if BLM ignores the glaring omission of climate and GHG emissions analysis from the respective RMP.

The BLM also states that it can wait to determine appropriate mitigation measures until the APD stage.[58](#_bookmark57) But the further down the line the BLM waits to address GHG emissions, the smaller the emissions become. Thus, the agency ends up in a place where it continues to slice an oil and gas project until any amount of emissions appears de minimis. This is contrary to its obligations under NEPA and FLPMA and direction in the CEQ climate guidance.

The BLM should start from the scientifically sound and accepted premise that the addition of GHG emissions resulting from this (and related) lease sales must be addressed. These climate change impacts are adversely impacting the specific resource areas at issue, which the BLM must thoroughly analyze in its NEPA analysis. The BLM has the legal authority to take measures to address and mitigate those emissions. We again suggest several ways the BLM can do so: (1) through a climate screen (with various options for what the screen might consist of); and (2) through a conservation and climate alternative and mitigation measures.

Here, while the EAs and FONSIs provide some comparisons of the lease sale’s estimated GHG emissions to broader GHG emissions,[59](#_bookmark58) the BLM fails to contextualize emissions from all concurrent lease sales and, moreover, claims that because there are no established thresholds to determine the significance of GHG emissions’ climate impacts, it simply finds that leasing will have no significant impacts.[60](#_bookmark59) In fact, contrary to its express finding of no significant impact, the BLM states that it “cannot render a determination of significance for a proposed action based on GHG emissions or climate impacts alone.”[61](#_bookmark60)

Although it may be challenging to determine significance, that does not relieve the BLM of this burden. BLM’s conclusion that it cannot do so is confounding given that the Specialist Report itself appears to envision enabling the agency to make the type of significance determination that the FONSI claims is infeasible:

Comparing emissions levels between proposed actions, current emissions and conditions, and published predictions based on forecasted emission scenarios

57 *See* NM FONSI at 13; OK FONSI at 9.

58 *See, e.g.*, NM EA at 238.

59 NM EA at 88–97; OK EA at 71–80

60 *See* NM FONSI at 4; OK FONSI at 4.

61 *See, e.g.*, NM EA at 174.

allows decisionmakers to form a qualitative judgment about the potential for climate impacts from a proposed action. The annual global and U.S. emissions

data presented in chapter 6 can be compared with the estimated annual GHG emissions from BLM fossil fuel authorizations in chapter 5 to provide context around the scale and potential impact of estimated emissions from BLM’s fossil fuel authorizations. Evaluating the magnitude of estimated emissions from a particular category in the context of other categories or total geographic emissions is one way to evaluate their relative potential impact on climate change.[62](#_bookmark61)

The Specialist Report thus acknowledges the difficulty in downscaling impacts to a particular action but then explains how the BLM can use existing information and analysis, such as the social cost of greenhouse gases, to judge the potential for climate impacts from a proposed action.

The BLM’s finding is all the more concerning given the Specialist Report’s own conclusion that “[s]taying within the 1.5°C carbon budget implies that CO2 emissions need to start declining this decade to maintain reasonable progress to reach net zero by about 2050.”[63](#_bookmark62) Rather than fulfill its legal obligations under NEPA and grapple with the imminent threat posed by locking in future GHG emissions through leasing, the BLM avers that it has not developed a standard or carbon budget.[64](#_bookmark63) But the BLM does have the responsibility to make a non-arbitrary significance determination and has the tools to do so. Otherwise, no matter the size of the project or the amount of GHG emissions, the BLM would *always* find climate impacts to be insignificant. Such reasoning is capricious, ignoring the pressing reality of the climate crisis, the clearly adverse impacts it is causing both globally and locally to resources that the BLM manages, and the mandate “to prevent unnecessary or undue degradation of the lands” under FLPMA. *See* 43 U.S.C. § 1732(b).

Rather than blatantly locking in more emissions over the coming years through leasing, the BLM must withdraw all parcels from this lease sale because it failed to determine a threshold of significance for GHG emissions and the resulting climate impacts.

# BLM Failed to Determine Whether Leasing Is Necessary and Will Comply with the Federal Land Policy and Management Act (FLPMA) Anti- Degradation Mandate.

The EAs failed to determine whether the adverse impacts of leasing would result in unnecessary or undue degradation of the lands, as FLPMA requires. The BLM must manage public lands according to “multiple use” and “sustained yield” and “in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values.” 43 U.S.C. §§ 1701(a)(7) & (8), 1712(c)(1), 1732(a).

Multiple requires the BLM to make the “most judicious use” of public lands and their resources to “best meet the present and future needs of the American people.” *Id.* § 1702(c). This means taking “into account the long-term needs of future generations,” ensuring “harmonious and

62 *See* 2021 BLM SPECIALIST REPORT at 64.

63 *Id.* at 67.

64 *See, e.g.*, OK EA at 129.

coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment.” *Id.* Sustained yield mandates “achiev[ing] and maint[aining] in perpetuity [] a high-level annual or regular periodic output of the various *renewable* resources of the public lands consistent with multiple use.” *Id.* § 1702(h) (emphasis added). The agency must “take any action necessary to prevent unnecessary or undue degradation of the lands.” *Id.* § 1732(b).

Under FLPMA, the BLM may not prioritize and elevate oil and gas development over other uses, particularly if it would result in unnecessary or undue degradation. *See, e.g.*, *N.M. ex rel.*

*Richardson v. BLM*, 565 F.3d 683, 710 (10th Cir. 2009). The BLM does not determine whether it is *necessary* or *appropriate* (due) to lease this land to mineral development at the cost of vegetative health, loss of ecosystem services, and GHG emissions and climate change, among other impacts. By failing to make an affirmative determination as to whether leasing will cause unnecessary or undue degradation, the BLM has violated FLPMA and must withdraw the parcels from this lease sale.

# The EAs Failed to Adequately Analyze Mitigation to Address the Impacts of GHG Emissions.

The EAs fail to adequately identify or evaluate mitigation to address the acknowledged GHG emissions and resulting climate impacts associated with eventual oil and gas development from the lease sale. NEPA requires BLM to include a discussion of mitigation of impacts in the environmental review. 40 C.F.R. § 1508.9; *see also WildEarth Guardians v. U.S. Fish & Wildlife Serv.*, 784 F.3d 677, 698 (10th Cir. 2015) (ruling that an EA must “explore mitigation measures where it acknowledges the possibility that the agency action will cause environmental harm”).

BLM’s own Mitigation Manual and Mitigation Handbook call for robust evaluation and discussion of mitigation and direct doing so early in the decision-making process.[65](#_bookmark64) Importantly, “BLM generally has broad discretion to grant, grant with modifications, or deny a proposed public land use.”[66](#_bookmark65) These directives belie BLM’s assertion that it can wait to “determine appropriate mitigation measures to reduce or offset GHG emissions” until the APD stage.[67](#_bookmark66) Courts have held that BLM makes an irretrievable commitment of resources when it issues an oil and gas lease without reserving the right to later prohibit all development, as would occur in this lease sale. *New Mexico ex rel. Richardson*, 565 F.3d at 718; *Pennaco Energy, Inc. v. United States Dep’t of the Interior,* 377 F.3d 1147, 1160 (10th Cir. 2004). As such, the EA must include an adequate discussion of mitigation, which it does not.

Climate mitigation measures are also required to satisfy the BLM’s obligation to prevent unnecessary or undue degradation under FLPMA. *See, e.g.*, *Rocky Mountain Oil & Gas Ass’n v. Watt*, 696 F.2d 734, 739 (10th Cir. 1982) (“In general, the BLM is to prevent unnecessary or undue degradation of the public lands.”). In other contexts, the BLM has defined its obligation to avoid unnecessary and undue degradation as requiring mitigation for adverse impacts. *E.g.*, 43

65 DEP’T OF THE INTERIOR BLM, MITIGATION MANUAL 1-1, 1-4, 2-10, 6-1 (Sept. 22, 2021) (“Mitigation

should not be an afterthought; mitigation should be considered early and throughout the NEPA analysis process.”); DEP’T OF THE INTERIOR BLM, MITIGATION HANDBOOK 2-1, 2-11, 2-15 (Sept. 22, 2021).

66 MITIGATION MANUAL at 6-2.

67 *See, e.g.*, NM EA at 194; OK EA at 141.

