



WESTERN ENVIRONMENTAL LAW CENTER



August 7, 2025

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RE: Public Comments on Intent To Amend the Resource Management Plan for the Miles City Field Office, Montana, and Prepare an Associated Environmental Assessment (DOI-BLM-MT-C020-2025-0116-RMP-EA); Intent To Amend the Resource Management Plan for the Buffalo Field Office, Wyoming, and Prepare an Associated Environmental Assessment (DOI-BLM-WY-P070-2025-0085-RMP-EA)

Ms. Nansel and Mr. Bills:

Please accept the following comments on the scope of the Bureau of Land Management's (BLM) upcoming environmental review for revisions to the Buffalo and Miles City Field Office Resource Management Plans (RMPs). We are submitting these comments on behalf of the Montana Environmental Information Center, Northern Plains Resource Council, Sierra Club, Western Organization of Resource Councils, WildEarth Guardians, Wyoming Outdoor Council, and Center for Biological Diversity. These organizations have members who live, work, and recreate in areas impacted by coal leasing and coal mining. These comments

address the appropriate scope of both RMPs and are therefore submitted to both field offices.

BLM has signaled its intent to re-open the Powder River Basin to federal coal leasing to advance the President’s policy of expanding and accelerating fossil fuel extraction from public lands. But regardless of this misguided policy, BLM remains obligated to fully consider—and in many cases to avoid—the dire environmental consequences of such an action. These include the tremendous contribution of Powder River Basin coal to devastating climate change. Indeed, the agency’s prior reviews have led it to end new coal leasing to avoid these unnecessary impacts, first in the Secretary of the Interior’s 2016 federal coal leasing moratorium, and then through BLM’s 2024 amendments to the Buffalo and Miles City Field Office RMPs. Though the facts underlying these decisions have not changed—if anything, our understanding of the need to end federal coal leasing to address the climate crisis has only grown—BLM appears poised to reverse its prior, considered positions. We urge BLM to instead retain the prohibition on new coal leasing in the 2024 Buffalo and Miles City RMPs.

BACKGROUND

BLM has announced its intent to revisit, for the third time in a decade, the Resource Management Plans for the Buffalo and Miles City Planning areas, with the purpose of “evaluat[ing] coal allocations in the planning area and to determine the availability of lands acceptable for further consideration for coal leasing.”¹ This announcement represents a sharp departure from the most recent RMPAs, finalized just last year, which elected—based on the best available law and science—to close the planning areas to future coal leasing. Those amendments resulted from multiple rounds of litigation, all of which BLM lost, and were supported by a deliberate and thorough analysis by the agency. BLM needs to bear this context in mind when it undertakes this latest revision and should be prepared to thoroughly explore and address the undeniably significant environmental harm that would accompany any reversal with respect to future coal leasing in the planning areas.

The Miles City planning area covers 2.7 million acres of surface lands and 11.7 million acres of subsurface federal coal estate over which BLM exercises

¹ Intent to Amend the Resource Management Plan for the Miles City Field Office, Montana, and Prepare an Associated Environmental Assessment, 90 Fed. Reg. 30,092, 30,092 (July 8, 2025); Intent to Amend the Resource Management Plan for the Buffalo Field Office, Wyoming, and Prepare an Associated Environmental Assessment, 90 Fed. Reg. 30,093, 30,094 (July 8, 2025).

regulatory authority in Carter, Custer, Daniels, Dawson, Fallon, Garfield, McCone, Powder River, Prairie, Richland, Roosevelt, Rosebud, Sheridan, Treasure, Wibaux, and portions of Big Horn and Valley counties in eastern Montana.² The adjacent Buffalo planning area covers approximately 800,000 federal surface acres and 4.7 million acres of federal minerals in Campbell, Johnson, and Sheridan counties in northeastern Wyoming.³ Together, the contiguous Miles City and Buffalo planning areas compose the northern and southern portions of a broader region known as the Powder River Basin, the largest coal producing region in the United States, accounting for more than forty percent of all domestic production.⁴ The Powder River Basin also produces significant amounts of natural gas and oil.

The Notices of Intent (NOI) describe the “purpose and need” for the Buffalo and Miles City RMPAs and associated EAs as:

[T]o evaluate coal allocations in the planning area and to determine the availability of lands acceptable for further consideration for coal leasing in accordance with Executive Order (“E.O.”) 14154, “Unleashing American Energy” (90 FR 8353, Jan. 29, 2025); E.O. 14156, “Declaring a National Energy Emergency” (90 FR 8433, Jan. 29, 2025); E.O. 14148, “Initial Rescissions of Harmful Executive Orders and Actions” (90 FR 8237, Jan. 28, 2025); and Secretary’s Order 3418, which implements E.O. 14154.⁵

The Notices predicate the purpose and need for the amendments solely on executive orders that, as described below, call for expansion of coal mining based on a purely fictional and arbitrarily designated national energy emergency, and run counter to the realities of climate science and federal law. What is entirely absent

² U.S. Dep’t of the Interior, Bureau of Land Mgmt., *Miles City Field Office Record of Decision and Approved Resource Management Plan Amendment 1-1–1-2* (Nov. 2024).

³ U.S. Dep’t of the Interior, Bureau of Land Mgmt., *Buffalo Field Office Record of Decision and Approved Resource Management Plan Amendment 1-1* (Nov. 2024).

⁴ U.S. Energy Info. Admin., *Sixteen Mines in the Powder River Basin Produce 43% of U.S. Coal* (Aug. 26, 2019), <https://www.eia.gov/todayinenergy/detail.php?id=41053#>.

⁵ Intent to Amend the Resource Management Plan for the Miles City Field Office, Montana, and Prepare an Associated Environmental Assessment, 90 Fed. Reg. at 30,092–30,093; Intent to Amend the Resource Management Plan for the Buffalo Field Office, Wyoming, and Prepare an Associated Environmental Assessment, 90 Fed. Reg. at 30,094.

from both NOIs is any acknowledgment of the context surrounding these resource management plans, which do not exist in a vacuum. The 2024 RMPAs, which BLM now seeks to revise with the aim of expanded future coal leasing, were the result of more than a decade of successful litigation and administrative engagement by many of the signatories to this comment letter. Commenters have set forth below a brief history of the prior revisions of these RMPs, the litigation that successfully challenged them, and the litany of efforts by BLM to promulgate resource management plan amendments that would survive judicial review. It is the commenters' sincere hope that the agency will meaningfully consider this history before moving forward with the proposed amendments.

I. THE 2015 RMPAS AND ASSOCIATED LITIGATION

In 2015, BLM approved RMP revisions for the Miles City and Buffalo Field Offices. The RMPs made vast amounts of fossil fuels—including coal—in the Powder River Basin available for development. However, the accompanying environmental impact statement (EIS), issued pursuant to the National Environmental Policy Act (NEPA), failed to analyze any alternative development scenarios, specifically scenarios that would result in the availability of less coal for leasing and development, and failed to disclose to the public the environmental consequences resulting from the combustion of the vast amounts of fossil fuels that the Powder River RMPs made available for development. In revising the Miles City and Buffalo Plans, BLM failed to consider any alternatives that would reduce the amount of coal available for leasing or require cost-effective measures to reduce methane emissions from oil and gas development. BLM also failed to take the hard look NEPA requires at the direct, indirect, and cumulative environmental impacts of the fossil fuel development projected to occur under the plans.

Following a legal challenge by conservation groups, the Federal District Court for the District of Montana held in 2018 that BLM violated NEPA by approving the RMPs for the Miles City and Buffalo Field Offices because the agency: (1) failed to consider any alternative that reduced the amount of coal available for strip-mining and; (2) failed entirely to address or disclose the toxic and harmful impacts of fossil fuel combustion enabled by BLM's actions.⁶ The district court approved a remedial schedule by which BLM was required to produce

⁶ *W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt. (WORC 2018)*, No. CV 16-21-GF-BMM, 2018 WL 1475470, at *9, *13 (D. Mont. Mar. 26, 2018).

supplemental environmental impact statements and a new coal screening for the planning areas.⁷

II. THE 2019 RMPAS AND ASSOCIATED LITIGATION

In October 2019, BLM issued supplemental EISs for the Miles City and Buffalo Field Offices accompanied by records of decision in November 2019. The two supplemental environmental impact statements were mirror-images of one another and perpetuated virtually identical shortcomings as had the 2015 iterations successfully challenged by the conservation groups. BLM's supplemental environmental impact statements (SEISs) again considered alternatives that would result in identical amounts of coal development—the strip-mining and combustion of approximately 6 billion tons of low grade, highly polluting sub-bituminous coal—and had identical impacts. Under each alternative considered, 775 million tons of coal from 9,730 acres would be strip-mined over twenty years in the Miles City Field Office, and 4.9 billion tons of coal from 36,620 acres would be strip-mined over twenty years in the Buffalo Field Office.

With respect to the impacts of downstream fossil-fuel combustion, BLM did not address or disclose any impacts of fossil fuel combustion other than greenhouse gas (GHG) emissions. The record before the agency (as supplemented by conservation groups) showed that combustion of fossil fuels from the planning areas would result in tens of thousands of premature deaths, countless respiratory and cardiac illnesses, and significant harm to the brain development of children and fetuses across the nation. The record documented that the widespread fossil fuel combustion envisioned and enabled by the RMPs would cause increased risks of cancer, premature births, and widespread exposure of children and fetuses to lead and mercury, which impair brain development. Further, comments in the record described a robust body of scientific data projecting that the cumulative economic harm to the public from this toxic and harmful air pollution would range from \$95 billion to \$1.8 trillion. While BLM discussed the greenhouse gas emissions that would result from fossil fuel development under the RMPs, the agency refused entirely to analyze or disclose the toxic and harmful impacts of non-greenhouse gas pollution from combustion of fossil fuels extracted from the planning areas.

Conservation groups again challenged BLM's remand analysis on grounds of these failings. In August of 2022, the District Court once again found in their favor,

⁷ *W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt.*, No. CV 16-21-GF-BMM, 2018 WL 9986684, at *2 (D. Mont. July 31, 2018).

granting their motion for summary judgment and ordering BLM—again—to complete a new coal screening NEPA analyses. This time, the court explicitly directed BLM to include in its analysis no- and limited-leasing alternatives for coal and to disclose both climate and non-climate public health impacts of burning fossil-fuels from the planning area.

III. THE 2024 RMPAS

As a result of the court’s order, BLM once again initiated the planning process to amend the RMPs.⁸ At the initiation of scoping, BLM indicated it would—consistent with the district court’s order—complete a new coal screening and analyze “no leasing” and “limited leasing” alternatives.⁹ Conservation groups again took an active role in the administrative review process, submitting comments in response to both the scoping notice and draft EIS for each RMPA. Consistent with their prior engagement, conservation groups stressed the need to respond to the climate crisis and the clear scientific consensus on the urgent need for GHG reduction by choosing the alternative that allowed for no additional leasing. Moreover, conservation groups emphasized not only that additional leasing is inconsistent with averting the worst impacts of global climate change, but that an equitable phase-out of production from existing leases is also imperative. Ultimately, while BLM did not address an organized wind-down of production on existing leases, it appropriately, based on the thorough record before the agency, chose the no-new-leasing alternative, which conservation groups supported.

Shortly after BLM issued the final RMPAs and associated records of decision (RODs), several states and coal industry entities sued to challenge them but ultimately agreed to stay that litigation response to BLM’s expressed intent to once again amend the plans. Now that BLM has initiated this process, it would do well to bear in mind the history and legal context against which this planning effort will play out. Directly controlling legal precedent requires BLM to take a hard look at the environmental consequences of these plans, ensure that the plans comply with substantive legal mandates, and meaningfully evaluate alternatives.

⁸ Notice of Intent to Amend the Resource Management Plans for the Buffalo Field Office, Wyoming, and Miles City Field Office, Montana, and Prepare Associated Supplemental Environmental Impact Statements, 87 Fed. Reg. 59,818 (Oct. 3, 2022).

⁹ *Id.* at 59,819.

BLM'S LEGAL OBLIGATIONS

BLM must comply with numerous statutory responsibilities to address the potential consequences of any decision to amend the Miles City and Buffalo RMPs. Inherent in every aspect of BLM's decision-making on the significant issue of coal-leasing in the Powder River Basin is its overarching responsibility under the Administrative Procedures Act (APA), 5 U.S.C. § 704, to engage in reasoned decision-making. Among other things, BLM must "examine the relevant data and articulate a satisfactory explanation for its action including a "rational connection between the facts found and the choice made."¹⁰ An action is arbitrary "if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise."¹¹ An agency must further provide a "reasoned explanation" for its change in policy, including a "more detailed explanation . . . when . . . its new policy rests upon factual findings that contradict those which underlay its prior policy."¹²

I. FEDERAL LAND POLICY AND MANAGEMENT ACT

BLM's land management authority is established primarily through the Federal Land Policy and Management Act (FLPMA).¹³ FLPMA provides that BLM, under the Secretary of the Interior, shall "manage the public lands under principles of multiple use and sustained yield, in accordance with the land use plans."¹⁴ "Multiple use" requires BLM to "stri[k]e a balance among the many competing uses to which land can be put."¹⁵ "Sustained yield" refers to BLM's "control [of] depleting uses over time, so as to ensure a high level of valuable uses in the future."¹⁶ These concepts do *not* equate "to the combination of uses that will give the greatest

¹⁰ *Motor Vehicle Manufacturers Ass'n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (quotation and citation omitted).

¹¹ *Id.*

¹² *F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 515–16 (2009).

¹³ 43 U.S.C. §§ 1701 *et seq.*

¹⁴ *Id.* § 1732(a).

¹⁵ *Norton v. S. Utah Wilderness All. (SUWA)*, 542 U.S. 55, 58 (2004).

¹⁶ *Id.*

economic return or the greatest unit output.”¹⁷ Indeed, FLPMA requires that BLM must manage public lands and resources in a manner that “takes into account the long-term needs of future generations for renewable and nonrenewable resources . . . without permanent impairment of the productivity of the land.”¹⁸ And the law requires that “the Secretary shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.”¹⁹ FLPMA further provides the “public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values.”²⁰

Guided by these principles, BLM must adopt and maintain land use plans, or resource management plans, that describe allowable uses for a particular area.²¹ An RMP may identify lands available for leasing, define resource use, and establish levels of production.²² The statute expressly requires “public involvement” in the planning process,²³ which includes “public meetings or hearings held at locations near the affected lands.”²⁴

After BLM identifies lands as suitable for leasing in an RMP, the agency may lease federal coal, oil, or gas resources for development under the Mineral Leasing Act (MLA).²⁵

II. MINERAL LEASING ACT

Within these overarching constraints of FLPMA, the Mineral Leasing Act of 1920 grants the Secretary of the Interior broad authority in administering federal

¹⁷ 43 U.S.C. § 1702(c).

¹⁸ *Id.* § 1702(c).

¹⁹ *Id.* § 1732(b).

²⁰ *Id.* § 1701(a)(8).

²¹ *Id.* § 1712(a).

²² 43 C.F.R. §§ 1601.0-5(n)(1)–(2).

²³ 43 U.S.C. § 1702(d).

²⁴ *Id.*; *see also* 43 C.F.R. § 1610.2(a) (requiring opportunities for the public “to meaningfully participate” in the development and amendment of RMPs).

²⁵ 30 U.S.C. §§ 181, *et seq.*; *see* 43 C.F.R. §§ 1610.5-3(a), 3425.

coal leasing.²⁶ For example, the Secretary has significant discretion to establish the terms of federal coal leases. Each lease shall include “provisions . . . necessary to insure the sale of the production of such leased lands to the United States and to the public at reasonable prices, for the protection of the interests of the United States, for the prevention of monopoly, and for the safeguarding of the public welfare.”²⁷ Further, each lease must set annual rents and royalties, require diligent development, and “include such other terms and conditions as the Secretary shall determine.”²⁸ Federal coal leases have an initial duration of twenty years, and are renewable for ten-year terms thereafter.²⁹ “[R]entals and royalties and other terms and conditions of the lease will be subject to readjustment at the end of its primary term of twenty years and at the end of each ten-year period thereafter if the lease is extended.”³⁰

As amended in 1976, the Mineral Leasing Act explicitly provides that leasing is discretionary. The Secretary “is authorized” to identify tracts for leasing and thereafter “shall, in his discretion . . . from time to time, offer such lands for leasing”³¹ Further, the Secretary has discretion to reject lease applications on the grounds that “leasing of the lands covered by the application, for environmental or other sufficient reasons, would be contrary to the public interest.”³²

In the One Big Beautiful Bill Act, Congress adopted new coal-leasing provisions.³³ Section 50201 requires BLM to take certain pre-leasing actions but retains the agency’s discretion and obligation to comply with other legal obligations

²⁶ 30 U.S.C. §§ 181, *et seq.*, as amended by the Federal Coal Leasing Amendments Act of 1976 (FCLAA), Public Law 94-377, 90 Stat. 1083 (Aug. 4, 1976).

²⁷ 30 U.S.C. § 187.

²⁸ *Id.* §§ 207(a), (b)(1).

²⁹ *Id.* § 207(a); 43 C.F.R. § 3451.1(a)(1).

³⁰ 30 U.S.C. § 207(a); *see also* 43 C.F.R. § 3451.1(a)(1) (“All leases issued after August 4, 1976, shall be subject to readjustment at the end of the first 20-year period and, if the lease is extended, each 10-year period thereafter.”).

³¹ 30 U.S.C. § 201; *see also WildEarth Guardians v. Salazar*, 859 F. Supp. 2d 83, 87 (D.D.C. 2012) (“Under the [FLCAA], the Secretary is *permitted* to lease public lands for coal mining operations after conducting a competitive bidding process” (emphasis added)).

³² 43 C.F.R. § 3425.1-8(a)(3).

³³ H.R. 1, §§ 50201–03, 119th Congress (2025).

with respect to granting leases. Section 50202 establishes, through September 2034, a maximum coal-lease royalty rate of seven percent. And section 50203 requires BLM to “make available for lease known recoverable coal resources of not less than 4,000,000 additional acres.” Section 50203 applies “notwithstanding” the land use planning prerequisites in FLPMA and the Mineral Leasing Act.³⁴ In all other respects, these new provisions do not affect overarching legal requirements applicable to land use planning or leasing.³⁵

III. NATIONAL ENVIRONMENTAL POLICY ACT

The RMP amendment process is also subject to the National Environmental Policy Act (NEPA).³⁶ NEPA has two fundamental purposes: (1) to guarantee that agencies take a “hard look” at the consequences of their actions before the actions occur by ensuring that “the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts”; and (2) to ensure that “the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision.”³⁷ NEPA “emphasizes the importance of

³⁴ 43 U.S.C. § 1712(a); 30 U.S.C. § 201(a)(3)(A).

³⁵ The OBBBA does not expressly negate the Department’s 2016 coal-leasing moratorium. The federal district court in Montana ruled that the Interior Secretary’s 2017 attempt to terminate that action was unlawful, and reinstated the moratorium. *Citizens for Clean Energy v. U.S. Dep’t of the Interior*, 621 F. Supp. 3d 1165, 1173 (D. Mont. 2022), vacated and remanded, No. 22-35789, 2024 WL 702312 (9th Cir. Feb. 21, 2024). On appeal from that decision, the Ninth Circuit Court of Appeals dismissed the case as moot, finding that a 2021 Order 3398 by Interior Secretary Haaland “definitively ‘revoked’” the 2017 action terminating the moratorium. *Citizens for Clean Energy v. U.S. Dep’t of the Interior*, No. 22-35789, 2024 WL 702312, at *1 (9th Cir. Feb. 21, 2024). The legal effect of both the 2022 district court opinion and the 2021 Haaland Order was to reinstate the moratorium, and the Department cannot revoke the moratorium without first completing a lawful NEPA review, which has not occurred. Thus, OBBBA section 50203, requiring BLM to “make available for lease” some amount of land for coal-leasing is best read as a limited carveout from the larger land area in the federal coal mineral estate still subject to the moratorium.

³⁶ 43 C.F.R. § 1610.5-5.

³⁷ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989); *see also Seven Cnty. Infrastructure Coal. v. Eagle Cnty., Colorado*, 145 S. Ct. 1497, 1510 (2025) (NEPA “ensures that the agency and the public are aware of the environmental consequences of proposed projects”).

coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that ‘the agency will not act on incomplete information, only to regret its decision after it is too late to correct.’”³⁸

A. Department of the Interior’s NEPA Procedures

The Department of the Interior recently adopted new NEPA implementing procedures to replace its former NEPA regulations. Those procedures confirm the statutory requirement that BLM must prepare an EIS for any RMP amendment that would result in potentially significant environmental effects.³⁹ In making a significance determination, the procedures require agencies to “consider, as appropriate to the proposed action, any connected actions, the scope of the affected area (national, regional, or local), reasonably foreseeable trends and planned actions within that area, and the affected area’s natural and cultural resources.”⁴⁰ Agencies

shall also consider the following criteria, as appropriate to the proposed action:

- (i) Both short- and long-term effects;
- (ii) Both beneficial and adverse effects;
- (iii) Effects on public health and safety;
- (iv) Economic effects; and
- (v) Effects on the quality of life of the American people.⁴¹

B. “Alternative Arrangements for NEPA Compliance”

To the extent BLM may seek to rely on any alternative NEPA procedures premised on the administration’s announcement of an “energy emergency,” such reliance and the alternative procedures themselves are unlawful. The Department

³⁸ *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998) (internal citation omitted); *see also Seven Cnty.*, 145 S. Ct. at 1510 (“Properly applied, NEPA helps agencies to make better decisions and to ensure good project management.”).

³⁹ U.S. Dep’t of the Interior Handbook of NEPA Implementing Procedures (DOI NEPA Handbook), 516 DM 1, Appendix 1, § 11.8 (2025), <https://www.doi.gov/oepe/national-environmental-policy-act-nepa>.

⁴⁰ *Id.* § 1.2(b)(1).

⁴¹ *Id.* § 1.2(b)(2). The Department’s replacement of its NEPA regulations with less robust procedures is unlawful and does not lawfully implement NEPA. The comments submitted as Exhibit 1 describe the problems with the Department’s new procedures and are incorporated herein by reference.

of the Interior announced its adoption of “Alternative Arrangements For NEPA Compliance”⁴² on April 23, 2025, on the same date the Council on Environmental Quality (CEQ) authorized those alternative arrangements⁴³ (collectively, the “Emergency Procedures”). The Emergency Procedures are unlawful because they: (1) are premised on a baseless and unsupported declaration of a “national energy emergency” in Executive Order 14,156, 90 Fed. Reg. 8,433 (Jan. 29, 2025); (2) conflict with the Department of Interior’s NEPA regulation on emergency responses; (3) violate the Department’s public participation obligations; (4) fail to conform to the requirements for Administrative Procedure Act (APA) notice and comment rulemaking; (5) are inconsistent with the timeframes and participation periods mandated by the Bureau of Land Management’s (BLM) coal leasing regulations; and (6) violate the major questions doctrine. Accordingly, the undersigned organizations request that the Secretary immediately withdraw the Emergency Procedures and comply with the full environmental review and public participation requirements mandated by NEPA.

