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PARKS * EARTHJUSTICE * ENVIRONMENTAL DEFENSE FUND * FRIENDS OF
THE EARTH * NATIONAL AUDUBON SOCIETY * NATIONAL PARKS
CONSERVATION ASSOCIATION * NATURAL RESOURCES DEFENSE COUNCIL
* POWDER RIVER BASIN RESOURCE COUNCIL * ROCKY MOUNTAIN WILD *
THE WILDERNESS SOCIETY * WYOMING OUTDOOR COUNCIL * WYOMING
WILDERNESS ASSOCIATION**

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SUBMITTED VIA E-PLANNING

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**Re: Comments on the Wyoming Bureau of Land Management 2023 Second
Quarter Oil and Gas Lease Sale Draft Environmental Assessment and Draft
Finding of No Significant Impact (DOI-BLM-WY-0000-2023-0001-EA)**

Dear Acting State Director Archuleta:

On behalf of The Wilderness Society, the above-listed organizations, and our millions of members and supporters, we thank you for accepting and fully considering these comments on the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the Wyoming Bureau of Land Management 2023 Second Quarter Oil and Gas Lease Sale. Our organizations and members are deeply invested in sound stewardship of our public lands and committed to ensuring that they equitably benefit all people, address environmental justice, protect biodiversity, and serve as a solution to – not a cause of – climate disruption.

We appreciate inclusion of Alternative 3 (Modified Proposed Action) in the Draft EA for this lease sale. However, for the reasons explained in this comment and in our scoping comments, we respectfully request and strongly urge deferring many of the remaining parcels. The recently released Instruction Memorandum (IM) 2023-007, the Federal Land Management

Policy Act (FLPMA), and analysis under the National Environmental Policy Act (NEPA) counsel additional deferrals, as discussed in Section III.

As we did in our scoping comments, we continue to strongly urge the Interior Department to begin both seriously addressing the structural deficiencies that the Department has identified in its Report on the Federal Oil and Gas Leasing Program and durably implementing the Inflation Reduction Act's (IRA's) requisite leasing program reforms through the fossil fuel rulemaking process.

I. The BLM should immediately issue additional guidance, including on other important reforms, to steer all leasing decisions before a final rule is in place.

We appreciate that the BLM issued guidance addressing not only the leasing reforms included in the IRA, but also additional updates to onshore leasing and permitting policies. However, there are many other reforms that the agency has yet to address and that DOI should prioritize in its fossil fuel leasing and permitting rulemaking. In the interim, we ask that the BLM immediately issue additional guidance on the following to steer all leasing decisions and processes for any lease sales held before regulations are in place:

- **Renewables development.** The IRA did not enact a leasing mandate but rather made at least some oil and gas leasing a requirement for issuing wind or solar development ROWs.¹ While DOI has stated that it is proceeding with new lease sales “to comply with congressional direction on oil and gas leasing through the [IRA],” it has not established how the proposed oil and gas lease sales align with plans to issue ROWs for wind and solar development. IM 2023-006 does detail how the BLM will determine the acreage it must offer for oil and gas leasing in order to issue wind or solar ROWs pursuant to the IRA and defines the period for calculating the acreage requirement as the “year before the wind or solar energy right-of-way is issued.” However, if DOI is going to conduct lease sales to comply with the IRA's tethering provisions, it should do so as part of a clearly articulated and concerted national strategy rather than holding lease sales piecemeal, state office by state office. Any leases offered as part of this lease sale or related lease sales in the one-year period should indeed be part of a plan to issue wind or solar permits. We urge the BLM to offer for lease the minimum amount of acreage necessary under the IRA to enable it to issue renewables ROWs.
- **Bonding.** The BLM should issue guidance eliminating or minimizing the use of blanket bonds and require that bonds be based on the full costs of plugging, abandonment, and reclamation. The Mineral Leasing Act (MLA) requires adequate bonding. 30 U.S.C. § 226(g). In the environmental review for this lease sale, please disclose how many idle and orphan wells are currently present within the designated lease parcels and at a cumulative level in nearby areas; explain how additional leasing in areas with idle and orphan wells will protect the interests of the BLM, the state, and citizens in the area; and consider alternatives and mitigation measures, such as

¹ See Inflation Reduction Act of 2022, H.R. 5376, 117th Cong. §§ 50165(a)(3), (b)(1).

lease stipulations, that require plugging old wells before drilling new wells within a lease parcel.

- **Responsible bidders.** The BLM should issue guidance to prevent actors with a history of violating the terms of federal oil and gas leases from purchasing or otherwise acquiring new leases. We appreciate that in IM 2023-008 the BLM states that it will no longer accept anonymous EOI submissions. Additionally, we urge the BLM to establish criteria for identifying “responsible qualified bidders.”

II. Before holding the proposed lease sales, the Department of the Interior (DOI) should release a proposed rule to revise fossil fuel leasing and permitting regulations and implement leasing reform provisions in the Inflation Reduction Act to ensure the rulemaking moves forward expeditiously.

Even with agency guidance regarding implementation of the IRA’s leasing provisions in place, new regulations for the federal onshore oil and gas program remain paramount for ensuring durable, holistic reform. We call on the Interior Department to issue its proposed rule to reform fossil fuel leasing and permitting regulations and implement the IRA’s leasing-related provisions modernizing the MLA before holding the BLM Wyoming 2023 Second Quarter Oil and Gas Lease Sale. Releasing a proposed rule before holding new lease sales is critical to ensuring that the rulemaking moves forward expeditiously.

Interior has already acknowledged that its oil and gas program “falls short of serving the public interest in a number of important respects.”² It follows, then, that in the absence of reform, leasing would not serve the public interest, as it should. *See, e.g., Boesche v. Udall*, 373 U.S. 472, 484 (1963).

Reforming the onshore leasing system will address some of the notable flaws recognized by independent and non-partisan entities fundamental to ensuring the federal leasing program works for everyone, not just the oil and gas industry.³ Thus, we urge Interior to implement needed reforms before leasing more of our shared public lands. Fortunately, the Department has the authority to address several programmatic deficiencies through rulemaking.

The rulemaking should address the IRA’s increases to the federal onshore royalty rate, rental rates, and minimum lease bid, establishment of a \$5/acre EOI fee, elimination of noncompetitive leasing, and the requirement of a methane royalty on federal leases, including from vented and flared gas. Regulation must also reform the currently inadequate bonding regime, left out of the IRA but for which Interior has ample authority to address, as well as many other programmatic reforms.

² U.S. DEP’T OF THE INTERIOR, REPORT ON THE FEDERAL OIL AND GAS LEASING PROGRAM 14 (Nov. 2021) [hereinafter DOI REPORT].

³ *E.g.*, GAO, BLM SHOULD UPDATE ITS GUIDANCE AND REVIEW ITS FEES (Nov. 2021), <https://www.gao.gov/assets/720/717469.pdf>; CBO, OPTIONS FOR INCREASING FEDERAL INCOME FROM CRUDE OIL AND NATURAL GAS ON FEDERAL LANDS (Apr. 2016), https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/51421-oil_and_gas_options-OneCol-3.pdf.

An important reason to update regulations immediately and certainly before another lease sale is that the Draft EA itself erroneously refers to noncompetitive leases, which are now disallowed under the IRA.

Federal oil and gas leases generate a one-time lease bonus bid, as well as annual rents during the life the lease, or until hydrocarbon production begins on the leased parcel. Nominated parcels approved for leasing are offered quarterly by the BLM at auctions starting at a minimum bid of \$10.00 per acre. *If parcels do not receive the minimum competitive bid, they may be leased later as noncompetitive leases that do not generate bonus bids.* In general, lease sales in Wyoming are highly competitive and parcels with high potential for oil and gas production regularly command bonus bids in excess of the minimum bid.⁴

The BLM needs to omit this mistaken reference in the final NEPA documents for this sale and, as noted, updated the regulations before any sale to accord with elimination of noncompetitive leasing.

Program deficiencies with direct impacts for this lease sale that need to be addressed in the rulemaking include but are not limited to:

- **Irresponsible leasing of public lands that adversely impacts the public, including degrading clean air, clean water, and the climate, and communities’ access to outdoor recreation.** Leasing leads to degradation of air and water quality,⁵ release of greenhouse gases that disrupt the climate,⁶ and limitations on opportunities to enhance recreation, including discouraging investments in recreation assets.⁷

Recommendation: Under the MLA, Interior may choose to lease “where eligible lands are available.” 30 U.S.C. § 226(b)(1)(A). The BLM retains discretion to determine what lands qualify as eligible and available. *E.g., W. Energy All. V. Biden*, No. 21-cv-13-SWS, at *18 (D. Wyo. Sept. 9, 2022) (“‘Eligible’ and ‘available’ are not defined by Congress in the MLA, which necessarily delegates the matter to the agency.” (citation omitted)). The MLA does not define or discuss a nomination process for leasing those lands, and, likewise, the IRA leaves to Interior the discretion to determine a process (if any) for soliciting EOIs.⁸ As

⁴ Draft EA at 99 (emphasis added).

⁵ *E.g.*, CLEAN AIR TASK FORCE, FOSSIL FUMES: A PUBLIC HEALTH ANALYSIS OF TOXIC AIR POLLUTION FROM THE OIL AND GAS INDUSTRY (June 2016), <https://cdn.catf.us/wp-content/uploads/2016/06/14175846/fossil-fumes-report-2022.pdf>.

⁶ *E.g.*, DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT, 2021 BLM SPECIALIST REPORT ON ANNUAL GREENHOUSE GAS EMISSIONS AND CLIMATE TRENDS (2021) (hereinafter 2021 BLM SPECIALIST REPORT), <https://www.blm.gov/content/ghg/2021/>.

⁷ PUBLIC LAND SOLUTIONS, HOW SPECULATIVE OIL & GAS LEASING IS THREATENING ECONOMIC GROWTH IN THE AMERICAN WEST (Feb. 2020), <https://publiclandsolutions.org/wp-content/uploads/2020/01/PLS-LPL-Report91.pdf>.

⁸ See Inflation Reduction Act of 2022, H.R. 5376, 117th Cong. § 50262(d) (“The Secretary shall assess a nonrefundable fee against any person that, *in accordance with procedures established by the Secretary* to carry out this subsection, submits an expression of interest in leasing land available for disposition under this section for exploration for, and development of, oil or gas.” (emphasis added)).

such, the agency may determine the process for nominating lands to be leased, including by EOIs, which Interior itself created in its regulations. *See* 43 C.F.R. § 3120.3-1. Given the Interior Department’s considerable authority and discretion over if and when to hold oil and gas lease sales, the agency should establish in regulation – and in additional guidance in the interim – that EOIs may be submitted and accepted only if there is an announced lease sale and only for lands eligible and available for leasing based on various screens, including conservation and climate priorities, community impacts, multiple use, and taxpayer fairness. The BLM should also establish a new lease nomination process in line with the “formal” nomination process set forth in 43 C.F.R. § Part 3120 (Competitive Leases), where the BLM would similarly develop a selection of lands that may be nominated for leasing in a particular sale based on various screens.

- **Mounting cleanup and remediation costs of orphan wells.** According to the Government Accountability Office (GAO), the BLM holds an average of \$2,122 per well in bonding (as of 2018), while average reclamation costs on federal lands range from around \$20,000 to \$145,000 per well.⁹ As of 2021, there were 27,383 producible federal wells in Wyoming,¹⁰ which means the bonding shortfall – the amount of the oil and gas industry’s reclamation costs that could fall to taxpayers – may range from approximately \$550 million to just under \$4 billion. Offering additional leases without adequate bonding will only increase the burden on the public and leave numerous orphaned wells to degrade our public lands.

Recommendation: The existing regulatory framework for inactive and orphaned wells is completely inadequate, as it lets industry shift millions in clean-up costs to taxpayers and fails to protect public lands, waters, and nearby communities from the impacts of aging and abandoned infrastructure. GAO and Interior’s Inspector General have both repeatedly advised the BLM to strengthen its oversight of inactive and orphaned wells, including by increasing bond amounts to reflect the actual costs of reclamation.¹¹ The BLM should issue additional guidance in the interim as it works to amend its oil and gas regulations to eliminate or minimize the use of blanket bonds and require that bonds be based on the full costs of plugging, abandonment, and reclamation. The agency should

⁹ GAO, BLM SHOULD ADDRESS RISKS FROM INSUFFICIENT BONDS TO RECLAIM WELLS 11, 15 (2019), <https://www.gao.gov/assets/gao-19-615.pdf>.

¹⁰ BLM, OIL AND GAS STATISTICS – PRODUCIBLE WELL BORES, <https://www.blm.gov/programs-energy-and-minerals-oil-and-gas-oil-and-gas-statistics>.