C.F.R. §§ 3809.5, 3809.420(a)(4) (stating that, in the hard rock mining context, UUD means conditions, activities or practices that are not “reasonably incident” to the mining operation or that fail to comply with other laws or standards of performance, which include “mitigation measures specified by BLM to protect public lands”). The Interior Board of Land Appeals (IBLA) and courts have likewise recognized that BLM has authority to incorporate mitigation measures into project authorizations to observe its FLPMA obligations. *See, e.g.*, *Theodore Roosevelt Conservation P’ship v. Salazar*, 661 F.3d 66, 76, 78 (D.C. Cir. 2011) (citing with

approval *Biodiversity Conservation Alliance*, 174 IBLA 1, 5–6 (March 3, 2008), which held that an environmental impact may rise to the level of unnecessary and undue degradation if it results in “something more than the usual effects anticipated from [] development, subject to *appropriate mitigation*” (emphasis added)); *Biodiversity Conservation Alliance v. BLM*, No. 09- CV-08-J, 2010 U.S. Dist. LEXIS 62431, at \*1, \*27 (D. Wyo. June 10, 2010) (holding infill drilling project would not result in unnecessary and undue degradation where BLM required enforceable mitigation of project impacts). Just as the BLM can deny a project outright to protect the environmental uses of public lands, it can also condition a project’s approval on the commitment to mitigation measures that lessen environmental impacts. *See, e.g.*, *Pub. Lands Council v. Babbitt*, 167 F.3d 1287, 1300–01 (10th Cir. 1999) (“FLPMA unambiguously authorizes the Secretary to specify terms and conditions in livestock grazing permits in accordance with land use plans.”); *Grynberg Petro*, 152 IBLA 300, 307–08 (2000) (describing how appellants challenging conditions of approval bear the burden of establishing that they are “unreasonable or not supported by the data”).

If the BLM is to rely on an EA instead of an EIS to evaluate an action with likely significant environmental effects, it must impose mitigation of those impacts in a mitigated FONSI. *See, e.g.*, *Environmental Prot. Info. Ctr. v. United States Forest Serv.*, 451 F.3d 1005, 1011–12 (9th Cir. 2006); *Nat’l Audubon Soc'y v. Hoffman*, 132 F.3d 7, 11, 17 (2d Cir. 1997). NEPA requires the BLM to consider ways to avoid, minimize, and mitigate impacts in accord with the mitigation hierarchy. 40 C.F.R. §§ 1508.8, 1502.14, 1502.16, 1508.20. Specifically, agencies must “include appropriate mitigation measures not already included in the proposed action or alternatives.” *Id.* §§ 1502.14(f), 1502.16(h). The BLM must, in order, seek to avoid impacts, minimize impacts, and, only if those approaches are insufficient to fully mitigate the impacts, appropriately and sufficiently offset any remaining impacts.

The EAs briefly discuss mitigation that *could* occur and what other government agencies might do, but it did not identify, evaluate, or recommend imposing mitigation to address emissions.[68](#_bookmark67) The BLM did not properly identify or evaluate any mitigation measures in the EAs or discuss requiring mitigation in the FONSIs in order to address GHG emissions. The Specialist Report does list several mitigation measures.[69](#_bookmark68) The report even explains that “comparative analysis is . . . useful for informing policy and planning decisions and *to identify options for maximizing the effectiveness of mitigation and emissions reduction strategies*.”[70](#_bookmark69) But the BLM fails to include in the EAs, let alone evaluate, or require in the FONSIs any of these measures for mitigating GHG emissions and resulting climate impacts associated with the lease sale. This failure violates the BLM’s obligations under NEPA.

68 *See* NM EA at 97–98; OK EA at 80–81.

69 2021 BLM SPECIALIST REPORT, *supra* note 32, at 100–05.

70 *Id.* at 64.

CEQ’s climate guidance explains that mitigation “plays a particularly important role in how agencies should assess the potential climate change effects of proposed actions and reasonable alternatives.”[71](#_bookmark70) The guidance emphasizes that “[a]gencies should consider mitigation measures that will avoid or reduce GHG emissions.”[72](#_bookmark71) Because of the “urgency of the climate crisis, CEQ encourages agencies to mitigate GHG emissions *to the greatest extent possible*,” including in terms of the alternatives analyzed.[73](#_bookmark72)

The BLM asserts that most GHG emissions result offsite and outside of the agency’s “authority and control.”[74](#_bookmark73) This assertion is misplaced. While the actual combustion of the majority of the fossil fuel occurs downstream, the production – the supply – of the fuel is directly within the BLM’s control. Because the BLM manages the source, it indeed retains the authority, and the obligation, to mitigate emissions from oil and gas produced on public lands it oversees.

The BLM misunderstands its authority and obligation over adverse environmental effects resulting from development of the mineral resource. Agencies should analyze reasonable alternatives that would mitigate both direct and indirect GHG emissions impacts. CEQ’s climate guidance explains that mitigation “plays a particularly important role in how agencies should assess the potential climate change effects of proposed actions and reasonable alternatives.”[75](#_bookmark74) The guidance emphasizes that “[a]gencies should consider mitigation measures that will avoid or reduce GHG emissions.”[76](#_bookmark75) Because of the “urgency of the climate crisis, CEQ encourages agencies to mitigate GHG emissions *to the greatest extent possible*,” including in terms of the alternatives analyzed.[77](#_bookmark76)

The BLM could mitigate projected GHG emissions and resulting climate impacts that would result from lease issuance by deferring actual lease issuance or including a new stipulation or lease term condition as part of a mitigated FONSI. The lease would not issue – or if issued, the stipulation or lease term could provide that no oil and gas exploration, development, or production may occur – unless and until: (a) DOI implements a programmatic climate conservation plan and projected GHG emissions from leasing were determined compatible with

U.S. climate commitments; or (b) such GHG emissions could be adequately avoided, sequestered, or offset to avoid unnecessary or undue degradation and achieve and maintain sustained yield.

The Specialist Report, which the EA references, does list several mitigation measures.[78](#_bookmark77) But the BLM fails to evaluate or include any of those measures in the EA. This failure violates the BLM’s obligations under NEPA, FLPMA, and its own mitigation policies, requiring withdrawal of the parcels from this lease sale.

71 88 Fed. Reg. at 1206 (emphasis added).

72 *Id.* at 1204, 1206.

73 *Id.* at 1206 (emphasis added); *id.* at 1204.

74 NM EA at 98; OK EA at 81.

75 88 Fed. Reg. at 1206 (emphasis added).

76 *Id.* at 1204, 1206.

77 *Id.* at 1206 (emphasis added); *id.* at 1204.

78 2021 BLM SPECIALIST REPORT at 100–05.

# BLM’s Argument that Not Issuing New Federal Onshore Leases May Lead to an Even Greater Rise in Oil and Gas Consumption Is Arbitrary and Capricious.

The BLM claims that not issuing new federal onshore leases may lead to an even greater rise in oil and gas consumption from non-federal lands and from other countries to meet consumer demand and to help stabilize prices in the short term (meaning through the end of 2023).[79](#_bookmark78) This logic is problematic for several reasons.

First, the bulk of production from leases issued in 2023 would likely not be in circulation until after 2033 and would not contribute to short term supply. At a minimum, around 14.5 months pass between when a lease is issued and an average well could come online and start producing.[80](#_bookmark79) In practice, operators historically have taken much longer than 14.5 months to begin producing after acquiring a lease. Operators often do not begin development of onshore federal oil and gas leaves until between years 8 to 10 of an initial lease term.[81](#_bookmark80)

Second, there is very little action that the BLM could make that would increase oil and gas supply to meet consumer demand and to reduce consumer prices in the short term. The main actions that the BLM could take to support supply increases in the near term have already been attempted.

Third, the BLM’s argument that issuing no new federal leases may result in higher net emissions given the current high consumer demand/high price conditions projected for the next two years is inconsistent with findings from modeling that explicitly focuses on the impacts of federal leasing policies. Modeling by economist Brian Prest indicates that issuing fewer leases would likely mean even *greater reductions* in net emissions in the face of high consumer demand, not lower reductions.[82](#_bookmark81)

79 NM EA at 93; OK EA at 76–77.

80 After obtaining an onshore federal lease, operators submit an APD on the lease. On average, BLM takes 212 days (or 7 months) to approve an APD. Surveying New Mexico data on new federal wells that both received an APD and were spud since 2018, an average of 3.5 months passed between when the operator received the APD approval and when it began to drill (spud date). New Mexico Oil Conservation Division, Federal APDs New Wells Data (Feb. 2021)[, http://www.emnrd.state.nm.us/OCD/documents/ExpandedWellsFedNewWells20200203.xlsx.](http://www.emnrd.state.nm.us/OCD/documents/ExpandedWellsFedNewWells20200203.xlsx) (This average likely underestimates the length of time between APD approval and commencement of drilling for federal wells in New Mexico because it does not include the 25% of already approved APDs where operators had yet to start drilling.) Once a well is spud (drilling begins), an average of 4 months passes before first production begins. BRIAN PREST, SUPPLY-SIDE REFORMS TO OIL AND GAS PRODUCTION ON FEDERAL LANDS: MODELING THE IMPLICATIONS FOR CLIMATE EMISSIONS, REVENUES, AND PRODUCTION SHIFTS 51, Resources for the Future,

[hereinafter Prest], [https://www.rff.org/documents/3229/WP\_20-16 Dec\_2021.pdf](https://www.rff.org/documents/3229/WP_20-16__Dec_2021.pdf) (also published as Prest, B. 2022. “Supply-Side Reforms to Oil and Gas Production on Federal Lands: Modeling the Implications for CO2 Emissions, Federal Revenues, and Leakage.” Journal of the Association of Environmental and Resource Economists. Vol. 9, No. 4. July 2022. <https://www.journals.uchicago.edu/doi/abs/10.1086/718963>). That means, all combined, at least 14.5 months pass between when a lease is issued and an average well could possibly come online and start producing.