1. There Is No National Energy Emergency.

As an initial matter, Executive Order 14,156 and the Emergency Procedures are a transparent pretext to exempt fossil fuel development from environmental laws rather than a response to an actual energy emergency. There is no urgent need to immediately increase coal mining on public lands. Moreover, a rational response to an energy emergency would not exclude renewable energy or allow companies to decide whether they will “opt in” to the relevant procedures.

As the Department has recognized, an “emergency” refers to “a sudden, urgent, usually unexpected occurrence or occasion requiring immediate action,” or “an unforeseen combination of circumstances or the resulting state that calls for

⁴² U.S. Dep’t of the Interior, *Alternative Arrangements for NEPA Compliance: Alternative Arrangements for Compliance with the National Environmental Policy Act Amid the National Energy Emergency* (Apr. 23, 2025), https://www.doi.gov/sites/default/files/documents/2025-04/alternative-arrangements-nepa-during-national-energy-emergency-2025-04-23-signed_1.pdf [hereinafter *Alternative Arrangements for NEPA Compliance*].

⁴³ Letter from Katherine R. Scarlett, Chief of Staff, Council on Environmental Quality, to Karen Budd-Falen, Acting Deputy Secretary, Dep’t of the Interior (Apr. 23, 2025), https://www.whitehouse.gov/wp-content/uploads/2025/04/CEQ-to-DOI-re-Alternative-Arrangement_04.23.25.pdf.

immediate action.”⁴⁴ None of the concerns identified in the Executive Order meet this definition.

The Executive Order raises longstanding energy policy issues like energy prices and security but fails to identify any sudden or unforeseen new circumstances that might require deviation from existing laws and regulations.⁴⁵ Instead, the Executive Order borrows talking points that the fossil fuel industry has offered for years when seeking to increase production. These are nothing new and because these concerns involve long-term national energy policy, they cannot be resolved through short-term steps expediting approvals of leases and permits.

The details of the Executive Order and Emergency Procedures also illustrate the pretextual nature of the alleged “emergency.” The Executive Order’s exclusion of renewable energy, and the “opt in” nature of the Emergency Procedures, reflect an effort to exempt favored (i.e., fossil fuel) energy producers from federal environmental law rather than to respond to an emergency.

First, the Executive Order defines “energy” to exclude wind, solar and many other renewable sources.⁴⁶ If there were a genuine energy emergency, the United States would be expected to take an “all of the above” approach to increasing energy supplies. The Executive Order itself recognizes the importance of a “diversified” energy supply,⁴⁷ and all the concerns listed in the Executive Order can be addressed by increasing renewable energy production.⁴⁸ Clean energy is already fueling more and more of our economy, helping to make the United States more energy independent and meeting future growth in electricity demand.

⁴⁴73 Fed. Reg. 61,292, 61,301 (Oct. 15, 2008) (applying dictionary definition of “emergency”).

⁴⁵ See Exec. Order No. 14,156, 90 Fed. Reg. 8,433 (Jan. 29, 2025).

⁴⁶ *Id.* § 8(a).

⁴⁷ *Id.* § 1.

⁴⁸ Further undercutting the claimed emergency, the Executive Order also ignores energy conservation and efficiency. On the contrary, the Trump administration plans to halt the Environmental Protection Agency’s energy-saving Energy Star Program. See, e.g., Stephanie Pappas, *Shuttering of EPA’s Energy Star Program Would Affect Electric Bills and the Environment*, Scientific Am. (May 8, 2025), <https://www.scientificamerican.com/article/the-epa-plans-to-terminate-the-energy-star-program-heres-what-that-means/>.

Second, the “opt in” structure of the Emergency Procedures—they apply only where the “project applicant . . . want[s] the review of their project to be covered by the alternative arrangements”⁴⁹—undercuts the Department’s claim to be responding to an emergency. If the United States genuinely requires an immediate increase in energy production, expediting that production cannot be left to the business decisions of individual energy companies. The stated goals of the Executive Order are not contingent on whether each operator chooses to seek expedited approvals.

Ultimately, the administration has not demonstrated any basis for an energy emergency.

2. Executive Order 14,156 Does Not Activate Any Emergency Powers Under NEPA.

President Trump’s Executive Order relied on the National Emergencies Act (NEA)⁵⁰ for authority to declare a national energy emergency.⁵¹ The NEA authorizes the President to declare a national emergency, which allows him to exercise “any special or extraordinary power” that is authorized by an Act of Congress “during the period of a national emergency.”⁵²

The NEA does not give the President free rein to disregard the law, however. Rather, an emergency declaration only applies to statutes “conferring powers and authorities to be exercised during a national emergency.”⁵³ As Congress explained: the “National Emergencies Act is not intended to enlarge or add to Executive power. Rather, the statute is an effort by the Congress to establish clear procedures and safeguards for the exercise by the President of emergency powers conferred upon him by other statutes.”⁵⁴

The NEA also imposes requirements for reporting to Congress and procedures for terminating emergencies.⁵⁵ In particular, the NEA requires the

⁴⁹ Alternative Arrangements for NEPA Compliance at 1.

⁵⁰ 50 U.S.C. §§ 1601–1651.

⁵¹ Exec. Order No. 14,156, 90 Fed. Reg. 8,433.

⁵² 50 U.S.C. § 1621(a).

⁵³ *Id.* § 1621(b).

⁵⁴ Sen. Rep. No. 94-1168, at 3 (1976).

⁵⁵ 50 U.S.C. §§ 1621–1631.

President to “specif[y] the provisions of law under which he proposes that he, or other officers will act” in exercising emergency powers.⁵⁶ This specification must be made in the emergency declaration, or in “subsequent Executive orders published in the Federal Register and transmitted to the Congress.”⁵⁷

Unlike some other statutes, NEPA does not give the President any “special or extraordinary power” to waive its requirements during national emergencies.⁵⁸ Moreover, President Trump’s Executive Order makes no mention of NEPA—much less “specif[ying] the provisions” of that statute under which he wants to act during the emergency.⁵⁹

As a result, the fact that President Trump has declared a purported “emergency” does not give the Department any additional power to disregard the ordinary requirements of NEPA. The Department must look elsewhere for authority to issue the Emergency Procedures.

3. An Emergency Does Not Exist Within the Scope of NEPA Regulations.

The Department relies on one of its NEPA regulations, 43 C.F.R. § 46.150, for authority to issue the Emergency Procedures. That regulation allows emergency actions to be taken under certain circumstances, but it does not authorize the Emergency Procedures, or their application to the issuance of oil and gas leases or drilling permits.

The Department must make a reasoned determination, supported by record evidence, that: (a) emergency circumstances actually exist within the meaning of the NEPA regulation, and (b) responding to that emergency requires issuance of a permit or lease prior to NEPA compliance. The Department cannot make those findings.

⁵⁶ *Id.* § 1631.

⁵⁷ *Id.*

⁵⁸ *Id.* § 1621(a); *see* 42 U.S.C. §§ 4321–4370 (NEPA).

⁵⁹ 50 U.S.C. § 1631.

a. The Administration's Goal of Increasing Energy Production Does Not Represent an Emergency for Purposes of NEPA.

The Department's NEPA regulation, 43 C.F.R. § 46.150, only applies where an emergency "makes it necessary to take urgently needed actions before preparing a NEPA analysis and documentation" in compliance with the regular NEPA procedures.⁶⁰ In issuing the regulation, Interior explained that an "emergency" means "a sudden, urgent, usually unexpected occurrence or occasion requiring immediate action," or "an unforeseen combination of circumstances or the resulting state that calls for immediate action."⁶¹ BLM's 2008 NEPA Handbook offers the following examples of typical emergencies: a "hazardous materials spill . . . ongoing wildland fires . . . [and] emergency stabilization actions following wildland fires or other disasters"⁶² where stabilization is "immediately needed to protect public health and safety or important resources."⁶³ Although the 2008 Handbook has been replaced, it is instructive as to the types of emergencies that qualify under Department regulations.

As one court noted, findings of "emergency circumstances" under NEPA have been upheld where they serve to "avert imminent crises outside the agency's control."⁶⁴ For example, federal land managers have used emergency procedures to relocate wild horses that were left without forage or water following a wildfire⁶⁵ or

⁶⁰ 43 C.F.R. § 46.150.

⁶¹ 73 Fed. Reg. 61,292, 61,301 (Oct. 15, 2008) (first quoting Random House Dictionary of The English Language (2ed. 1987); and then quoting Webster's Third New International Dictionary Of The English Language 1961 and Merriam-Webster's Collegiate Dictionary (11th ed. 2004)) (applying dictionary definition of "emergency").

⁶² U.S. Bureau of Land Mgmt., H-1790-1, *National Environmental Policy Act Handbook* 10 (2008), https://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_Handbook_h1790-1.pdf.

⁶³ *Id.* at 11.

⁶⁴ *NRDC v. Winter*, 518 F.3d 658, 683 (9th Cir. 2008), *rev'd on other grounds*, 555 U.S. 7 (2008).

⁶⁵ *Friends of Animals v. U.S. Bureau of Land Mgmt.*, No. 2:16-cv-1670-SI, 2018 WL 1612836, *8 (D. Or. Apr. 2, 2018).

when immediate steps were needed to contain an ongoing wildfire⁶⁶. In other contexts, altering operations of a water control project to prevent the extinction of an endangered species has been classified as an emergency for purposes of invoking NEPA emergency procedures.⁶⁷ And urgent transport operations in support of an active military conflict in the Middle East have been held to be an emergency for purposes of NEPA compliance.⁶⁸

The administration's policy goal of increasing domestic energy production does not qualify as an emergency for NEPA purposes. The concerns described by the Executive Order all involve long-standing policy and market issues that have existed, and which the federal government has engaged with, for years. They do not involve a "sudden," "urgent," or "unexpected" event, or "require[e] immediate action" prior to complying with NEPA.⁶⁹

For example, the desire to export American energy to advance foreign policy goals, and for the United States to enjoy an "affordable and reliable domestic supply of energy," have been policy goals for many decades and are already being implemented.⁷⁰ Nor do any new developments suddenly or unexpectedly threaten those goals. While fossil fuel advocates have claimed for years that grid stability could suffer as renewable energy sources become a larger part of the country's

⁶⁶ *Forest Serv. Employees for Env't Ethics v. U.S. Forest Serv.*, 2:16-cv-0293-TOR, 2017 WL 2962771, *1–4, n. 7 (E.D. Wa. July 11, 2017) (similar Forest Service regulation invoked for cutting trees to create a fire line).

⁶⁷ *Miccousukee Tribe of Indians v. U.S.*, 420 F. Supp. 2d 1324, 1329-30 (S.D. Fla. 2006).

⁶⁸ *Valley Citizens for a Safe Env't v. Vest*, Civ. A. No. 91–30077–F, 1991 WL 330963 (D. Mass. May 30, 1991) (affirming alternative NEPA arrangements for nighttime military flights needed to support Operation Desert Storm, which responded to Iraq's unexpected invasion of Kuwait). The Council on Environmental Quality (CEQ) regulations provided for NEPA compliance in emergencies, 40 C.F.R. § 1506.11 (2023), and Section 46.150 "supplements, and is to be used in conjunction with" the CEQ regulation. 43 C.F.R. § 46.20; *see also* 73 Fed. Reg. 61292, 61301 (Oct. 15, 2008) (Section 46.150 "codifies . . . CEQ guidance for emergency actions"). Interior is one of many federal agencies following the approach to emergencies outlined in the CEQ regulation.

⁶⁹ Implementation of the National Environmental Policy Act (NEPA) of 1969, 73 Fed. Reg. 61,292, 61,301 (Oct. 15, 2008).

⁷⁰ *See* Exec. Order No. 14,156, 90 Fed. Reg. 8,433.

energy supply, the electrical grid remains very reliable.⁷¹ There is no rational basis for invoking NEPA’s emergency procedures here.

b. Amending the Miles City and Buffalo RMPs Prior to NEPA Compliance Is Not Required to Address Any Alleged Energy Emergency.

Even if the energy policy concerns raised in the Executive Order could qualify as an emergency for NEPA purposes, the Department regulation does not allow “alternative arrangements” to be used for amending the Miles City and Buffalo RMPs. “Alternative arrangements” for NEPA compliance may be applied in two situations:

- If an action won’t have a significant impact on the environment, alternative arrangements are available only where “the nature and scope of the subsequent actions related to the emergency require taking such proposed actions prior to completing an environmental assessment and a finding of no significant impact”⁷²; or
- If an action is likely to have a significant impact, any alternative arrangements can “apply only to the proposed actions necessary to control the immediate impacts of the emergency.”⁷³

Amending RMPs with the goal of increasing coal production is much different from containing wildfire, responding to a toxic spill, or getting supplies to troops during an active military conflict. Routine leasing and permitting are not emergency

⁷¹ Paul Denholm, *Top 10 Things to Know About Power Grid Reliability*, Nat’l Renewable Energy Lab’y (Jan. 26, 2024), <https://www.nrel.gov/news/detail/program/2024/top-10-things-to-know-about-power-grid-reliability>; Steve Hanley, *California Smashes Myth That Renewables Aren’t Reliable*, CleanTechnica (Jan. 24, 2025), <https://cleantechnica.com/2025/01/24/california-smashes-myth-that-renewables-arent-reliable/>.

⁷² 43 C.F.R. § 46.150(c).

⁷³ *Id.* § 46.150(d). The regulation also provides for “actions necessary to control the immediate impacts of the emergency that are urgently needed to mitigate harm to life, property, or important natural, cultural, or historic resources.” *Id.* § 46.150(a)–(b). The Emergency Procedures do not invoke this provision, further undercutting any claim that an energy emergency exists.

responses that “require taking such proposed actions prior to completing an environmental assessment.”⁷⁴

4. The Emergency Procedures Violate Statutory Requirements for Public Participation.

The Emergency Procedures are also flawed because they attempt to constrain or outright eliminate any opportunity for public involvement in Interior Department energy and mineral permitting and leasing decisions. This attempt to restrict public input is arbitrary, capricious, and contrary to the Department’s legal obligations under the Federal Land Policy and Management Act (FLPMA) and NEPA.

FLPMA broadly requires the Secretary of Interior to “give Federal, State, and local governments and the public adequate notice and an opportunity to comment upon the formulation of standards and criteria for, and to participate in, the preparation and execution of plans and programs for, and the management of, the public lands.”⁷⁵ FLPMA defines “public involvement” as “the opportunity for participation by affected citizens in rule making, decision making, and planning with respect to the public lands, including public meetings or hearings held at locations near the affected lands, or advisory mechanisms, or such other procedures as may be necessary to provide public comment in a particular instance.”⁷⁶ Courts have confirmed that 43 U.S.C. § 1739(e) requires BLM to provide opportunities for

⁷⁴ *Id.* § 46.150(c); *see NRDC*, 518 F.3d at 682 (holding that naval training exercises were not NEPA emergencies when they “were planned well in advance and with sufficient time to follow the regular [NEPA] process”).

⁷⁵ 43 U.S.C. § 1739(e).

⁷⁶ *Id.* § 1702(d).

public involvement in both land-use planning *and* later management decisions implementing such plans, such as mineral leasing or permitting decisions.⁷⁷

The Emergency Procedures violate this statutory requirement by directing staff to severely constrain or outright eliminate public participation for energy and mineral leasing and permitting decisions. Like NEPA, FLPMA contains no emergency exception. As a result, the Department cannot simply dispense with this public participation mandate in the name of a supposed “National Energy Emergency.” Unfortunately, the Emergency Procedures violate these standards by eliminating the requirement that officials circulate or allow comment on a draft EIS *and* by allowing projects approved with an EA to be approved without any public input. This attempt to curtail public comment in the NEPA process cannot be justified under the Department’s regulation governing emergency situations.⁷⁸

Even assuming the Department of Interior could lawfully constrain or eliminate public involvement in permitting decisions, there could be no legitimate rationale for doing so here. There is no urgent need to increase coal production on federal public lands, and there has also been no reasonable explanation given as to why the energy policy concerns raised in Executive Order 14,156 are so urgent that they require the Department of Interior to dispense with ordinary procedures for public involvement. Moreover, in deciding to hasten permitting, the Department entirely failed to consider an important factor: the *cost* of limiting public input. There are numerous benefits to public participation—including increased accountability; additional scientific, technical, on-the-ground, or local expertise; and increased public buy-in—that the Department entirely failed to consider in adopting

⁷⁷ See *Mont. Wildlife Fed’n v. Haaland*, 127 F.4th 1, 40 (9th Cir. 2025) (holding that the Department of Interior “has a duty under FLPMA to involve the public in those decisions [regarding the management of public lands]”); *Nat’l Wildlife Fed’n v. Burford*, 835 F.2d 305, 322 (D.C. Cir. 1987) (affirming the district court’s conclusion that the government violated FLPMA when it failed to offer public participation opportunities related to the department’s decision to revoke protective restrictions pertaining to particular federal lands); *W. Watersheds Project v. Kraayenbrink*, No. 4:05-cv-297, 2006 WL 2348080, at *7 (D. Id. Aug. 11, 2006) (“This statutory language values public input on long-range issues . . . as well as on day-to-day issues”); see also *Nat’l Parks and Conservation Ass’n v. FAA*, 998 F.2d 1523, 1531 (10th Cir. 1993) (“Congress, through FLPMA . . . , has determined that the public has a right to participate in actions affecting public lands”).

⁷⁸ 43 C.F.R. § 46.150.

its Emergency Procedures. This alone violates the Department's APA duty to act reasonably.⁷⁹

5. Interior Failed to Use Notice and Comment Rulemaking to Adopt the Emergency Procedures.

The Emergency Procedures are invalid because the Department of Interior improperly promulgated them without adhering to notice-and-comment rulemaking procedures required under both the APA and FLPMA.

Under the APA, agencies may promulgate rules only after providing notice and an opportunity for public comment.⁸⁰ The Emergency Procedures constitute a substantive rule subject to the APA's notice-and-comment procedures, because they are a "statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy or describing the organization, procedure, or practice requirements" for reviewing energy projects.⁸¹ Although the Department of Interior has provided no justification for bypassing notice-and-comment procedures, we also note that the "rule of agency organization, procedure, or practice" exception also does not apply.⁸² That exception does not include any action that "substantially affects the rights of those over whom the agency exercises authority."⁸³ The Emergency Procedures here go far beyond mere internal procedures and substantially affect the right of third parties to comment, consult, and otherwise participate in the covered decisions.⁸⁴

Likewise, FLPMA requires the Department to use notice and comment rulemaking when establishing procedures for public involvement in land management decisions. Specifically, FLPMA Section 309 states that "the Secretary, by regulation, shall establish procedures . . . to give the Federal, State, and local governments and the public adequate notice and an opportunity to . . . participate in, the preparation and execution of plans and programs for, and the management

⁷⁹ See *Mont. Wildlife Fed'n*, 127 F.4th at 37–41.

⁸⁰ 5 U.S.C. § 553(b)–(c).

⁸¹ *Id.* § 551(4) (APA definition of a "rule").

⁸² *Id.* § 553(b).

⁸³ *Pickus v. U.S. Bd. of Parole*, 507 F.2d 1107, 1113 (D.C. Cir. 1974).

⁸⁴ See *W. Energy All. v. Salazar*, No. 10-cv-237F, 2011 WL 3738240, *1, *7 (D. Wyo. Aug. 12, 2011) (instruction memorandum changing implementation of NEPA required notice-and-comment rulemaking).

of, the public lands.”⁸⁵ FLPMA Section 310 further directs BLM to follow APA rulemaking procedures.⁸⁶ The Emergency Procedures constitute procedures for public notice and participation subject to Section 309. Accordingly, the Department of Interior was required to promulgate them through notice-and-comment procedures. Where Congress explicitly directs an agency to proceed “by regulation” on some subject, the agency has no discretion to use a less formal method.⁸⁷

In short, the Department of Interior’s issuance of the Emergency Procedures without notice and comment process violated the procedural requirements of both the APA and FLPMA.

6. The Emergency Procedures Run Afoul of the Major Questions Doctrine.

In addition to the legal infirmities discussed above, the Department’s Emergency Procedures violate the major questions doctrine because it asserts unprecedented agency authority over environmental review processes without clear congressional authorization. While 43 C.F.R. § 46.150 permits modified NEPA procedures during emergencies “that are urgently needed to mitigate harm to life, property, or important natural, cultural, or historic resources,” it has never been used to justify a wholesale override of standard NEPA procedures for broad classes of energy projects.⁸⁸ Nor does NEPA’s statutory scheme contemplate such systemic circumvention in the name of expedited fossil fuel development. Historical precedent, reflected in decades of narrowly tailored alternative arrangements approved by CEQ, shows that emergency NEPA deviations have been limited to urgent, site-specific actions where immediate threats to life, safety, or critical infrastructure existed. In contrast, DOI’s current approach twists § 46.150 into a new and sweeping authority aimed at transforming environmental review regimes

⁸⁵ 43 U.S.C. § 1739(e) (emphasis added).

⁸⁶ *Id.* § 1740.

⁸⁷ See *MST Express v. U.S. Dep’t of Transp.*, 108 F.3d 401 (D.C. Cir. 1997) (vacating guidance on vehicle safety rating procedures, because the agency “failed to carry out its statutory obligation” to establish these procedures “by regulation”); *Ethyl Corp. v. U.S. Env’t Prot. Agency*, 306 F.3d 1144 (D.C. Cir. 2002) (vacating an EPA guidance document because Congress explicitly directed EPA to proceed “by regulation” on that subject).

⁸⁸ See 43 C.F.R. § 46.150.

nationwide, under vague executive direction, and without the clear statutory mandate the major questions doctrine demands.