¹¹ GAO, Bonding Requirements and BLM Expenditures to Reclaim Orphaned Wells (Jan. 2010), <https://www.gao.gov/assets/gao-10-245.pdf>; GAO, BLM Needs a Comprehensive Strategy to Better Manage Potential Oil and Gas Well Liability (Feb. 2011), <https://www.gao.gov/assets/gao-11-292.pdf>; DOI Office of the Inspector General, BLM Oil and Gas Bonding Procedures (Sept. 2012), <https://www.doioig.gov/sites/default/files/2021-migration/BLM%2520Oil%2520and%2520Gas%2520Bonding%2520Procedures.pdf>; DOI Office of the Inspector General, Bureau of Land Management’s Idle Well Program (Jan. 2018), https://www.doioig.gov/sites/default/files/2021-migration/FinalEvaluation_BLMIdleWells_011718.pdf; GAO, Bureau of Land Management Needs to Improve Its Data and Oversight of Potential Liabilities (May 2018), <https://www.gao.gov/assets/gao-18-250.pdf>; GAO, BLM SHOULD ADDRESS RISKS FROM INSUFFICIENT BONDS TO RECLAIM WELLS.

issue new policies that increase oversight of inactive wells and limit the ability of operators to indefinitely delay final reclamation.

- **Leasing that fosters speculation by oil and gas companies and other individuals.** Speculative leasing has long hindered the federal oil and gas program, not only as a result of oil and gas speculators formerly being able to purchase leases noncompetitively, but also because the BLM has opened up 90 percent of western public lands to oil and gas leasing. Speculation on lands with little drilling potential wastes the BLM’s time and resources and locks up public land that should be devoted to uses in the greater public interest. For this Wyoming lease sale, 91 parcels covering about 72,301 acres of lands with low development potential¹² have been nominated, which, if sold, would perpetuate this long-standing and redressable problem. Current leasing procedures also insufficiently screen out unqualified applicants or so-called bad actors, who have a history of abandoning and orphaning wells, missing payments, and other poor practices.

Recommendation: In looking to avoid allowing public lands to become held up in nonproducing oil and gas leases that prevent management of other resource values and provide little benefit to taxpayers, the BLM should not offer leases on lands determined to have low or no development potential for oil or gas. Recently released IM 2023-007 begins to address this problematic issue by detailing criteria the BLM offices will use to evaluate nominated parcels, which the BLM should apply to the parcels in this lease sale. DOI should go further by embedding these criteria in its rulemaking and establishing a robust framework that employs these leasing availability screens *before* scoping to determine which lands are eligible and available for nomination via EOIs. The BLM should establish in regulation that any lands with low or no development potential, lands that are covered by a reasonably foreseeable development scenario (RFDS) that does not assess and specifically identify development potential, and lands that are covered by an outdated RFDS should not be available for nomination.

Recommendation: The BLM has broad authority to limit participation in the leasing process to “responsible qualified” bidders and cannot issue leases to companies that are violating “reclamation requirements and other standards . . . for any prior lease.” 30 U.S.C. § 226(b)(1)(A), (g). But the BLM has historically failed to adequately scrutinize the compliance records or development intentions and resource capabilities of participants in the oil and gas leasing process, which allows speculators and bad actors to freely obtain new leases. The BLM should prevent actors with a history of violating the terms of federal oil and gas leases from purchasing or otherwise acquiring new leases. It should eliminate the ability to nominate parcels anonymously and establish criteria for identifying “responsible qualified bidders.” These criteria could be used to limit or prevent participation in the leasing process by companies/individuals:

¹² Oil and natural gas development potential from BLM Reasonably Foreseeable Development Scenarios created for each Field Office.

- With a history of failing to make timely rental payments;
- That operate a significant number of inactive wells;
- That are violating federal or state reclamation requirements on other leases;
- Whose operations are violating federal or state air or water quality standards; and
- That lack the technical or economic resources to responsibly develop oil and gas resources.

The BLM should also regularly update and make publicly available the list of “Entities in Noncompliance with Reclamation Requirements of Section 17(g) of MLA.”¹³

Recommendation: The IRA’s elimination of noncompetitive leasing was an important step towards addressing the widespread issue of speculation in the federal onshore oil and gas program. In its rulemaking, the Department of the Interior must affirm the end of noncompetitive leasing and direct the BLM to no longer accept offers on public land parcels that are submitted for oil and gas leasing outside of competitive auction. Because a final rule is not yet in place, Interior must immediately issue interim guidance prohibiting noncompetitive oil and gas leasing and instructing BLM Field Offices not to issue leases noncompetitively.

- **Reckless leasing of public lands that carves up important wildlife habitat.** During the prior administration, 20 percent of the leases offered by BLM in Wyoming (between Jan. 2017 and Apr. 2019) were located in big game habitat areas and migration corridors identified as “priorities” by the state.¹⁴ This lease sale could further degrade critical wildlife habitats in Wyoming, as over 9,000 acres are located in big game crucial ranges or migrations corridors, and over 86,000 acres are located in Greater Sage-Grouse habitat.

Recommendation: The BLM should not offer leases on lands determined to be important habitat value for wildlife or fish species. As noted above, IM 2023-007 begins to address this issue by detailing criteria the BLM offices will use to evaluate nominated parcels, which the BLM should apply to the parcels in this lease sale. DOI should go further by embedding these criteria in its rulemaking and establishing a robust framework that employs these leasing availability screens *before* scoping to determine which lands are eligible and available for nomination via EOIs. DOI should establish a robust framework that uses leasing availability screens that include wildlife and fish habitat (based on the most current and accurate data layers available from the relevant State BLM Office(s)

¹³ BLM, Manual H-3120-1 – Competitive Leases (P), App. 4, Page 1 (Feb. 18, 2013).

¹⁴ CENTER FOR AMERICAN PROGRESS, EXPOSING SECRETARY BERNHARDT’S SABOTAGE OF BIG GAME WILDLIFE CORRIDORS (Apr. 2019), <https://www.americanprogress.org/issues/green/news/2019/04/18/468830/exposing-secretary-bernhardts-sabotage-big-game-wildlife-corridors/>.

and the appropriate state fish and wildlife agencies, as well as input received via Tribal consultation and public participation) to determine which lands are eligible and available for nomination. The BLM should establish in regulation that any lands where impacts to fish and wildlife could not be avoided or mitigated if development activities were to occur would not be available for nomination.

To move forward with more leasing without an updated regulatory framework that a formal rule will provide would continue an antiquated and flawed system that for decades has short-changed our public lands, wildlife, and the public, while perpetuating harm to the health of communities and the environment. We urge the Interior Department to move expeditiously to publish its proposed rule reforming the leasing and permitting programs before holding another oil and gas lease sale. This would take a critical step toward disallowing these and other structural issues in the leasing program to continue unabated.

III. The BLM should exercise its authority to defer additional parcels in this lease sale using the criteria in IM 2023-007.

Alternative 3 in the Draft EA would defer several parcels from this lease sale. We strongly urge the BLM not only to defer those parcels, but also to defer additional parcels under the criteria in IM 2023-007, as discussed below.

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. As discussed in Sections X and XI below, we urge the BLM to prioritize community health and environmental justice, values the Administration has committed to upholding. The presence and availability of a single parcel with high value leasing preference designation urges deferral of all parcels with a low value leasing preference designation. Thus, we recommend that the BLM apply the criteria in IM 2023-007, clearly designate parcels as having a low value leasing preference, and defer all parcels that receive even a single low value leasing designation based on the criteria.

As an initial matter, the public is unable to adequately comment on deferrals under Alternative 3 as this alternative is currently presented in the Draft EA, because it is not possible to determine precisely which parcels the BLM is recommending for deferral. This does not meet the analytical clarity that NEPA requires. The Draft EA states that, under Alternative 3, the BLM would defer 16 whole parcels based on screening criteria in IM 2023-007, 30 whole parcels that overlap with Greater Sage-Grouse Priority Habitat Management Areas (PMHA), and one whole parcel to allow coordination with the U.S. Army Corps of Engineers. That equals 47 whole parcels that the BLM would defer under Alternative 3. But nowhere does the Draft EA clearly list in one location those parcel numbers along with the specific reasons for deferring each of the parcels. Table 2.3 helpfully lists application of the leasing preference criteria. But it is missing a

crucial final column that would denote whether the BLM would actually defer the parcel under Alternative 3.¹⁵ It lists 23 parcels as having a low preference for leasing, none of which is a parcel marked as having low development potential yet nonetheless with a high preference for leasing, making it unclear why seven of those low preference parcels appear not to be marked for deferral.

One can attempt to discern which parcels would be deferred under Alternative 3 by piecing together references in the Draft EA, but several issues or inconsistencies make determining the reasons for deferral difficult. Table 4.12 in a section discussing sage-grouse lists 49 parcels initially recommended to the state director for deferral, but it does not also list the specific criteria under IM 2023-007 for certain of those recommended deferrals. Those parcels in Table 4.12 recommended for deferral are also not consistent with those listed with a low preference for leasing in Table 2.3 (see, e.g., parcel 1399 marked for deferral under IM 2023-007 in Table 4.12 but listed as “high” for all criteria in Table 2.3). The same is true for Table 4.15, which actually lists 51 parcels recommended for deferral.

Confusingly, the Draft FONSI states that under Alternative 3 the BLM would defer 18 whole parcels under the screening criteria, leading to 49 whole parcel deferrals (in line with Table 4.12 in the Draft EA). That number actually aligns with the totaling of all whole parcel deferrals in Table 2.2 but, as noted, not with the total number of parcels flagged for low preference (23) in Table 2.3. The BLM also claims that 30 parcels have low development potential, but Table 2.3 lists only 29. Several of the parcels pegged as having a low preference for leasing do not indicate development potential. It is possible one of those parcels is the 30th parcel with low development potential, but it is challenging to ascertain. The BLM should explain or clarify this inconsistency.

Whether as part of Table 2.3 or a separate table, we request and strongly urge the BLM to clearly delineate which parcels Alternative 3 would defer and for what reasons. Moreover, while we appreciate deferrals under Alternative 3, the BLM must defer additional parcels as part of this lease sale.

a. BLM should defer all parcels in the Rock Springs Field Office.

Leasing decisions in the Rock Springs Field Office are being made in accordance with an outdated plan from 1997 or, for one area, the Jack Morrow Hills, an amendment to the 1997 plan that was finalized in 2008. BLM is currently revising the Resource Management Plan (RMP) for this field office. Scoping began in 2011, but a draft has yet to be released for public review. The agency is severely restricting decision space for the updated RMP by leasing parcels in the field office now. As such, BLM should defer all leasing parcels in the Rock Springs Field Office. (Please see the Appendix for a list of these parcels.)

In particular, the sizeable block of parcels to the south-southeast of Rock Springs – Kinney-Rim/Adobe Town – would be leased with stipulations set by a 1997 RMP. Not only is this RMP woefully outdated, but these parcels also contain BLM-inventoried lands with

¹⁵ See Draft EA at 19, table 2.3.

wilderness characteristics (management for which will be determined in the revised RMP) and are in PHMA.

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.

b. BLM should defer all parcels in the Buffalo Field Office.

Leasing decisions in the Buffalo Field Office are, similar to Rock Springs, being made in accordance with an invalidated plan from 2015.¹⁶ The BLM is currently revising the RMP for this field office and is still in the scoping phase.¹⁷ The agency is severely restricting decision space by leasing parcels in the field office now. As such, the BLM should defer all leasing parcels in the Buffalo Field Office. (Please see the Appendix for a list of these parcels.)

Leasing during an RMP amendment – particularly under an invalidated RMP – severely 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.

c. BLM Should Defer Parcels in Crucial Wildlife Habitats and Documented Big Game Migration Corridors.

This sale includes numerous parcels in crucial wildlife habitats: 13 parcels contain crucial winter range for elk; 24 parcels contain crucial winter range for mule deer; and 27 parcels contain crucial winter range for pronghorn. (Please see the Appendix for a list of these parcels.) Alternative 3 appropriately identified some of these parcels for deferral based on the screening criteria in IM 2023-007. But we urge the BLM to defer the remainder of the parcels that overlap with these important areas.

Of most notable concern are the parcels that impact the Baggs mule deer migration corridor, specifically, parcels WY-2023-06-1501, WY-2023-06-1516, and WY-2023-06-1517 that overlap with the crucial habitats used by the Baggs Mule Deer herd to access seasonal habitats. The underlying RMP that manages this corridor was approved prior to the identification and mapping of the corridor. The plan does not account for the corridor or the latest research outlining the needs of migrating mule deer. It is inappropriate to lease oil and gas parcels in this corridor when the lease stipulations derive from an RMP that did not analyze impacts to or management for the functionality of the corridor.