81 Congressional Budget Office, Options for Increasing Federal Income from Crude Oil and

NATURAL GAS ON FEDERAL LAND (2016), [https://www.cbo.gov/publication/51421.](https://www.cbo.gov/publication/51421)

82 *See, e.g.*, Prest at 8, fig. 1. This effect appears in modeling of the expected impacts of a leasing ban by Prest. Compare the baseline and high price scenario results. The high price scenario results in larger global emission reductions.

The BLM also notes that another reason to continue issuing federal onshore leases is that it is better to have production come from the United States rather than from other countries that may have higher emitting fuels. Even if a portion of the reduction in U.S. supply is partially offset by an increase in production from imports from abroad, the variation in emissions intensity among major producers is nowhere near large enough to negate the overall reductions in consumption and thus in net emissions that would be expected to occur if there were little to no new federal leases issued. In fact, a paper published in the journal Science found that U.S. crude oil production emissions are slightly higher than the average.[83](#_bookmark82) A study by the Carnegie Endowment finds that the differences in estimated lifecycle emissions of crude oil from major producing regions in the United States and abroad are small.[84](#_bookmark83) For the locations where U.S. fields do have a slight emissions advantage compared to top regions from which the United States imports oil, the differences are nowhere near large enough to outweigh the climate benefits from net emission reductions that would come from the levels of reduced overall production and consumption that would result from restricted federal leasing.

A recent paper published in Climatic Change calculates that lifecycle emissions from the extraction and use of onshore and offshore federal fossil fuels resulted in an average of 1,408 million metric tons of CO2e per year since 2005 and are projected to be around 1,130 MMT CO2e by 2030.[85](#_bookmark84) In other words the projected lifecycle emissions from federal fuels are equivalent to around 20% of business-as-usual U.S. net emissions in 2030. Climate policies being pursued by the US and other top emitting nations are far from sufficient to avoid a 1.5°C rise and the worst impacts of climate change. The International Energy Agency’s 1.5°C- consistent pathway requires “no investment in new fossil fuel supply projects” starting immediately.[86](#_bookmark85) Decisions to restrict new leasing impact long term supply, and it is an important tool alongside demand-side actions for helping to meet long term global climate goals and for a chance to limit temperatures from rising more than 1.5°C.[87](#_bookmark86) Accordingly, the claim that no leasing for this sale could lead to greater GHG emissions is arbitrary and capricious.

# BLM Failed to Take a Hard Look at Impacts to Resources – Including to Groundwater and Wildlife (Sage-Grouse, Big Game) – Other Than Climate, from Reasonably Foreseeable Development of the Proposed Leases.

83 M.S. Masnadi et al., Global carbon intensity of crude oil production. 361 Science 6405 (2018), [https://www.science.org/doi/10.1126/science.aar6859.](https://www.science.org/doi/10.1126/science.aar6859)

84 CARNEGIE ENDOWMENT, OIL-CLIMATE INDEX, [https://oci.carnegieendowment.org/#supply-chain.](https://oci.carnegieendowment.org/#supply-chain)

85 N. Ratledge, L. Zachary, and C. Huntley, Emissions from fossil fuels produced on US

FEDERAL LANDS AND WATERS PRESENT OPPORTUNITIES FOR CLIMATE MITIGATION \*2–\*5, Climatic Change 171, 11

(Mar. 14, 2022), [https://link.springer.com/article/10.1007/s10584-021-03302-x.](https://link.springer.com/article/10.1007/s10584-021-03302-x)

86 STÉPHANIE BOUCKAERT ET AL., INTERNATIONAL ENERGY AGENCY, NET ZERO BY 2050: A ROADMAP FOR THE GLOBAL ENERGY SECTOR 21 (2021),

[https://iea.blob.core.windows.net/assets/beceb956-0dcf-4d73-89fe-1310e3046d68/NetZeroby2050-](https://iea.blob.core.windows.net/assets/beceb956-0dcf-4d73-89fe-1310e3046d68/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf) [ARoadmapfortheGlobalEnergySector\_CORR.pdf.](https://iea.blob.core.windows.net/assets/beceb956-0dcf-4d73-89fe-1310e3046d68/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf)

87 A new report demonstrates the benefits of pursuing supply-side and demand-side policies in parallel to achieve global climate goals and to mitigate price impacts. Brian Prest, Partners, Not Rivals: The Power of Parallel Supply-Side and Demand-Side Climate Policy, Resources for the Future (Apr. 21, 2022), [https://media.rff.org/documents/Report\_22-06.pdf.](https://media.rff.org/documents/Report_22-06.pdf)

The EAs violate NEPA because they fail to analyze and disclose the reasonably foreseeable impacts to a variety of non-climate resources from drilling on these lease acres. In particular, the BLM has failed to take a hard look at the impacts to groundwater, wildlife, and other resources that will be harmed by oil and gas development resulting from its leasing decisions.

Courts have long made clear that “the sale of leases cannot be divorced from post-leasing exploration, development, and production.” *Bob Marshall All. v. Hodel*, 852 F.2d 1223, 1229 (9th Cir. 1988). BLM’s issuance of leases typically is an irretrievable commitment of resources, and before taking that step the agency must consider the reasonably foreseeable impacts – such as oil and gas drilling – to other resources. Making an irreversible commitment of resources, without analyzing effects of developing those leases, is an “approve now and ask questions later” approach – “precisely the type of environmentally blind decision-making NEPA was designed to avoid.” *Conner v. Burford*, 848 F.2d 1441, 1450–51 (9th Cir. 1988); *Sierra Club v. Peterson*, 717 F.2d 1409, 1413–15 (D.C. Cir. 1983).

The EAs, however, provide only broad descriptions of categories of impacts that result from oil and gas development generally, without examining how severe those impacts are likely to be for the particular leases being offered here. The EAs’ boilerplate could be applied to virtually any oil and gas proposal anywhere on public lands and provides the agency and the public no useful information about the specific leases proposed in these lease sales. This does not satisfy NEPA. “General statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be

provided.” *Conservation Cong. v. Finely*, 774 F.3d 611, 621 (9th Cir. 2014).

The EAs’ assertion that additional analysis is not feasible at the leasing stage is arbitrary and capricious and violates NEPA. There is ample information available to forecast reasonably foreseeable development on the specific leases being offered and to evaluate the potential impacts of that development on groundwater, wildlife, and other resources. Indeed, the BLM has already done that for its climate analysis: its EAs “analyz[e] potential GHG emissions from projected oil and gas development on the parcels proposed for leasing using estimates based on past oil and gas development and available information from existing development within the State.”[88](#_bookmark87) For each alternative considered, the BLM used its projection of future development on the leases to estimate the direct on-site emissions and indirect (downstream) emissions over the entire life of the leases, for the average year of production, and for the year of maximum production.[89](#_bookmark88)

It is entirely feasible for the BLM to use the same projection of future development on the leases to estimate impacts to other resources. The BLM can use evidence of impacts from existing development on wildlife, groundwater, etc., to predict what will happen from allowing even more oil and gas development in these areas.

88 *E.g.*, NM EA at 88.

89 *Id.* at 88–92.

While any projection of future development impacts necessarily involves uncertainty, that uncertainty does not excuse the BLM from making any projection at all. Failure to use readily available resources to forecast reasonably foreseeable impacts to these resources would be arbitrary and capricious and violate NEPA. *New Mexico ex rel. Richardson*, 565 F.3d at 718– 19 (failure to discuss impacts from developing oil and gas lease was arbitrary and capricious where “[c]onsiderable exploration has already occurred on parcels adjacent to the” proposed lease); *N. Plains Res. Council*, 668 F.3d at 1078–79 (rejecting agency argument that impacts from future coalbed methane development were “too speculative” to evaluate where there was “available data concerning likely future development”).