IV. NATIONAL HISTORIC PRESERVATION ACT

BLM has tribal consultation obligations under the National Historic Preservation Act (NHPA). “Congress enacted the [NHPA] in 1966 to foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony.”⁸⁹ The NHPA has been characterized as a “stop, look, and listen” statute: it requires agencies to fully consider the effects of its actions on historic, cultural, and sacred sites.⁹⁰ Section 106 of the NHPA requires that prior to issuance of any federal funding, permit, or license, agencies must take into consideration the effects of that “undertaking” on historic properties.⁹¹ Agencies “must complete the section 106 process prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license.”⁹²

V. ENDANGERED SPECIES ACT

The Endangered Species Act (ESA) “is ‘the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.’ It represents a commitment ‘to halt and reverse the trend toward species extinction, whatever the cost.’”⁹³ To that end, section 7(a)(2) of the Act imposes on federal agencies such as BLM a duty to ensure that actions they authorize or carry out are not likely to jeopardize endangered or threatened species or destroy or adversely modify critical habitat designated for such species.⁹⁴ An agency action “jeopardizes” a protected species if it “reasonably would be expected, directly or indirectly,” to reduce

⁸⁹ *CTIA-Wireless Ass’n v. FCC*, 466 F.3d 105 (D.C. Cir. 2006) (citing 16 U.S.C. § 470-1(1)). In 2014, Congress recodified the NHPA at 54 U.S.C. §§ 3001001–307108.

⁹⁰ See, e.g., *Te-Moak Tribe of W. Shoshone v. Nevada v. U.S. Dep’t of Interior*, 608 F.3d 592, 606 (9th Cir. 2010).

⁹¹ 54 U.S.C. § 306108.

⁹² 36 C.F.R. § 800.1.

⁹³ *Ctr. for Biological Diversity v. Zinke*, 900 F.3d 1053, 1059 (9th Cir. 2018) (quoting *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180, 184 (1978)) (internal citation omitted)).

⁹⁴ 16 U.S.C. § 1536(a)(2).

appreciably the species' likelihood of survival and recovery "by reducing the reproduction, numbers, or distribution of that species."⁹⁵

Before undertaking or authorizing an action that may affect ESA-listed species or their critical habitat—such as the RMP amendments contemplated in the NOI—BLM must consult with the U.S. Fish and Wildlife Service (FWS).⁹⁶ The formal consultation process culminates in FWS's issuance of a biological opinion, reflecting FWS's determination—based on "the best scientific and commercial data available"—of whether the proposed action will jeopardize a listed species or destroy or adversely modify designated critical habitat.⁹⁷ In making that determination, FWS must "consider[] the relevant factors and articulate[] a rational connection between the facts found and the choice made."⁹⁸

If FWS concludes that a proposed action is likely to jeopardize a listed species, the action may not proceed.⁹⁹ FWS must determine whether "reasonable and prudent alternatives" exist that would avoid jeopardy.¹⁰⁰ If FWS concludes that implementing a proposed action (or a reasonable and prudent alternative) will not jeopardize a protected species but will nevertheless result in "take" of such species, the agency must issue an incidental take statement with its biological opinion.¹⁰¹ Under the ESA, "take" means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" a protected species "or to attempt to engage in any such conduct."¹⁰² Sections 9 and 10 of the ESA prohibit the taking of endangered species unless specifically authorized in an incidental take statement.¹⁰³

⁹⁵ 50 C.F.R. § 402.02; *see Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 524 F.3d 917, 932 (9th Cir. 2008).

⁹⁶ *See* 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.01(b). The process may begin with "informal consultation" with FWS to determine whether a proposed action "may affect" a listed species.

⁹⁷ 16 U.S.C. §§ 1536(a)(2), (b)(3)(A); *see* 50 C.F.R. § 402.14.

⁹⁸ *Ctr. for Biological Diversity v. U.S. Bureau of Land Mgmt.*, 698 F.3d 1101, 1121 (9th Cir. 2012) (quotation omitted).

⁹⁹ *See* 16 U.S.C. § 1536(a)(2).

¹⁰⁰ *Id.* § 1536(b)(3)(A).

¹⁰¹ 50 C.F.R. § 402.14(i)(1).

¹⁰² 16 U.S.C. § 1532(19).

¹⁰³ *Id.* §§ 1538(a)(1)(B), 1539.

Where activities have the potential to adversely impact listed species, those impacts must be addressed “at the earliest possible time,” in order to avoid delay, and ensure that impacts are avoided, and opportunities for mitigation are not overlooked.¹⁰⁴

The threshold for effects that trigger ESA section 7 consultation is low, and is met when an action “may affect” threatened or endangered species and their critical habitat.¹⁰⁵ The “may affect” standard is broadly interpreted, and includes proposed actions that may indirectly affect listed species, and regardless of whether a species or habitat occurs on BLM lands.¹⁰⁶

ESA regulations define “effects of the action” as:

Effects of the action refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration.¹⁰⁷

¹⁰⁴ See 50 C.F.R. §§ 402.14(a), (g)(8).

¹⁰⁵ 50 C.F.R. § 402.14(a); see also *W. Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 498 (9th Cir. 2011) (citation omitted) (describing “may affect” threshold); *Pac. Rivers Council v. Shepard*, No. 03:11-CV-00442-HU, 2011 WL 7562961, at *9 (D. Or. Sept. 29, 2011), *report and recommendation adopted as modified*, No. 03:11-CV-442-HU, 2012 WL 950032 (D. Or. Mar. 20, 2012)) (affirming “how low the threshold is for triggering such consultation”).

¹⁰⁶ BLM Manual 6840.1F1a.

¹⁰⁷ 50 C.F.R. § 402.02.

Because the ESA effects analysis must consider actions that are *interrelated or interdependent*, BLM and FWS must consider not only the direct effects of coal leasing and mining throughout the Powder River Basin; the agencies must also evaluate and avoid the effects of transport, combustion and disposal activities, and other indirect effects of coal mining.¹⁰⁸ The Services have clarified that “[a]ny possible effect, whether beneficial, benign, adverse or of an undetermined character, triggers the formal consultation requirement.”¹⁰⁹

ESA consultation applies “to all actions in which there is discretionary involvement or control.”¹¹⁰ More specifically, “[s]ection 7(a)(2) consultation is required so long as a federal agency retains ‘some discretion’ to take action for the benefit of a protected species.”¹¹¹ These standards must guide BLM’s analysis.

PURPOSE AND NEED

BLM identified a “purpose and need” for the RMP amendments of meeting the purported requirements of numerous executive orders designed to accelerate fossil fuel development to implement Presidential policy. The NOI cited Executive Order 14156, which declared the “National Energy Emergency;” Executive Order 14154, which requires agencies to “encourage energy exploration and production on Federal lands,” and identify “actions that impose an undue burden on” development of coal and other energy resources;¹¹² and Executive Order 14148, which revokes a host of prior orders designed to protect public health and safety, advance environmental justice, and ensure a science-based approach to the climate crisis. As discussed above with respect to the National Energy Emergency, the Presidential policy to accelerate fossil fuel production despite its harmful impacts lacks any legitimate scientific foundation. Moreover, the President’s directives cannot and do not purport to override BLM’s statutory duties or its obligation to engage in rational

¹⁰⁸ See 50 C.F.R. §§ 402.14(g)(3)–(4); *id.* § 402.02 (defining the “effect of the action” as “[a] consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur”).

¹⁰⁹ Final Rule, Interagency Cooperation Endangered Species Act of 1973, as Amended, 51 Fed. Reg. 19,926, 19,949 (June 3, 1986).

¹¹⁰ 50 C.F.R. § 402.03.

¹¹¹ *NRDC v. Jewell*, 749 F.3d 776, 784 (9th Cir. 2014) (en banc) (“Whether an agency must consult does not turn on the degree of discretion that the agency exercises regarding the action in question, but on whether the agency has any discretion to act in a manner beneficial to a protected species or its habitat.”).

¹¹² Exec. Order No. 14,154 §§ 2(a), 3(a).

decision-making. Thus, while BLM seeks to implement the President’s energy policy, this desire cannot constitute the sum total of the agency’s purpose and need in its consideration of reopening the Powder River Basin for coal leasing. BLM must expand its purpose and need to ensure its action and the alternatives it considers allow it to satisfy BLM’s multiple use and public interest mandates under FLPMA and the Mineral Leasing Act.

**BLM MUST THOROUGHLY ADDRESS THE ENVIRONMENTAL
IMPACTS OF ANY RMP AMENDMENTS TO SATISFY ITS
STATUTORY OBLIGATIONS.**

In revisiting amendments to the Miles City and Buffalo RMPs, BLM must address the many consequences to the environment, cultural resources, environmental justice, and local communities. As discussed below, many of these impacts are local and immediate, demanding BLM’s thorough consideration to meet the agency’s NEPA obligation to take a “hard look” at an action’s impacts. And because the impacts of restarting Powder River Basin coal leasing are significant, BLM must examine them in an EIS, not merely in an EA. BLM is also required to address these consequences to satisfy its obligations under FLPMA, the Mineral Leasing Act, the National Historic Preservation Act, and the Endangered Species Act—which protect the resources and values that reopening Powder River Basin coal leasing would harm.

I. WATER QUANTITY

BLM is required to assess how coal development on public lands in the Powder River Basin will impact water quantity. As part of its obligations to manage public lands for multiple uses, BLM is directed to consider impacts on watersheds, fish, and wildlife.¹¹³ BLM must take the public interest into account in its land management, including protecting the quality of water resources, and considering “the long-term needs of future generations.”¹¹⁴ BLM is required to “minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (*including fish and wildlife habitat*) of the public lands involved.”¹¹⁵ Furthermore, the Surface Mining Control and Reclamation Act (SMCRA) requires extensive monitoring that must be sufficient to identify impacts

¹¹³ 43 U.S.C. § 1702(c).

¹¹⁴ *Id.* §§ 1701(a)(8), 1702(c).

¹¹⁵ *Id.* § 1732(d)(2)(A) (emphasis added).

to surface and groundwater quantity and quality.¹¹⁶ Finally, BLM must consider the impacts of federal coal leasing on water quantity in the Powder River Basin as part of its “hard look” review under NEPA.¹¹⁷ As a result, direct, indirect, and cumulative impacts must be analyzed in the agency’s EIS for the proposed action.

The main rivers in the Powder River Basin at issue are the “Tongue and Powder rivers, which derive most of their flow from headwater tributaries in the Big Horn Mountains. They include the Little Bighorn, Tongue, Powder and Little Powder, Clear Creek, and Crazy Woman.”¹¹⁸ The primary rivers in the Northeast Wyoming River Basins planning area are the Belle Fourche and Cheyenne rivers.¹¹⁹ “Nearly all of the naturally perennial streams which reach the Powder River originate in the Bighorn Mountains.”¹²⁰ The flow of surface water in the northern and western portions of the Powder River Basin is northward, whereas in the central and southern portions surface water flows northeastward.¹²¹

First, BLM must consider the amount of water used by coal mining and combustion in the region.

The amount of water used by the coal industry in Montana and Wyoming is vast, and water use is projected to range from 173,000 to 378,000 acre-feet per year, nearly as much—or more than—the average annual flow of 80,000 to 300,000 acre-feet from the Powder River, the main basin where extraction occurs and where the river flows into Montana.¹²²

The extraction of methane from coal seams occurs in the region as well and often involves removing large quantities of water from the seam (as much as 17,000 gallons per well per day),

¹¹⁶ See 30 U.S.C. § 1267(b)(2)(A).

¹¹⁷ See *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976).

¹¹⁸ Memorandum from Marcus Griswold, Ph. D, to Shiloh Hernandez, Staff Attorney, W. Env’t Law Ctr. at 6 (May 20, 2021) [hereinafter 2021 Griswold Memorandum] (submitted as Ex. 2).

¹¹⁹ *Id.*

¹²⁰ *Id.* at 6–7.

¹²¹ *Id.* at 6.

¹²² *Id.* at 14.

resulting in potential runoff of large quantities of water and displacement of water.¹²³

Coal bed methane pumpage affects the flow to the nearby rivers with total flow to rivers dropping by almost half at its most extreme. . . . Recovery of this water requires up to 45 years for water to begin to return to nearby rivers and is not complete for 200 years.¹²⁴

BLM must consider whether this amount of water use is in the public interest and whether it minimizes impacts on habitat for fish and wildlife.

Second, BLM must assess the impacts of coal development on groundwater resources in the region. “[B]etween 1975 and 2010 coal mining has resulted in groundwater drawdown of generally 100 and up to 200 feet near the southern coal mines in the PRB.”¹²⁵ The combination of coal mining and coalbed methane extraction have resulted in groundwater levels falling by 1,000 feet.¹²⁶

Coal mining, CBM development and oil extraction have had substantial impacts on water availability in the PRB. The surface coal mines of the PRB must dewater coal units prior to mining, and pit development also may require the removal or realignment of drainages. The CBM industry also must dewater coal-bearing units in order to free the methane gas. Coal mine dewatering and CBM development causes the most substantial groundwater development in the PRB.¹²⁷

The hydrological impact of coal mining is often proportional to the upstream areal extent of mining. An implication of this is that the presence of multiple mines in a catchment is likely to have a more substantial impact on the catchment’s water resources than a single mine. The specific activities that may affect streamflow and water quality in receiving waters include coal seam dewatering, hydraulic fracturing, interception of surface runoff, extraction of water from streams or groundwater, disposal of mine water and co-produced water, longwall coal

¹²³ *Id.* at 15.

¹²⁴ *Id.* at 15.

¹²⁵ *Id.* at 16.

¹²⁶ *Id.* at 3.

¹²⁷ *Id.* at 14.

extraction and void collapse, spoil disposal and diversion of upstream watercourses.¹²⁸

In addition to the drawdown from coal mining, BLM must also assess the impacts to groundwater from neighboring coal-fired power plants. The water withdrawals required to burn coal at these plants also have significant impacts. These impacts could be intensified given the expected reduction in water availability and increased regional drought due to climate change by mid-century.¹²⁹ BLM must conduct the required “hard look” review of impacts of both the mining operations and the connected impacts from the plant operations on water quantity.

Third, BLM must consider how climate change is impacting water in the region and the cumulative effects of expanding coal development during the climate crisis. “The availability of water in the Yellowstone River basin has declined over the last 40 years with the largest declines in late spring, summer, and early fall months.”¹³⁰

Climate change, caused by fossil fuels, is already impacting water quantity and quality in the region. Water levels in the Yellowstone and its tributaries have been declining and are expected to decline further with climate change. For many rivers in the Powder River Basin, flows declined by 43 percent and with climate change, flows could decline by as much as an additional 25 percent. As flows decline, any contaminants in the water will become more concentrated. At the same time declining river flows will increase water temperatures in the summer. By 2050, temperatures could increase by as much as six degrees Fahrenheit, and send water temperatures above the critical threshold for the pallid sturgeon, and other fish, leading to fish kills and other impacts such as reduced spawning activity and growth. A combination of declining flows, rising water temperatures, and rising demands for water will potentially place more fish species at risk of extinction.¹³¹

Slowly but steadily, the watersheds in the region are losing flow to water appropriations and climate-driven declines in the

¹²⁸ Memorandum from Marcus Griswold, Ph.D., to Earthjustice at 5 (August 1, 2025) [hereinafter 2025 Griswold Memorandum] (submitted as Ex. 3).

¹²⁹ See *infra* text accompanying note 324.

¹³⁰ Ex. 2, 2021 Griswold Memorandum at 14.

¹³¹ *Id.* at 3.

snowpack of the Northern Rockies and Greater Yellowstone mountains. In many parts of the western U.S. flows are declining, including the Upper Missouri River basin.¹³²

“With projected increases in population and industry within the Yellowstone River watershed (mining, oil, and gas development), increased water demand will occur in the future which would heighten the impact of total water withdrawals during low flow periods, particularly when coupled with possible climate change or variability.”¹³³

Notably, “[t]he cumulative impacts of these developments on the rivers in the PRB has never been assessed, even though there are substantial impacts on downstream water quality and availability.”¹³⁴

The cumulative impacts of historical and expanding oil, gas, and coal development in the PRB are having and will continue to have substantial impacts on water quality and quantity in the Powder River Basin, with a high likelihood of impacts on fish in the basin, including the pallid sturgeon.¹³⁵

Coal and oil and gas development are contributing to water level declines, and thus are affecting pallid sturgeon and other fish in the PRB. The amount of water used by the coal industry in Montana and Wyoming is vast, and water use is projected to range from 173,000 to 378,000 acre-feet per year, nearly as much—or more than—the average annual flow of 80,000 to 300,000 acre-feet from the Powder River.¹³⁶

Climate change is already causing significant impacts on water quantity in the region.¹³⁷ BLM, therefore, has an obligation to demonstrate to the public the impacts of climate change on water quantity in the Powder River Basin, and assess

¹³² *Id.* at 10.

¹³³ *Id.* at 10 (quoting U.S. Army Corps of Engineers & Yellowstone River Conservation District Council, *Yellowstone River Cumulative Effects Analysis* (2015)).

¹³⁴ *Id.* at 5.

¹³⁵ *Id.* at 2.

¹³⁶ *Id.* at 3.

¹³⁷ See *infra* text accompanying notes 310, 313, 320–325, 331–334, 336–339, 343.

the cumulative impacts of reopening public lands to federal coal leasing on water quantity.

Fourth, BLM should assess how new federal coal leasing in the Powder River Basin will impact water availability in the context of the Yellowstone River Compact.

An important factor in the Powder River Basin is the interstate Yellowstone River Compact. The Yellowstone River Compact (1951) between Montana, North Dakota and Wyoming apportioned the unappropriated water of this tributary. For the Powder River this included 42% of water to Wyoming and 58% to Montana and for the Tongue River this included 40% of water to Wyoming and 60% to Montana. This water is determined on an annual water year basis measured from October 1st of any year through September 30th of the succeeding year. When water levels reach a low point, regulation occurs, which means certain water rights are halted and in drier years this often occurs in July. However, neither state has good records on groundwater use, and given the high degree of surface-groundwater connection here, this limits the availability of accurate information to understand impacts of water rights on groundwater and vice versa.¹³⁸

In sum, BLM has statutory obligations to analyze the implications of amending the RMPs to allow for federal coal leasing in the Powder River Basin for water quantity. This analysis should include surface water and groundwater sources. It should take into account the amount of water used by the coal industry for mining and combustion, as well as the impact of that drawdown on water sources. Considering the already pervasive impacts of climate change in the region, BLM must analyze the direct, indirect, and cumulative impacts of exacerbating climate change by reopening lands to further fossil fuel development.

II. WATER POLLUTION

BLM must analyze the reasonably foreseeable direct and cumulative water quality impacts of its planning decision.¹³⁹ The Powder River Basin includes the

¹³⁸ Ex. 3, 2025 Griswold Memorandum at 9–10.

¹³⁹ See 42 U.S.C. §§ 4332(2)(C)(i)–(ii); see also *WORC 2018*, 2018 WL 1475470, at *13 (holding that “NEPA requires BLM to consider in the EIS the environmental consequences of the downstream combustion of the coal, oil, and gas resources potentially open to development under these RMPs”).

largest coal resource in the world, along with historically the largest sources of natural gas in the U.S. and at the same time includes thousands of oil wells, with thousands more projected to be developed through hydraulic fracturing in the future. Cumulatively, the development, operations, and accidental discharge from the development of coal, oil and gas in the basin has and will continue to negatively impact water quality in the rivers in and downstream of the basin. As noted in the 2024 Buffalo Field Office Final SEIS and RMPA, “coal mining and development can contribute to environmental impacts with potential implications for public health if not mitigated, including those associated with water quality.”¹⁴⁰

Many of the waterways in the Powder River Basin depend on groundwater as a source. In 2019, the Wyoming State Geological Survey completed an assessment of groundwater in the northeastern part of the state, including the Powder and Tongue River watershed.¹⁴¹ The Study estimated that 93.4% of all water is lost to evapotranspiration, with only 4.7% of water (891,000 acre-feet) making it into the state of Montana downstream and 2.3% being recharged into aquifers.¹⁴² This means that water in the Powder River is a limited resource and highly vulnerable to land use and water resource impacts.

Groundwater in the Powder and Tongue River watersheds moves northward toward Montana. The flows are generally controlled by topography, meaning they mostly follow the watershed gradients for, and discharge into the Powder, Tongue, and Belle Fourche rivers, and Antelope Creek.¹⁴³ Discharge from the lower aquifer system occurs naturally through gaining streams, evapotranspiration, springs, seeps, and vertical interaquifer leakage/flow, and anthropogenically through pumpage of groundwater from wells. In short, the coalbed methane related aquifers contribute to waters in the Powder and Tongue Rivers and nearby alluvial aquifers.

¹⁴⁰ U.S. Dep’t of the Interior, Bureau of Land Mgmt., *Buffalo Field Office Final Supplemental Environmental Impact Statement and Proposed Resource Management Plan Amendment 3-117* (May 2024) [hereinafter 2024 Buffalo Field Office SEIS and RMPA].

¹⁴¹ Karl G. Taboga et al., Wy. St. Geological Surv., *Powder/Tongue/Northeast River Basins Water Plan Update, Groundwater Study, Level I (2002–2016)—Available Groundwater Determination Technical Memorandum No. 8* [hereinafter WSGS Groundwater Assessment] (submitted as Ex. 4).

¹⁴² *Id.* at 8-239, Table 8-2b.

¹⁴³ *Id.*; see Ex. 3, 2025 Griswold Memorandum at 26–27, Figures 1, 2.

In 2024, the Montana Bureau of Mines and Geology completed a study to evaluate the feasibility of managed aquifer recharge along its waterways.¹⁴⁴ Areas of high suitability act as a surrogate for surface-groundwater connectivity and have favorable conditions for replenishing groundwater from surface water. High suitability areas scored greater than 75, which includes 15 percent of the analyzed area (~2.3 million acres). A majority of the Powder River and the interface with the Yellowstone River have high suitability. While this is good news for the ability of surface waters to contribute to aquifer recharge, the corollary is that there is high susceptibility to contaminant exchange between surface and groundwaters in such areas.¹⁴⁵

Conversely, the amount of water available for runoff to streams or recharge to groundwater is small because potential evapotranspiration is much higher than precipitation throughout much of the Powder River Basin.¹⁴⁶ Estimated precipitation recharge for 1981–2005 was zero for about sixty-three percent of the Basin.¹⁴⁷ Because of the shallow groundwater dynamics in the Powder River Basin, much of the rainfall moves through coalbed methane areas, increasing the chance of picking up contaminants that are transported farther downgradient and downstream towards the Yellowstone River.

Unsurprisingly, given these ecological dynamics, water is a precious resource in this semi-arid region.¹⁴⁸ Groundwater is the primary source for industrial uses in the Powder River Basin, due in large part to oil, gas, and coal development. Ranchers and other residents who live in this area rely on surface waters for

¹⁴⁴ Ann E.H. Hanson et al., *Managed Aquifer Recharge (MAR): An Initial Hydrogeologic Screening for Surface Infiltration Suitability in Montana*, Montana Bureau of Mines and Geology Report of Investigation 37, <https://gis-data-hub-mbmg.hub.arcgis.com/apps/93e50821cc9c494392f238c521ef5576/explore> (submitted as Ex. 5).