Moreover, these parcels are in Wyoming Game and Fish Department (WGFD) identified stopover habitat, where the animals spend 95% of their time (as BLM acknowledges in the Draft EA¹⁸). What the Draft EA (and clearly WGFD) fails to cite is that Wyoming state policy, per

¹⁶ See *infra* note 40 and accompanying text.

¹⁷ *Id.*

¹⁸ Draft EA at 78.

Governor Gordon Executive Order 2020-1, declares that for stopover habitats “surface disturbance should be avoided.” Parcel 1517 is entirely within stopover, so there’s no way to ensure that there will be no surface disturbance within this stopover habitat.

The State of Wyoming designated the Baggs Mule Deer Migration Corridor in 2020. Peer-reviewed research has been clear: mule deer respond unfavorably to oil and gas development in migratory habitats, often missing out on high-quality forage during the spring migration.¹⁹ Offering these parcels for lease could lead to expanded development in this area and in this corridor, a habitat already excessively impacted by oil and gas fields. Existing leases already surround this arm of the corridor but parcels WY-2023-06-1516 and WY-2023-06-1517, in particular, would offer lands within an area of the corridor that has yet to be leased – a rare occurrence for this highly impacted migration corridor and one that should not be upended.

BLM must address the best available science on mule deer and other ungulate species and thoroughly consider the implications of that research. New studies are shaping understanding of how ungulates adapt, or don’t, to oil and gas development and other anthropogenic disturbance. For example, recent peer-reviewed studies indicate that migratory behavior is not the same across ungulate species, and that mule deer differ from other herbivores because they have very high fidelity to their migration routes with little to no adaptability as to where they migrate.²⁰ Mule deer alter their rate and timing of movement through stopovers in response to development, diminishing the benefits of migratory foraging.²¹ Disturbance from energy development causes not only direct habitat loss but has a multiplicative effect through avoidance behavior resulting in indirect habitat loss 4.6 times greater than direct habitat loss from roads, well pads, and other infrastructure.²²

The analysis in the RMP predates a wealth of significant new science, much of it specifically regarding the impacts of energy development on mule deer. Before moving forward with leasing, the agency must acknowledge and assess the increased risk to Wyoming’s herds that these studies document.

Additionally, BLM should not be leasing in crucial big game winter range. Extensive leasing in crucial winter range would have significant adverse impacts on Wyoming’s elk, pronghorn, and mule-deer herds. BLM is required to manage public lands “in a manner that will provide food and habitat” for all wildlife. 43 U.S.C. § 1701(a)(8). By avoiding leasing in crucial winter range, BLM can uphold its duty to provide food and habitat for these critically important big game species.

d. BLM should defer parcels that overlap areas with special designations such as Wilderness Study Areas, ACEC, and LWC.

¹⁹ Aikens, E.O., Wyckoff, T.B., Sawyer, H. et al. Industrial energy development decouples ungulate migration from the green wave. *Nat Ecol Evol* (2022). <https://doi.org/10.1038/s41559-022-01887-9>.

²⁰ Sawyer et al., *Migratory plasticity is not ubiquitous among large herbivores*, *Journal of Animal Ecology* 88(3) (Nov 17, 2018).

²¹ Teal Wyckoff et al., *Evaluating the influence of energy and residential development on the migratory behavior of mule deer*, *Ecosphere* 9(2) (Feb 23, 2018).

²² Samantha Dwinnell et al., *Where to forage when afraid: Does perceived risk impair use of the foodscape?*, *Ecological Applications* 29(7) (June 2019).

In this proposed sale, 10 parcels implicate inventoried Lands with Wilderness Characteristics (LWC) and six implicate proposed Areas of Critical Environmental Concern (ACECs):

- LWC: WY-2023-06-1353; WY-2023-06-1414; WY-2023-06-1436; WY-2023-06-1440; WY-2023-06-1470; WY-2023-06-7223; WY-2023-06-7228; WY-2023-06-7231; WY-2023-06-7234; and WY-2023-06-7248.
- ACECs: WY-2023-06-1451 and WY-2023-06-7243.
- Little Sandy proposed ACEC: WY-2023-06-1350; WY-2023-06-1491; and WY-2023-06-1492.
- Red Desert proposed ACEC: WY-2023-06-1509; WY-2023-06-1505; and WY-2023-06-1351.

Several of these units are in field offices where BLM has not yet made management decisions in its land use plans for how these areas will be managed relative to wilderness characteristics. The BLM must preserve its ability to decide whether and how to protectively manage wilderness resources in a public planning process. Such decisions could be foreclosed by leasing those lands to the oil and gas industry at this time. The BLM should defer all leases that overlap with these areas until the agency has the opportunity to make management decisions for those areas through a public planning process.

e. The BLM should defer 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 . . . 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.²³

²³ DOI REPORT, *supra* note 2, at 12.

Accordingly, the report directs 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.”²⁴ BLM must comply with this directive as soon as possible, including by deferring any lands with low or no development potential from this lease sale.

For this proposed sale, 159 proposed parcels or portions of parcels contain low or very low development potential according to oil or gas deposits, according to data from BLM’s Reasonably Foreseeable Development Scenarios created for each Field Office. (Please see the Appendix for a list of these parcels.) 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 risks 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. We therefore urge deferral of all parcels or portions of those parcels with low development potential, in accordance with IM 2023-007.

f. The BLM must require full-cost bonding.

To prevent oil and gas companies from saddling American taxpayers with their reclamation costs, the BLM must require full-cost bonding as a condition of lease acquisition. Under the MLA, the BLM is required to adopt standards that “ensure the *complete and timely reclamation* of the lease tract, and the restoration of any lands or surface waters adversely affected by lease operations. . . .” 30 U.S.C. § 226(g) (emphasis added). BLM must also ensure that lease operators provide “adequate” bonding, i.e., bonding that will ensure “complete and timely reclamation.”

Yet, as documented by GAO and others, BLM routinely requires bonds that are far short of what is needed to “completely and timely” reclaim and restore drilling sites. According to GAO, BLM has collected just over \$2,100 in bonding per well. This is because BLM typically defaults to minimum bond amounts, which have not increased in decades and are well-below what is needed to “completely” reclaim and restore drilling sites. For this reason, GAO has concluded that BLM’s bonds “do not reflect full reclamation costs for the wells they cover” and “are not sufficient to prevent orphaned wells”²⁵

²⁴ *Id.* at 13.

²⁵ GAO, BLM SHOULD ADDRESS RISKS FROM INSUFFICIENT BONDS TO RECLAIM WELLS (2019), <https://www.gao.gov/assets/gao-19-615.pdf>.

In its “Report on the Federal Oil and Gas Leasing Program,” DOI also found that BLM’s oil and gas bonding levels are “inadequate . . . and increase the risk that taxpayers will be required to cover the cost of reclaiming wells in the event that the operator refuses to do so or declares bankruptcy.”²⁶ The report directs the BLM to set new bonding levels based taking into consideration changes in technology, the complexity and depth of modern wells, inflation, and the risk of abandonment” and to do so as soon as possible, at a minimum for “high risk leases.”²⁷ Accordingly, the BLM must require bonds that reflect the full and complete costs of reclamation and restoration. To ensure this happens, the BLM should incorporate a new term into all leases now under consideration that requires a detailed assessment of potential reclamation and restoration costs in advance of surface disturbing activities and bonds that are equal to or in excess of those costs. Such a step would help the BLM address GAO’s primary recommendation on bonding: “The Director of BLM should take steps to adjust bond levels to more closely reflect expected reclamation costs, such as by increasing regulatory minimums to reflect inflation and incorporating consideration of the number of wells on each bond and their characteristics.”²⁸

g. The BLM Should Defer All Parcels in Priority Habitat Management Areas and General Habitat Management Areas for Greater Sage-Grouse.

The BLM should defer all parcels or portions of parcels that contain acreage designated as a Priority Habitat Management Area (PHMA) and all parcels or portions of parcels that contain acreage designated as General Habitat Management Area (GHMA) under the 2015 Greater Sage-Grouse Resource Management Plan Amendments (the 2015 Plans). (Please see the Appendix for a list of these parcels.) Deferral is required for at least two reasons.

First, a key component of the 2015 Plans requires BLM to prioritize new oil and gas leasing outside of PHMA and GHMA to protect that habitat from future disturbance. In May 2020, the BLM’s national policy addressing prioritization, Instruction Memorandum 2018-026, was struck down by a court. *Montana Wildlife Federation v. Bernhardt*, No. 18-cv-69-GF-BMM, 2020 WL 2615631 (D. Mont. May 22, 2020). BLM has not adopted new national guidance on the prioritization requirement and has represented to the Montana court that the agency’s previous prioritization guidance (adopted in 2016) also is not in effect. As a result, there is currently no national guidance providing direction on how prioritization is to be applied. Complying with the prioritization requirement of the 2015 Plans must be a central consideration for any lease parcels in PHMA or GHMA. The BLM should defer all parcels containing PHMA or GHMA at least until new national guidance is issued. The *Montana Wildlife Federation* ruling demonstrates the need for a well-reasoned national directive that fully complies with the purpose and language of the 2015 Plans’ prioritization objective. As described below, Wyoming’s current approach to prioritization illustrates how a state-by-state approach to prioritization will inevitably fall short of what the 2015 Plans require.

Second, the BLM is in the process of reviewing and amending the 2015 Plans to address changed conditions and new information since 2015, as well as the impacts of climate change on

²⁶ DOI REPORT, *supra* note 2, at 9.

²⁷ *Id.* at 10.

²⁸ GAO, BLM SHOULD ADDRESS RISKS FROM INSUFFICIENT BONDS TO RECLAIM WELLS 24.

the sage-grouse.²⁹ In light of this review, all parcels in sage-grouse habitat should be deferred while the BLM considers revisions to the 2015 Plans. Maintaining and increasing sage-grouse populations will require amending the 2015 Plans to add new terms and conditions, such as potentially closing PHMA and/or GHMA to new leasing. In the meantime, leasing in PHMA and GHMA must be deferred to avoid committing additional habitat to mineral development under terms that are inadequate to protect the sage-grouse.

In particular, parcels WY-2023-06-1491, WY-2023-06-1492 and WY-2023-06-7259 located in PHMA in the Rock Springs Field Office and within the Big Sandy Foothills should be deferred, with the former two being in areas with very low development potential. These areas are within the “Golden Triangle” and have some of the highest concentrations of grouse density and must be protected from oil and gas development.³⁰

Ensuring healthy sage-grouse populations across their range will require amending the 2015 Plans to address the variety of threats faced by this species and include considering how best to manage the various habitat designations, which we are encouraged to see the BLM has begun. In the meantime, leasing in GHMA must be deferred to ensure future conservation opportunities, especially given the breadth of undeveloped leased lands in Wyoming, while RMP plans are being reviewed.

The above recommendations, urging extreme care in development in sage-grouse habitat, become extremely important given recent scientific findings. In March 2021, U.S. Geological Survey researchers released a report that provides one of the most comprehensive population trend modeling efforts ever undertaken for sage-grouse.³¹ The report describes an overall decline in the number of sage-grouse across the majority of their range, which previous studies have shown as well. Since 1965, sage-grouse populations have declined 80% range-wide, including in areas where the decline has not been as severe. Since 2002, range-wide populations have declined 37%. Further, 78% of leks have a greater than 50% probability of extirpation in the next 56 years. In September 2022, the U.S. Geological Survey and other federal agencies released the that found that 1.3 million acres of habitat are transitioning each year from largely intact sagebrush sites to less functioning sagebrush habitat.³²

Further, the Wyoming Draft EA alternatives fail to comply with the 2015 Plans because they prioritize leasing only outside of PHMA, but not GHMA. Under FLPMA, the BLM must

²⁹ See Notice of Intent To Amend Land Use Plans Regarding Greater Sage-Grouse Conservation and Prepare Associated Environmental Impact Statements, 86 Fed. Reg. 66,331 (Nov. 22, 2021).

³⁰ Angus M. Thuermer, Jr., *Emergency letter: Save ‘highest grouse density areas on Earth’*, WyoFile (Feb. 26, 2019), <https://wyofile.com/emergency-letter-save-highest-grouse-density-areas-on-earth/>.

³¹ Peter S. Coates et al., Range-wide Greater Sage-Grouse Hierarchical Monitoring Framework: Implications for Defining Population Boundaries, Trend Estimation, and a Targeted Annual Warning System (March 2021), <https://doi.org/10.3133/ofr20201154>.

³² Doherty, K., Theobald, D.M., Bradford, J.B., Wiechman, L.A., Bedrosian, G., Boyd, C.S., Cahill, M., Coates, P.S., Creutzburg, M.K., Crist, M.R., Finn, S.P., Kumar, A.V., Littlefield, C.E., Maestas, J.D., Prentice, K.L., Prochazka, B.G., Remington, T.E., Sparklin, W.D., Tull, J.C., Wurtzback, Z., and Zeller, K.A., 2022, A sagebrush conservation design to proactively restore America’s sagebrush biome: U.S. Geological Survey Open-File Report 2022–1081, 38 p.

manage public lands “in accordance with the [applicable] land use plans” 43 U.S.C. § 1732(a); *see also* 43 C.F.R. § 1610.5-3(a) (“All future resource management authorizations and actions . . . shall conform to the approved plan.”).