# The BLM Failed to Take a Hard Look at Impacts to Groundwater from Well Construction Practices and Hydraulic Fracturing.

The EAs violate NEPA because they contain no analysis of the reasonably foreseeable impacts to groundwater from drilling on these particular lease sale parcels. The EAs contain but a few pages of generic boilerplate about potential water impacts from oil and gas development.[90](#_bookmark89) These statements could be made about any oil and gas lease anywhere – they tell the agency and the public nothing at all about the development of these leases. NEPA requires the BLM to assess all the potential environmental impacts from oil and gas leases *before* it offers those leases to operators. That responsibility includes taking a “hard look” at how ensuing development could impact groundwater. *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, 457 F. Supp. 3d 880, 886–89 (D. Mont. May 1, 2020).

NEPA requires the BLM to assess all the potential environmental impacts from oil and gas leases *before* it offers those leases to operators. That responsibility includes taking a “hard look” at how ensuing development could impact groundwater. *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, 457 F. Supp. 3d 880, 886–89 (D. Mont. May 1, 2020).

Groundwater is a critical resource that supplies many communities, particularly rural ones, with drinking water. Protecting these resources is imperative to protect human health and the environment, especially because groundwater will become more important as increased aridity and higher temperatures alter water use. The U.S. Environmental Protection Agency (EPA) has noted that existing drinking water resources “may not be sufficient in some locations to meet future demand” and that future sources of fresh drinking “will likely be affected by changes in climate and water use.”[91](#_bookmark90) As a result, the BLM must protect both aquifers currently used for drinking water and deeper and higher-salinity aquifers that may be needed in coming decades.

Oil and gas drilling involves boring wells to depths thousands of feet below the surface, often through or just above groundwater aquifers. Without proper well construction and vertical separation between aquifers and fractured formations, oil and gas development can contaminate

90 NM EA at 22–24; OK EA at 30–31, 81–84.

91 U.S. Environmental Protection Agency, *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States*, EPA/600/R-16/236F, at 2–18 (Dec. 2016) [EPA 2016 Report], [www.epa.gov/hfstudy.](http://www.epa.gov/hfstudy)

underground sources of water.[92](#_bookmark91) However, federal rules and regulations do not provide specific direction for the BLM and operators to protect all usable water. Even rules that purport to do so, like Onshore Order No. 2’s requirement to “protect and/or isolate all usable water zones” are inconsistently applied and often disregarded in practice.[93](#_bookmark92) State regulations are similarly inadequate to ensure protection of groundwater.

Moreover, industry has admitted that it often does not protect usable water in practice. Western Energy Alliance and the Independent Petroleum Association of America have told the BLM that the “existing practice for locating and protecting usable water” does not measure the numerical quality of water underlying drilling locations, and therefore does not consider whether potentially usable water would be protected during drilling.[94](#_bookmark93) For example, a report studying a sample of existing oil and gas well records in Montana confirms industry admissions that well casing and cementing practices do not always protect underground sources of drinking water.[95](#_bookmark94) Similarly, a study of hydraulic fracturing in Pavillion, Wyoming, confirmed that oil and gas drilling had contaminated underground sources of drinking water in that area due to lack of vertical separation between the aquifer and target formation.[96](#_bookmark95)

In light of these risks to a critical resource, the BLM must evaluate potential groundwater impairment. As a threshold matter, the BLM must provide a detailed account of all regional groundwater resources that could be impacted, including usable aquifers that may not currently be used as a drinking water supply. The accounting must include, at minimum, all aquifers with up to 10,000 parts per million total dissolved solids, and it cannot substitute existing drinking water wells or any other incomplete proxy for a full description of all usable or potentially usable groundwater in the region. Second, the BLM must use that accounting to assess how new oil and gas wells might impact these resources. That evaluation must assess the sufficiency of protective measures that will be employed, including wellbore casing and cementing and vertical separation between aquifers and the oil and gas formations likely to be hydraulically fractured. In assessing these protections, the BLM cannot presume that state and federal regulations will protect groundwater, because of the shortcomings and industry noncompliance described above. BLM

92 *See, e.g.*, Gayathri Vaidyanathan, *Fracking Can Contaminate Drinking Water*, at 8, Sci. Am. (Apr. 4, 2016); Dominic C. DiGiulio & Robert A. Jackson, *Impact to Underground Sources of Drinking Water and Domestic Wells from Production Well Stimulation and Completion Practices in the Pavillion, Wyoming Field*, 50 Am. Chem. Society, Envtl. Sci. & Tech. 4524, 4532 (Mar. 29, 2016); EPA 2016 Report.

93 *See* BLM, Regulatory Impact Analysis for the Final Rule to Rescind the 2015 Hydraulic Fracturing Rule, at 44–45 (Dec. 2017), [https://www.govinfo.gov/content/pkg/FR-2017-07-25/pdf/2017-15696.pdf.](https://www.govinfo.gov/content/pkg/FR-2017-07-25/pdf/2017-15696.pdf)

94 Western Energy Alliance and the Independent Petroleum Association of America, Sept. 25, 2017 comments Re: RIN 1004-AE52, Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands; Rescission of a 2015 Rule (82 Fed. Reg. 34,464) (2017 WEA comments), at 59, [https://www.regulations.gov/document?D=BLM-](https://www.regulations.gov/document?D=BLM-2017-0001-0412)

[2017-0001-0412.](https://www.regulations.gov/document?D=BLM-2017-0001-0412)

95 Dominic Digiulio, Examination of Selected Production Files in Southcentral Montana to Support Assessment of the March 2018 BLM Lease Sale (December 22, 2017), [https://eplanning.blm.gov/public\_projects/nepa/87551/136880/167234/Earthjustice\_Protest\_1-12-2018.pdf.](https://eplanning.blm.gov/public_projects/nepa/87551/136880/167234/%E2%80%8CEarthjustice_Protest_1-12-2018.pdf) (Exhibit D to David Katz and Jack and Bonnie Martinell’s protest of the March 13, 2018 BLM Montana-Dakotas oil and gas lease sales).

96 Dominic C. DiGiulio & Robert A. Jackson, Impact to Underground Sources of Drinking Water and Domestic Wells from Production Well Stimulation and Completion Practices in the Pavillion, Wyoming Field, 50 Am. Chem. Society, Envtl. Sci. & Tech. 4524, 4532 (Mar. 29, 2016), [https://pubs.acs.org/doi/10.1021/acs.est.5b04970.](https://pubs.acs.org/doi/10.1021/acs.est.5b04970)

may not defer this analysis of groundwater impacts to the APD stage. *WildEarth Guardians*, 457

F. Supp. 3d at 888. Failure to conduct this analysis violates NEPA. *Id.*

# The BLM Failed to Take a Hard Look at Impacts to Big game.

The EAs’ analyses of big game have similar flaws. The EAs boiler plate discussion of “general wildlife and game species” is inadequate.[97](#_bookmark96) This information barely even provides a basis for analyzing the likely impacts to big game from development on the proposed leases. The EAs generally fail to analyze the likely impacts to big game populations from the leases it proposes to offer. Instead, the EAs provide general statements about categories of impacts and state that impacts would be similar to those discussed in the RMP-level EISs. This does not satisfy NEPA.

# The BLM Failed to Take a Hard Look at impacts to other species and resources.

The BLM also has not taken a hard look at impacts to other resources. For example, the EA provides no analysis at all of foreseeable impacts to cultural and heritage resources, wilderness study areas and lands with wilderness characteristics, and special status species. The BLM must analyze impacts to these resources before offering the parcels for lease.

# The BLM failed to consider a range of reasonable alternatives, including a conservation and climate alternative.

The BLM fails to consider a range of reasonable alternatives in the EAs. The range of alternatives is the heart of a NEPA document because “[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.” *New Mexico ex el. Richardson*, 565 F.3d at 683, 708. NEPA analysis must cover a range of reasonable alternatives so that an agency can make an informed choice from the spectrum of reasonable options. An environmental review offering a choice between leasing every parcel nominated, and leasing nothing at all, fails to present a range of reasonable alternatives.

The BLM should have considered at least one conservation and climate alternative. The CEQ climate guidance directs agencies to “evaluate reasonable alternatives that may have lower GHG emissions, which could include technically and economically feasible clean energy alternatives to proposed fossil fuel-related projects.”[98](#_bookmark97) Importantly,

agencies should explain how the proposed action and alternatives would help meet or detract from achieving relevant climate action goals and commitments, including Federal goals, international agreements, state or regional goals, Tribal goals, agency-specific goals, or others as appropriate [A]gencies should identify the alternative with the

97 *See* NM EA at 51–52; OK EA at 43.