¹⁴⁵ See Ex. 3, 2025 Griswold Memorandum at 28, Figure 2.

¹⁴⁶ See *id.* at 29, Figure 3.

¹⁴⁷ Ex. 4, WSGS Groundwater Assessment; see also Ex. 3, 2025 Griswold Memorandum at 30, Figure 5.

¹⁴⁸ Dominic C. DiGiulio et al., *The need to protect fresh and brackish groundwater resources during unconventional oil and gas development*, Env't Sci. & Health (2018) (submitted as Ex. 6); Grace Bulltail & M. Todd Walter, *Impacts of Coal Resource Development on Surface Water Quality in a Multi-Jurisdictional Watershed in the Western United States*, J. of Contemp. Water Rsch. & Educ. (2020) (submitted as Ex. 7).

irrigation and agricultural production. Shallow aquifers provide water for domestic and livestock use, as well as to sub-irrigate agricultural land. Consumptive-use estimates were included in the 2019 Powder/Tongue and Northeast Basin plans.¹⁴⁹ Total average annual groundwater withdrawal during 2002–2018 was estimated at 189,000 acre-feet, and the highest estimated value for annual consumptive use was 150,000 acre-feet. In 2016 in the Powder River Basin, the number of permits issued for stock water were 10,714 in Wyoming, 32 in Montana, 8 in South Dakota, and 1 in Nebraska. Most groundwater permits in the Basin are for coalbed methane development, followed by livestock (stock) wells, and wells designated for monitoring.¹⁵⁰

Groundwater vulnerability considers aquifer sensitivity, land use, and contaminant characteristics to determine the vulnerability of groundwater to a specific contaminant. The area along the Powder and Tongue Rivers have moderate vulnerability to contamination,¹⁵¹ however, a number of contaminant sources operate along and adjacent to the Powder River, including at least eleven pipeline crossings and multiple gas fields,¹⁵² multiple Class I and V injection wells,¹⁵³ and abandoned coal, uranium and other mines.¹⁵⁴

Coal seams are filled with water and function as vital aquifers in this region, but coal strip mines sever and destroy these aquifers.¹⁵⁵ The impacts of this

¹⁴⁹ RESPEC, Anderson Consulting Engineers, Inc., & BBC Research & Consulting, *2018a, Powder/Tongue River Basin plan update level I study: prepared for the Wyoming Water Development Commission*; RESPEC, Anderson Consulting Engineers, Inc., & BBC Research & Consulting, *2018b, Northeast river basin plan update level I study: prepared for the Wyoming Water Development Commission*.

¹⁵⁰ Ex. 4, WSGS Groundwater Assessment at 8-241.

¹⁵¹ See Ex. 3, 2025 Griswold Memorandum at 33, Figure 7.

¹⁵² See *id.*

¹⁵³ See *id.* at 34, Figure 8.

¹⁵⁴ See *id.* at 35, Figure 9.

¹⁵⁵ See Keeshin et al., *Factors influencing water quality in surface water and alluvial groundwaters downgradient of a reclaimed surface coal mine in the Powder River Basin of southeastern Montana, USA*, Hydrogeology Journal 3 (2025) (“As of 2018, water levels in both coal seams within Miller Coulee had not fully recovered to pre-mining conditions in the 29 years since mining ceased in 1989.”) (submitted as Ex. 8).

severance can be seen many miles from the mine area,¹⁵⁶ as strip mining alters streamflow patterns and affects spring flows. Useable water zones can extend for thousands of feet with considerable variation in water and gas geochemistry.¹⁵⁷ Pit inflows discharge into the drainages in the area, degrading their water quality. The connectivity of the surface water with groundwater is disrupted and compromised.¹⁵⁸ Additionally, soils surrounding coal seams and the underground aquifers in coal seams are laden with salts.¹⁵⁹ Improper discharge of these sediments and waters impact surface water quality, agriculture, and ecosystem health.

In addition to extraction impacts, coalbed gas is transported through pipelines to a series of compressor stations and then to market. Good-quality produced water is used for agricultural applications or discharged into unlined evaporation/infiltration pits and streambeds. Poorer-quality water is reinjected into deeper geologic formations, pumped into lined evaporation pits, or treated and discharged to surface drainages. “[A]n undetermined fraction of groundwater withdrawn during energy development infiltrates into shallow aquifers from unlined produced water storage pits and streambeds where surface discharge is permitted.”¹⁶⁰ Some groundwater co-produced during oil and gas development is disposed of by reinjection into geologic units for enhanced oil and gas recovery.

¹⁵⁶ *Id.* at 716–17 (“Effects of surface coal mining and subsequent reclamation practices on water resources can include compromised water quality for irrigation, livestock, and domestic uses . . . , and changes to hydrologic behavior like altered groundwater storage, stream baseflows, and stream stormflows. . . . [W]ater quality impacts are long-lived . . . , and their duration is likely extended by groundwater transit times . . .”).

¹⁵⁷ Rebecca Tisherman et al., *Examination of Groundwater Resources in Areas of Wyoming Proposed for the June 2022 BLM Lease Sale 4* (May 2022) (submitted as Ex. 9).

¹⁵⁸ Elizabeth Meredith et al., *Hydrogeologic Responses to 50 Years of Surface Coal Mining and 20 Years of Coalbed-Methane Production in Southeastern Montana with an emphasis on reclamation at Big Sky Mine*, Mont. Bureau of Mines & Geology (2020) (submitted as Ex. 10).

¹⁵⁹ *Id.* at 4 (“The residual impacts after a coal mine has closed operations include a duration of limited groundwater availability, increased salinity in spoils groundwater, and off-site effects from the newly created hydrogeologic conditions.”); *id.* at 10.

¹⁶⁰ Ex. 4, WSGS Groundwater Assessment at 8-241–8-242.

The development of coalbed methane has already affected water quality in the Basin through extraction, produced water, and backfill aquifers. For instance, coalbed methane development in the Powder River basin has greatly increased the salinity of the Tongue River.¹⁶¹ Additionally, groundwater as petroleum-and-natural-gas-produced wastewater remains an unregulated and unmanaged source of pollution in many watersheds in the Basin.

Anthropogenic aquifers composed of spoils from mine overburden in the Powder River Basin often replace existing unconsolidated and bedrock aquifers. This increases salinity effects on downgradient waters. When coal is removed and replaced by the pulverized overburden known as “spoils,” the consolidated coal and sandstone aquifers are transformed to an unconsolidated spoils or backfill aquifer, with consequences for water quality. During mine site “restoration,” the construction and saturation of backfill aquifers causes groundwater quality impacts because of freshly exposed mineral surfaces and the presence of newly created and transportable particles in the waste rock. These aquifers respond more strongly and rapidly to large precipitation events, meaning they are more likely than other aquifers to transmit contaminated materials.¹⁶²

Monitoring of groundwater in backfill aquifers of the Powder River Basin has resulted in the discovery of water quality impacts that were not expected given groundwater quality in aquifers contained in the original overburden/waste rock formations. This is a type of impact BLM needs to be aware of and thoroughly evaluate in its NEPA review for the RMPAs. The mining of overburden formations and use of the waste rock for backfill aquifers creates newly available mineral surfaces that will weather to produce chemical concentrations not typically found in groundwater associated with the original overburden. Chemicals may leach out of the waste rock, but little was known about this occurrence until recently. This lack of knowledge has resulted in the exceedance of water quality criteria for backfill aquifers where it had been predicted that weathering of the waste rock would not

¹⁶¹ *N. Cheyenne Tribe v. Mont. Dept. of Env't Quality*, 2010 MT 111, ¶ 42, 356 Mont. 296, 306–07, 234 P.3d 51, 58.

¹⁶² Robert E. Davis, 1984, *Geochemistry and geohydrology of the West Decker and Big Sky coal-mining areas, southeastern Montana: Water-Resources Investigations Report 83-4225* (submitted as Ex. 11).

result in groundwater contamination issues.¹⁶³ Primary contaminants (exceedance of water quality criteria) detected in backfill aquifers of the Basin include arsenic, barium, manganese, and selenium.¹⁶⁴ Such contamination is not typically found in groundwater that has interacted with the Wasatch and Fort Union formations without intervention.¹⁶⁵ The new material placed in these backfill aquifers can increase pollution in groundwater and local waterways in the Powder River Basin.

A 2024 study looking at materials from the Powder River Basin waste rock used in backfill aquifers found increased leaching of contaminants such as elevated cadmium from particle transport during early flushing, selenium from particle transport and salt dissolution with early flushing and weathering of highly soluble minerals, arsenic from oxidation of pyrite found in the coal, calcium from particle transport and carbonate dissolution during and after the early weathering period, and potassium from particle transport and aluminosilicate weathering from early flushing through to equilibrium weathering.¹⁶⁶ Contaminant mobilization with the weathering of waste rock occurs in other coal mining regions around the globe, including the Canadian Elk River Valley, U.S. Appalachia, the Yanzhou Coal Field

¹⁶³ Timothy T. Bartos & Kathy Muller Ogle, *Water Quality and Environmental Isotopic Analyses of Ground-Water Samples Collected from the Wasatch and Fort Union Formations in Areas of Coalbed Methane Development: Implications to Recharge and Ground-Water Flow, Eastern Powder River Basin, Wyoming*, U.S. Dep't of the Interior, U.S. Geological Surv. (2002) (submitted as Ex. 12).

¹⁶⁴ Cynthia Milligan & K.J. Reddy, *Monitoring of Groundwater Contamination by Trace Elements from CBNG Disposal Ponds Across the Powder River Basin, Wyoming*, J. Am. Soc. Min. Reclam. 520–527 (2007) (submitted as Ex. 13).

¹⁶⁵ Wy. St. Engineer's Off., *Fort Union Formation Aquifer Monitoring Plan and Preliminary Aquifer Management Plan* 73 (1995).

¹⁶⁶ Julianna Martin & Jeff B. Langman, *Leachate Experiments to Evaluate Weathering of Waste Rock for Backfill Aquifers in Restored Coal Mine Pits, Powder River Basin, USA*, Geosciences 14(1), at 4 (submitted as Ex. 14).

in China, and the coal mining areas of New South Wales in Australia.¹⁶⁷ This, it is reasonable to assume that backfill aquifers are impacting surface and groundwater quality in the Basin. The impacts of backfill aquifers in the Powder River Basin have not yet been fully realized or accounted for, as many sites have not achieved compliance with reclamation requirements, and thus this impact has not been fully assessed. BLM needs to assess these potential impacts under NEPA in order to comply with its substantive mandate under FLPMA to avoid unnecessary or undue degradation and manage the lands within the planning area without parament impairment.

The State of Wyoming's studies on produced water are also instructive for BLM.¹⁶⁸ The chemical composition of produced water from the 21 wells in the Wasatch aquifer included TDS concentrations that ranged from 1,105 to 3,376 mg/L, with a median of 2,315 mg/L. Produced-water samples from the Wasatch aquifer exceeded State of Wyoming standards for agricultural and livestock use included sulfate (20 of 21 samples exceeded WDEQ Class II standard of 200 mg/L), TDS (12 of 20 samples exceeded WDEQ Class II standard of 2,000 mg/L), and pH (5 of 21 samples below lower WDEQ Class III limit of 6.5).

The chemical composition of produced water from the 34 wells in the Fort Union aquifer included TDS concentrations ranging from 225 to 167,200 mg/L, with a median of 1,137 mg/L. Produced-water samples from the Fort Union aquifer exceeded State of Wyoming standards for agricultural and livestock use included SAR (27 of 32 samples exceeded WDEQ Class II standard of 8), sulfate (10 of 26 samples exceeded WDEQ Class II standard of 200 mg/L), TDS (11 of 34 samples exceeded WDEQ Class II standard of 2,000 mg/L), iron (4 of 11 samples exceeded WDEQ Class II standard of 2,000 µg/L), and chloride (9 of 32 samples exceeded WDEQ Class II standard of 100 mg/L).

¹⁶⁷ Emily S. Bernhardt et al., *How Many Mountains Can We Mine? Assessing the Regional Degradation of Central Appalachian Rivers by Surface Coal Mining*, Environ. Sci. Technol. 46, at 8115–8122 (2012) (submitted as Ex. 15); S.A. Villeneuve et al., *Estimates of Water and Solute Release from a Coal Waste Rock Dump in the Elk Valley, British Columbia, Canada*, Sci. Total Env't 601–602, 543–555 (2017) (submitted as Ex. 16); ZhengfuBian et al., *The Impact of Disposal and Treatment of Coal Mining Wastes on Environment and Farmland*, 58, 625–634 (2009) (submitted as Ex. 17); Liang Zhao et al., *Groundwater Impact of Open Cut Coal Mine and an Assessment Methodology: A Case Study in NSW*, Int. J. of Min. Sci. & Tech. 27, at 861–866 (2017) (submitted as Ex. 18).

¹⁶⁸ See Ex. 4, WSGS Groundwater Assessment.

The State of Wyoming also looked at groundwater quality from coal aquifers.¹⁶⁹ In the Wasatch Formation, TDS concentrations ranged from 805 to 4,582 mg/L, with a median of 1,095 mg/L. Wasatch Formation coal aquifer water at concentrations greater than agricultural-use standards include: SAR (5 of 8 samples exceeded WDEQ Class II standard of 8), sulfate (3 of 6 samples exceeded the WDEQ Class II standard of 200 mg/L), iron (1 of 3 samples exceeded WDEQ Class II standard of 5,000 µg/L), and TDS (1 of 8 samples exceeded WDEQ Class II standard of 2,000 mg/L).

In the Fort Union Formation coal aquifers TDS concentrations ranged from 96.9 to 4,589 mg/L, with a median of 1,090 mg/L. Fort Union Formation coal aquifers at concentrations greater than agricultural-use standards were SAR (276 of 449 samples exceeded WDEQ Class II standard of 8), TDS (79 of 442 samples exceeded WDEQ Class II standard of 2,000 mg/L), iron (8 of 154 samples exceeded WDEQ Class II standard of 5,000 µg/L).

Water pollution from the coal, oil, and natural gas sectors is a serious problem that threatens the health of local communities and degrades both federal and private lands.¹⁷⁰ Compounding this, climate change has already and will continue to decrease water flows in the Powder River Basin and, in turn, increase concentration of contaminants.¹⁷¹ In addition to this affecting water quality in the domestic and agricultural use context, impaired water quality negatively impacts the endangered Pallid Sturgeon, as discussed further below.

While NEPA does not require an agency to discuss remote and highly speculative consequences, an agency “ “may not simply ignore evidence of reasonably foreseeable environmental effects that is available to it at the time it

¹⁶⁹ *See id.*

¹⁷⁰ *See* Ex. 3, 2025 Griswold Memorandum at 11–12 (discussing the concentrations of the Wasatch and Fort Union aquifers, specifically identifying how the aquifers have exceeded state and EPA water-quality standards).

¹⁷¹ *Id.* at 3; *see also* Steven K. Sandoet al., *Peak streamflow trends in Montana and northern Wyoming and their relation to changes in climate, water years 1921–2020*, in Karen R. Ryberg, *Peak streamflow trends and their relation to changes in climate in Illinois, Iowa, Michigan, Minnesota, Missouri, Montana, North Dakota, South Dakota, and Wisconsin*, <https://doi.org/10.3133/sir20235064G> (submitted as Ex. 19).

makes its decisions.”¹⁷² Further, as recently articulated by the Supreme Court, “an agency may weigh environmental consequences as the agency reasonably sees fit under its governing statute and any relevant substantive environment laws.”¹⁷³ Therefore, where coal mining is known to have the potential to impact surface and groundwater water quality, FLPMA’s substantive mandate requires BLM to consider environmental effects and manage the land for nonimpairment and to promote multiple use and sustained yield values,¹⁷⁴ and NEPA requires BLM to engage in the “procedural cross-check” that is evaluating the potential direct and cumulative effects of its actions so as to preserve such values.¹⁷⁵

Additionally, given that potential for indirect water quality impacts that may extend outside the geographic territory of the project or might materialize later in time, the indirect effects to water quality that may occur as a result of fossil fuel development pursuant to the RMP amendments is indubitably within those “indirect effects [that] can sometimes fall within NEPA.”¹⁷⁶ BLM must therefore, under both NEPA and the substantive mandates of FLPMA, particularly the mandate to provide for multiple use and sustained yield, evaluate the direct, indirect, and cumulative impacts to water quality of all alternatives analyzed pursuant to the RMP amendment process.

At minimum, a baseline evaluation of water quality should include: (1) an update to future water use scenarios to include coalbed methane development and other industrial uses such as oil and gas that were not included in the 2019 report; (2) an evaluation of past, current, and anticipated water balance for tributaries in the Powder River Basin. The evaluation should assess potential influences of existing coalbed methane development on surface water flows, and groundwater flows to and from surface waters; and (3) cumulative impacts of past, current and reasonably foreseeable future development, including but not limited to pipeline and oil and gas fields, injection wells, and abandoned coal, uranium and other mines.

¹⁷² *Rocky Mountain Wild v. Haaland*, No. 18-CV-02468-MSK, 2021 WL 4438032, at *4 (D. Colo. Sept. 28, 2021)

¹⁷³ *Seven Cnty.*, 145 S. Ct. at 1507.

¹⁷⁴ 43 U.S.C. § 1732.

¹⁷⁵ *Seven Cnty.*, 145 S. Ct. at 1507.

¹⁷⁶ *Id.*; *id.* at 1515 (explicitly stating that runoff from a river is the sort of indirect impact that still must be considered in a NEPA analysis).

Finally, to sufficiently protect usable water, wells should be isolated from groundwater zones with both casing and cementing.¹⁷⁷ The primary purpose of surface casing is the protection through isolation of usable quality groundwater.¹⁷⁸ Where extending surface casing to the full depth of usable water is infeasible, cement should be placed outside intermediate or production casing in areas of usable water.¹⁷⁹

III. AIR POLLUTION

Under NEPA, BLM must analyze the reasonably foreseeable direct and cumulative air quality impacts of its planning decision and disclose the public health impacts of burning fossil fuels.¹⁸⁰

In 2021, air pollution was the second largest global risk factor for deaths, and the second largest risk factor for death for children under five years.¹⁸¹ Mortality from pollution exceeds deaths due to “high-sodium diets (4.1 million), obesity (4.0 million), alcohol (2.3 million), road accidents (1.4 million), or child and maternal malnutrition (1.4 million).”¹⁸² Air pollution from the coal, oil, and natural gas sectors specifically is a serious problem that threatens the health of local

¹⁷⁷ Ex. 9, R. Tisherman et al. at 3–5.

¹⁷⁸ *Id.*

¹⁷⁹ *Id.*

¹⁸⁰ See 42 U.S.C. § 4332(2)(C)(i)–(ii); see also *WORC 2018*, 2018 WL 1475470, at *13 (holding that “NEPA requires BLM to consider in the EIS the environmental consequences of the downstream combustion of the coal, oil, and gas resources potentially open to development under these RMPs”); *W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt.* (*WORC 2022*), No. 4:20-CV-00076-GF-BMM, 2022 WL 3082475, at *8 (D. Mont. 2022).

¹⁸¹ Health Effects Institute, *State of Global Air* (2024) (submitted as Ex. 20).

¹⁸² Landrigan et al., *The Lancet Commission on pollution and health*, 391 *The Lancet* Commissions 264, at 471 (2018) (submitted as Ex. 21).

communities and is responsible for significant mortality.¹⁸³ Recent research published in *Science* concluded that particulate matter alone from coal plants in the United States caused 460,000 deaths from 1999 to 2020,¹⁸⁴ and a 2021 study found that particulate matter pollution from fossil fuel combustion is responsible for approximately 8.7 million deaths globally in 2018; that is, one pollutant from fossil fuel combustion is alone responsible for one in five deaths in the world each year.¹⁸⁵ In findings published in May 2023, a team led by experts at Boston University’s School of Public Health found that air pollution from the oil and gas sector in the U.S. resulted in 2,200 new cases of childhood asthma, 410,000 asthma exacerbations, and 7,500 excess deaths per year.¹⁸⁶ The study also concluded that oil and gas production in the United States costs Americans \$77 billion in annual health care costs, including respiratory and cardiovascular-related hospitalizations, adverse pregnancy outcomes, and other health challenges¹⁸⁷—all of which is suffered and paid for by community members instead of oil and gas executives. Further, air pollution “disproportionately impact[s] . . . the health of communities with a low socioeconomic status,” meaning that the communities that most

¹⁸³ *Id.*; *Pollution, health, and the planet: time for decisive action*, The Lancet (2018) (“Pollution is the largest environmental cause of disease and death in the world today.”) (submitted as Ex. 22); see also Levlieveld et al., *Loss of life expectance from air pollution compared to other risk factors: a worldwide perspective*, Cardiovascular Research (2020) (“Globally, the LLE [loss of life expectancy] from air pollution surpasses that of HIV/AIDS, parasitic, vector-borne, and other infectious diseases by a large margin. It exceeds the LLE due to all forms of violence by an order of magnitude and that of smoking by a third. . . . The fraction of avoidable LLE from anthropogenic air pollution that can be attributed to fossil fuel is nearly two-thirds globally, and up to about 80% in high-income countries.”) (submitted as Ex. 23).

¹⁸⁴ Henneman et al., *Mortality Risk from United States Coal Electricity Generation*, *Science* (2023) (submitted as Ex. 24).

¹⁸⁵ Vohra et al., *Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from GEOS-Chem*, *Env’t Rsch.* (Apr. 2021) (submitted as Ex. 25).

¹⁸⁶ Jillian McKoy, Boston Univ. Sch. of Pub. Health, *Air Pollution from Oil and Gas Production Contributes to Thousands of Early Deaths, Childhood Asthma Cases Nationwide* (May 8, 2023), <https://www.bu.edu/sph/news/articles/2023/air-pollution-from-oil-and-gas-production-contributes-to-thousands-of-early-deaths-childhood-asthma-cases-nationwide/>.

¹⁸⁷ Jonathan J. Buonocore et al., *Air pollution and health impacts of oil & gas production in the United States*, 2023 *Env’t. Rsch. Health* 1, <https://iopscience.iop.org/article/10.1088/2752-5309/acc886> (submitted as Ex. 26).

frequently have to bear the burden of health care costs are those with the lowest means to do so.¹⁸⁸

Air pollution is linked to a staggering number of adverse health impacts:

PM_{2.5} is the best studied form of air pollution and is linked to a wide range of diseases in several organ systems. The strongest causal associations are seen between PM_{2.5} pollution and cardiovascular and pulmonary disease. Specific causal associations have been established between PM_{2.5} pollution and myocardial infarction, hypertension, congestive heart failure, arrhythmias, and cardiovascular mortality. Causal associations have also been established between PM_{2.5} pollution and chronic obstructive pulmonary disease and lung cancer. The International Agency for Research on Cancer has reported that airborne particulate matter and ambient air pollution are proven group 1 human carcinogens.