The Supreme Court has explained that the statutory directive that BLM manage “in accordance with” land use plans, and the regulatory requirement that authorizations and actions “conform to” those plans, prevent BLM from taking actions inconsistent with the provisions of a land use plan. *Norton v. Southern Utah Wilderness Alliance*, 542 U.S. 55, 68 (2004).

Here, the Draft EA action alternatives are not consistent with the 2015 Plan requirement to prioritize leasing outside of GHMAs. BLM must:

prioritize oil and gas leasing and development outside of identified PHMAs **and GHMAs** . . . to further limit future surface disturbance and to encourage new development in areas that would not conflict with GRSG. This objective is intended to guide development to lower conflict areas and, as such, protect important habitat and reduce the time and cost associated with oil and gas leasing development. It would do this by avoiding sensitive areas, reducing the complexity of environmental review and analysis of potential impacts on sensitive species, and decreasing the need for compensatory mitigation.

Rocky Mountain Region ROD at 1-25 (emphasis added).

The 2015 Wyoming Plan echoes this directive and includes the following objective: “Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMAs and GHMAs.” Wyoming Plan Management Objective No. 14, at 24 (emphasis added); *see also*, NW Colorado Plan, Objective MR-1 (similar). Thus, the prioritization requirement applies to both GHMA and PHMA.

The Wyoming Draft EA, however, offers no explanation of how the action alternatives prioritize leasing outside GHMA. To the contrary, both alternatives offer all GHMA parcels being considered, doing nothing more than ensuring that correct stipulations, and current data, are applied. Wyoming draft EA at 61-67, 70. Moreover, the flow chart describing BLM’s prioritization analysis includes nothing to prioritize new leasing away from GHMA. *Id.* at 68–70. Without applying prioritization to GHMA, the proposed lease sale would violate FLPMA.

BLM must thoroughly analyze leasing in both PHMA and GHMA in its prioritization process, and BLM must direct new leasing away from GHMA as well as PHMA.

i. The Draft EA fails to analyze a reasonable range of alternatives.

NEPA generally requires the BLM to conduct an alternatives analysis for “any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(2)(E). The regulations further obligate BLM to “rigorously explore and objectively evaluate all reasonable alternatives” including those “reasonable alternatives not within the jurisdiction of the lead agency,” so as to “provid[e] a clear basis for choice among options.” 40 C.F.R. § 1502.14. 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 rel. Richardson v. BLM*, 565 F.3d 683, 708 (10th Cir. 2009). That analysis must cover a reasonable range of alternatives so that an agency can make an informed choice from the spectrum of reasonable options.

An EA offering a choice between leasing all (or most) proposed parcels, and leasing nothing at all, does not present a reasonable range of alternatives. *See TWS v. Wisely*, 524 F. Supp. 2d 1285, 1312 (D. Colo. 2007) (BLM violated NEPA by failing to consider “middleground compromise between the absolutism of the outright leasing and no action alternatives”); *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 813 (9th Cir. 1999) (holding that the NEPA analysis failed to consider reasonable range of alternatives where it “considered only a no action alternative along with two virtually identical alternatives”).

The Draft EA for the Wyoming sale fails to consider reasonable middle-ground alternatives. For example, the EA fails to evaluate an alternative that would defer leasing most or all GHMA parcels, despite a legal obligation under the 2015 Plans to prioritize leasing outside of GHMA. The BLM should consider an alternative that prioritizes leasing outside of GHMA as well as PHMA, and offers mostly or entirely non-sage-grouse habitat for lease. According to the Draft EA, for example, there are four parcels entirely outside GHMA and PHMA that could be offered under such an alternative.³³ This alternative would thus provide for a sale comparable in size to some of those the BLM has held recently in other states. Even if the BLM does not defer all GHMA parcels, deferring many or most of them would be a reasonable alternative that also complies with the prioritization requirement.³⁴

Because the BLM has not evaluated these or any other middle-ground alternatives, it has violated NEPA.

ii. The BLM has failed to take the necessary “hard look” at potential environmental impacts.

The BLM has not taken the required “hard look” at potential environmental impacts, as required by NEPA. Under NEPA, BLM must evaluate the “reasonably foreseeable” site-specific impacts of oil and gas leasing prior to making an “irretrievable commitment of resources.” *New Mexico ex rel. Richardson*, 565 F.3d at 718; *see also Sierra Club v. Hodel*, 848 F.2d 1068, 1093 (10th Cir. 1988) (agencies are to perform hard look NEPA analysis “before committing themselves irretrievably to a given course of action so that the action can be shaped to account for environmental values”); *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 553 (1978) (stating NEPA “places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action”). Courts have held that BLM makes such a commitment when it issues an oil and gas lease without

³³ Draft EA at 25.

³⁴ In addition, BLM should consider an alternative that requires additional stipulations to ensure that groundwater is better protected, requiring (for example) groundwater testing by the operator where necessary to fully characterize water resources prior to drilling.

reserving the right to later prohibit all development. *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)..

Here, the BLM is in fact proposing to make an “irretrievable commitment of resources” by offering leases without reserving the right to prevent future development; the site-specific impacts are “reasonably foreseeable” and should be analyzed in this Draft EA, rather than waiting until a leaseholder submits an application for permit to drill (APD). Unfortunately, the Draft EA takes exactly the wrong approach and contains essentially no discussion of impacts to greater sage-grouse.³⁵ The Draft EA claims that “it is difficult to predict exactly what impacts may occur” on the leases to be sold, but that impacts “would be similar to those discussed in the individual field office RMP and the 2015 ARPMA.”³⁶ Despite there being over 300 new scientific publications that have released since the 2015 ARPMA, the Draft EA contains no forecast of the impacts to sage-grouse populations from the specific leases being considered for sale under the two action alternatives. This approach violates NEPA, and BLM must take the site-specific impacts of leasing into account at this stage.

Under NEPA, “[t]he government’s inability to fully ascertain the precise extent of the effects of mineral leasing . . . is not . . . a justification for failing to estimate what those effects might be before irrevocably committing to the activity.” *Conner v Burford*, 848 F.2d 1441, 1450 (9th Cir. 1988); *see also N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1079 (9th Cir. 2011) (“NEPA requires that an EIS engage in reasonable forecasting. Because speculation is . . . implicit in NEPA, [] we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as crystal ball inquiry.”) (alteration in original). “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).

Here, the BLM can develop a reasonable forecast of how these leases will impact sage-grouse, just as it has done for their greenhouse gas impacts. For example, the agency can look to nearby existing development to assess where and how much drilling may occur on the proposed leases. Indeed, with regard to parcels in PHMA, BLM identified whether the lease would be adjacent to existing leases, in an area with high development potential, and how close the lease would be to a lek. Failing to use this type of readily available information to forecast development would violate NEPA. *See 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).

Moreover, the BLM cannot rely for these sales on the plan-level NEPA analysis conducted for the 2015 Plans. Tiering is only appropriate when a subsequent NEPA document incorporates by reference earlier general matters into a subsequent narrower statement; but it does not allow a subsequent analysis to ignore the specific environmental issues that are presented in the later analysis. 40 C.F.R. § 1508.28. The 2015 Plan EISs do not address the site-

³⁵ Draft EA at 61–76.

³⁶ *Id.* at 76.

specific impacts associated with issuing these particular lease parcels. On the contrary, by requiring a prioritization analysis the 2015 Plans contemplate that such an analysis will occur at the leasing stage. *See S. Fork Band Council of W. Shoshone of Nevada v. U.S. Dep't of the Interior*, 588 F.3d 718, 726 (9th Cir. 2009) (holding that while tiering is sometimes permissible, “the previous document must actually discuss the impacts of the project at issue”).

h. The BLM should implement a climate screen.

It is beyond doubt that oil and gas lease sales result in greenhouse gas (GHG) emissions from fossil fuel production that contribute to climate change impacts. While climate change from GHG emissions is clearly causing global disruption, it is also undisputed that climate change is causing detrimental impacts to the public lands that the BLM manages. To adhere to its mandates under FLPMA to ensure multiple use and sustained yield and to prevent permanent impairment and unnecessary and undue degradation of the lands it manages, the BLM has an obligation to address climate disruption from oil and gas development adversely impacting public land resources.

We therefore urge the BLM to exercise its broad discretion over the leasing program pursuant to the MLA, authority over public lands management pursuant to FLPMA, and review requirements pursuant to NEPA to consider several options for a climate screen. Such a screen would determine whether to defer parcels or, as discussed below in Section VII, mitigate the resulting GHG emissions and attendant climate impacts that result from the BLM’s oil and gas leasing decisions.

i. Climate impacts screen.

A climate screen could be grounded, first, in a qualitative analysis of (a) the present severity and intensity of climate change impacts occurring to the BLM resource area under consideration and (b) projected impacts to that resource over the next 10 years (primary lease term), rooted in the best available science and information to assess whether impacts are causing unnecessary or undue degradation or inhibiting achievement and maintenance of sustained yield of renewable resources. To establish the proper baseline and projections for the region and the resource area impacted, the BLM would need to reference sources such as the National Climate Assessment³⁷ and high-quality regional and local scientific research and studies on the resource, including species threats, wildlife migration and habitat, air and water quality and quantity, public health impacts, viewsheds, and other conservation values. Second, the screen could involve a quantitative assessment of consistency of the projected GHG emissions from the lease sale (the aggregated emissions from all related lease sales for that period) with climate imperatives, which could take several forms: the global 1.5°C target; the goal to achieve net zero emissions by 2050; or the United States’ commitment to reduce net greenhouse gas emissions by 50% from 2005 levels by 2030. Alternatively, the quantitative component could be the climate test discussed below. Based on a reasoned evaluation of both the qualitative and quantitative factors indicating climate impacts to the resource, the BLM would determine whether to defer

³⁷ See U.S. Global Change Research Program, *Impacts, Risks, and Adaptation in the United States, Fourth National Climate Assessment, Vol. II* 42, 44 (2018), <https://nca2018.globalchange.gov/>.

lease parcels or otherwise mitigate the GHG emissions, just as it would under a reasoned evaluation of conflict with, for example, a wildlife corridor or cultural resource values.

ii. Climate test methodology.

One method that the BLM could use to implement a climate screen is the climate test developed by scientists and attorneys at the Natural Resources Defense Council (NRDC).³⁸ Their approach offers a novel and scalable tool to evaluate the significance of GHG emissions from new fossil fuel development and achieves something that the BLM's simpler, static comparison of project emissions to total U.S. or global levels cannot: objectively determining a project's significance in terms of its contribution to driving warming over time, in the context of the entire energy system with consideration to the project's relative role therein, and all relative to the constraints necessary for limiting warming to 1.5°C. The result is a quantitative measure of a project's consistency with climate goals, where the numerical value of the climate test's decision metric communicates an increasing degree of climate impact significance. Although originally designed to solve for the more elusive problem of evaluating individual projects for their respective climate impact significance, NRDC notes that the climate test methodology can just as easily be applied to aggregated emissions to test, for example, all or multiple of a period's lease sales as a collective "project" for consistency with pathways to limited warming. Again, based on the outcome of individual-scale or aggregate lease area's climate test screening, the BLM would either defer parcels to minimize GHG emissions or otherwise mitigate the emissions. More discussion and demonstration of the climate test tool can be found in the comment letter submitted on the Willow Master Development Plan Draft Supplemental Environmental Impact Statement.³⁹

iii. Avoided emissions screen.

The IRA arbitrarily tethers issuance of wind and solar development ROWs to oil and gas leasing. Given the Interior Department's aforementioned considerable authority and discretion over if and when to hold oil and gas lease sales, it should establish in regulation – and in guidance in the interim – that, over the next ten years during the term of the IRA's tethering provisions, oil and gas lease sales are to be held only when there are wind or solar development ROWs needing to be issued. Additionally, projected GHG emissions from any onshore oil and gas lease sales and, more specifically, any oil and gas leases issued, must not be greater than the projected emissions that would be avoided by planned onshore wind and solar development projects whose ROWs would be issued contingent upon the oil and gas lease sale. This screen should be *in addition* to one of the climate screens discussed above. For more information on recommendations for tools to use to calculate avoided emissions from planned renewables development and run the comparison to projected GHG emissions from oil and gas leasing, please contact us, and we would be pleased to discuss further.

³⁸ See Earthjustice, Natural Resources Defense Council, and The Wilderness Society, Comment Letter Re: Assessment of Greenhouse Gas Emissions Significance in the Willow Master Development Plan Draft Supplemental Environmental Impact Statement 6 (Aug. 29, 2022).