98 88 Fed. Reg. at 1204.

lowest net GHG emissions or the greatest net climate benefits among the alternatives they assess. And . . . they should use the NEPA process to make informed decisions grounded in science that are transparent with respect to how Federal actions will help meet climate change goals and commitments, or alternately, detract from them.[99](#_bookmark98)

NEPA analysis must compare “relevant GHG emissions, GHG emission reductions, and carbon sequestration potential across reasonable alternatives, assessing trade-offs with other environmental values, and evaluating the risks from or resilience to climate change inherent in a proposed action and its design.”[100](#_bookmark99) Because of the “urgency of the climate crisis,” the BLM “should use the information provided through the NEPA process to help inform decisions that align with climate change commitments and goals.” Therefore, for this lease sale, the BLM should have considered a protective alternative in line with U.S. climate commitments.

A conservation and climate alternative should rely on option value, which considers the value of avoiding leasing or delaying leasing or development.[101](#_bookmark100) Leasing lands for oil and gas development gives preference to oil and gas development at the expense of other uses while handcuffing the BLM’s ability to make other management decisions down the road. The presence of oil and gas leases or development can limit the BLM’s willingness to manage for other resources in the future.

Option value would allow realizing the economic benefits that could arise from delaying leasing or exploration and development based on improvements in technology, additional benefits that could come from managing these lands for other uses, and additional information on the impacts of climate change and ways to avoid or mitigate impacts on the environment. The BLM has the ability and obligation to undertake an analysis of the benefits of delaying leasing or permitting, which can be both qualitative and quantitative, considering both economic and environmental needs. Failing to account for the informational value of waiting puts the American people at economic and financial disadvantages. The consideration of option value before offering leases would result in greater consideration of climate risks and reduced costs.[102](#_bookmark101)

# The BLM failed to adequately analyze the socioeconomic impacts of this lease sale.

The BLM must properly analyze the socioeconomic impacts of this lease sale, which it fails to do. The best available SC-GHG estimates provide an appropriate measure of the anticipated costs of the BLM’s leasing decisions.[103](#_bookmark102) While NEPA does not require a straight cost-benefit analysis,[104](#_bookmark103) the BLM may include the analysis to assist the agency and the public in

99 *Id.* at 1203–04.

100 *Id.* at 1203.

101 New York University School of Law, Institute for Policy Integrity, *Look Before You Lease; Reducing* *Fossil Fuel Dominance on Public Lands by Accounting for Option Value* at 4 (2020).

102 *Id.* at 24.

103 *See* 88 Fed. Reg. at 1202.

104 *Id.* at 1211.

weighing the choice among different alternatives and “as an aid in evaluating the environmental consequences.”[105](#_bookmark104)

Generating an estimate of estimated economic benefits from each lease sale is feasible.

For example, previous lease sale EAs have forecast the bonus and rental payments resulting from that proposed sale.[106](#_bookmark105) It is also realistic to forecast potential oil and gas production (and thus royalties and other economic benefits) from the proposed leases. The BLM has prepared reasonably foreseeable development estimates in Colorado and other states,[107](#_bookmark106) that can be used for a forecast of future production. Moreover, the BLM’s estimate of GHG impacts further illustrates that the agency can make such projections. While recognizing uncertainties, the agency used “estimated well numbers based on State data for past lease development combined with per-well drilling, development, and operating emissions data from representative wells in the area. For purposes of estimating production and end-use emissions, reasonably foreseeable wells are assumed to produce oil and gas in similar amounts as existing nearby wells.”[108](#_bookmark107) A similar methodology could be used to estimate production royalty and related economic benefits from the leases.

One recent example illustrates how a comparison of costs and benefits bear on environmental impacts can be vital. In an assessment finalized in January 2021, the BLM declined to apply SC-GHG for a proposed coal mine expansion, deeming the project’s emissions insignificant upon limited examination.[109](#_bookmark108) Annual greenhouse gas emissions for that project totaled approximately 11.4 million metric tons.[110](#_bookmark109) Using the current central estimate of climate damages of $51 per metric ton, this quantity of emissions translates to roughly $581 million in annual climate damages. Yet, according to the BLM’s own analysis, the entire project was expected to produce only $254 million in total revenue[111](#_bookmark110) – less than half of its *annual* climate cost. Had the BLM monetized key impacts, it should have determined not to proceed with the harmful project because the climate costs alone (not even including other substantial environmental and public-health costs) clearly outweighed the project’s economic benefits.

The need to adequately consider the environmental costs and benefits (if any) of its leasing decisions is also part of the BLM’s obligation under FLPMA’s multiple-use mandate. FLPMA requires striking a balance between conflicting uses, such as oil and gas development and climate (and numerous other uses). As the Supreme Court has noted, “multiple use” describes the enormously complicated task of striking a balance among the many competing uses to which land can be put, “including, but not limited to, recreation, range, timber, minerals,

105 *Id.*

106 *See, e.g.*, Bureau of Land Mgmt., First Quarter 2022 Oil and Gas Lease Parcel Sale DOI-BLM-MT- 0000-2021- 0006-EA 72 & tbl. 28 – 74 & tbl. 29 (Oct. 27, 2021).

107 Bureau of Land Mgmt., Draft Environmental Assessment for the 2022 First Quarter Competitive Oil & Gas Lease Sale Parcels in the BLM Kremmling, Little Snake, Royal Gorge, and White River Field Offices and Parcels in the USDA Forest Service Pawnee National Grassland Office 22–24 (Nov. 2021).

108 *See* Bureau of Land Mgmt., Environmental Assessment, DOI-BLM-WY-0000-2021-0003-EA 8 (Oct.

27, 2021)*.*

109 Bureau of Land Mgmt., Lila Canyon Mine Lease Modifications Environmental Assessment 38–39 & tbl. 3-12 (DOI-BLM-UT-G020-2018-0039-EA) (2021).

110 *Id*. at 38 tbl. 3-12.

111 *Id.* at 54.

watershed, wildlife and fish, and [uses serving] natural scenic, scientific and historical values.” *Norton v. SUWA*, 542 U.S. 55, 58 (2004) (quoting 43 U.S.C. § 1702(c)). The BLM cannot strike that balance without even considering what it is balancing.

# The BLM failed to thoroughly analyze the impacts of this lease sale on public health.

The Biden Administration has committed to “promot[ing] and protect[ing] public health and the environment” and “advanc[ing] environmental justice.”[112](#_bookmark111) The BLM must acknowledge foreseeable direct, indirect, and cumulative human health impacts resulting from fossil fuel development should these lease sales proceed. Protecting public health is fundamental to the underlying purpose of NEPA, which was enacted in part to “stimulate the health and welfare of man,” and mandates that agencies consider the degree to which their proposed actions affect public health or safety. 42 U.S.C § 4321; 40 C.F.R § 1508.27(b)(2). NEPA requires federal agencies “to use all practicable means, consistent with other essential considerations of national policy” to “assure for all Americans safe, healthful, productive and aesthetically and culturally pleasing surroundings.” 42 U.S.C 4331(b). “Effects includes 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.” 40 C.F.R § 1508.8. To protect public health and promote informed agency decision-making, transparency, and public participation, NEPA imposes “action-forcing procedures … requir[ing] that agencies take a hard look at environmental consequences.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989). Such consequences include all “reasonably foreseeable” direct, indirect, and cumulative effects, including health effects. An effect is “reasonably foreseeable” if it is “sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision.” *Sierra Club v. Marsh*, 976 F.2d 763, 767 (1st Cir. 1992). An agency’s hard look “must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.” *Forest Guardians v. U.S. Fish & Wildlife Serv.*, 611 F.3d 692, 712 (10th Cir.

2010).

NEPA and its implementing regulations require the BLM to do more than list generalized categories of risks: the agency must analyze and take a hard look at those risks and their effects. *See* 40 C.F.R. § 1508.1. The intent of NEPA is for agencies to study the impact of their actions on the environment before the action is taken. *See Conner v. Burford*, 848 F.2d 1441, 1452 (9th Cir. 1988) (NEPA requires that agencies prepare an EIS before there is “any irreversible and irretrievable commitment of resources”); *see also Upper Pecos Ass’n v. Stans*, 500 F.2d 17 (10th Cir. 1974) (concluding that “consideration of environmental factors should come in the early stages of program and project formulation”).