Fine particulate air pollution is associated with several risk factors for cardiovascular disease, including: hypertension, increased serum lipid concentrations, accelerated progression of atherosclerosis, increased prevalence of cardiac arrhythmias, increased numbers of visits to emergency departments for cardiac conditions, increased risk of acute myocardial infarction, and increased mortality from cardiovascular disease and stroke.

Clinical and experimental studies suggest that fine airborne particles increase risk of cardiovascular disease by inducing atherosclerosis, increasing oxidative stress, increasing insulin resistance, promoting endothelial dysfunction, and enhancing propensity to coagulation.

Emerging evidence suggests that additional causal associations may exist between PM_{2.5} pollution and several highly prevalent non-communicable diseases. These include diabetes, decreased cognitive function, attention-deficit or hyperactivity disorder and autism in children, and neurodegenerative disease, including dementia, in adults. PM_{2.5} pollution may also be linked to increased occurrence of premature birth and low birthweight. Some studies have reported an association between ambient air pollution and increased risk of sudden infant death syndrome. These associations are not yet firmly established, and

¹⁸⁸ Watts et al., *The 2020 report of the Lancet Countdown on health and climate change: responding to converging crises* 23 (2020) (submitted as Ex. 27).

the burden of disease associated with them has not yet been quantified, and they are therefore included in zone 2 of the pollutome.¹⁸⁹

“Coal is the world’s most polluting fossil fuel, and coal combustion is an important cause of both pollution and climate change.”¹⁹⁰ “There are multiple stages to the life cycle of coal—land surface and aquifer disturbance, extraction, transport, crushing, washing, combustion, and storage of residual solid waste. Each stage generates a waste stream that enters the environment and puts public health at risk by exposing it to contaminated air, water, or soil.”¹⁹¹

“[M]ore than 1 million deaths occur every year as a result of air pollution from coal-fired power, and some 390,000 of these deaths were a result of particulate pollution in 2018.”¹⁹² Coal combustion is a significant source of cancer.¹⁹³ In the United States, while air pollution controls have reduced coal’s mortality rate from approximately 30,000 annually in the late 2000s, air pollution from coal still claims at least 3,000 lives each year—in Rosebud, Montana, the health impacts of coal result in 48 deaths per year, in addition to numerous other health impacts.¹⁹⁴ It is worth noting that the model used by the Clean Air Task Force to assess annual mortality rates and arrive at aforementioned figures is conservative because it only assesses impacts from particulate matter.

In addition to widespread mortality, air pollution from coal continues to cause widespread sickness, including asthma attacks, acute bronchitis, heart attacks, ER visits, and hospital admissions: “Estimates of non-fatal health endpoints from coal-related pollutants vary, but are substantial—including 2,800 from lung cancer, 38,200 non-fatal heart attacks and tens-of-thousands of

¹⁸⁹ Ex. 21, Landrigan et al. at 468 (the “pollutome” is defined as “the totality of all forms of pollution that have the potential to harm human health”).

¹⁹⁰ *Id.* at 462.

¹⁹¹ Decl. of Brian Moench, M.D., ¶¶ 2–53 (submitted as Ex. 28).

¹⁹² Ex. 27, Watts et al. at 2.

¹⁹³ Lin et al., *A global perspective on coal-fired power plants and the burden of lung cancer*, Env’t Health (2019) (submitted as Ex. 29).

¹⁹⁴ Clean Air Task Force, *Toll from Coal Interactive Map*, <https://www.catf.us/work/power-plants/coal-pollution/>; see Caiazzo et al., *Air pollution and early deaths in the United States. Part I: Quantifying the impact of major sectors, in 2005*, *Atmospheric Env’t* (2013) (finding that electricity generation, primarily coal combustion, results in 52,000 deaths annually) (submitted as Ex. 30).

emergency room visits, hospitalizations, and lost work days.”¹⁹⁵ Critically, there are no safe limits to particulate matter pollution: “[E]vidence-and-risk-based approaches using information from epidemiological studies to inform decisions on PM_{2.5} standards are complicated by the recognition that no population threshold, below which it can be concluded with confidence that PM_{2.5}-related effects do not occur, can be discerned from the available evidence.” 78 Fed. Reg. 3,086, 3,098 (Jan. 15, 2013). “[T]here may be no ‘safe’ levels of PM_{2.5} and . . . all levels of PM_{2.5} pose a risk to human health.”¹⁹⁶ “Thus, even when NAAQS are not violated as to this particulate matter, the record reflects that exposure to PM_{2.5} will increase the risk of asthma, heart attacks, and death.”¹⁹⁷ Further, the greatest impact of air pollution on the public health is likely impaired fetal development, chromosomal damage, and poor pregnancy outcomes and contribute to higher infant mortality and lifelong increased susceptibility to other diseases.¹⁹⁸

Coal plants are also major sources of toxic pollution, such as lead, mercury, cadmium, arsenic, and the radioactive metals thorium, uranium, polonium and others.

Heavy metals never disintegrate, do not degrade, and cannot be destroyed. Therefore, their deposition in the environment from sources such as coal fired power plants, steadily adds to existing concentrations, year after year. The world environment is more toxic now than it was prior to coal combustion and will be more toxic 20 years from now if coal burning is not reduced.

Many of the toxins in coal combustion emissions have multiple adverse health effects. The heavy metals for example, can be both carcinogenic and neurotoxic. The U.S. Center for Disease Control ranks toxic heavy metals as the number one environmental health threat to children. Recent research on the effects of lead pollution, for example, invalidates the notion that

¹⁹⁵ Epstein et al., *Full cost accounting for the life cycle of coal*, Annals of the N.Y. Acad. of Scis. 85 (2011) (submitted as Ex. 31).

¹⁹⁶ *Id.*

¹⁹⁷ *Friends of Buckingham v. State Air Pollution Control Bd.*, 947 F.3d 68, 92 (4th Cir. 2020); *see also* Ex. 28, Decl. of Dr. Brian Moench (citing Peters, A., *Air Quality and Cardiovascular Health: Smoke and Pollution Matter*. Circulation. 2009) (“The medical literature is definitive—all air pollution exposure, at any level, harms human health in a myriad of ways.”).

¹⁹⁸ Ex. 28, Decl. of Dr. Brian Moench.

exposure to lead is safe below a particular threshold concentration. In fact, a recent study showed that even minute concentrations of lead were associated with IQ loss, and that the average teenager lost 9 IQ points due to the levels of lead in their blood.

Those average levels were assumed to be benign as recently as ten years ago. Coal-burning power plants are now the primary source of lead exposure for young children in most of the United States. The loss of intellectual capacity from unnecessary exposure to lead is not only a personal and social tragedy, but it has also caused a drastic reduction in the productivity of the workforce in the economies of countries that obtain their energy primarily from burning coal.

As toxic as lead is, mercury is several orders of magnitude even more toxic to brain and nerve cells. The single largest source of environmental exposure to mercury in the United States (65%) is from coal-fired power plants.

As an indication of its potency, just 1/70th of a teaspoon of mercury deposited in a 25-acre lake can make all of the fish in that lake unsafe to eat for a year. It is estimated that over 6 million acres of lakes, reservoirs, and ponds in the United States have unsafe concentrations of mercury. In 48 of the 50 states, wild fish cannot be eaten because their methyl mercury exceeds safe levels.

A typical coal-fired power plant without modern pollution controls emits 170 pounds of mercury each year. In 2009, coal-fired power plants in the United States released 134,365 pounds (more than 67 tons) of mercury into our environment. Mercury emitted from coal plants in Asia is transported to the northwestern United States. Studies show that that 18-24% of the mercury deposited in the United States originates in Asia. Fish in Glacier National Park have been found to have mercury concentrations that approach or exceed EPA criteria for protection of human health. A recently released report by the Biodiversity Research Institute revealed that in 25 countries throughout the world, distant air emissions from mercury from coal fired power plants and other industrial sources, are causing high levels of mercury in fish throughout the world, and the end result is more than 55% of women have enough mercury in their blood and bodies to cause intellectual harm to the babies they give birth to.

One of the most obvious and destructive environmental consequences of the climate crisis are massive wildfires that tragically have become routine for months of the year, and a growing disaster on just about every continent throughout the world, including in far north latitudes like Siberia. Because of decades of coal fired power plant emissions into the upper atmosphere, the global environment has been contaminated with toxic heavy metals. Wildfires have been shown to mobilize, re-suspend and expand the distribution of neurotoxins like mercury that has accumulated in ecosystems destroyed in these enormous conflagrations.

There is substantial evidence that the neurotoxic effects of methylmercury in the presence of other heavy metals in blood and tissues is not merely additive, but is synergistic, amplifying the neurotoxic effects of all those metals.

Child development experts have recently warned of an increasing chemical and metal brain toxicity causing a silent “global pandemic” of a wide spectrum neurobehavioral disorders and intellectual compromise in children.

Even without invoking synergism, adding the demonstrable IQ loss from lead, and the expected IQ loss from mercury suggests that modern day children could be losing an astonishing 14 IQ points from these two heavy metals whose main sources are coal combustion emissions.

A standard deviation of I.Q. is 15 points. If the next generation of American workers were to be spared from both methylmercury and lead exposure, their average I.Q. could be expected to be a standard deviation higher. The loss of intellectual capacity for one individual is a personal tragedy. The loss of intellectual capacity for an entire generation is a national crisis. Even a modest national decline of 5 IQ points causes a 57 percent increase in the number of children categorized as mentally deficient (<70 points) and a 40 percent decrease in the number of children categorized as gifted (>130 points).

Recent epidemiological and macroeconomic studies imply that this loss of intellectual capacity is drastically reducing the productivity of the Nation’s workforce. National average I.Q. has a strong correlation with GDP per worker. Research suggests that while an increase of 1 standard deviation results in a 15% increase in average wages, it results in national productivity

increases of approximately 150%, due to a multitude of external effects of intellectual capacity on productivity.¹⁹⁹

The costs of the health impacts of air pollution from coal are staggering, running to the tens of billions to over one hundred billion dollars in harm annually.²⁰⁰ The total annual externalized costs of coal pollution on the public are hundreds of billions to nearly a trillion dollars, significantly exceeding the value of coal to the public.²⁰¹ Moreover, the broad range of air pollution's impact on multiple other non-fatal health outcomes—like strokes, cancer, brain toxicity, permanent loss of intellectual capacity, and even autism—has only recently been firmly established.²⁰² The aforementioned effects on children, particularly during fetal development and infancy, are also likely not factored into many of these calculations.²⁰³

¹⁹⁹ *Id.* at ¶¶ 11–24 (internal citations omitted).

²⁰⁰ Ex. 31, Epstein et al. at 86; *see also* Ex. 28, Decl. of Dr. Brian Moench; *see also* Decl. of Peter Howard, Ph.D., 21–41 (“Distilling [the] various studies [that monetize key health impacts], I select an initial range of estimate for the marginal non-climate costs of coal plants to be between \$0.037/kWh to \$0.55/kWh, with a central preferred estimate of \$0.110/kWh. . . . My range is consistent with other estimates applied in the literature. The range of estimates that I have assembled represents the average marginal non-climate costs of U.S. coal plants in the 2000s.” (internal citations omitted)) (submitted as Ex. 32).

²⁰¹ *Id.* at 85; Muller et al., *Environmental Accounting for Pollution in the United States Economy*, Am. Econ. Rev. (2011) (submitted as Ex. 33); Machol & Rizk, *Economic value of U.S. fossil fuel electricity health impacts*, Env'tl. Int'l (2013) (submitted as Ex. 34).

²⁰² Ex. 28, Decl. of Dr. Brian Moench (internal citations omitted).

²⁰³ *Id.*

Table 1: Annual and Cumulative Non-Climate Damages from Buffalo and Miles City Coal Combustion.²⁰⁴

	Low Estimate	Central Estimate	High Estimate
Annual Damages	\$9,958,668,806	\$32,109,599,658	\$195,028,137,071
Cumulative Damages (2018-2028), discounted to 3% to Present Value	\$95 Billion	\$306 Billion	\$1,859 Billion

BLM must compare such impacts to the jobs and revenue created by coal mining if it wishes to base any decisions allowing for future leasing on the latter. One recent economic analysis compared the costs of coal with the jobs generated by coal mining:

For example, the IMF in 2014 calculated that the social costs of coal from air pollution (not including CO₂) were \$5.5/GJ of energy. There were about 50,000 jobs in coal mining last year in the US, more or less (more if you include related jobs, less if you just think miners). Each ton of coal contains roughly 22 GJ of energy. US production in 2016 was 738 million short tons. Put those together you get external costs of 1.79 million dollars per miner. Let that number sink in for a second. To the extent that these costs are not priced or regulated, they are considered as an implicit subsidy to fossil fuels, and that's in a publication dedicated to Gary Becker (a famously conservative "Chicago" economic). But those statistics are pretty impersonal. A more telling (and tolling) calculation comes from studies looking at the health—or rather death—consequences of pollution. A 2013 study from MIT found that pollution (specifically particulate matter, SO₂, and NO_x, an ozone precursor) from electricity generation causes 52,000 premature deaths annually, mostly from the fine particles associated with coal-fired generation. They have a nifty graphic showing that largest impact hovers over the east-central United States and in the Midwest, where the power plants tend to use coal with high sulfur content. This study only gets at how many people die every year from power

²⁰⁴ Ex. 32, Decl. of Peter Howard. For a more intricate valuation of the cost of coal mining, including factors like added costs of transportation.

sector emission and leaves out morbidity and damages to ecosystems, agricultural production etc.

Coal-fired generation creates on average 5 times the pollution of natural gas. At the time of the MIT study (2005), given the generation shares, roughly 90% of the power sector emissions were coming from coal. Put these numbers together and you can ballpark an estimate of what these studies suggest in terms of mortality alone. It's very much back of the envelope and maybe we'll write a paper to do this more precisely, but we were shocked by the outcome. **Someone dies each year for every one to two coal mining jobs.** Yes. You read that right. Let that sink in. To be completely fair here, we are assuming that coal is being replaced with some happy shiny non-polluting renewable energy source.

This fact is clearly not the fault of the miners. These are great jobs to have: they pay well and do not require hugely costly training. But, what this does mean is that if we keep on pushing the further extraction of dirty coal . . . we are implicitly subsidizing the deaths of the many people living within the range of power plant emissions. And this is not a good thing.

Why the focus on coal jobs? We are not political scientists by training, but even we understand these mining jobs are in politically important areas. But from a societal welfare point of view, we are making a huge deal out of a profession that is clearly dying out. The fast-food chain Arby's now employs one and half times the number of people the US coal mining industry does. This does not mean we should subsidize hamburgers and fries. (Those may kill more people than coal, but that is for another blog.)

The issue, of course, is that something has to be done about the structural economic crises in the mining communities. This is a global, not just a US issue. There is evidence from Poland that miners once unemployed stay inactive for longer than people in other professions. The goal here has to be a way to train miners in these communities in jobs of the present or the future—not the energy equivalent of Blockbuster.²⁰⁵

²⁰⁵ Auffhammer & Fischer, Putting Coal Jobs in Perspective, Blog, Resources for the Future (2017) (emphasis added) (submitted as Ex. 35).

Only by ignoring the enormous health and environmental impacts can coal-fired power be considered a “low-cost” energy source.²⁰⁶

Wildfire, which is becoming more prevalent due to climate change, is another major source of particulate matter. For example, the American Thoracic Society (ATS) found: “Overall, it is clear that the magnitude of adverse health impacts from wildland fires constitutes a serious, and likely increasing, problem for much of the United States. This is particularly true for the western and southern regions of the country, where wildland fires contribute a sizeable portion of PM_{2.5}.”²⁰⁷ The ATS concluded that smoke from wildfires causes 4,000 to 28,000 mortalities, thousands of cases of lung cancer and emergency room visits, and approximately 395,000 cases of asthma onset.²⁰⁸ These impacts are most significant in the West.²⁰⁹ These impacts are not captured in analyses of national ambient air quality standards because wildfire smoke is excluded from attainment analyses. The American Lung Association has reached the same conclusion:

Over the last decade, however, the findings of the report have added to the extensive evidence that a changing climate is making it harder to protect this hard-fought progress on air quality and human health. Increases in high ozone days and spikes in particle pollution related to extreme heat, drought and wildfires are putting millions of people at risk and adding challenges to the work that states and cities are doing across the nation to clean up air pollution.²¹⁰

The American Lung Association’s 2025 report notes that air quality for particulate matter has worsened and that wildfire, exacerbated by climate change, is now a principal driver of unhealthy air across the country:

Even compared with the past several years of “State of the Air” reports—in which many cities and counties experienced their highest weighted average number of days ever reported for fine particle pollution—results this year are again worse

²⁰⁶ Ex. 28, Decl. of Dr. Brian Moench (internal citations omitted).

²⁰⁷ Cromar et al., Adverse Health Impacts of Outdoor Air Pollution, Including from Wildland Fires in the United States: “Health of the Air,” 2018–2020 (2023) (submitted as Ex. 36).

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ Am. Lung Ass’n, *State of the Air* (2025) (submitted as Ex. 37).

Wildfire has clearly emerged as a major driving factor in determining where in the country people are being exposed to unhealthy spikes in particle pollution.²¹¹

As BLM acknowledged in its Buffalo RMP Final SEIS, “[d]ownstream combustion of coal, oil, and gas produced in the BFO would lead to emissions of criteria and hazardous air pollutants that are known to impact air quality and public health.”²¹² Further, BLM has conceded that the “use of coal results in respiratory illness, cancer, cardiovascular disease, preterm birth, and premature death,”²¹³ and that “[s]hort-term exposures [to traffic-related air pollution] are associated with a series of pre-clinical outcomes (changes in inflammatory markers, blood pressure, endothelial function), exacerbation of respiratory and cardiovascular disease, and premature death.”²¹⁴ “Health outcomes [from coal development and associated combustion] identified have included asthma, allergy symptoms, and other respiratory illness; oxidative DNA damage; cancer; cardiovascular disease; preterm birth and low birthweight; inflammatory markers; and premature death,” and “environmental justice communities may experience disproportionate levels of these health impacts and more adverse health outcomes.”²¹⁵

In short, BLM must disclose to the public that fossil fuel combustion allowed under the Buffalo and Miles City plans will kill and sicken great numbers of people each year. At minimum, BLM should apply the 2007 European study included in the 2024 Buffalo RMP Final SEIS to disclose the amount of deaths attributable to fossil fuels produced for electricity generation under the Buffalo and Miles FEISs.²¹⁶ BLM could also use the methodology from the 2023 Boston University study quantifying the public health effects of oil and gas production in the United States, in combination with numerous other analyses from the past decade that have calculated the mortality impacts of coal combustion in the United States.²¹⁷ Finally, the amount of deaths attributable to fossil fuel production is available through the Clean Air Task Force’s Toll from Coal web tool, which identifies mortality and

²¹¹ *Id.* at 16.

²¹² 2024 Buffalo Field Office SEIS and RMPA at 3-31.

²¹³ *Id.* at 3-118.

²¹⁴ *Id.* at 3-41.

²¹⁵ *Id.* at 3-119.

²¹⁶ *Id.* at 3-41.

²¹⁷ Ex. 31, Epstein et al.

morbidity from coal plants using EPA’s own methodology.²¹⁸ Thus, BLM has available (and has previously used) a variety of sources to document the public health impacts of fossil fuels from the planning areas. It must do so again with respect to the contemplated amendments.

The impacts to air from fossil fuel production bear enormous public costs, demonstrating one of the many hidden subsidies of coal mining in the United States. It is clear that the only legally, economically and environmentally defensible approach to these plans is to maintain no new leasing and to require existing lessees to help facilitate a just and equitable transition for coal-dependent communities to develop sustainable economic foundations. In the short term, BLM must, at a minimum, consider, analyze and disclose to the public the cumulative and direct effects of any Buffalo and Miles City RMP amendments on air quality. BLM must also, at a minimum, include in a NEPA analysis any predictable indirect impacts, as recently stated by the Supreme Court:

[T]he environmental effects of the project at issue may fall within NEPA even if those effects might extend outside the geographical territory of the project or might materialize later in time—for example, run-off into a river that flows many miles from the project and affects fish populations elsewhere, or emissions that travel downwind and predictably pollute other areas. Those so-called indirect effects can sometimes fall within NEPA.²¹⁹

IV. WILDLIFE

BLM is required to evaluate and avoid the impacts of reopening the Powder River Basin to federal coal leasing on all wildlife. As part of the agency’s obligations to manage public lands for multiple uses under FLPMA, BLM must consider the impacts of its actions on wildlife and fish.²²⁰ BLM must also evaluate the impacts on wildlife as part of its “hard look” review under NEPA. This assessment should consider the direct and cumulative impacts of coal mining on wildlife. It must also include the indirect effects resulting from coal combustion and use at the plants,

²¹⁸ Clean Air Task Force, *Toll from Coal Interactive Map*, <https://www.catf.us/educational/coal-plant-pollution/>.

²¹⁹ *Seven Cnty.*, 145 S. Ct. at 1515.

²²⁰ 43 U.S.C. § 1702(c).

including the deposition area for miles around the power plants, not just the immediate mining area.

BLM must consult with the Fish and Wildlife Service and National Marine Fisheries Service as required by Section 7 of the Endangered Species Act to ensure that the mining, combustion, and emissions impacts of coal leasing do not imperil endangered and threatened species in the Powder River Basin. Notably, the U.S. Fish and Wildlife Service has not completed a biological assessment (BA) for the Powder River Basin RMPs since 2015.²²¹ BLM did not make the 2015 BA publicly available to comment on during this scoping period. To ensure meaningful public participation—and satisfaction of BLM’s statutory obligations—BLM must prepare and make available for public comment an updated BA.

Under the ESA, an analysis of the effects of an action must consider actions that are interrelated or interdependent.²²² As a result, BLM and the Services must consider the effects of coal mining, transport, combustion and disposal activities. The agencies should also consider the cumulative impacts of the full range of activities associated with reopening public lands to federal coal leasing in the Powder River Basin.