³⁹ *Id.* at 6–9.

Whichever climate screen is deployed, the BLM would determine whether to defer lease parcels or otherwise mitigate GHG emissions from leases issued, as discussed in Section VII below.

IV. The BLM should adhere to recently released Instruction Memorandum 2023-010 and exercise its discretion to limit leasing because the respective Resource Management Plans are outdated and inadequately account for or address 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 RMPs covering many of the nominated lease parcels are in desperate need of revision to account for climate and other environmental impacts. None of the RMPs covering the parcels under consideration for this lease sale adequately accounts for or addresses the environmental impacts on resources and land uses due to climate change:

- BLM Buffalo Field Office, Approved RMP (Sept. 2015): never discusses climate change; only mentions reducing local GHG emissions.⁴⁰
- BLM Newcastle Field Office, Approved RMP (Sept. 2000): no discussion of climate change or GHG emissions.⁴¹
- BLM Casper Field Office, Approved RMP (Dec. 2007): no discussion of climate change or GHG emissions.⁴²
- BLM Rawlins Field Office, Approved RMP (Nov. 2019): defers consideration of and management for climate change until a later date:

Currently BLM does not have an established mechanism to accurately predict the effect of resource management-level decisions from this planning effort on global climate change. However, potential impacts to air quality due to climate change are likely to be varied. In the future, as tools for predicting climate changes in a management area improve and/or changes in climate affect resources and necessitate changes in how

⁴⁰ BLM BUFFALO FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN 83 table 3.1, 548 (Sept. 2015). This 2015 RMP was invalidated in court, in part on climate grounds, and BLM issued an approved RMP amendment (RMPA). *W. Organization of Res. Councils v. BLM*, No. CV 16-21-GF-BMM, 2018 U.S. Dist. LEXIS 49635, at *6 (D. Mont. Mar. 26, 2018), *appeal dismissed*, No. 18-35836, 2019 U.S. App. LEXIS 39122, (9th Cir. Jan. 2, 2019). That RMPA was challenged and again it was invalidated. *W. Org. of Res. Councils v. United States BLM*, No. 4:20-cv-00076-GF-BMM, 2022 U.S. Dist. LEXIS 138980, at *21 (D. Mont. Aug. 3, 2022). On October 3, 2022, BLM initiated scoping to amend the RMP. 87 Fed. Reg. 59818, 591818 (Oct. 3, 2022).

⁴¹ BLM NEWCASTLE FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN (Sept. 2000).

⁴² BLM CASPER FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN (Dec. 2007).

resources are managed, BLM may be able to reevaluate decisions made as part of this planning process and adjust management accordingly.⁴³

- BLM Lander Field Office, Approved RMP (June 2014): mentions climate change but with no substantive discussion of impacts or planning; only mentions reducing local GHG emissions.⁴⁴
- BLM Worland and Cody Field Offices, Approved RMP (Sept. 2015): no mention of modern anthropogenic climate change; only mentions reducing local GHG emissions.⁴⁵
- BLM Rock Springs Field Office, Approved RMP (1997): no discussion of climate change or GHG emissions; additionally, this RMP is currently being revised and release of the draft EIS/RMP is pending.
- BLM Pinedale Field Office, Approved RMP (2008): no discussion of climate change or GHG emissions.⁴⁶
- BLM Kemmerer Field Office, Approved RMP (May 2010): no mention of climate change or GHG emissions.⁴⁷

Given the paucity of climate change analysis and lack of substantive measures to address climate impacts in the RMPs covering parcels listed for this lease sale, the BLM should exercise its discretion to substantially limit oil and gas leasing in these resource areas.

V. The BLM should provide robust public participation and Tribal consultation as part of the lease sale process.

Public participation and Tribal consultation are critical to an informed NEPA process. DOI has rightfully committed to providing robust and “enhance[d] opportunities for Tribal and environmental justice community engagement in the NEPA and decision-making process.” Secretarial Order 3399, at *3 (Apr. 16, 2021). We strongly urge BLM to abide by these commitments.

The public needs ample time to engage in the decision-making process for this lease sale, particularly because DOI has proposed concurrent sales with overlapping comment periods. This places an immense burden on members of the public – especially environmental justice communities already deeply affected by adverse impacts from oil and gas development – who should be able to engage in the NEPA review and decision-making process.

To honor its commitment to enhanced public participation and Tribal consultation, BLM should consider providing, in addition to this scoping comment period, one or more listening sessions before issuing any draft NEPA document. These sessions could be timed and located to allow fence-line, frontline, and other affected communities the opportunity to participate. Then,

⁴³ BLM RAWLINS FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN 1-7 (Nov. 2019).

⁴⁴ BLM LANDER FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN 210, 322, 324, 349 table N.1 (June 2014).

⁴⁵ BLM WORLAND FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN 553 (Sept. 2015); BLM CODY FIELD OFFICE, APPROVED RESOURCE MANAGEMENT PLAN (2015).

⁴⁶ The Pinedale Approved RMP does not appear to be available on Eplanning. *See* <https://eplanning.blm.gov/eplanning-ui/project/63200/570> (displaying only the proposed RMP).

⁴⁷ BLM KEMMERER FIELD OFFICE, APPROVED RESOURCE MANAGEMENT (May 2010).

BLM should give the public at least 60 days to review and comment on any draft NEPA document. Doing so would help ensure that the public has an adequate “opportunity to comment upon . . . and participate in, the preparation and execution of” this lease sale, as required by FLPMA and NEPA. 43 U.S.C. § 1738(e); 42 U.S.C. § 4332(C).

The Department must also fully consult and engage Tribal nations, both those recognized by the United States as sovereign nations as well as those not recognized. Tribes must be able to protect and preserve their own lands and resources. The United States must recognize the right of Indigenous Peoples to give or withhold “free, prior and informed consent” to projects and policies affecting their lands and people, as stated in the United Nations Declaration on the Rights of Indigenous Peoples, which the United States has supported for more than a decade. The incorporation of these bottom-up principles in this federal process is an important and needed step as we address the history of public lands in the United States.

VI. The BLM Must Prepare an EIS to Address the Cumulative Impacts of All the Lease Sales under Consideration for 2023.

This proposed lease sale is part of a national DOI decision to proceed with oil and gas leasing across multiple states, and offshore, as part of implementing the Inflation Reduction Act. *See, e.g.*, Press Release, Interior Department Office of the Secretary, *Interior Department Moves Forward with Leasing Provisions Mandated in Inflation Reduction Act* (Oct. 6, 2022) (announcement from DOI headquarters that BLM “will begin scoping for the next onshore oil and gas lease sales in New Mexico and Wyoming, under a strategy that includes onshore lease sales consistent with the terms of the” IRA).⁴⁸ As such, each of the proposed lease sales in different states must be analyzed under NEPA as part of a larger national initiative.

That means preparing an environmental impact statement (EIS) to address the cumulative impacts of all those lease sales. Cumulative impacts include not only those related to climate and greenhouse gases (GHGs), but also wildlife habitat, water pollution, impacts to recreation and other uses of these lands and waters, the combined costs to taxpayers from issuing new leases before the Interior Department addresses long-overdue reforms, socioeconomic impacts, public health impacts, and environmental justice impacts, among others. NEPA’s cumulative impacts requirement directs BLM to evaluate impacts “result[ing] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.” 40 C.F.R. § 1508.1(g)(3); *see* 46 C.F.R. §§ 46.30 (definition of reasonably foreseeable future actions), 46.115. BLM’s cumulative 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); *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 Mountains*

⁴⁸ Available at: <https://www.doi.gov/pressreleases/interior-department-moves-forward-leasing-provisions-mandated-inflation-reduction-act>; *see also*, Press Release, [The Bureau Of Land Management Seeks Feedback On Proposed Oil And Gas Lease Sales In Utah And Nevada](https://www.blm.gov/press-release/bureau-land-management-seeks-feedback-proposed-oil-and-gas-lease-sales-utah-and) (Nov. 21, 2022) (BLM’s Washington, DC headquarters announces additional lease sales “in accordance with congressional direction in the Inflation Reduction Act”), <https://www.blm.gov/press-release/bureau-land-management-seeks-feedback-proposed-oil-and-gas-lease-sales-utah-and>.

Biodiversity Project v. Blackwood, 161 F.3d 1208, 1214-16 (9th Cir. 1998) (overturning Forest Service EA that analyzed impacts of only one of five concurrent logging projects in the same region); *see also 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).

Analyzing those impacts will require an EIS. 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 environmental assessment (EA) only if it makes an affirmative finding that environmental impacts will not be significant (a FONSI). 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); *Ctr. for Biological Diversity v. BLM*, 937 F. Supp. 2d 1140, 1154 (N.D. Cal. 2013). Here, the Interior Department has announced potential onshore leasing covering nearly 764 square miles (489,000 acres) across Wyoming, Montana, North Dakota, Utah, Nevada, and other states, as well as holding large offshore lease sales. It would be arbitrary and capricious to conclude that leasing on that scale will not be significant.

The BLM’s claim that analyzing the cumulative carbon emissions from these lease sales would be inaccurate and not useful, *see, e.g.*, Wyoming draft EA at 36–37, is arbitrary and capricious. The EA for each proposed lease sale provides a similar analysis of the reasonably foreseeable GHG emissions from that sale relying on the BLM *Specialist Report on Annual Greenhouse Gas Emissions and Climate Trends* (2021),⁴⁹ which makes it entirely feasible to aggregate and assess cumulative impacts of lease sales in different states. Even if such an estimate would be conservative, Wyoming EA at 36, that does not excuse the BLM from providing any forecast of cumulative emissions from the lease sales.

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

The Draft EA’s 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 reviews.⁵⁰ The CEQ climate guidance is effective immediately and directs agencies to “use this guidance to inform the NEPA review for all new proposed actions.”⁵¹ 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.

⁴⁹ *E.g.*, 2021 BLM SPECIALIST REPORT, *supra* note 6.

⁵⁰ *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*, 88 Fed. Reg. 1196 (Jan. 9, 2023).

⁵¹ *Id.* at 1212.

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.⁵² Second, the BLM must “[d]isclose and provide context for the GHG emissions and climate impacts associated with the lease sale and alternatives.”⁵³ 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.”⁵⁴ 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.⁵⁵ 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.”⁵⁶

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).⁵⁷

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

⁵² *Id.* at 1200.

⁵³ *Id.* at 1201.

⁵⁴ *Id.* at 1201–02.

⁵⁵ *Id.* at 1208.

⁵⁶ *Id.* at 1200–02.

⁵⁷ 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 Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1214–16 (9th Cir. 1998) (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”))).

relatively small addition to global atmospheric GHG concentrations that collectively have a large effect.⁵⁸

But the Draft EA commits precisely this error. It compares the projected GHG emissions from this lease sale to state and national emissions.⁵⁹ While providing a quantification of emissions is helpful, the BLM must place those emissions in an appropriate context without fractionalizing the impact.

a. The Draft EA and Draft FONSI Fail to Determine Whether GHG Emissions and Climate Impacts Are Significant, in Violation of NEPA.

Climate change is precisely the type of thorny problem that the cumulative impacts analysis is meant to address.⁶⁰ 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).

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.”⁶¹

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 2031.⁶² 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,⁶³ asserts that this sale is not anticipated to substantially affect the

⁵⁸ 88 Fed. Reg. at 1201.

⁵⁹ *See, e.g.*, Draft EA at 51, 56.

⁶⁰ *See* 88 Fed. Reg. at 1206.

⁶¹ *Id.*

⁶² D. Calverley and K. Anderson, *Phaseout pathways for fossil fuel production within Paris-compliant carbon budgets*, Tyndall Centre, University of Manchester (2022).

⁶³ *See* Draft FONSI at *4.

rate of change in climate effects,⁶⁴ and thus finds they are insignificant by issuing a Draft FONSI.⁶⁵ The Draft EA fails 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 \$350 million to over \$4 billion in climate damages projected to result from the Proposed Action for this single sale.⁶⁶ 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 Draft EA and Draft FONSI 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."⁶⁷ 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."⁶⁸ 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 *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 Draft FONSI's assertion that the BLM "did not identify any significant effects beyond those already analyzed in the RMPs and their EISs"⁶⁹ is inapposite. First, the BLM has not affirmatively determined whether climate impacts from estimated GHG emissions are significant. Second, the existing RMPs and associated EISs utterly fail to analyze GHG emissions or climate impacts. As such, the statement that the Draft EA found no significant effects beyond what the RMPs and EISs have already analyzed is true only if BLM ignores the glaring omission of climate and GHG emissions analysis from any of the respective RMPs.

The BLM also states that it can wait to determine appropriate mitigation measures until the APD stage.⁷⁰ 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.