Oil and gas development poses myriad public health impacts. An extensive and ever- growing body of peer-reviewed research has shown what people living near oil and gas operations already know firsthand – that proximity to drilling and fracking operations and other

112 Executive Order 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, sec. 1.

oil and gas facilities is linked to adverse health risks and impacts. Some of these risks and impacts are discussed in further detail throughout this section, but in general, they include but are not limited to:

* Reproductive harms – including birth defects, low birth weight, preterm births, and miscarriages;
* Respiratory health effects – including asthma, lung disease, breathing difficulty, and, most recently, increased vulnerability to COVID-19;
* Eye, skin, and throat irritation and rashes;
* Cardiovascular effects – including higher blood pressure and other indicators of, or precursors to, heart disease;
* Possible disruption of the endocrine system (a system of glands producing hormones that regulate a variety of functions in the body, including metabolism, growth and development, reproduction, sleep, and mood);
* Cancer (lung cancer and other types of cancer);
* Motor vehicle injuries and fatalities, and other health and safety risks associated with increased vehicle traffic (and the air pollutants it emits) from oil and gas development;
* Injuries and fatalities from explosions, fires, spills, and leaks; and
* Trauma and psychological stress.[113](#_bookmark112)

An excellent, frequently updated, and easy-to-use resource for keeping up with this growing body of peer-reviewed research is the Physicians, Scientists, and Engineers for Healthy Energy (“PSE Healthy Energy”) database, the Repository for Oil and Gas Energy Research, or “ROGER.”[114](#_bookmark113) ROGER is an extensive repository of peer-reviewed literature, “a near-exhaustive collection of bibliographic information, abstracts, and links to many . . . journal articles that pertain to shale and tight gas development.”[115](#_bookmark114) This database is organized into several categories, and for the “Health” category alone, there are over 250 studies listed, including several recent studies from 2019–21. The BLM should avail itself of this invaluable resource to take NEPA’s requisite hard look at health impacts.

There are several other notable scientific papers the BLM should consider in order to analyze and disclose to the public the health risks and impacts associated with its leasing decisions.[116](#_bookmark115) Multiple peer-reviewed papers have identified adverse health effects and risks

113 *See, e.g.*, Physicians, Scientists, and Engineers for Healthy Energy (“PSE Healthy Energy”), “The ROGER Citation Database,” [https://www.psehealthyenergy.org/our-work/shale-gas-research-library/.](https://www.psehealthyenergy.org/our-work/shale-gas-research-library/)

114 *Id.*

115 *Id.*

116 *See, e.g.*, R.Z. Witter, et al., Occupational exposures in the oil and gas extraction industry: state of the science and research recommendations, AMERICAN JOURNAL OF INDUSTRIAL MEDICINE (2014); Jessica Gilman, et al., Source signature of volatile organic compounds (VOCs) from oil and natural gas operations in northeastern Colorado, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2013); Roxana Z. Witter, et al., The Use of Health Impact Assessment for a Community Undergoing Natural Gas Development, FRAMING HEALTH MATTERS (2013); Nadia Steinzor, et al., Investigating links between shale gas development and health impacts through a community survey project in Pennsylvania, NEW SOLUTIONS, vol. 23 iss. 1. (2013); John L. Adgate, et al., Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2014); Christopher W. Moore et al., Air Impacts of Increased Natural Gas Acquisition, Processing, and Use: A Critical Review, ENVIRONMENTAL SCIENCE &

arising from exposure to unconventional oil and gas drilling operations, even within a large radius of residences – potentially up to ten miles.[117](#_bookmark116) For example, one study found that babies whose mothers lived in close proximity to multiple oil and gas wells were 30% more likely to be born with heart defects than babies born to mothers who did not live close to oil and gas wells.[118](#_bookmark117) Other adverse health impacts documented among residents living near drilling and fracking operations include increased reproductive harms, asthma attacks, higher rates of hospitalization, ambulance runs, emergency room visits, self-reported respiratory problems and rashes, motor vehicle fatalities, trauma, and drug abuse. Moreover, one recent study found that fracking and drilling near people’s homes “drives stress experiences that go beyond the mere presence of industrial land uses in neighborhoods,” and identified two key institutional barriers driving negative mental health impacts for people living near unconventional oil and gas (UOG) production – namely: (1) uncertainty, due to inaccessible, transparent information about environmental and public health risks; and (2) powerlessness to meaningfully impact regulatory or zoning processes.[119](#_bookmark118) In turn, “these institutional barriers make UOG production a chronic stressor – which can be more insidious, negative, and, significantly, can generate longer-term mental health impacts such as self-reported depression.”[120](#_bookmark119) The BLM must take a hard look at the adverse health risks and effects associated with proximity to oil and gas activity and facilities

TECHNOLOGY (2014); Avner Vengosh, et al., The effects of shale gas exploration and hydraulic fracturing on the quality of water resources in the United States, PROCEDIA EARTH AND PLANETARY SCIENCE (2014); Christopher D. Kassotis, et al., Estrogen and Androgen Receptor Activities of Hydraulic Fracturing Chemicals and Surface and Ground Water in a Drilling-Dense Region, ENDOCRINOLOGY (2014); Brian E. Fontenot, et al., An Evaluation of Water Quality in Private Drinking Water Wells Near Natural Gas Extraction Sites in the Barnett Shale Formation, ENVIRONMENTAL SCIENCE & TECHNOLOGY (2013); Sherilyn A. Gross, et al., Analysis of BTEX Groundwater Concentrations from Surface Spills Associated with Hydraulic Fracturing Operations, JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION (2013); K.D. Retzer, et al., Motor vehicle

fatalities among oil and gas extraction workers, ACCIDENT ANALYSIS & PREVENTION (2013); Gayathri Vaidyanathan, Fracking Can Contaminate Drinking Water, Climate Wire (April 4, 2016), https://[www.scientificamerican.com/article/fracking-can-contaminate-drinking-water/;](http://www.scientificamerican.com/article/fracking-can-contaminate-drinking-water/%3B) A. Tustin et al., Associations Between Unconventional Natural Gas Development and Nasal and Sinus, Migraine Headache, and Fatigue Symptoms in Pennsylvania, ENVIRONMENTAL HEALTH PERSPECTIVES (July 31, 2016), [http://ehp.niehs.nih.gov/wpcontent/uploads/advpub/2016/8/EHP281.acco.pdf.](http://ehp.niehs.nih.gov/wpcontent/uploads/advpub/2016/8/EHP281.acco.pdf)

117 *See, e.g.*, Lisa M. McKenzie et al., Birth Outcomes and Maternal Resident Proximity to Natural Gas Development in Rural Colorado, 122 ENVIRONMENTAL HEALTH PERSPECTIVES 412 (April 2014) [Hereinafter McKenzie et al., Birth Outcomes) (Finding an increased risk of congenital heart and neural tube defects in babies born to mothers living within 10 miles of a natural gas well); Janet Currie et al., Hydraulic Fracturing and Infant Health: New Evidence from Pennsylvania, 3 SCIENCE ADVANCES e1603021(Dec. 13, 2017) (Finding evidence of negative health effects of in utero exposure to fracking sites within 3 km, or about 1.86 miles, of a mother’s residence, with the largest health impacts seen within 1 km, or about 0.62 miles); Ellen Webb et al., Potential Hazards of Air Pollutant Emission from Unconventional Oil and Natural Gas Operations on the Respiratory Health of Children and Infants, 31 REV. ENVIRONMENTAL HEALTH 225-243 (Jun. 1, 2016), at 236 [hereinafter Webb et al.] (Noting that many unconventional oil and gas setback rules, for setbacks of 1000 feet or less, do not adequately protect health, especially children’s respiratory health, that “the majority of municipal setback ordinances are not supported by empirical data,” and calling for a one-mile minimum for setbacks between drilling facilities and schools, hospitals, and occupied dwellings).

118 *See* McKenzie et al., *supra* note 117.

119 *See* Stephanie A. Malin, Depressed democracy, environmental injustice: Exploring the negative mental health implications of unconventional oil and gas production in the United States, 70 Energy Research & Social Science, 101720 at 2 (2020).

120 *Id.*

and disclose them to the public. In the EA, the BLM should disclose how many residences are within 1, 5, and 10 miles of the proposed leases.

The BLM must take a hard look not only at direct health impacts and proximity-related health impacts of oil and gas development, but also at cumulative health risks and impacts. *See* 40 C.F.R. § 1508.1(g)(3). Cumulative health risks and impacts can arise not only from multiple pollutant exposures, and cumulative pollution exposures over time, but also from compounding structural, social, and economic factors, many of which are rooted in systemic inequities and injustices. To adequately analyze human health impacts, the BLM should incorporate findings from regionally relevant health impact assessments (HIAs).[121](#_bookmark120) An HIA is an internationally used preventative health tool that anticipates the human health impacts of new or existing development projects, programs, or policies. The overall goal of this type of assessment is to identify and minimize negative health effects of a particular action, such as oil and gas development and production.