The agencies should evaluate the cumulative impacts of energy development on pallid sturgeon health, recovery, and reproduction. The Powder River Basin contains key habitat for pallid sturgeon:

The rivers flowing through the PRB and into the Yellowstone River include the Powder River, Tongue River, Rosebud Creek and their tributaries. The federally endangered pallid sturgeon depends on the Yellowstone River for its survival. Recently, beginning in 2014, pallid sturgeon have been moving up the Powder River during the spawning season. In addition, as young they consume almost exclusively the sturgeon chub, which lives in tributaries to the Yellowstone River. The 2014 Pallid Sturgeon Recovery Plan emphasizes the importance of protecting water quality, restoring habitat and addressing climate change as the key factors in the survival of this species. The amount and quality of water flowing from the Powder River

²²¹ U.S. Dep’t of the Interior, Bureau of Land Mgmt., *Miles City Field Office Record of Decision and Approved Resource Management Plan Amendment* 1-12 (Dec. 2020).

²²² 50 C.F.R. § 402.14(g)(3)–(4); *id.* § 402.02 (defining the “effect of the action” as “[a] consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur”).

Basin region is important to the reproduction and survival of the pallid sturgeon. Thus, any land use planning activities in the Powder River and adjacent watersheds, such as Tongue and Big Horn, should consider impacts to the pallid sturgeon.²²³

Currently, 30 native and 22 introduced fish species representing 13 families occur in the Powder and Tongue River basins. The Yellowstone River downstream has a fairly diverse fish assemblage of 56 species and, because it is connected to the Powder and Tongue Rivers, provides a link to large river habitats for some species, including the pallid sturgeon. Nine fish species of concern occur in the Powder and Tongue River basins. The Powder River Basin contains the sturgeon chub, a former candidate for listing under the Endangered Species Act, and primary prey for the pallid sturgeon, which are adapted to living in naturally turbid conditions. In the Missouri River above Fort Peck Reservoir, juvenile Pallid Sturgeon primarily consumed fish (90 percent by wet weight), and Sturgeon Chub and Sicklefin Chub made up 79% of the number of identifiable fish in juvenile Pallid Sturgeon Stomachs. It is for this reason that the survival of the pallid sturgeon depends both on the health of these rivers and on the health of smaller fish, such as the sturgeon chub that live farther up the tributaries of the rivers.²²⁴

Pallid sturgeon are among the rarest surviving fish species in North America and are a federally endangered species in the Missouri River Watershed which includes the Yellowstone River and PRB. Once estimated to support over 1,000 adults, now, fewer than 125 naturally produced pallid sturgeon are estimated to live in the Upper Missouri Basin above Lake Sakakawea in North Dakota. Surviving wild sturgeon in the Upper Missouri River Basin are estimated to be at least 44 years old.²²⁵

The Yellowstone River provides the most significant opportunity to sustain and enhance pallid sturgeon populations in the basin as a preferred spawning reach and potentially genetically distinct population given the hybridization with shovelnose sturgeon occurring in the lower basin. . . . Given the trend of the pallid sturgeon to move into the Powder River during spawning

²²³ Ex. 2, 2021 Griswold Memorandum at 2.

²²⁴ *Id.* at 8.

²²⁵ *Id.*

season, the likelihood that contaminants and changes in flow will affect pallid sturgeon has increased substantially since 2014.²²⁶

Since 2022, it has become more and more common for pallid sturgeon individuals to move farther up the Yellowstone River, Tongue River and Powder River, a trend expected to continue. as the species becomes naturalized to this new stretch of the watershed. While the Yellowstone River and Tongue River have dams that impact the ability of the pallid sturgeon to move further upstream, the Powder River is the longest undammed river in the region, providing a key opportunity for spawning and recovery of the pallid sturgeon.²²⁷

Access to suitable waters on the Powder and Tongue Rivers will provide for additional pallid sturgeon spawning and allow for longer larval drift distance, two key factors limiting the recovery of this species. The additional miles provided in the Powder River could give pallid sturgeon enough additional river miles for the free embryos to drift and mature before floating into the headwaters of Lake Sakakawea where they are not known to survive. The State of Montana, US FWS, USGS, and US Bureau of Reclamation are conducting studies to determine if larvae in the Powder River have adequate drift distance to become settled larvae before reaching the anoxic zone at the headwaters of Lake Sakakawea in North Dakota. To support pallid sturgeon, the amount of flows in the late spring and early summer and the quality of the water are important.²²⁸

In light of this important habitat, BLM must consider the impacts of coal development in the Powder River Basin on pallid sturgeon as it prepares an EIS for amending the RMPs to reopen federal coal leasing in the region. “At levels found discharging from coal development, survival rates of fish found in the PRB have been halved, and at the highest levels are toxic enough that fish, such as pallid sturgeon, cannot survive.”²²⁹

²²⁶ *Id.* at 9.

²²⁷ Ex. 3, 2025 Griswold Memorandum at 20–21.

²²⁸ *Id.* at 21.

²²⁹ Ex. 2, 2021 Griswold Memorandum at 4.

One such impact of coal development on pallid sturgeon is degraded and contaminated water:

In the Yellowstone River, the following contaminants exceeded benchmark levels that pose a threat to the survival of the pallid sturgeon: arsenic, chromium, copper, lead, selenium, and zinc. These contaminants are a substantial threat to the pallid because it consumes fish and invertebrates that have these contaminants in their body and it also lives along the bottom, being exposed to both contaminants in the water and the sediment. As such, these contaminants will bioaccumulate in the pallid sturgeon over time. Pallid are faced with a double whammy of contaminant exposure, by being exposed to contaminants in the sediment as larvae and to contaminants in their prey, such as sturgeon chub, as they grow older. Since many of the contaminants above, and especially selenium, will bioaccumulate, pallid sturgeon is likely adversely affected by the impacts coal and oil and gas development on water quality and availability in the PRB.²³⁰

For many species, like sturgeon, pollutants accumulate over time, causing significant impacts. Furthermore, BLM and FWS may not delineate the action area in such a way that it only embraces the direct effects of the project, rather than including also the indirect effects. The action area must be established to include the indirect effects resulting from coal combustion.

BLM and FWS must also evaluate and avoid the impacts of federal coal leasing in the Powder River Basin on other endangered species, including whooping crane, black-footed ferret, and northern long-eared bat. The agencies should also analyze and avoid impacts on threatened species, including piping plover and red knot.

In addition to impacts on endangered and threatened species, BLM must evaluate and prevent harm to other species impacted by federal coal leasing in the Powder River Basin. Such species include migratory birds, such as Sprague's pipit and sage grouse. Sage grouse once numbered in the millions across the western United States, but the bird's populations have plummeted in recent decades.²³¹ In

²³⁰ *Id.* at 5.

²³¹ See *Sage Grouse Numbers in West Continue to Decline After Federal Protection Rejection*, AP (Sept. 13, 2019), <https://www.cpr.org/2019/09/13/sage-grouse-numbers-in-west-continue-to-decline-after-federal-protection-rejection/>.

2015, BLM developed conservation plans to protect important sage-grouse habitat on public lands in ten western states.²³² The Miles City RMP for greater sage grouse identified energy development, mining, and infrastructure as threats to sage grouse in the Powder River Basin.²³³ In December 2017, however, BLM issued an Instruction Memorandum (IM), which “re-interpreted” the prioritization requirement to effectively eliminate it.²³⁴ Under that policy reversal, BLM leased millions of acres of sage-grouse habitat for drilling in Montana, Wyoming, and other states. In 2020, the U.S. District Court in Montana invalidated the IM as violating the terms of the 2015 sage-grouse plans.²³⁵ The court also struck down three lease sales in Montana and Wyoming on the same basis.²³⁶ In 2025, the Ninth Circuit upheld the Montana District Court’s decision.²³⁷ As a result, BLM should assess any amendments to the RMPs for the Powder River Basin in the context of the 2015 conservation plans for sage grouse.

Other species also have a presence in the Powder River Basin and must also be assessed as part of an EIS for the RMP amendments. These species include, but are not limited to interior least tern, prairie falcon, mule deer, white-tailed deer, antelope, shortnose gar, blue sucker, sicklefin chub, sturgeon chub, paddlefish, and sharp-tailed grouse. Additionally, BLM should assess the impacts to insects from the mine and the foreseeable combustion and use of the coal. Insects are known to be in significant decline due to habitat conversion, pollution, and climate change impacts, all of which will be worsened by the proposed mine expansion.²³⁸

²³² See, e.g., U.S. Dep’t of the Interior, Bureau of Land Mgmt., *Miles City Field Office Approved Resource Management Plan* (Sept. 2015), [https://eplanning.blm.gov/public_projects/lup/59042/86804/104007/Miles_City_Field_Office_Approved_Resource_Management_Plan_\(2015\).pdf](https://eplanning.blm.gov/public_projects/lup/59042/86804/104007/Miles_City_Field_Office_Approved_Resource_Management_Plan_(2015).pdf).

²³³ *Id.* at 2-4.

²³⁴ See U.S. Dep’t of the Interior, Bureau of Land Mgmt., *Implementation of Greater Sage-Grouse Resource Management Plan Revisions or Amendments – Oil & Gas Leasing and Development Prioritization Objective* (Dec. 27, 2017).

²³⁵ *Mont. Wildlife Fed’n v. Bernhardt*, No. CV-18-69-GF-BMM, 2020 WL 2615631, at *1, *12 (D. Mont. May 22, 2020), *aff’d in part, rev’d in part and remanded sub nom. Mont. Wildlife Fed’n v. Haaland*, 127 F.4th 1 (9th Cir. 2025).

²³⁶ *Id.*

²³⁷ See *Mont. Wildlife Fed’n v. Haaland*, 127 F.4th 1 (9th Cir. 2025).

²³⁸ See Sánchez-Bayo & Wyckhuys, *Worldwide Decline of Entomofauna: A Review of Its Drivers*, Biological Conservation (2019) (submitted as Ex. 38).

In developing an EIS for the RMP amendments, the agencies should analyze the impacts of habitat fragmentation, water availability, water quality, river sedimentation, disturbance of vegetation and wildlife habitats, including interruptions to migration corridors, the susceptibility of mined areas to invasive species, and construction and transportation disturbances on all wildlife in the Powder River Basin.²³⁹

V. CULTURAL RESOURCES

BLM's review must also evaluate and avoid harmful consequences to cultural resources from any RMP amendments. The Powder River Basin has thousands of recorded cultural resource sites that have also been identified as having coal potential.²⁴⁰ Surface coal mining destroys, damages, or fundamentally changes the character of these sites.²⁴¹ While BLM's prior reviews have cursorily identified potential harm to cultural resources from coal leasing and mining, more is required under NEPA, FLPMA, the Mineral Leasing Act, and NHPA. Through robust and meaningful consultation and coordination with affected tribes, BLM must ensure that the values of areas with significant cultural and religious importance are preserved.²⁴² These values are currently protected from new coal leasing through BLM's 2024 RMPAs, and any reversal of those protections would require BLM to evaluate anew the potentially destructive impacts of coal mining.

VI. ENVIRONMENTAL JUSTICE

BLM must account for how reopening public lands in the Powder River Basin to federal coal leasing will impact environmental justice communities—communities of color, low-income communities, or Tribal and Indigenous communities, that experience or are at risk of experiencing environmental and health harms. Environmental justice means:

the fair treatment and meaningful involvement of all people regardless of race, color, culture, national origin, or income, with respect to the development, implementation, and enforcement of

²³⁹ See Memorandum from Acting Director, Off. of Surface Mining Reclamation & Enf. To Assistant Director, Ecological Servs. 6–7 (Sept. 24, 1996) [hereinafter 1996 SMCRA Biological Opinion] (submitted as Ex. 39).

²⁴⁰ See, e.g., U.S. Dep't of the Interior, Bureau of Land Mgmt., *Miles City Field Office Final Supplemental EIS and RMPA* 3-35 (Oct. 2019).

²⁴¹ *Id.* at 3-37.

²⁴² 43 C.F.R. § 3420.0–2.

environmental laws, regulations, and policies to ensure that each person enjoys—(A) the same degree of protection from environmental and health hazards; and (B) equal access and involvement with respect to any Federal agency action on environmental justice issues in order to have a healthy environment in which to live, learn, work, and recreate.²⁴³

Environmental justice communities are living with the effects of decades of inadequate investment and the legacy of policy choices rooted in racism and experience cumulative impacts from exposure to concentrated air and water pollution. As part of its “hard look” review under NEPA, and in considering the public interest in land management decisions under FLPMA, BLM must assess the direct, indirect, and cumulative impacts of federal coal leasing on communities disproportionately affected by environmental harms.²⁴⁴

First, BLM should consider the impacts of coal development on public health. As discussed above, coal mining and combustion causes poor air quality, including an increase in pollutants and particulate matter in the air, and unsafe conditions such as soot, smog, and acid rain.

Methane, a potent greenhouse gas, is released when gases trapped in coal seams are released when they are cut to extract coal. Running equipment (drills, bulldozers, and trucks) causes additional types of air pollution, in addition to greenhouse gas emissions, particularly criteria pollutants (i.e., carbon monoxide, lead, ground-level ozone, particulate matter, nitrogen dioxide, and sulfur dioxide). Coal mining can affect water quality and, thus, human health, livestock, fishing stocks, and aquatic species. In addition, coal mining can use a significant amount of water for dust control, extraction (i.e., to cool equipment and prevent fire), and processing (e.g., coal washing). . . . Transportation of coal can result in multiple externalities, including increased risk to public health through accidents and air pollution, emission of greenhouse gases, and noise.²⁴⁵

²⁴³ H.R. 1705, A. Donald McEachin Environmental Justice For All Act, 118th Cong. § 3(8) (2023).

²⁴⁴ See *Kleppe*, 427 U.S. at 410 n.21; 43 U.S.C. §§ 1701(a)(8), 1702(c).

²⁴⁵ U.S. Dep’t of the Interior, Bureau of Land Mgmt., *Federal Coal Program: Programmatic Environmental Impact Statement – Scoping Report* 5-46–5-47 (Jan. 2017) [hereinafter 2017 PEIS Scoping Report] (submitted as Ex. 40).

The combustion of coal can contribute to air quality externalities, as the burning of coal results in emissions of nitrogen oxides, sulfur dioxide, the particulates PM₁₀ and PM_{2.5}, and mercury, all of which can affect air quality and public health. Importantly, the greenhouse gas emissions associated with coal consumption contribute to global climate change.²⁴⁶

Coal ash also causes significant health concerns. “The hazardous substances found in coal ash can harm every major organ in the human body.”²⁴⁷ Specifically, “[t]he pollutants in coal ash can cause cancer, kidney disease, and reproductive harm, and damage the nervous system, especially in children.”²⁴⁸

A United States Environmental Protection Agency (U.S. EPA) risk assessment found that living near ash ponds and unlined landfills increases the risk of damage to the liver, kidney, lungs and other organs as a result of being exposed to toxic metals like cadmium, cobalt, lead, thallium, and other pollutants at concentrations far above levels that are considered safe.²⁴⁹

In addition to coal ash exposure from housing proximity, “[c]ontaminants derived from coal ash have the potential to enter drinking water supplies, surface water bodies, or biota at unacceptable concentrations, thereby creating risks to human health.”²⁵⁰ When completing the required EIS, the agencies must conduct an analysis of the hazardous health effects of coal mining, transportation, combustion, and reclamation activities.

Second, BLM must consider the cumulative impacts of coal development and climate change on environmental justice communities. Climate change disproportionately threatens the livelihoods of people of color and low-income communities, and exacerbates social, racial, and economic inequalities. According to the Fifth National Climate Assessment:

While all people are exposed to human-caused climate change stemming from GHG emissions, social systems shape the degree of exposure and distribute climate impacts across people and

²⁴⁶ *Id.* at 5-47.

²⁴⁷ Lisa Evans et al., Earthjustice, *Coal Ash Primer* 7 (submitted as Ex. 41).

²⁴⁸ *Id.*

²⁴⁹ *Id.*

²⁵⁰ *Id.* at 10.

places over time . . . For example, in the United States, Black and BIPOC individuals and communities, members of low-income households, immigrants with limited English proficiency, unhoused individuals, rural communities, and agricultural workers are disproportionately impacted by environmental hazards and climate change The convergence of exclusion, exposure, and impacts places unequal burdens on these individuals and communities, sometimes referred to as overburdened communities.²⁵¹

A recent report from the U.S. Environmental Protection Agency, titled *Climate Change and Social Vulnerability in the United States*, echoed these findings and quantified disproportionate risks to certain communities.²⁵² The report examined six impacts of climate change (air quality and health, extreme temperature and health, extreme temperature and labor, coastal flooding and property, inland flooding and property) affect four “socially vulnerable” groups based on income, education, race, and age.²⁵³ EPA analyzed whether members of socially vulnerable groups currently live in areas that are projected to be most severely impacted by climate change, as compared to non-socially vulnerable groups.²⁵⁴ The report found:

Black and African American individuals are 40% more likely than non-Black and non-African American individuals to currently live in areas with the highest projected increases in mortality rates due to climate-driven changes in extreme temperatures. In addition, Black and African American individuals are 34% more likely to live in areas with the highest projected increases in childhood asthma diagnoses due to climate-driven changes in particulate air pollution.²⁵⁵

Hispanic and Latino individuals are 43% more likely than non-Hispanic and non-Latino individuals to currently live in areas with the highest projected labor hour losses in weather-exposed

²⁵¹ U.S. Glob. Change Rsch. Program, *Fifth National Climate Assessment* 20-7 (2023) (submitted as Ex. 42).

²⁵² U.S. Env’t Prot. Agency, *Climate Change and Social Vulnerability in the United States* (Sept. 2021), https://www.epa.gov/system/files/documents/2021-09/climate-vulnerability_september-2021_508.pdf (submitted as Ex. 43).

²⁵³ *Id.* at 4.

²⁵⁴ *Id.* at 6.

²⁵⁵ *Id.*

industries due to climate-driven increases in high-temperature days. Hispanic and Latino individuals are also 50% more likely to live in coastal areas with the highest projected increases in traffic delays from climate driven changes in high-tide flooding.²⁵⁶

American Indian and Alaska Native individuals are 48% more likely than non-American Indian and non-Alaska Native individuals to currently live in areas where the highest percentage of land is projected to be inundated due to sea level rise. American Indian and Alaska Native individuals are also 37% more likely to live in areas with the highest projected labor hour losses in weather exposed industries due to climate-driven increases in high-temperature days.²⁵⁷

Asian individuals are 23% more likely than non-Asian individuals to currently live in coastal areas with the highest projected increases in traffic delays from climate-driven changes in high-tide flooding.²⁵⁸

Those with low income or no high school diploma are approximately 25% more likely than non-low income individuals and those with a high school diploma to currently live in areas with the highest projected losses of labor hours due to increases in high-temperature days with 2°C of global warming. In addition, individuals in these socially vulnerable groups are approximately 15% more likely to currently live in areas with the highest projected increases in childhood asthma diagnoses due to climate-driven increases in particulate air pollution, and in areas where the highest percentage of land is projected to be inundated due to sea level rise.²⁵⁹

In general, adults ages 65 and older are not projected to be significantly more likely than younger individuals to currently live in areas with the highest projected impacts of climate change.²⁶⁰

²⁵⁶ *Id.*

²⁵⁷ *Id.*

²⁵⁸ *Id.*

²⁵⁹ *Id.* at 7.

²⁶⁰ *Id.*

Given these disproportionate impacts, in its analysis of whether to reopen public lands to federal coal leasing, BLM must account for the cumulative impacts on environmental justice communities.²⁶¹ BLM is required to complete such analysis as part of its “hard look” review under NEPA and its assessment of whether the agency action is in the public interest under FLPMA.²⁶²

Third, as discussed above, BLM has an obligation to provide robust opportunities for the public to engage in its decision-making. FLPMA and NEPA require BLM to provide opportunities for public input and engagement as part of its deliberative process. BLM’s use of alternative NEPA procedures to diminish opportunities for public engagement is unlawful. Meaningful community involvement is essential when the federal government proposes an action impacting environmental justice communities.

VII. SOCIOECONOMIC IMPACTS

Any decision to reopen the Powder River Basin will have socioeconomic consequences that BLM must evaluate and address to satisfy its obligations under NEPA, FLPMA, and the Mineral Leasing Act. BLM should interrogate the prolific and misguided assumption that economic benefits to impacted coal mining communities automatically flow from coal development without associated harm. As BLM summarized in the 2017 PEIS Scoping Report, coal mining can cause both socioeconomic benefits and damage.²⁶³ Only after understanding the characteristics associated with coal mining that can limit the industry’s ability to support sustained economic development can a strategy to integrate coal mining into a local economic development strategy be crafted.

A. Coal Leasing Causes Detrimental Economic Impacts.

BLM cannot assume that coal mining has only beneficial economic impacts because history shows otherwise. Coal mining can in some instances pay relatively high wages, and those mines that are located on public lands can make substantial payments to local, state, and federal governments, helping them to fund important public services. But the financial contributions of coal mining are often the only economic characteristics mentioned in federal agency NEPA reviews. Concluding

²⁶¹ See *Equitable and Just National Climate Platform* 3–4, <http://ajustclimate.org/pdfs/ClimatePlatform.pdf> (submitted as Ex. 44).

²⁶² See *Kleppe*, 427 U.S. at 410 n.21; 43 U.S.C. §§ 1701(a)(8), 1702(c).

²⁶³ Ex. 40, 2017 PEIS Scoping Report at 5-34–5-56.

that expanded or continued coal mining will have a positive impact on coal-dependent communities or that declines in coal mining will have catastrophic impacts on such communities is incomplete, misleading, and cannot be used to guide public decision making.

As BLM has recognized, empirical economic studies on the relationship between coal mining and local economic vitality and well-being show that while certainly coal mining provides well-paying jobs and tax revenues to local communities, coal and other metal mining have often failed to bring sustained prosperity to adjacent communities.²⁶⁴ As described in the attached report by Power Consulting, data show that counties that rely more heavily on natural resource extraction experience less economic growth than counties with more diverse economic portfolios.²⁶⁵ One reason for this is that while coal and mining booms result in few additional jobs outside the mining sector, busts cause a greater loss in local employment.²⁶⁶ BLM must take this evidence into account in preparing its socio-economic analysis.

BLM must analyze the area where the impacts of the program are likely to be most significant and measurable: the county in which the mine is located or the majority of impacts are likely to occur. Focusing solely on a larger area is likely to mask how coal mining can affect local communities, as the impacts from coal mining will be overwhelmed by other sectors of the economy. For this reason, the Power Consulting report recommends focusing the analysis on the 51 rural counties where coal mining provided more than five percent of the employment in 1990.²⁶⁷ The data Power analyzed shows such coal dependent communities experienced slower job growth, lower real earnings, lost more population, and recovered from economic downturns more slowly, “reflect[ing] the instability of coal mining employment.”²⁶⁸ This is the type of information that should inform BLM’s analysis as the agency attempts to understand how federal coal leasing in the Powder River Basin impacts local mining economies.