⁶⁴ Draft EA at 51.

⁶⁵ *See* Draft FONSI at *4–5.

⁶⁶ *Id.*

⁶⁷ *See* 2021 BLM SPECIALIST REPORT, *supra* note 6.

⁶⁸ Draft FONSI at *5.

⁶⁹ Bureau of Land Mgmt., Draft Finding of No Significant Impact, First Quarter Competitive Lease Sale, DOI-BLM-WY-0000-2021-0003-EA 4 [hereinafter Draft FONSI].

⁷⁰ *See, e.g.*, Draft EA at 104.

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) discussed in Section III; and (2) through a conservation and climate alternative and mitigation measures discussed in Section VII.

b. The BLM’s NEPA analysis fails to address whether the lease sale is consistent with U.S. climate commitments and fails to address its full costs and benefits.

The BLM must consider and address whether the proposed leasing is consistent with U.S. climate commitments and national policy. The United States has committed to the climate change target of holding the long-term global average temperature “to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels” under the Paris Agreement.⁷¹ The Paris Agreement established the 1.5°C climate target based on evidence that 2°C of warming would lead to catastrophic climate harms.⁷² Scientific research estimated the global carbon budget for maintaining a likely chance of meeting the Paris climate targets, providing clear benchmarks for United States and global climate action.⁷³

In 2021, the United States committed to reduce the nation’s greenhouse gas emissions 50–52% by 2030.⁷⁴ President Biden also has recognized the need for action, stating that the “United States and the world face a profound climate crisis. We have a narrow moment to pursue action . . . in order to avoid the most catastrophic impacts of that crisis.” Exec. Order No. 14008, *Tackling the Climate Crisis at Home and Abroad*, 86 Fed. Reg. 7,619, 7,619 (Jan. 27, 2021).

Similarly, the Interior Department has acknowledged the need to address climate change when making management decisions on federal lands. Interior Secretarial Order 3289, *Addressing the Impacts of Climate Change on America’s Water, Land, and Other Natural and Cultural Resources* (Sept. 14, 2009), stated that “the realities of climate change require us to

⁷¹ 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/109.pdf> (“Paris Agreement”).

⁷² INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5°C, AN IPCC SPECIAL REPORT ON THE IMPACTS OF GLOBAL WARMING OF 1.5°C ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS EMISSION PATHWAYS, IN THE CONTEXT OF STRENGTHENING THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY (Oct. 6, 2018), <http://www.ipcc.ch/report/sr15/>.

⁷³ IPCC AR6 estimates the remaining carbon budget starting in 2020 for a 67% probability of limiting warming to 1.5°C at 400 GtCO₂, depending on variations in reductions of non-CO₂ emissions (such as methane). At the current emissions rate of 42 GtCO₂ per year, this carbon budget would be expended in less than ten years. See IPCC AR6 at SPM-38 table SPM.2.

⁷⁴ U.S. Dep’t of State & U.S. Exec. Office of the President, *The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050*, at 1 (Nov. 2021), <https://www.whitehouse.gov/wp-content/uploads/2021/10/US-Long-Term-Strategy.pdf>.

change how we manage the land, water, fish and wildlife, and cultural heritage and Tribal lands and resources we oversee”; and acknowledged that the Department of the Interior is “responsible for helping protect the nation from the impacts of climate change.” And in 2021, the Secretary recognized that the “Nation faces a profound climate crisis,” ordering the Interior Department to “prioritize[] action on climate change.” Interior Secretarial Order 3399, *Department-Wide Approach to the Climate Crisis and Restoring Transparency and Integrity to the Decision-Making Process* (April 16, 2021).

A fundamental disconnect exists, however, between the federal government’s commitment to address climate change, how public lands are managed for energy production, and how the Draft EA addresses emissions estimated to stem from this lease sale. A recent paper calculates that lifecycle emissions from federal fossil fuel development resulted in an average of 1,408 million metric tons (MMT) of Carbon Dioxide-equivalent (CO₂e) per year since 2005 – the equivalent of 377 coal-fired power plants, or the emissions from 303 million cars – and are projected to be around 1,130 MMT CO₂e by 2030.⁷⁵ These emissions will amount to around 20% of total U.S. emissions each year.⁷⁶

The BLM cannot ignore national climate policy in making decisions over the proposed lease sale or in the NEPA analysis for any such sale. The CEQ climate guidance directs agencies “to discuss whether and to what extent the proposal’s reasonably foreseeable GHG emissions are consistent with GHG reduction goals, such as those reflected in the U.S. nationally determined contribution under the Paris Agreement.”⁷⁷ The BLM should conduct this consistency evaluation with U.S. climate commitments and targets.

Relatedly, the BLM’s NEPA analysis must address the social and economic costs resulting from development of any leases it offers *and explain what benefits warrant incurring those costs*, which the Draft EA fails to consider. The CEQ climate guidance instructs agencies to use social cost of greenhouse gases (SC-GHG) estimates, which can “assist in assessing the significance of climate impacts.”⁷⁸ The BLM should focus on SC-GHG estimates consistent with the best available science, employing low discount rates that properly consider the considerable harm to future generations.⁷⁹

Offering leases that could impose billions of dollars in social and environmental harms without addressing what (if any) countervailing benefits might warrant such a decision would be arbitrary, capricious, and inconsistent with FLPMA mandates. An action is arbitrary and capricious, *inter alia*, “if the agency has . . . failed to consider an important aspect of the problem [or] offered an explanation for its decision that runs counter to the evidence before the agency.” *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983). Here, it would be arbitrary and capricious, and inconsistent with NEPA, to quantify

⁷⁵ N. Ratledge et al., *Emissions from Fossil Fuels Produced on US Federal Lands and Waters Present Opportunities for Climate Mitigation*, 171 *Climatic Change*, no. 11, Mar. 14, 2022, at 2–5, <https://link.springer.com/content/pdf/10.1007/s10584-021-03302-x.pdf>.

⁷⁶ *Id.* at 6 fig. 2.

⁷⁷ 88 Fed. Reg. at 1203.

⁷⁸ *Id.* at 1202–03.

⁷⁹ *See id.*

the costs of selling so many leases but disregard the other side of the cost-benefit scale. *See High Country Conserv. Advocs. v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014) (holding it was “arbitrary and capricious to quantify the *benefits* of the lease modifications and then explain that a similar analysis of the *costs* was impossible when such an analysis was in fact possible”); *Montana Env. Info. Ctr. v. U.S. Office Surf. Mining*, 274 F. Supp. 3d 1074, 1098 (D. Mont. 2017) (ruling in favor of plaintiff’s argument that it was “arbitrary and capricious for [agency] to quantify socioeconomic benefits while failing to quantify costs”). The Draft EA’s silence on the relative costs and benefits from leasing is particularly glaring because of its large size and huge social and environmental costs.

The Draft EA contains several inconsistencies in its social cost analysis that we urge the BLM to address. First, Table 4.5 states that the SC-GHG estimates presented are in 2020\$, but the text right above it states that the estimates represent the present value from the perspective of 2021.⁸⁰ Second, because the BLM assumes that the average lifespan of a well is 20 years, that is the timeline the BLM uses for the lifecycle emission calculations even though the BLM’s own annual GHG emissions profile for *total* end-use emissions from the fossil fuels coming from a well continue to occur for at least 10 more years and an ongoing small amount come from the well-site for around 19 more years (so a total profile of 39 years). By only including the 20 years that the well is actively producing in the lifecycle emissions and subsequent social cost analysis, the BLM is arbitrarily leaving out about 25% of lifecycle emissions and subsequent costs that stem from the actions under discussion.

The Draft EA states that the SC-GHG estimates assume development would start in 2023 and end-use emissions would complete in 2061.⁸¹ However, even though the BLM states that it is assuming a 39-year emissions profile for the lifecycle emissions from these leases, trying to recreate their Interagency Working Group 2021-based calculations using the information available in the Draft EA shows that the BLM must be making assumptions different from what is being stated. We ask the BLM to clarify this inconsistency.

Nonetheless, for this lease sale, the BLM used SC-GHG estimates to project that foreseeable development would cause upwards of billions of dollars in social and environmental harms. But the BLM never explained why it chose to incur such enormous societal costs, or how its cost analysis informed the agency’s decision making. The Draft EA does not discuss whether there might be any benefits from the lease sale that warrant incurring those enormous costs.

Assessing significance is not *solely* a fact-based judgment that a research tool, such as the SC-GHG, can accomplish. Determining whether impacts are significant is a determination that requires reasoned judgment. While SC-GHG is a particularly helpful tool for determining significance, the BLM may also need to look at additional qualitative factors in some cases. In this respect, assessing the significance of climate impacts from a lease sale is no different from any other type of impact that the BLM regularly evaluates for significance. It is certainly not, as the FONSI claims, an impossible task. On the contrary, given the breadth and depth of scientific information available to the BLM and the robustness of the SC-GHG tool, NEPA requires the BLM to make just such a significance determination.

⁸⁰ Draft EA at 55, table 4.5.

⁸¹ *See id.* at 52, fig. 4.1, 55.

Agencies' or other government entities' significance determinations provide a useful starting point for identifying a monetary value triggering significance. The Federal Energy Regulatory Commission (FERC) frequently conducts cost-benefit analyses. For example, with project involving a liquified natural gas (LNG) facility in Alaska, FERC found that regional increases of annual employee earnings of \$8 million and \$28 million “would be significant” for the relevant communities.⁸² Likewise, in its EIS for the Sierrita Pipeline Project, FERC explained that “the project would benefit the state and local economies by creating a short-term stimulus to the affected areas through payroll expenditures, local purchases of consumables and Project-specific materials, and sales tax,” indicating that these impacts are “significant.”⁸³ For that project, total construction payroll was projected at \$15 million, while total taxes (both sales and property) were estimated at about \$5 million annually (presumably in 2014 dollars).⁸⁴

The BLM can and should examine its own past NEPA documents to determine whether it has found certain monetary benefits or costs to be significant. Using the limited FERC examples,⁸⁵ however, indicates that annual gross climate damages of roughly \$8 to \$20 million are significant, along with considering any unmonetized, qualitative climate damages in its determination. Comparing these amounts to the SC-GHG for this lease sale under both the Proposed Action and Alternative 3 suggests that the BLM should consider the climate impacts to be significant.

Moreover, the BLM should show the social cost calculations using the Environmental Protection Agency's recently released SC-GHG estimates.⁸⁶ These estimates represent the most up-to-date, best available information. Using these calculations assuming 64% of the calculated estimate to approximate the BLM's inexplicably low calculations would demonstrate that SC-GHG estimates for this lease sale could exceed \$7.5 billion under a 2% discount rate in a high CO₂e scenario, exceed \$8 billion using a 1.5% discount rate, and exceed \$12 billion using a 1.5% discount rate under a high CO₂e scenario.

Again, a specific monetary threshold should not be the exclusive metric for determining significance. Rather, it illustrates that the task of determining the significance of GHG emissions for this lease sale is within BLM's capabilities. Deeming lifecycle climate impacts of billions of dollars as having uncertain significance is an arbitrary and capricious determination, especially with no basis for comparison to project benefits.

⁸² FERC, Alaska LNG Environmental Impact Statement 4-638 (2020). To be clear, the FERC examples are provided merely for illustrative purposes, not for a definitive range monetary range below which impacts are insignificant.

⁸³ FERC, Sierra Pipeline Project Environmental Impact Statement 4-201 (2014).

⁸⁴ *Id.* at 4-200 to 4-201.

⁸⁵ To be clear, the FERC examples are provided merely for illustrative purposes, not for a definitive range monetary range below which impacts are insignificant.

⁸⁶ EPA, Supplementary Material for the Regulatory Impact Analysis for the Supplemental Proposed Rulemaking, “Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, EPA External Review Draft of Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances (Sept. 2022).

Because the BLM has issued a Draft FONSI, it is indeed attributing insignificance to this lease sale's SC-GHG, despite protestations in the document that it cannot determine whether climate impacts are significant or not. The BLM is misleadingly trivializing emissions by comparing them to larger totals, such as global or domestic emissions, and thus fails to properly contextualize the emissions. We urge the BLM to correct this analysis.

c. The Draft EA Lacks Adequate Analysis of the Climate Effects of GHG Emissions.

The Draft EA fails to adequately address the full projected environmental effects of GHG emissions resulting from this lease sale and the cumulative emissions impacts. The Draft EA lacks 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.”⁸⁷ 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.”⁸⁸

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.’”⁸⁹ The agency’s analysis did not constitute a “description of *actual* environmental effects,” because the agency failed to assess “the degree that each factor will be impacted.”⁹⁰ 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 must do so for this lease sale.

d. The BLM must consider a range of reasonable alternatives, including a conservation and climate alternative.

⁸⁷ *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).