Researchers have begun to apply a growing body of evidence documenting how social and environmental stressors lead to health inequities and cumulative impacts[122](#_bookmark121) specifically in the oil and gas drilling context.[123](#_bookmark122) For example, the aforementioned 2016 Marcellus Shale study

121 *See* K. Lock, *Health impact assessment*, BRITISH MEDICAL JOURNAL 320 (2000).

122 *See, e.g.*, Rachel Morello-Frosch et al., Understanding the Cumulative Impacts of Inequalities in Environmental Health: Implications for Policy, 30 HEALTH AFFAIRS 879 (May 2011) (Identifying four key concepts underlying the emerging knowledge about cumulative impacts of environmental and social stressors: “First, health disparities between groups of different racial or ethnic makeup or socioeconomic status are significant and persistent, and exist for diseases that are linked to social and environmental factors. Second, inequalities in exposures to environmental hazards are also significant and persistent, and are linked to adverse health outcomes. Third, intrinsic biological and physiological factors—for example, age—can modify the effects of environmental factors and contribute to differences in the frequency and severity of environmentally related disease. And fourth, extrinsic social vulnerability factors at the individual and community levels—such as race, sex, and socioeconomic status—may amplify the adverse effects of environmental hazards and can contribute to health disparities.”). In addition, the U.S. EPA and numerous states have called for, and developed guidance on, cumulative impact analyses, including cumulative risk assessments and HIAs, that analyze multiple environmental stressors in conjunction with social stressors, environmental justice considerations, and social determinants of health. *See, e.g.*,

U.S. ENVIRONMENTAL PROTECTION AGENCY, FRAMEWORK FOR CUMULATIVE RISK

ASSESSMENT (May), [https://www.epa.gov/sites/production/files/2014-](https://www.epa.gov/sites/production/files/2014-11/documents/frmwrk_cum_risk_assmnt.pdf) [11/documents/frmwrk\_cum\_risk\_assmnt.pdf;](https://www.epa.gov/sites/production/files/2014-11/documents/frmwrk_cum_risk_assmnt.pdf) MINNESOTA POLLUTION CONTROL AGENCY, CUMULATIVE IMPACT ANALYSIS, <https://www.pca.state.mn.us/air/cumulative-impact-analysis> (noting that “[p]eople’s health is affected by many outside factors including multiple sources of pollution and other social conditions and stressors.

Some people and communities are burdened by higher levels of pollution and more social stressors than others”); CUMULATIVE IMPACTS SUBCOMMITTEE, ENVIRONMENTAL JUSTICE ADVISORY COUNCIL TO THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, STRATEGIES FOR ADDRESSING CUMULATIVE IMPACTS IN ENVIRONMENTAL JUSTICE COMMUNITIES (March 2009),

<https://www.nj.gov/dep/ej/docs/ejac_impacts_report200903.pdf> (identifying adverse cumulative impacts of exposures to multiple environmental burdens in “environmental justice” communities as one of “the most critical and pertinent Environmental Justice issues requiring state action and attention”).

123 *See, e.g.*, Susan Kinnear et al., *The Need to Measure and Manage the Cumulative Impacts of Resource Development on Public Health: An Australian Perspective* (May 15, 2013), [https://www.intechopen.com/books/current-topics-inpublic-health/the-need-to-measure-and-manage-the-](https://www.intechopen.com/books/current-topics-inpublic-health/the-need-to-measure-and-manage-the-cumulative-impacts-of-resource-development-on-public-health-anau) [cumulative-impacts-of-resource-development-on-public-health-anau;](https://www.intechopen.com/books/current-topics-inpublic-health/the-need-to-measure-and-manage-the-cumulative-impacts-of-resource-development-on-public-health-anau) Jill Johnston & Lara Cushing, *Chemical Exposures, Health, and Environmental Justice in Communities Living on the Fenceline of Industry*, 7 Current Environmental Health Reports, 48–57 (2020).

and HIA ranked “social determinants of health,” (in this study, social determinants included crime, injuries, mental health, sexually transmitted infections, and substance abuse) as a fracking-related hazard of the highest concern with respect to public health impacts, along with air quality and health care infrastructure.[124](#_bookmark123) Cumulative risks, too, were considered their own category of fracking-related public health hazard, and ranked as a “moderately high” concern (along with water quality, noise, and traffic).[125](#_bookmark124)

# The BLM failed to thoroughly analyze the impacts of this lease sale on environmental justice.

The BLM must take a hard look at environmental justice – not just in relation to health, but also in its own right. As defined by the U.S. Environmental Protection Agency, “environmental justice” means “the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, in the development, implementation, and enforcement of environmental laws, regulations, and policies.”[126](#_bookmark125) Executive Order (EO) 12898 requires each Federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low- income populations.”[127](#_bookmark126) As the court stated in *Standing Rock v. U.S. Army Corps of Engineers*, “NEPA creates, through the Administrative Procedure Act, a right of action deriving from Executive Order 12898.”[128](#_bookmark127) Even more recently, President Biden’s January 27, 2021, “Executive Order on Tackling the Climate Crisis at Home and Abroad” explicitly recognizes the inexorable links among climate, health, and environmental justice (which includes social and economic justice), and the corresponding need to address all of them in concert, with a whole-of- government approach.[129](#_bookmark128) Environmental Justice is a “relevant factor” for which federal agencies must take a hard look under NEPA, made reviewable under the APA’s arbitrary and capricious standard.[130](#_bookmark129) As various executive orders and related agency guidance documents state,[131](#_bookmark130) and as

124 Boyle et al., Hazard Ranking Methodology for Assessing Health Impacts of Unconventional Natural Gas Development and Production: The Maryland Case Study, PLoS ONE 11(1): e0145368. [https://doi.org/10.1371/journal.pone.0145368.](https://doi.org/10.1371/journal.pone.0145368)

125 *Id.*

126 *See* U.S. Environmental Protection Agency, Environmental Justice, [www.epa.gov/environmentaljustice.](http://www.epa.gov/environmentaljustice)

127 Exec. Order No. 12,898, 59 Fed. Reg. 32 (Feb. 11, 1994), [https://www.archives.gov/files/federal-](https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf) [register/executive-orders/pdf/12898.pdf.](https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf)

128 440 F. Supp. 3d 1, 9 (D. D.C. 2020), *vacated by, in part, affirmed by, in part, Standing Rock Sioux Tribe*

*v. United States Army Corp of Eng’rs*, 985 F.3d 1032 (D.C. Cir. 2021).

129 *See* Executive Order 14008, 86 Fed. Reg. 7619-7633, Tackling the climate crisis at home and abroad (January 27, 2021), [https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-](https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-ontackling-the-climate-crisis-at-home-and-abroad/) [ontackling-the-climate-crisis-at-home-and-abroad/.](https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-ontackling-the-climate-crisis-at-home-and-abroad/)

130 *See* Latin Ams. for Social & Econ. Dev. v. Fed. Highway Admin., 756 F.3d 447, 465 (6th Cir. 2014); Coliseum Square Ass’n, Inc. v. Jackson, 465 F.3d 215, 232 (5th Cir. 2006); Cmtys. Against Runway Expansion, Inc.

v. FAA, 355 F.3d 678, 689 (D.C. Cir. 2004); Standing Rock Sioux Tribe v. U.S. Army Corps of Engineers, 440 F. Supp. 3d 1, 9 (D. D.C. 2020), vacated by, in part, affirmed by, in part, Standing Rock Sioux Tribe v. United States Army Corp of Eng’rs, 985 F.3d 1032 (D.C. Cir. 2021); Friends of Buckingham v. State Air Pollution Control Bd., 947 F.3d 68, 87 (4th Cir. 2020).

131 EO12898 (1994), EO 14008 (2021); *see* U.S. EPA (2016), “Promising Practices for EJ Methodologies in NEPA Review” available at [https://www.epa.gov/sites/default/files/2016-](https://www.epa.gov/sites/default/files/2016-08/documents/nepa_promising_practices_document_2016.pdf) [08/documents/nepa\_promising\_practices\_document\_2016.pdf.](https://www.epa.gov/sites/default/files/2016-08/documents/nepa_promising_practices_document_2016.pdf)

courts have affirmed specifically, regarding the NEPA process, the BLM must take environmental justice seriously.