²⁶⁴ *Id.*

²⁶⁵ See Power Consulting, Inc., *The Economic Consequences of the Federal Coal Leasing Program: Improving the Quality of the Economic Analysis*, at 8–13 (July 27, 2016) (submitted as Ex. 45).

²⁶⁶ *Id.*

²⁶⁷ See *id.* at 13–18.

²⁶⁸ *Id.* at 18.

Further, for the many communities already engaged in coal development, BLM should identify opportunities that help ensure a fair and just transition to a clean energy economy for all people. Transition from dirty fuels to clean energy will, on the whole, create many more jobs than those lost, and government and industry can help ensure that workers and communities that have helped power our country see these benefits. Identified measures should drive sustainable investment and job creation in regions where the coal industry has abused and abandoned the land, air, water and people.

On the most fundamental level, “just transition” refers to a path or plan for workers displaced by transformations in the economy.²⁶⁹ BLM should identify measures for a fair and just transition in which affected workers, their unions, and other impacted communities are equal partners in a well-planned, carefully negotiated and managed transition from fossil fuels to clean energy. Such measures should bring good job opportunities to those traditionally left behind and job security and livelihood guarantees to affected workers. Workers’ pensions and health care benefits should be preserved, and workers and members of affected communities should receive the right of first employment for any jobs that are created by power plant decommissioning or site reclamation. Healthcare should also be provided to workers and other members of the local community experiencing health impacts associated with coal development. In addition, BLM should evaluate measures in which workers receive education and training for industries, ideally unionized, with similar pay and benefits. Among other things, as BLM has noted, “BLM could seek to secure Congressional authorization to direct a portion of increased Federal coal revenues toward such community assistance programs.”²⁷⁰

Measures for a fair and just transition also should engage every level of government and business in an effort to maximize public and private investments in economic development and diversification; mitigate any impacts in a transition to a clean energy economy; provide workforce training; replace lost tax revenues; and create lasting, good jobs that strengthen the economy and sustain working families—especially jobs related to clean energy, energy efficiency, and climate-resilient infrastructure. Finally, such measures should ensure that the mining

²⁶⁹ Labor Network for Sustainability, Strategic Practice Grassroots Policy Project, *“Just Transition” – Just What Is It?: An Analysis of Language, Strategies, and Projects* 22 (2016) (submitted as Ex. 46); Caroline Farrell, *A Just Transition: Lessons Learned From the Environmental Justice Movement*, 4 DUKE FORUM FOR LAW & SOCIAL CHANGE 45 (2012) (submitted as Ex. 47).

²⁷⁰ Ex. 40, 2017 PEIS Scoping Report, at 6-39.

companies responsible for harmful pollution are held accountable for cleaning it up so that communities are left with usable land and clean water.

B. Beneficial Local Economic Impacts are Mitigated by Failures of Coal Leasing to Generate a Fair Return.

While revenues and employment from coal mining carry certain local economic benefits, those benefits are muted by structural issues—exacerbated by royalty rate reductions in the recent OBBBA legislation²⁷¹—that cause federal coal leasing to fail to generate a fair return to the American public, as required by FLPMA and then Mineral Leasing Act.²⁷²

The federal coal leasing system for decades has failed to generate a fair return to taxpayers for the use by private companies of public resources. The Department of the Interior and the state where the coal was mined share the revenues from federal coal leasing. These revenues come from two primary sources: a one-time “bonus bid” payment based on the “fair market value” of the coal, and royalties on the sale of coal that is mined. It has been well-documented, however, that structural flaws in the existing federal coal leasing program with respect to both bonus bids and royalties currently prevent BLM from satisfying its statutory obligation to garner a fair return for American taxpayers.²⁷³ This is particularly

²⁷¹ H.R. 1, § 50202, 119th Congress (2025).

²⁷² 30 U.S.C. § 201(a)(1) (authorizes leasing of mineral resources on public lands only where the federal government recovers, at a minimum, the “fair market value” of coal); 43 U.S.C. § 1701(a)(9) (requiring that “the United States receive fair market value of the use of the public lands and their resources unless otherwise provided for by statute”).

²⁷³ E.g., Tom Sanzillo, *The Great Giveaway: An analysis of the United States’ long-term trend of selling federally-owned coal for less than fair market value* (June 2012) (submitted as Ex. 48); Off. of the Inspector General, U.S. Dep’t of the Interior, *Coal Management Program, Report No. CR-EV-BLM-0001-2012*, at 7 (June 2013) (submitted as Ex. 49); Gov. Accountability Off., *Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information*, GAO-14-140 (Dec. 2013) (submitted as Ex. 50); Ctr. for Am. Progress, *Federal Coal Leasing in the Powder River Basin: A Bad Deal for Taxpayers* (July 29, 2014) (submitted as Ex. 51).

true when the full costs, including social and environmental costs, of mining and burning federal coal are properly taken into account.²⁷⁴

BLM has recognized this failure of coal leasing to generate a fair return.²⁷⁵ Previously, this recognition caused the Interior Secretary to halt all new federal coal leasing because “[c]ontinuing to conduct lease sales or approve lease modifications” before the coal program’s failures are addressed “risks locking in for decades the future development of large quantities of coal under current rates and terms that the PEIS may ultimately determine to be less than optimal.”²⁷⁶

And while coal leasing has been a bad deal for taxpayers for decades, Congress just worsened the situation by reducing royalty rates for coal leases. In OBBBA, Congress lowered rates from the previously applicable 12.5 percent *minimum*, to a *maximum* rate of just seven percent through September 2034.²⁷⁷ As summarized by Taxpayers for Common Sense:

A fair royalty rate—paid as a percentage of the value of extracted coal and shared with both the federal treasury and the states where development occurs—is essential to ensuring taxpayers receive a reasonable return. At 12.5%, the current low rate already costs taxpayers millions each year. Dropping it to 7% will only make matters worse. Between 2015 and 2024, the federal coal program generated \$5.6 billion for taxpayers, \$4.8 billion of which came from royalty revenue. Had production over that period been subject to the proposed 7% royalty rate, taxpayers would have lost out on \$2.1 billion in revenue.²⁷⁸

²⁷⁴ Inst. For Policy Integrity, *Reconsidering Coal’s Fair Market Value: The Social Costs of Coal Production and the Need for Fiscal Reform* (Oct. 2015), (submitted as Ex. 52); Ex. 40, 2017 PEIS Scoping Report at 5-46–5-52.

²⁷⁵ Ex. 40, 2017 Scoping Report at 6-2 (identifying the failure of the coal program to generate a “fair return to Americans” as an area “requiring modernization”).

²⁷⁶ Secretarial Order No. 3338, at 8 (Jan. 15, 2016) (submitted as Ex. 53).

²⁷⁷ H.R. 1, § 50202, 119th Congress (2025).

²⁷⁸ Taxpayers for Common Sense, *Reconciliation Boons for Outdated, Uneconomic Coal Leasing is a Costly Mistake* (June 2, 2025), <https://www.taxpayer.net/energy-natural-resources/reconciliation-boons-for-outdated-uneconomic-coal-leasing-is-a-costly-mistake/>.

This reduction in royalties—half of which are paid to the State in which coal is mined²⁷⁹—corresponding reduces any local economic benefits from leasing. For example, Wyoming currently applies royalty payments to pay for schools, highway infrastructure, and to cities and towns.²⁸⁰ Those payments will necessarily be diminished under the OBBBA.

To satisfy its obligations under NEPA, FLPMA, and the Mineral Leasing Act, BLM must account for the ongoing and mounting failure of federal coal leasing to generate a fair return. And in making its final determination, BLM must provide a “reasoned explanation” for any decision to re-open the Powder River Basin to coal leasing despite the agency’s prior findings that coal leasing should not proceed until such failures are remedied.²⁸¹

BLM MUST CONSIDER THE IMPACTS OF ITS DECISION ON CLIMATE CHANGE.

Climate change is not a distant threat; it is our reality. The climate crisis is “unequivocally caused by greenhouse gas emissions from human activities—primarily burning fossil fuels.”²⁸² A recent report from the Intergovernmental Panel on Climate Change (IPCC) stated: “[i]t is unequivocal that human influence has warmed the atmosphere, ocean and land.”²⁸³ According to the IPCC, “[w]idespread and rapid changes in the atmosphere, ocean, cryosphere, and biosphere have occurred.”²⁸⁴ Carbon dioxide concentrations in the atmosphere “have increased by more than 47%” since 1850.²⁸⁵

Federal coal leasing is a significant contributor to U.S. greenhouse gas emissions, accounting for ten percent of the country’s overall climate footprint as most recently reported by BLM in 2010.²⁸⁶ Coal in the Powder River Basin accounts for approximately eighty-five percent of federal coal production and forty percent of

²⁷⁹ 30 U.S.C. § 191(a).

²⁸⁰ Ex. 40, 2017 PEIS Scoping Report at 5-53.

²⁸¹ *Fox Television Stations*, 556 U.S. at 515–16.

²⁸² Ex. 42, Fifth National Climate Assessment at 1-13.

²⁸³ IPCC, *Summary for Policymakers, in Climate Change 2021: The Physical Science Basis* 4 (2021) (submitted as Ex. 54).

²⁸⁴ *Id.*

²⁸⁵ Ex. 42, Fifth National Climate Assessment at 2-5.

²⁸⁶ Ex. 40, 2017 PEIS Scoping Report at 6-4.

all coal burned in the United States. All of the coal mined in the Powder River Basin will be burned domestically or abroad in power plants and other industrial facilities that lack any controls to limit their resulting greenhouse gas emissions. Coal is not needed to meet U.S. energy needs. Yet despite the lack of demand, the Interior Department has expressly stated a goal of bolstering U.S. coal-fired electricity generation as a primary purpose for increasing federal coal leasing, including reopening the Powder River Basin to new coal leasing through the RMP amendments at issue here. As a result, any amendments that increase coal leasing in the Powder River Basin directly result in greenhouse gas emissions that are altering our climate.

BLM has an obligation to be transparent about the choices it makes in its stewardship of public lands, the environmental and climate consequences of those choices, and the long-term effects from a public interest perspective. BLM must assess the combined impacts of climate change and the mining and combustion of coal before amending the RMPs to allow for federal coal leasing in the Powder River Basin. BLM is required to consider climate change impacts in the region as part of its “hard look” review.²⁸⁷ And because the impacts of re-starting Powder River Basin coal leasing are significant, BLM must examine them in an EIS, not merely in an EA. BLM must also provide an analysis of the effects of an action must consider actions that are interrelated or interdependent, including the transportation and combustion of coal.²⁸⁸

BLM must account for how reopening federal coal leasing in the Powder River Basin would be in the public interest. BLM has an obligation under FLPMA to manage public lands “in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values.”²⁸⁹ BLM is also required to “take[] into account the long-term needs of future generations for renewable and nonrenewable resources” when making decisions about the use of public lands.²⁹⁰ The Secretary of the Interior even has the discretion to reject lease applications on the grounds that “leasing of the lands covered by the application, for environmental or other sufficient reasons,

²⁸⁷ See *Kleppe*, 427 U.S. at 410 n.21.

²⁸⁸ 50 C.F.R. § 402.14(g)(3)–(4); *id.* § 402.02.

²⁸⁹ 43 U.S.C. § 1701(a)(8).

²⁹⁰ *Id.* § 1702(c).

would be contrary to the public interest.”²⁹¹ BLM must therefore assess how amending the RMPs to allow for federal coal leasing on public lands will impact future generations and protect the quality of natural resources and the environment.

Furthermore, in addition to managing public lands for the public interest, BLM is required to “take any action necessary to prevent unnecessary or undue degradation of the lands” and “minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved.”²⁹² Therefore, BLM must account for how the agency will prevent “unnecessary or undue degradation” of lands if reopened for federal coal leasing, in light of the fact that those public lands are already facing compounding environmental stressors from climate change.

I. COAL MINING AND COMBUSTION MUST BE PHASED OUT TO MEET GLOBAL EMISSIONS TARGETS AND AVOID THE MOST DEVASTATING DAMAGES FROM CLIMATE CHANGE.

First, BLM must identify what levels of greenhouse gas emissions are considered safe when considering amending the RMPs to allow for federal coal leasing in the Powder River Basin. The global community has agreed that climate change should be limited to 2°C in order to avoid the most dangerous impacts of climate change. In December 2015, the world community, including the United States, agreed to limit “the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change” under the Paris Agreement.²⁹³ The global commitment to these limits were subsequently affirmed at COP 26, COP 27, COP 28, and COP 29. To maintain a chance of limiting global temperatures to even 2°C will require immediate and significant emissions reductions.²⁹⁴

²⁹¹ 43 C.F.R. § 3425.1-8(a)(3).

²⁹² 43 U.S.C. §§ 1732(b), (d)(2)(A).

²⁹³ Adoption of the Paris Agreement, art. 2.1(a) (2015) FCCC/CP/2015/L.9, <http://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf>.

²⁹⁴ United Nations Env’t Programme, *Emissions Gap Report 2024* (2024), <https://doi.org/10.59117/20.500.11822/46404> (submitted as Ex. 55).

In 2018, the IPCC released a dire report quantifying the damage that would occur if the world continues to allow the climate to warm beyond 1.5°C to 2°C above pre-industrial levels. According to the IPCC, human activities have already caused approximately 1.0°C of global warming above pre-industrial levels.²⁹⁵ The world is on track to reach 1.5°C of warming between 2030 and 2052 if emissions continue at current rates.²⁹⁶ A world with 2°C of warming above pre-industrial levels would experience more extreme weather, sea level rise, biodiversity loss, poor health outcomes, food insecurity, and drought.²⁹⁷

To avoid some of the most severe impacts, limiting warming to 1.5°C above pre-industrial levels would require global carbon dioxide emissions to be reduced by at least forty-five percent from global 2010 levels by 2030 and net-zero by 2050.²⁹⁸ Such reductions would require a “rapid and far-reaching” emissions reduction across all sectors of the economy that is “unprecedented in terms of scale.”²⁹⁹ In the scenarios modeled by the IPCC to limit warming to 1.5°C, clean energy supplies seventy to eighty-five percent of global electricity demand by 2050, “while the use of coal shows a steep reduction in all pathways and would be reduced to close to 0%” of electricity by 2050.³⁰⁰

To avoid the most extreme consequences of climate change and reach the targets under the Paris Agreement and in line with the IPCC 1.5°C report, BLM must take action to reduce emissions from fossil fuels on public lands at a rapid pace. BLM is obligated to consider the consequences of increased emissions from a potential amendment to the RMPs to allow for federal coal leasing as part of its “hard look” review under NEPA and public interest considerations under FLPMA and the Mineral Leasing Act.³⁰¹ BLM’s analysis must also address the potential of incremental emissions leading to tipping points or exceeding critical thresholds of greenhouse gas emissions.

²⁹⁵ IPCC, *Summary for Policymakers*, in *Special Report on Global Warming of 1.5°C*, at 4 (October 2018) (submitted as Ex. 56).

²⁹⁶ *Id.*

²⁹⁷ *See id.* at 7–9.

²⁹⁸ *Id.* at 14.

²⁹⁹ *Id.* at 15.

³⁰⁰ *Id.*

³⁰¹ *See Kleppe*, 427 U.S. at 410 n.21.

II. THE EFFECTS OF CLIMATE CHANGE ARE ALREADY FAR-REACHING AND EXPECTED TO INTENSIFY.

Second, BLM must account for the current and anticipated impacts of climate change in its analysis to amend the RMPs to reopen public lands in the Powder River Basin for federal coal leasing. According to the Fifth National Climate Assessment, “[t]he effects of human-caused climate change are already far-reaching and worsening across every region of the United States.”³⁰² “The impacts of climate change increase with warming and warming is *virtually certain* to continue if emissions of carbon dioxide do not reach net zero While there are still uncertainties about how the planet will react to rapid warming and catastrophic future scenarios that cannot be ruled out, the future is largely in human hands.”³⁰³

The grim and catastrophic impacts of unabated climate change are summarized well in the IPCC’s Technical Summary for the Sixth Assessment Report.³⁰⁴

Climate change has altered marine, terrestrial and freshwater ecosystems all around the world (very high confidence). Effects have been experienced earlier, are more widespread and with further reaching consequences than anticipated (medium confidence). Biological responses including changes in physiology, growth, abundances, geographic placement and shifting seasonal timing are often not sufficient to cope with recent climate change (very high confidence). Climate change has caused local species losses, increases in disease (high confidence), mass mortality events of plants and animals (very high confidence), resulting in the first climate driven extinctions (medium confidence), ecosystem restructuring, increases in areas burned by wildfire (high confidence), and declines in key ecosystem services (high confidence). Climate-driven impacts on ecosystems have caused measurable economic and livelihood losses and altered cultural practices and recreational activities around the world (high confidence).³⁰⁵

³⁰² Ex. 42, Fifth National Climate Assessment at 1-5.

³⁰³ *Id.* at 2-21 (emphasis in original).

³⁰⁴ IPCC, *Technical Summary for the Working Group II Sixth Assessment Report* (2022) (submitted as Ex. 57).

³⁰⁵ *Id.* at TS-9.

Human communities, especially Indigenous Peoples and those more directly reliant on the environment for subsistence, are already negatively impacted by the loss of ecosystem functions, replacement of endemic species, and regime shifts across landscapes and seascapes (high confidence). Indigenous knowledge contains unique information sources about past changes and potential solutions to present issues (medium confidence). Tangible heritage such as traditional harvesting sites or species and archaeological and cultural heritage sites, and intangible heritage such as festivals and rites associated with nature-based activities, endemic knowledge and unique insights about plants and animals, are being lost (high confidence). As 80% of the world's remaining biodiversity is on Indigenous homelands, these losses have cascading impacts on cultural and linguistic diversity and Indigenous knowledge systems, food security, health, and livelihoods, often with irreparable damages and consequences (medium evidence, high agreement). Cultural losses threaten adaptive capacity and may accumulate into intergenerational trauma and irrevocable losses of sense of belonging, valued cultural practices, identity and home (medium confidence).³⁰⁶

Widespread and severe loss and damage to human and natural systems are being driven by human-induced climate changes increasing the frequency and/or intensity and/or duration of extreme weather events, including droughts, wildfires, terrestrial and marine heatwaves, cyclones (high confidence), and flood (low confidence). Extremes are surpassing the resilience of some ecological and human systems, and challenging the adaptation capacities of others, including impacts with irreversible consequences (high confidence). Vulnerable people and human systems, and climate sensitive species and ecosystems, are most at risk (very high confidence).³⁰⁷

Climate-related extremes have affected the productivity of agricultural, forestry and fishery sectors (high confidence). Droughts, floods, wildfires and marine heatwaves contribute to reduced food availability and increased food prices, threatening food security, nutrition, and livelihoods of millions of people across regions (high confidence). Extreme events caused

³⁰⁶ *Id.* at TS-10.

³⁰⁷ *Id.* at TS-13.

economic losses in forest productivity and crops and livestock farming, including losses in wheat production in 2012, 2016, 2018, with the severity of impacts from extreme heat and drought tripling over last 50 years in Europe (high confidence) Forests were impacted by extreme heat and drought impacting timber sales for example in Europe (high confidence) Marine heatwaves, including well-documented events along the west coast of North America (2013–2016) and east coast of Australia (2015–2016, 2016–2017 and 2020) have caused the collapse of regional fisheries and aquaculture (high confidence.) Human populations exposed to extreme weather and climate events are at risk of food insecurity with lower diversity in diets, leading to malnutrition and increasing the risk of disease (high confidence).³⁰⁸

Extreme climatic events have been observed in all inhabited regions, with many regions experiencing unprecedented consequences, particularly when multiple hazards occur in the same time or space (very high confidence). Since AR5, the impacts of climate change and extreme weather events such as wildfires, extreme heat, cyclones, storms, and floods have adversely affected or caused loss and damage to human health; shelter; displacement; incomes and livelihoods; security; and inequality (high confidence). Over 20 million people have been internally displaced annually by weather-related extreme events since 2008, with storms and floods the most common drivers (high confidence). Climate-related extreme events are followed by negative impacts on mental health, wellbeing, life satisfaction, happiness, cognitive performance, and aggression in exposed populations (very high confidence).³⁰⁹

Climate change is already stressing food and forestry systems, with negative consequences for livelihoods, food security and nutrition of hundreds of millions of people, especially in low and midlatitudes (high confidence). The global food system is failing to address food insecurity and malnutrition in an environmentally sustainable way.³¹⁰

Currently, roughly half of the world's population are experiencing severe water scarcity for at least one month per

³⁰⁸ *Id.* at TS-13.

³⁰⁹ *Id.* at TS-14.

³¹⁰ *Id.* at TS-15.

year due to climatic and other factors (medium confidence). Water insecurity is manifested through climate-induced water scarcity and hazards and is further exacerbated due to inadequate water governance (high confidence). Extreme events and underlying vulnerabilities have intensified the societal impacts of droughts and floods and have negatively impacted agriculture, energy production and increased the incidence of water-borne diseases. Economic and societal impacts of water insecurity are more pronounced in low-income countries than in the middle- and high-income ones (high confidence).³¹¹

Without urgent and ambitious emissions reductions, more terrestrial, marine and freshwater species and ecosystems face conditions that approach or exceed the limits of their historical experience (very high confidence). Threats to species and ecosystems in oceans, coastal regions, and on land, particularly in biodiversity hotspots, present a global risk that will increase with every additional tenth of a degree of warming (high confidence). The transformation of terrestrial and ocean/coastal ecosystems and loss of biodiversity, exacerbated by pollution, habitat fragmentation and land-use changes, will threaten livelihoods and food security (high confidence).³¹²

Climate change will increasingly add pressure on food production systems, undermining food security (high confidence). With every increment of warming, exposure to climate hazards will grow substantially (high confidence), and adverse impacts on all food sectors will become prevalent, further stressing food security (high confidence). Regional disparity in risks to food security will grow with warming levels, increasing poverty traps, particularly in regions characterized by a high level of human vulnerability (high confidence).³¹³

Water-related risks are projected to increase at all warming levels with risks being proportionally lower at 1.5°C than higher degrees of warming (high confidence). Regions and populations with higher exposure and vulnerability are projected to face greater risks than others (medium confidence). Projected changes in water cycle, water quality, cryosphere changes,

³¹¹ *Id.*

³¹² *Id.* at TS-23.