⁸⁸ *Balt. Gas & Elec. Co.*, 462 U.S. at 96 (emphasis added).

⁸⁹ *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 995 (9th Cir. 2004).

⁹⁰ *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).

The BLM fails to consider a range of reasonable alternatives in the Draft EA. 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 consider 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.”⁹¹ 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 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.⁹²

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.”⁹³ 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 consider a protective alternative in line with U.S. climate commitments.

We strongly urge this conservation and climate alternative to entail substantial deferrals based on the conservation and climate leasing screens discussed in this comment letter. This reasonable alternative would defer parcels based on a climate screen and the criteria in IM 2023-007.

A conservation and climate alternative should rely on option value, which considers the value of avoiding leasing or delaying leasing or development.⁹⁴ 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

⁹¹ 88 Fed. Reg. at 1204.

⁹² *Id.* at 1203–04.

⁹³ *Id.* at 1203.

⁹⁴ 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).

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.⁹⁵

e. The Draft EA Fails to Adequately Discuss Mitigation Measures to Address the Impacts of GHG Emissions.

The Draft EA does not adequately identify or evaluate mitigation measures to address GHG emissions associated with oil and gas development for the lease sale. As discussed in this comment and as the BLM acknowledges in the Draft FONSI, GHG emissions impacts could be significant.⁹⁶ As such, NEPA requires the BLM to include a discussion of possible mitigation measures in the Draft EA. 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”).

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.

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 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

⁹⁵ *Id.* at 24.

⁹⁶ *See* Draft FONSI at *4–5.

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”).

The BLM did not identify or evaluate any mitigation measures in the Draft EA or discuss requiring mitigation in the Draft FONSI in order to address GHG emissions. The Specialist Report does list several mitigation measures.⁹⁷ 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.*”⁹⁸ But the BLM fails to include in the Draft EA, let alone evaluate, or require in the Draft FONSI 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.

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.”⁹⁹ The guidance emphasizes that “[a]gencies should consider mitigation measures that will avoid or reduce GHG emissions.”¹⁰⁰ 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.¹⁰¹

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

⁹⁷ 2021 BLM SPECIALIST REPORT, *supra* note 6, at 100–05.

⁹⁸ *Id.* at 64.

⁹⁹ *Id.* at 1206 (emphasis added).

¹⁰⁰ *Id.* at 1204, 1206.

¹⁰¹ *Id.* at 1206 (emphasis added); *id.* at 1204.

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.

VIII. BLM Must Take a Hard Look at Impacts to Groundwater from Well Construction Practices and Hydraulic Fracturing.

The Draft EA violates NEPA because it contains no analysis of the reasonably foreseeable impacts to groundwater from drilling on these particular lease sale parcels. The Draft EA contains three pages of generic boilerplate about potential water impacts from oil and gas development,¹⁰² and a conclusory statement that BLM “would require full compliance with local, state, and federal directives and stipulations that relate to surface and groundwater protection and the BLM would deny any APD who proposed drilling and/or completion process was deemed to not be protective of usable water zones.”¹⁰³ These statements could be made about any oil and gas lease anywhere in Wyoming or nearby states—they tell the agency and the public nothing at all about the development of these leases.

NEPA requires 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.”¹⁰⁴ As a result, 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 underground sources of water.¹⁰⁵ However, federal rules and regulations do not provide specific direction for BLM and operators to protect all usable water. Even rules that purport to do so, like

¹⁰² Draft EA at 38–41.

¹⁰³ *Id.* at 39.

¹⁰⁴ 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.

¹⁰⁵ 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.

Onshore Order No. 2's requirement to "protect and/or isolate all usable water zones," are inconsistently applied and often disregarded in practice.¹⁰⁶

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 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.¹⁰⁷ 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.¹⁰⁸ 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.¹⁰⁹

In light of these risks to a critical resource, BLM must evaluate potential groundwater impairment. As a threshold matter, 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, 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, BLM cannot presume that state and federal regulations will protect groundwater, because of the shortcomings and industry noncompliance described above. BLM 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 would violate NEPA. *Id.*

IX. The BLM does not adequately analyze the socioeconomic impacts of this lease sale.

¹⁰⁶ See BLM, Regulatory Impact Analysis for the Final Rule to Rescind the 2015 Hydraulic Fracturing Rule, at 44–45 (Dec. 2017), <https://beta.regulations.gov/document/BLM-2017-0001-0464>.

¹⁰⁷ 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-2017-0001-0412>.

¹⁰⁸ 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. (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).

¹⁰⁹ 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>.

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.¹¹⁰ While NEPA does not require a straight cost-benefit analysis,¹¹¹ the BLM may include the analysis to assist the agency and the public in weighing the choice among different alternatives and “as an aid in evaluating the environmental consequences.”¹¹²

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.¹¹³ 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,¹¹⁴ 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.”¹¹⁵ 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.¹¹⁶ Annual greenhouse gas emissions for that project totaled approximately 11.4 million metric tons.¹¹⁷ 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 revenue¹¹⁸ – 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.

¹¹⁰ See 88 Fed. Reg. at 1202.

¹¹¹ *Id.* at 1211.

¹¹² *Id.*

¹¹³ 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).

¹¹⁴ 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).

¹¹⁵ See Bureau of Land Mgmt., Environmental Assessment, DOI-BLM-WY-0000-2021-0003-EA 8 (Oct. 27, 2021).

¹¹⁶ Bureau of Land Mgmt., Lila Canyon Mine Lease Modifications Environmental Assessment 38–39 & tbl.

3-12 (DOI-BLM-UT-G020-2018-0039-EA) (2021).

¹¹⁷ *Id.* at 38 tbl. 3-12.

¹¹⁸ *Id.* at 54.

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, 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.

X. The BLM does not 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."¹¹⁹ 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

¹¹⁹ Executive Order 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, sec. 1.

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 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.¹²⁰

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.”¹²¹ 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.”¹²² 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.¹²³ Multiple peer-reviewed papers have identified adverse health effects and risks

¹²⁰ 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/>.

¹²¹ *Id.*

¹²² *Id.*

¹²³ 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

arising from exposure to unconventional oil and gas drilling operations, even within a large radius of residences – potentially up to ten miles.¹²⁴ 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.¹²⁵ 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.¹²⁶ In turn, “these institutional barriers make UOG production a chronic

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 & 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/>; 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>.

¹²⁴ 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).

¹²⁵ See McKenzie et al., *supra* note 124.

¹²⁶ 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).

stressor – which can be more insidious, negative, and, significantly, can generate longer-term mental health impacts such as self-reported depression.”¹²⁷ The BLM must take a hard look at the adverse health risks and effects associated with proximity to oil and gas activity and facilities 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).¹²⁸ 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 impacts¹²⁹ specifically in the oil and gas drilling context.¹³⁰ For example, the aforementioned 2016 Marcellus Shale study

¹²⁷ *Id.*

¹²⁸ *See* K. Lock, *Health impact assessment*, BRITISH MEDICAL JOURNAL 320 (2000).

¹²⁹ *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/2014-11/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”).

¹³⁰ *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),

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.¹³¹ 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).¹³²

XI. The BLM fails 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.”¹³³ 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.”¹³⁴ 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.”¹³⁵ 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.¹³⁶ 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

<https://www.intechopen.com/books/current-topics-in-public-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).

¹³¹ 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>.

¹³² *Id.*

¹³³ See U.S. Environmental Protection Agency, Environmental Justice, www.epa.gov/environmentaljustice.

¹³⁴ Exec. Order No. 12,898, 59 Fed. Reg. 32 (Feb. 11, 1994), <https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf>.

¹³⁵ 440 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).

¹³⁶ 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-ontackling-the-climate-crisis-at-home-and-abroad/>.

standard.¹³⁷ As various executive orders and related agency guidance documents state,¹³⁸ and as 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.”¹³⁹ 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.”¹⁴⁰ 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.”¹⁴¹ 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 consent¹⁴² – 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.¹⁴³ Indeed, environmental justice is not merely a box to be checked.

XII. The BLM does not properly analyze methane emissions that would result from this lease sale.

¹³⁷ 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).

¹³⁸ EO 12898 (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/2016-08/documents/NEPA_promising_practices_document_2016.pdf.

¹³⁹ 1998 EPA NEPA Final Guidance https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_NEPA_epa0498.pdf.

¹⁴⁰ *Id.*

¹⁴¹ *Motor Vehicle Mfr. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

¹⁴² 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).

¹⁴³ See 40 C.F.R. § 1500.1(c).

Methane is a potent climate pollutant that has contributed about half a degree Celsius to observed global warming.¹⁴⁴ 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.¹⁴⁵ Recent findings have amplified the urgent need to curtail oil and gas emissions, demonstrating that methane release from such development has been dramatically underestimated.¹⁴⁶ 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.”¹⁴⁷ This “highlights the human impact on the atmosphere and climate, [and] provides a firm target for inventories of the global [methane] budget.”¹⁴⁸ 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 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.¹⁴⁹ The BLM must further discuss and provide for adequate mitigation of methane emissions resulting from this lease sale.

Conclusion

Thank you for the opportunity to provide these comments on the Draft EA and Draft FONSI. We look forward to continuing to engage in this decision-making process.

Respectfully,



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¹⁴⁴ 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.

¹⁴⁵ IPCC, *SIXTH ASSESSMENT REPORT, CLIMATE CHANGE 2021: THE PHYSICAL SCIENCE BASIS, TECHNICAL SUMMARY TS-67*.

¹⁴⁶ 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).

¹⁴⁷ *Id.* at 409.

¹⁴⁸ *Id.*

¹⁴⁹ R. A. Alvarez et al., Assessment of methane emissions from the U.S. oil and gas supply chain, 361 *Science* 186 (Jun. 21, 2018).

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APPENDIX
PARCEL DEFERRAL LIST

We urge BLM to defer at least the following parcels based on conservation conflicts or other issues identified in this comment letter.

Recommended Rock Springs Field Office parcels for deferral:

WY-2023-06-1350
WY-2023-06-1351
WY-2023-06-1401
WY-2023-06-1404
WY-2023-06-1407
WY-2023-06-1408
WY-2023-06-1410
WY-2023-06-1411
WY-2023-06-1415
WY-2023-06-1425
WY-2023-06-1429
WY-2023-06-1446
WY-2023-06-1448
WY-2023-06-1449
WY-2023-06-1451
WY-2023-06-1452
WY-2023-06-1453
WY-2023-06-1454
WY-2023-06-1455
WY-2023-06-1456
WY-2023-06-1457
WY-2023-06-1459
WY-2023-06-1486
WY-2023-06-1489
WY-2023-06-1491
WY-2023-06-1492
WY-2023-06-1495
WY-2023-06-1504
WY-2023-06-1505
WY-2023-06-1506
WY-2023-06-1507
WY-2023-06-1508
WY-2023-06-1509
WY-2023-06-1513
WY-2023-06-1514

WY-2023-06-1515
WY-2023-06-1524
WY-2023-06-1526
WY-2023-06-1527
WY-2023-06-1528
WY-2023-06-1599
WY-2023-06-7225
WY-2023-06-7227
WY-2023-06-7228
WY-2023-06-7241
WY-2023-06-7242
WY-2023-06-7243
WY-2023-06-7250
WY-2023-06-7259

Recommended Buffalo Field Office parcels for deferral:

WY-2023-06-1352
WY-2023-06-1352
WY-2023-06-1356
WY-2023-06-1357
WY-2023-06-1358
WY-2023-06-1361
WY-2023-06-1362
WY-2023-06-1364
WY-2023-06-1437
WY-2023-06-1438
WY-2023-06-1439
WY-2023-06-1443
WY-2023-06-1458
WY-2023-06-1462
WY-2023-06-1463
WY-2023-06-1464
WY-2023-06-1465
WY-2023-06-1475
WY-2023-06-1477
WY-2023-06-1480
WY-2023-06-1481
WY-2023-06-1483
WY-2023-06-1484
WY-2023-06-1502
WY-2023-06-1512
WY-2023-06-1525

WY-2023-06-1529
WY-2023-06-1542
WY-2023-06-1544
WY-2023-06-1567
WY-2023-06-1568
WY-2023-06-1569
WY-2023-06-1570
WY-2023-06-1731
WY-2023-06-7246
WY-2023-06-7247

Recommended crucial winter range for elk parcels for deferral:

WY-2023-06-1356
WY-2023-06-1357
WY-2023-06-1358
WY-2023-06-1449
WY-2023-06-1452
WY-2023-06-1458
WY-2023-06-1496
WY-2023-06-1506
WY-2023-06-1507
WY-2023-06-1508
WY-2023-06-1512
WY-2023-06-7250
WY-2023-06-7259

Recommended crucial winter range for mule deer parcels for deferral:

WY-2023-06-1359	WY-2023-06-1560	WY-2023-06-1510
WY-2023-06-1451	WY-2023-06-1561	WY-2023-06-1516
WY-2023-06-1453	WY-2023-06-1571	WY-2023-06-1517
WY-2023-06-1485	WY-2023-06-7242	
WY-2023-06-1490	WY-2023-06-7243	WY-2023-06-1528
WY-2023-06-1491	WY-2023-06-7259	WY-2023-06-1558
WY-2023-06-1492		
WY-2023-06-1496		
WY-2023-06-1498		
WY-2023-06-1501		
WY-2023-06-1503		

Recommended crucial winter range for pronghorn parcels for deferral:

WY-2023-06-1350	WY-2023-06-1501	WY-2023-06-1522
WY-2023-06-1399	WY-2023-06-1503	WY-2023-06-1523
WY-2023-06-1404	WY-2023-06-1510	WY-2023-06-1524
WY-2023-06-1407	WY-2023-06-1513	WY-2023-06-1527
WY-2023-06-1430	WY-2023-06-1514	WY-2023-06-1532
WY-2023-06-1434	WY-2023-06-1515	WY-2023-06-7252
WY-2023-06-1479	WY-2023-06-1516	WY-2023-06-7259
WY-2023-06-1490	WY-2023-06-1517	
WY-2023-06-1492	WY-2023-06-1520	
WY-2023-06-1496	WY-2023-06-1521	

Recommended lands with low development potential parcels for deferral:

WY-2023-06-1326	WY-2023-06-7251	WY-2023-06-7250
WY-2023-06-1327	WY-2023-06-7253	WY-2023-06-1525
WY-2023-06-1328	WY-2023-06-7254	WY-2023-06-1527
WY-2023-06-1329	WY-2023-06-7258	WY-2023-06-1528
WY-2023-06-1330	WY-2023-06-7259	WY-2023-06-1532
WY-2023-06-1331	WY-2023-06-1439	WY-2023-06-1536
WY-2023-06-1332	WY-2023-06-1524	WY-2023-06-1538
WY-2023-06-1333	WY-2023-06-1441	WY-2023-06-1541
WY-2023-06-1334	WY-2023-06-1443	WY-2023-06-1542
WY-2023-06-1335	WY-2023-06-1444	WY-2023-06-1543
WY-2023-06-1336	WY-2023-06-1446	WY-2023-06-1544
WY-2023-06-1337	WY-2023-06-1448	WY-2023-06-1549
WY-2023-06-1338	WY-2023-06-1449	WY-2023-06-1557
WY-2023-06-1339	WY-2023-06-1451	
WY-2023-06-1340	WY-2023-06-1452	
WY-2023-06-1341	WY-2023-06-1453	
WY-2023-06-1342	WY-2023-06-1454	
WY-2023-06-1343	WY-2023-06-1455	
WY-2023-06-1344	WY-2023-06-1456	
WY-2023-06-1345	WY-2023-06-1457	WY-2023-06-1558
WY-2023-06-1346	WY-2023-06-1458	WY-2023-06-1560
WY-2023-06-1347	WY-2023-06-1459	WY-2023-06-1561
WY-2023-06-1348	WY-2023-06-1463	WY-2023-06-1562
WY-2023-06-1349	WY-2023-06-1465	WY-2023-06-1563
WY-2023-06-1350	WY-2023-06-1470	WY-2023-06-1564
WY-2023-06-1351	WY-2023-06-1475	WY-2023-06-1565
WY-2023-06-1352	WY-2023-06-1477	WY-2023-06-1571
WY-2023-06-1353	WY-2023-06-1478	WY-2023-06-1573
WY-2023-06-1354	WY-2023-06-1479	WY-2023-06-1575
WY-2023-06-1355	WY-2023-06-1480	WY-2023-06-1576
WY-2023-06-1356	WY-2023-06-1481	WY-2023-06-1577

WY-2023-06-1357	WY-2023-06-1483	WY-2023-06-1578
WY-2023-06-1358	WY-2023-06-1484	WY-2023-06-1579
WY-2023-06-1359	WY-2023-06-1485	WY-2023-06-1580
WY-2023-06-1361	WY-2023-06-1486	WY-2023-06-1581
WY-2023-06-1362	WY-2023-06-1488	WY-2023-06-1599
WY-2023-06-1363	WY-2023-06-1489	WY-2023-06-1772
WY-2023-06-1364	WY-2023-06-1491	WY-2023-06-7221
WY-2023-06-1365	WY-2023-06-1492	WY-2023-06-7223
WY-2023-06-1400	WY-2023-06-1493	WY-2023-06-7225
WY-2023-06-1402	WY-2023-06-1494	WY-2023-06-7227
WY-2023-06-1405	WY-2023-06-1495	WY-2023-06-7228
WY-2023-06-1408	WY-2023-06-1497	WY-2023-06-7231
WY-2023-06-1410	WY-2023-06-1499	WY-2023-06-7232
WY-2023-06-1411	WY-2023-06-1500	WY-2023-06-7234
WY-2023-06-1412	WY-2023-06-1505	WY-2023-06-7235
WY-2023-06-1413	WY-2023-06-1506	WY-2023-06-7236
WY-2023-06-1415	WY-2023-06-1507	WY-2023-06-7239
WY-2023-06-1421	WY-2023-06-1508	WY-2023-06-7240
WY-2023-06-1425	WY-2023-06-1509	WY-2023-06-7241
WY-2023-06-1429	WY-2023-06-1511	WY-2023-06-7242
WY-2023-06-1431	WY-2023-06-1520	WY-2023-06-7243
WY-2023-06-1436	WY-2023-06-1521	WY-2023-06-7246
WY-2023-06-1437	WY-2023-06-1522	WY-2023-06-7247
WY-2023-06-1438	WY-2023-06-1523	WY-2023-06-7248

Recommended PMHA parcels for deferral (72 parcels/86,633 acres in priority habitat):

WY-2023-06-1335	WY-2023-06-1500
WY-2023-06-1336	WY-2023-06-1506
WY-2023-06-1346	WY-2023-06-1507
WY-2023-06-1349	WY-2023-06-1508
WY-2023-06-1354	WY-2023-06-1510
WY-2023-06-1359	WY-2023-06-1511
WY-2023-06-1365	WY-2023-06-1520
WY-2023-06-1399	WY-2023-06-1521
WY-2023-06-1402	WY-2023-06-1522
WY-2023-06-1414	WY-2023-06-1523
WY-2023-06-1419	WY-2023-06-1526
WY-2023-06-1422	WY-2023-06-1530
WY-2023-06-1425	WY-2023-06-1539
WY-2023-06-1426	WY-2023-06-1540
WY-2023-06-1429	WY-2023-06-1542
WY-2023-06-1430	WY-2023-06-1549
WY-2023-06-1434	WY-2023-06-1552
WY-2023-06-1437	WY-2023-06-1558

WY-2023-06-1439	WY-2023-06-1560
WY-2023-06-1444	WY-2023-06-7224
WY-2023-06-1446	WY-2023-06-7225
WY-2023-06-1447	WY-2023-06-7227
WY-2023-06-1448	WY-2023-06-7235
WY-2023-06-1449	WY-2023-06-7242
WY-2023-06-1451	WY-2023-06-7243
WY-2023-06-1452	WY-2023-06-7246
WY-2023-06-1453	WY-2023-06-7247
WY-2023-06-1454	WY-2023-06-7251
WY-2023-06-1455	WY-2023-06-7254
WY-2023-06-1456	WY-2023-06-7255
WY-2023-06-1457	WY-2023-06-7259
WY-2023-06-1459	
WY-2023-06-1462	
WY-2023-06-1463	
WY-2023-06-1464	
WY-2023-06-1465	
WY-2023-06-1478	
WY-2023-06-1491	
WY-2023-06-1492	
WY-2023-06-1498	
WY-2023-06-1499	

Recommended GMHA parcels for deferral:

WY-2023-06-1326	WY-2023-06-1401	WY-2023-06-1448	WY-2023-06-1517	WY-2023-06-1577
WY-2023-06-1327	WY-2023-06-1402	WY-2023-06-1449	WY-2023-06-1522	WY-2023-06-1578
WY-2023-06-1328	WY-2023-06-1404	WY-2023-06-1453	WY-2023-06-1523	WY-2023-06-1579
WY-2023-06-1329	WY-2023-06-1405	WY-2023-06-1454	WY-2023-06-1524	WY-2023-06-1580
WY-2023-06-1330	WY-2023-06-1407	WY-2023-06-1457	WY-2023-06-1525	WY-2023-06-1599
WY-2023-06-1331	WY-2023-06-1408	WY-2023-06-1458	WY-2023-06-1526	WY-2023-06-1731
WY-2023-06-1332	WY-2023-06-1410	WY-2023-06-1463	WY-2023-06-1527	WY-2023-06-1772
WY-2023-06-1333	WY-2023-06-1411	WY-2023-06-1464	WY-2023-06-1528	WY-2023-06-7221
WY-2023-06-1334	WY-2023-06-1412	WY-2023-06-1465	WY-2023-06-1529	WY-2023-06-7223
WY-2023-06-1336	WY-2023-06-1413	WY-2023-06-1470	WY-2023-06-1532	WY-2023-06-7224
WY-2023-06-1337	WY-2023-06-1414	WY-2023-06-1475	WY-2023-06-1536	WY-2023-06-7225
WY-2023-06-1338	WY-2023-06-1415	WY-2023-06-1477	WY-2023-06-1538	WY-2023-06-7227
WY-2023-06-1339	WY-2023-06-1421	WY-2023-06-1478	WY-2023-06-1539	WY-2023-06-7228
WY-2023-06-1340	WY-2023-06-1425	WY-2023-06-1479	WY-2023-06-1540	WY-2023-06-7231
WY-2023-06-1341	WY-2023-06-1429	WY-2023-06-1480	WY-2023-06-1541	WY-2023-06-7232
WY-2023-06-1342	WY-2023-06-1431	WY-2023-06-1481	WY-2023-06-1542	WY-2023-06-7234
WY-2023-06-1343	WY-2023-06-1436	WY-2023-06-1483	WY-2023-06-1543	WY-2023-06-7235
WY-2023-06-1344	WY-2023-06-1437	WY-2023-06-1484	WY-2023-06-1544	WY-2023-06-7236

WY-2023-06-1345	WY-2023-06-1438	WY-2023-06-1485	WY-2023-06-1545	WY-2023-06-7239
WY-2023-06-1346	WY-2023-06-1439	WY-2023-06-1486	WY-2023-06-1548	WY-2023-06-7240
WY-2023-06-1347	WY-2023-06-1440	WY-2023-06-1488	WY-2023-06-1551	WY-2023-06-7241
WY-2023-06-1348	WY-2023-06-1441	WY-2023-06-1489	WY-2023-06-1552	WY-2023-06-7242
WY-2023-06-1350	WY-2023-06-1443	WY-2023-06-1490	WY-2023-06-1554	WY-2023-06-7246
WY-2023-06-1351	WY-2023-06-1444	WY-2023-06-1495	WY-2023-06-1557	WY-2023-06-7247
WY-2023-06-1352	WY-2023-06-1446	WY-2023-06-1496	WY-2023-06-1559	WY-2023-06-7248
WY-2023-06-1353	WY-2023-06-1447	WY-2023-06-1497	WY-2023-06-1561	WY-2023-06-7249
WY-2023-06-1354	WY-2023-06-1448	WY-2023-06-1501	WY-2023-06-1562	WY-2023-06-7250
WY-2023-06-1355	WY-2023-06-1449	WY-2023-06-1502	WY-2023-06-1563	WY-2023-06-7251
WY-2023-06-1356	WY-2023-06-1453	WY-2023-06-1503	WY-2023-06-1564	WY-2023-06-7252
WY-2023-06-1357	WY-2023-06-1454	WY-2023-06-1504	WY-2023-06-1565	WY-2023-06-7253
WY-2023-06-1358	WY-2023-06-1457	WY-2023-06-1505	WY-2023-06-1567	WY-2023-06-7254
WY-2023-06-1359	WY-2023-06-1458	WY-2023-06-1509	WY-2023-06-1568	WY-2023-06-7255
WY-2023-06-1361	WY-2023-06-1463	WY-2023-06-1510	WY-2023-06-1569	WY-2023-06-7257
WY-2023-06-1362	WY-2023-06-1464	WY-2023-06-1512	WY-2023-06-1570	WY-2023-06-7258
WY-2023-06-1363	WY-2023-06-1465	WY-2023-06-1513	WY-2023-06-1571	
WY-2023-06-1364	WY-2023-06-1470	WY-2023-06-1514	WY-2023-06-1573	
WY-2023-06-1365	WY-2023-06-1475	WY-2023-06-1515	WY-2023-06-1575	
WY-2023-06-1400	WY-2023-06-1477	WY-2023-06-1516	WY-2023-06-1576	