According to EPA Guidance on environmental justice in the NEPA process, an environmental justice analysis must also include “the cultural values that the community and/or Indian Tribe may place on a natural resource at risk.”[132](#_bookmark131) The Guidance also states that it is “essential” for the “NEPA analyst to consider the cumulative impacts from the perspective of these specific resources or ecosystems which are vital to the communities of interest.”[133](#_bookmark132) Failure to adequately analyze impacts to overburdened communities from additional fossil fuel leasing within the planning area would be arbitrary and capricious, a failure to “articulate a rational connection between the facts found and the choices made.”[134](#_bookmark133) The BLM must also adhere to the “process” requirements of environmental justice – fair treatment and meaningful involvement. If the BLM ignores or excludes the very people and communities who are most affected by its land allocation decisions, the BLM is not only denying them fair treatment and meaningful involvement in decision-making – and, in the case of indigenous peoples and Tribes, abrogating the right to self-determination and free prior and informed consent[135](#_bookmark134) – but also depriving itself, and the general public, of invaluable knowledge and expertise that would enable better-informed and more transparent decision-making. “Better decisions” are indeed a fundamental goal of NEPA, and they require extensive, meaningful public involvement throughout an agency’s decision-making process – not just “input” on pre-determined agendas.[136](#_bookmark135) Indeed, environmental justice is not merely a box to be checked.

# The BLM Failed to Consider Its Mineral Leasing Act Mandate to Take All Reasonable Precautions to Prevent Waste.

Methane is a potent climate pollutant that has contributed about half a degree Celsius to observed global warming.[137](#_bookmark136) There is now more methane in the atmosphere than at any time in the last 800,000 years, with concentrations increasing at an alarming rate since 2007, largely because of fossil fuel production.[138](#_bookmark137) Recent findings have amplified the urgent need to curtail oil and gas emissions, demonstrating that methane release from such development has been

132 1998 EPA NEPA Final Guidance [https://www.epa.gov/sites/production/files/2015-](https://www.epa.gov/sites/production/files/2015-%2002/documents/ej_guidance_nepa_epa0498.pdf) [02/documents/ej\_guidance\_nepa\_epa0498.pdf.](https://www.epa.gov/sites/production/files/2015-%2002/documents/ej_guidance_nepa_epa0498.pdf)

133 *Id.*

134 *Motor Vehicle Mfr. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

135 The duty to obtain free prior and informed consent (FPIC) from indigenous peoples is recognized by the International Labour Organization Convention (“ILO”) 169 and the U.N. Declaration on the Rights of Indigenous Peoples (“UNDRIP”), Articles 10, 11, 19, 28, 29, and 32. *See* UN General Assembly, United Nations Declaration on the Rights of Indigenous Peoples. FPIC is embedded in the right to self-determination. “The duty of States to obtain Indigenous Peoples’ FPIC entitles Indigenous people to effectively determine the outcome of decision-making that affects them, not merely a right to be involved.” UN Expert Mechanism on the Rights of Indigenous Peoples, Final report of the study on indigenous peoples and the right to participate in decision-making (August 17, 2011).

136 *See* 40 C.F.R. § 1500.1(c).

137 Intergovernmental Panel on Climate Change (IPCC), Climate Change 2021: The physical Science Basis, Contribution of Working Group I to the Sixth Assessment Report of the IPCC, Summary for Policymakers SPM-7 (V. Masson-Delmotte et al. eds, 2021) [hereinafter IPCC AR6 WGI], [https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC\_AR6\_WGI\_SPM.pdf.](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf)

138 IPCC, SIXTH ASSESSMENT REPORT, CLIMATE CHANGE 2021: THE PHYSICAL SCIENCE BASIS, TECHNICAL SUMMARY TS-67.

dramatically underestimated.[139](#_bookmark138) Analysis of pre-industrial ice cores “indicate that anthropogenic fossil [methane] emissions are underestimated by about 38 to 58 teragrams CH4 per year, or about 25 to 40 percent of recent estimates.”[140](#_bookmark139) This “highlights the human impact on the atmosphere and climate, [and] provides a firm target for inventories of the global [methane] budget.”[141](#_bookmark140) The BLM must, in its baseline, properly account for current methane levels and the related climate and resource impacts associated with this and the related lease sales.

The EAs fail to take the requisite hard look at the impacts of methane emissions that will result from development of and production on these leases, including the economic, public health, and public welfare impacts of venting and flaring.[142](#_bookmark141) Venting and flaring of gas account for tremendous economic waste and adverse health impacts. In 2019 alone, venting or flaring accounted for roughly 150 billion cubic feet of methane, resulting in the loss of over $50 million in federal royalty revenue – enough to meet the needs of over two million households, nearly as many households as the states of New Mexico, North Dakota, Utah, and Wyoming combined.

This waste also means lost royalty revenues for taxpayers and Tribes. A recent analysis conducted by Synapse Energy Economics determined the value of lost gas in the form of: lost royalties; (2) lost state revenue from taxes; and (3) lost revenue from wasted natural gas that could be used for other purposes. The study found that $63.3 million in royalties, $18.8 million in state revenue from taxes (from the top six states), and $509 million in gas value was lost due to venting, flaring, and leaks on federal and Tribal lands.[143](#_bookmark142) The report found that, in 2019, leaks accounted for 46% and flaring for 54% of lost gas.[144](#_bookmark143) Wyoming had among the highest volumes of gas lost from federal and Tribal lands.[145](#_bookmark144)

Venting and flaring on Tribal and federal public lands also has significant health impacts on frontline and fence line communities.[146](#_bookmark145) These groups live near flaring wells at much higher rates than other communities across the country. Proximity to oil and gas infrastructure creates disproportionate adverse health risks and impacts on Indigenous communities in particular.[147](#_bookmark146) According to an Environmental Defense Fund (EDF) analysis, roughly 1,100 adults with asthma, 800 adults with chronic obstructive pulmonary disease, 700 adults with coronary heart disease, and 400 adults who have experienced a stroke live within a half mile of a flaring well.[148](#_bookmark147) Another study links flaring to shorter gestation and reduced fetal growth.[149](#_bookmark148) Indigenous communities face

139 B. Hmiel et al., Preindustrial CH4 indicates greater anthropogenic fossil CH4 emissions, 578 NATURE 409, 409–12 (Feb. 19, 2020); S. Pandey et al., Satellite observations reveal extreme methane leakage from a natural gas well blowout, 116 PNAS 52 (2019).

140 *Id.* at 409.

141 *Id.*

142 *See, e.g.*, EDF, Flaring Aerial Survey Results (2021), [https://www.permianmap.org/flaring-emissions/.](https://www.permianmap.org/flaring-emissions/)

143 Olivia Griot et al., Onshore Natural Gas Operations on Federal and Tribal Lands in the United States: Analysis of Emissions and Lost Revenue, Synapse Energy Economics Inc., 3 (Jan. 20, 2023), [https://blogs.edf.org/energyexchange/files/2023/01/EMBARGOED\_EDF-TCS\_Public\_Lands\_Analysis.pdf.](https://blogs.edf.org/energyexchange/files/2023/01/EMBARGOED_EDF-TCS_Public_Lands_Analysis.pdf)

144 *Id.* at 23.

145 *Id.* at 24.

146 *E.g.*, Jeremy Proville et al., *The demographic characteristics of populations living near oil and gas wells in the USA*, 44 Population and Environment 1 (2022), [https://doi.org/10.1007/s11111-022-00403-2.](https://doi.org/10.1007/s11111-022-00403-2)

147 *See, e.g.*, *id.* at 2–5.

148 Olivia Griot et al., *supra* note 143.

149 Lara J. Cushing et al., *Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas*, 128 ENVIRONMENTAL HEALTH PERSPECTIVES, 077003 (2020).

some of the worst consequences of excessive flaring. Reducing waste from flaring on federal and Tribal lands would lessen these harms and would be consistent with the Administration’s environmental justice commitments.

The BLM is presently undertaking a rulemaking on methane waste. As such, BLM should not issue additional oil and gas leases until the agency addresses waste on Tribal and federal public lands. At the least, the BLM must properly account for and estimate methane emissions that occur during oil and gas production and transport. This can easily be done using a reasonable leak rate assumption (such as 2.3%) and projected production estimates.[150](#_bookmark149) The BLM failed to properly discuss and provide for adequate mitigation of methane emissions resulting from this lease sale.

**CONCLUSION**

We appreciate your consideration of the information and concerns addressed in this protest, as well as the information in the attached exhibits.

Please do contact us Respectfully,

if you have any questions.

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150 R. A. Alvarez et al., Assessment of methane emissions from the U.S. oil and gas supply chain, 361 Science 186 (Jun. 21, 2018).