³¹³ *Id.* at TS-26.

drought and flood will negatively impact natural and human systems (high confidence).³¹⁴

Climate change will increase the number of deaths and the global burden of noncommunicable and infectious diseases (high confidence). Over 9 million climate-related deaths per year are projected by the end of the century, under a high emissions scenario and accounting for population growth, economic development, and adaptation. Health risks will be differentiated by gender, age, income, social status and region (high confidence).³¹⁵

Migration patterns due to climate change are difficult to project as they depend on patterns of population growth, adaptive capacity of exposed populations, and socioeconomic development and migration policies (high confidence). In many regions, the frequency and/or severity of floods, extreme storms, and droughts is projected to increase in coming decades, especially under high-emissions scenarios, raising future risk of displacement in the most exposed areas (high confidence). Under all global warming levels, some regions that are presently densely populated will become unsafe or uninhabitable with movement from these regions occurring autonomously or through planned relocation (high confidence).³¹⁶

Warming pathways which imply a temporary temperature increase over “well below 2°C above pre-industrial” for multi-decadal time spans imply severe risks and irreversible impacts in many natural and human systems (e.g. glacier melt, loss of coral reefs, loss of human lives due to heat) even if the temperature goals are reached later (high confidence).³¹⁷

There is increasing evidence on limits to adaptation which result from the interaction of adaptation constraints and the speed of change (high confidence). In some natural systems, hard limits have been reached (high confidence) and more will be reached beyond 1.5°C (medium confidence). Surpassing such hard, evolutionary limits cause local species extinctions and displacements if suitable habitats exist (high confidence).

³¹⁴ *Id.* at TS-30.

³¹⁵ *Id.* at TS-33.

³¹⁶ *Id.* at TS-34.

³¹⁷ *Id.* at TS-42.

Otherwise, species existence is at very high risk (high confidence). In human, managed and natural systems soft limits are already being experienced (high confidence). Financial constraints are key determinants of adaptation limits in human and managed systems, particularly in low-income settings (high confidence), while in natural systems key determinants for limits are inherent traits of the species or ecosystem (very high confidence).³¹⁸

Limits to adaptation will be reached in more systems, including, for example, coastal communities, water security, agricultural production, and human health, as global warming increases (medium confidence). Hard limits beginning at 1.5°C are also projected for coastal communities reliant on nature-based coastal protection (medium confidence). Adaptation to address risks of heat stress, heat mortality and reduced capacities for outdoor work for humans, face soft and hard limits across regions become significantly more severe at 1.5°C, and are particularly relevant for regions with warm climates (high confidence). Beginning at 3°C, hard limits are projected for water management measures, leading to decreased water quality and availability, negative impacts on health and well-being, economic losses in water and energy dependent sectors and potential migration of communities (medium confidence). Soft and hard limits for agricultural production are related to water availability and the uptake and effectiveness of climate-resilient crops which are constrained by socio-economic and political challenges (medium confidence). In terms of settlements, limits to adaptation are often most pronounced in smaller and rapidly.³¹⁹

Indigenous Peoples and disadvantaged groups such as low-income households and ethnic minorities, are especially adversely affected by maladaptation, which often deprives them of food and livelihoods and reinforces and entrenches existing inequalities (high confidence). Rights-based approaches to adaptation, participatory methodologies and inclusion of local and Indigenous knowledge combined with informed consent deliver mechanisms to avoid these pitfalls (medium confidence). Adaptation solutions benefit from engagement with Indigenous and marginalized groups, solve past equity and justice issues

³¹⁸ *Id.* at TS-57.

³¹⁹ *Id.*

and offer novel approaches (medium confidence). Indigenous knowledge is a powerful tool to assess interlinked ecosystem functions across terrestrial, marine and freshwater systems, bypassing siloed approaches and sectoral problems (high confidence). Lastly, engagement with Indigenous knowledge and marginalized groups often offers an intergenerational context for adaptation solutions, needed to avoid maladaptation (high confidence).³²⁰

These impacts—including extinction, loss of food security, loss of water security, extreme weather, communities becoming uninhabitable, and natural and human systems being stressed past the point of adaptation—are momentous and should be acknowledged and disclosed in BLM’s analysis of reopening public lands in the Powder River Basin to federal coal leasing. This is especially the case since these impacts are expected to be felt most acutely by Indigenous communities, rural communities, and communities with limited financial resources.

The U.S. Global Change Research Program’s Fifth National Climate Assessment discusses the impacts of climate change on hydrology in the Northern Great Plains. Climate change does not simply alter precipitation, it is driving more severe drought and causing increased evapotranspiration:

The Northern Great Plains region is experiencing unprecedented extremes related to changes in climate, including severe droughts (likely, high confidence), increases in hail frequency and size (medium confidence), floods (very likely, high confidence), and wildfire (likely, high confidence). Rising temperatures across the region are expected to lead to increased evapotranspiration (very likely, very high confidence), as well as greater variability in precipitation (very likely, high confidence).³²¹

Increased temperatures are causing decreased snowpack, affecting irrigation, causing increased aridity, and likely will cause increased pressure on groundwater: “Decreasing snowpack will alter surface water availability for irrigation and may increase pressure on groundwater resources. Overall aridity has increased and is projected to continue to do so because of increases in potential

³²⁰ *Id.* at TS-59.

³²¹ U.S. Glob. Change Rsch. Program, *Northern Great Plains, in Fifth National Climate Assessment* 25-8 [hereinafter Northern Great Plains] (submitted as Ex. 58).

evapotranspiration.”³²² Increased temperatures is causing more evaporation, which is also decreasing stream flows: “Increases in evaporative demand (the loss of water from Earth’s surface to the atmosphere . . .) have decreased runoff efficiencies, meaning that less rain and melted snow end up reaching the streams that feed the Colorado River.”³²³

Drought is also expected to increase:

Drought is projected to increase in the region, with localized droughts increasing by 2040 and more widespread regional droughts by 2070, under intermediate (RCP4.5), high (RCP6.0), and very high (RCP8.5) scenarios across wet or dry global climate models. After precipitation, the most significant component of the water budget is evapotranspiration—the moisture transfer from Earth’s surface and plants to the atmosphere. Projected warming is expected to increase evapotranspiration . . . , which may lead to drier soils later in the growing season Summer drought will be more probable than spring drought. Multiple future climate scenarios indicate future increases in moderate, severe, and extreme drought, occurring approximately 10% and 20% more frequently by 2050 and 2100, respectively. Recent droughts in the upper Missouri River basin between 2000 and 2010 were the most severe in the instrumental record, and flash droughts are a growing concern.³²⁴

Recent research shows that soil moisture globally and in the great plains has declined dramatically over the past two decades, supporting the analyses of the IPCC and the National Climate Assessment³²⁵.

Climate change impacts to water quantity will also affect water quality:

Excess contributions of nutrients, such as nitrogen and phosphorus from agricultural runoff or point sources such as wastewater treatment plants, can cause water quality issues, which are expected to be exacerbated by climate change.

³²² *Id.* at 25-9.

³²³ *Id.*

³²⁴ *Id.* at 25-11.

³²⁵ Seo et al., *Abrupt Sea Level Rise and Earth’s Gradual Pole Shift Reveal Permanent Hydrological Regime Changes in the 21st Century*, *Science* (Mar. 2025) (submitted as Ex. 59).

Nutrient loads (the total amount of a nutrient transported past a single location over a set period of time) can increase after droughts, when sediment is flushed in subsequent runoff events. Nutrient runoff from agricultural land spikes after heavy rain and contributes to harmful algal blooms and transport of nutrients to the Gulf of Mexico (KM 25.5). Climate change has long been hypothesized as a driver of harmful algal blooms; supporting these hypotheses with observations has been challenging because of gaps in monitoring, lack of long-term algae data, and changes in laboratory and remote-sensing methods.³²⁶

Wildfire risk in the region will also increase because of climate change. “Driven by increased temperature and decreased relative humidity, fire potential in this region is projected to increase under future climate change . . . Increase evapotranspiration and drought risk raise the probability of large fire occurrence.”³²⁷

Climate change will result in further biodiversity losses. “The region is a hotspot for grassland bird diversity and encompasses the entire breeding season range for many of the most vulnerable species; based on projections under a scenario with 5.4°F (3.0°C) warming above preindustrial levels, more than 80% of grassland bird species will be vulnerable to climate-related threats during the breeding season.”³²⁸

There is ample science assessing the impacts of climate change in Montana and Greater Yellowstone region. According to the Montana Climate Assessment:

Annual average temperatures, including daily minimums, maximums, and averages, have risen across the state between 1950 and 2015. The increases range between 2.0-3.0°F (1.1-1.7°C) during this period.³²⁹

Despite no historical changes in average annual precipitation between 1950 and 2015, there have been changes in average seasonal precipitation over the same period. Average winter

³²⁶ *Id.*

³²⁷ Ex. 58, *Northern Great Plains* at 25-13.

³²⁸ *Id.* at 25-15.

³²⁹ Cathy Whitlock et al., *2017 Montana Climate Assessment*, Mont. St. Univ., Univ. of Mont., Mont. Inst. on Ecosystems (2017) xxvi (submitted as Ex. 60).

precipitation decreased by 0.9 inches (2.3 cm), which can largely be attributed to natural variability and an increase in El Niño events, especially in the western and central parts of the state. A significant increase in spring precipitation (1.3-2.0 inches [3.3-5.1 cm]) also occurred during this period for the eastern part of the state.³³⁰

Montana is projected to continue to warm in all geographic locations, seasons, and under all emission scenarios throughout the 21st century. By mid century, Montana temperatures are projected to increase by approximately 4.5-6.0°F (2.5-3.3°C) depending on the emission scenario. By the end-of-century, Montana temperatures are projected to increase 5.6-9.8°F (3.1-5.4°C) depending on the emission scenario. These state-level changes are larger than the average changes projected globally and nationally.³³¹

Across the state, precipitation is projected to increase in winter, spring, and fall; precipitation is projected to decrease in summer. The largest increases are expected to occur during spring in the southern part of the state. The largest decreases are expected to occur during summer in the central and southern parts of the state.³³²

Montana's snowpack has declined over the observational record (i.e., since the 1930s) in mountains west and east of the Continental Divide; this decline has been most pronounced since the 1980s.³³³

Groundwater demand will likely increase as elevated temperatures and changing seasonal availability of traditional surface-water sources (e.g., dry stock water ponds or inability of canal systems to deliver water in a timely manner) force water users to seek alternatives.³³⁴

Multi-year and decadal-scale droughts have been, and will continue to be, a natural feature of Montana's climate [high

³³⁰ *Id.* at xxvii.

³³¹ *Id.*

³³² *Id.* at xxviii.

³³³ *Id.* at xxxii.

³³⁴ *Id.*

agreement, robust evidence]; rising temperatures will likely exacerbate drought when and where it occurs.³³⁵

Similarly, an assessment of the Greater Yellowstone Area (GYA) found:

Mean annual temperature in the GYA is projected to increase 5°F (3°C) by the period 2061-2080 and stabilize thereafter in response to expected mitigation Under RCP8.5 all four seasons warm relative to the 1986-2005 base period and the GYA mean annual temperature is projected to increase by more than 10°F (5.6°C) by the end of the 21st century.³³⁶

As climate has warmed, mean annual snowfall in the GYA has declined by 3.5 inches (8.9 cm) per decade.³³⁷

Under RCP4.5, the summer water deficit is projected to increase by 25% mid century and by 36% by the end of century. Under RCP8.5, projected deficit increases are 35% by mid century and 79% by the end of century.³³⁸

Under RCP4.5 June-October soil moisture saturation decreases by 23% by mid century and 33% by the end of the century. Under RCP8.5 June-October soil moisture saturation decreases by 30% mid century and 56% by the end of the century.³³⁹

In the future, earlier snowmelt and loss of snowpack, as a result of warming winters, followed by warmer summers, longer growing seasons, and reduced water availability will increase fire potential at all elevations of the GYA.³⁴⁰

Climate change will also increase health risks:

Three aspects of projected climate change are of greatest concern for human health in Montana: 1) increased summer

³³⁵ *Id.*

³³⁶ Steven Hostetler et al., *Greater Yellowstone Climate Assessment: Past, Present, and Future Climate Changes in the Greater Yellowstone Watersheds*, Mont. St. Univ. Inst. on Ecosystems (June 2021) at viii [hereinafter *Greater Yellowstone Climate Assessment*] (submitted as Ex. 61).

³³⁷ *Id.* at xi.

³³⁸ *Id.* at xvi.

³³⁹ *Id.*

³⁴⁰ *Id.* at xviii.

temperatures and periods of extreme heat, with many days over 90°F (32°C); 2) reduced air quality from smoke, as wildfires will increase in size and frequency in the coming decades; and 3) more unexpected climate-related weather events (i.e., climate surprises), including rapid spring snowmelt and flooding, severe summer drought, and more extreme storms.³⁴¹

The most vulnerable individuals to the combined effects of heat, smoke, and climate surprises will be those with existing chronic physical and mental health conditions, as well as individuals who are very young, very old, or pregnant. Montana's at-risk populations include those exposed to prolonged heat and smoke, living in poverty, having limited access to health services, and/or lacking adequate health insurance.³⁴²

Projected increased summer temperatures and wildfire occurrence will worsen heat- and smoke-related health problems such as respiratory and cardiopulmonary illness, and these potential problems are of most immediate concern.³⁴³

Summer drought poses challenges to local agriculture, resulting in decreased food availability and nutritional quality, and to the safety and availability of public and private water supplies, especially for individuals and communities relying on surface water and shallow groundwater.³⁴⁴

Climate changes, acting alone or in combination, are reducing the availability of wild game, fish, and many subsistence, ceremonial, and medicinal plants, which threatens food security, community health, and cultural well-being, particularly for tribal communities.³⁴⁵

³⁴¹ Alexandra Adams et al., *Climate Change and Human Health in Montana: A Special Report of the Montana Climate Assessment*, Mont. St. Univ. Inst. on Ecosystems, Ctr. for Am. Indian & Rural Health Equity (Jan. 2021) at xix (submitted as Ex. 62).

³⁴² *Id.*

³⁴³ *Id.*

³⁴⁴ *Id.*

³⁴⁵ *Id.*

Increased stress and increased mental illness are under recognized but serious health consequences of climate change.³⁴⁶

These local climate reports echo many of the same projected impacts from the IPCC and the U.S. Global Change Research Program: it is unequivocally clear that the Powder River Basin already is experiencing environmental impacts from a changing climate and those impacts will continue without a rapid reduction in greenhouse gas emissions. BLM must assess the combined impacts of climate change and the mining and combustion of coal before amending the RMPs to allow for federal coal leasing in the Powder River Basin.

III. FLPMA REQUIRES BLM TO COORDINATE WITH STATE OFFICIALS TO UPHOLD THE STATE'S CONSTITUTIONAL PROTECTIONS.

Third, BLM must consider Montana's constitutional in its assessment of whether to amend the RMPs to allow for federal coal leasing in the Powder River Basin. Article II, Section 3 of the Montana State Constitution guarantees all persons certain rights, "includ[ing] the right to a clean and healthful environment."³⁴⁷ Article IX, Section 1 further provides that "[t]he State and each person shall maintain and improve a clean and healthful environment in Montana for present and future generations."³⁴⁸ Courts have "determined that the framers of the Montana Constitution intended it to contain 'the strongest environmental protection provision found in any state constitution'" and the provision is "both anticipatory and preventative."³⁴⁹

Montanans' inalienable right to a "clean and healthful environment" is as evident in the air, water, and soil of Montana as in its law books. Article IX, Section 1, of the Montana Constitution describes the environmental rights of "future generations," while requiring "protection" of the environmental life support system "from degradation" and "prevent[ion of] unreasonable depletion and degradation" of the state's natural resources. This forward-looking and preventative language clearly indicates that Montanans have a right not only to

³⁴⁶ *Id.*

³⁴⁷ Mont. Const. Art. II, sec. 3.

³⁴⁸ *Id.* Art. IX, sec. 1.

³⁴⁹ *Park Cnty. Env't Council v. Mont. Dep't of Env't Quality*, 2020 MT 303, ¶ 61, 402 Mont. 168, 193, 477 P.3d 288, 303 (quoting *Mont. Env't Info. Ctr.* ¶ 66).

reactive measures after a constitutionally-proscribed environmental harm has occurred, but to be free of its occurrence in the first place.³⁵⁰

This fundamental right, therefore, imposes an affirmative obligation on the state government to provide environmental protections.³⁵¹ “Montana’s right to a clean and healthful environment and environmental life support system includes a stable climate system.”³⁵² The degradation of Montana’s climate as a result of Montana’s fossil-fuel-dependent energy system and its associated greenhouse gas emissions has caused and continues to cause constitutional harm to all Montanans.³⁵³ The State, therefore, has an obligation to assess greenhouse gas emissions and climate impacts of coal mining and combustion.

As BLM assesses whether to reopen public lands in Montana and Wyoming to federal coal leasing, the agency should ensure that its actions do not violate Montanans’ constitutional right to a “clean and healthful environment” and “a stable climate system.”³⁵⁴ Under FLPMA, BLM is required to comply with state pollution control laws.³⁵⁵ In assessing whether to reopen public lands in the Powder River Basin to federal coal leasing, BLM must ensure that Montanans’ fundamental rights are not violated.

IV. BLM MUST USE AVAILABLE TOOLS SUCH AS THE SOCIAL COST OF GREENHOUSE GASES TO ANALYZE AND DISCLOSE THE SIGNIFICANCE OF EMISSIONS.

Fourth, in its assessment of amending the RMPs and reopening lands to federal coal leasing, BLM cannot ignore the best available tool to assess the significance of the project’s climate effects: the social cost of greenhouse gases (SC-GHG). The SC-GHG is the single most scientifically accepted and widespread

³⁵⁰ *Id.* ¶ 62.

³⁵¹ *Id.*; see also *Mont. Env’t Info. Ctr. v. Mont. Dept. of Env’t Quality*, 1999 MT 248, ¶ 63, 296 Mont. 207, 988 P.2d 1236.

³⁵² *Held v. State*, 2024 MT 312, ¶ 30, 419 Mont. 403, 422, 560 P.3d 1235, 1249.

³⁵³ *Held v. State*, No. CDV-2020-307, 2023 WL 5229257, at *11 (Mont. Dist. Aug. 14, 2023).

³⁵⁴ *Held* ¶ 30.

³⁵⁵ 43 U.S.C. § 1712(c)(8).

methodology for *quantifying* climate change impacts.³⁵⁶ The SC-GHG “reflects the net social cost of emitting, or the net social benefit of reducing emissions of, one metric ton of greenhouse gases in a given year,”³⁵⁷ enabling decisionmakers and the public to readily understand the scope of the project’s climate impacts and contextualize them against other effects.

Federal agencies began developing estimates of the social cost of greenhouse gases based on then-available literature.³⁵⁸ In 2009, the White House convened the first Interagency Working Group on the Social Cost of Carbon (Working Group)³⁵⁹ to ensure that the federal government used consistent, scientifically rigorous values to estimate climate damages. The Working Group released climate-damage estimates in 2010, updated them in 2013, updated their presentation and technical documentation in 2016, and readopted them on an interim basis in 2021.³⁶⁰ The Working Group based these estimates on three independent and widely used climate-economic models, known as integrated assessment models.³⁶¹

The Working Group long recognized that its valuations likely understated the true value of climate damages because they omitted many key climate impacts.³⁶²

³⁵⁶ Although the Interagency Working Group that established the SC-GHG was recently disbanded through Executive Order No. 14154 § 6(b), 90 Fed. Reg. 8353 (Jan. 29, 2025), this does not affect Interior’s obligations to take a hard look at climate impacts under NEPA using high-quality scientific methods, for multiple reasons.

³⁵⁷ Office of Mgmt. & Budget, *Report to Congress on the Benefits and Costs of Federal Regulations and Agency Compliance with the Unfunded Mandates Reform Act: Fiscal Year 2023*, at 20 (2024), <https://bidenwhitehouse.archives.gov/wp-content/uploads/2025/01/FY23-Benefit-Cost-Report.pdf>.

³⁵⁸ Notably, in the George W. Bush Administration, EPA endorsed the use of a climate-damage value that captures the total damages from a ton of emissions, regardless of whether those damages occur inside or outside the United States, using discount rates of two to three percent. U.S. Env’t Prot. Agency, *Technical Support Document on Benefits of Reducing GHG Emissions* 13 (2008).

³⁵⁹ This group later changed its name to the Interagency Working Group on the Social Cost of Greenhouse Gases.

³⁶⁰ Interagency Working Grp. on Soc. Cost of Greenhouse Gases, *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide 2* (2021) [hereinafter 2021 TSD].

³⁶¹ *Id.* at 2–3.

³⁶² *Id.* at 31.

Starting in 2010, it therefore noted the importance of updating the SC-GHG over time “to reflect increasing knowledge of the science and economics of climate impacts.”³⁶³ In 2016, the National Academies largely endorsed the Working Group’s approach.³⁶⁴ In 2017, it provided recommendations for improvement and called for future updates consistent with those recommendations.³⁶⁵

Since the Working Group last substantively updated its climate-damage estimates in 2016, there have been many developments in the economic and scientific literature on the proper valuation of climate damages.³⁶⁶ The National Center for Environmental Economics (NCEE), a division of the Environmental Protection Agency, sought to fill this analytical gap through updated SC-GHG estimates. That update sought to reflect the recommendations of the National Academies, along with other recent updates in science and economics. EPA released draft estimates in December 2022 through a technical report from NCEE.³⁶⁷ Following publication, those draft estimates underwent public comment and expert peer review.

³⁶³ Interagency Working Grp. on Soc. Cost of Carbon, *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis* 1 (2010) [hereinafter 2010 TSD].

³⁶⁴ Nat’l Acads. of Scis., Eng’g & Med., *Assessment of Approaches to Updating the Social Cost of Carbon: Phase 1 Report on a Near-Term Update* (2016).

³⁶⁵ Nat’l Acads. of Scis., Eng’g & Med., *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide* 2 (2017). Rather than address those recommendations, however, President Trump disbanded the Working Group in 2017 and withdrew its technical support documents. Exec. Order No. 13,783 §§ 5(b)–(c), 82 Fed. Reg. 16,093, 16,095–96 (Mar. 28, 2017); *see also* U.S. Gov’t Accountability Off., *Social Cost of Carbon: Identifying a Federal Entity to Address the National Academies’ Recommendations Could Strengthen Regulatory Analysis* GAO-20-254 (2020) (stating that the federal government under the first Trump administration “ha[d] no plans to address the recommendations of the National Academies”).

³⁶⁶ *See, e.g.*, U.S. Env’t Prot. Agency, *Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances* 46 fig.2.3.1 (2023) (showing a surge in research that was not incorporated into the Working Group’s estimates) [hereinafter Greenhouse Gas Report] (submitted as Ex. 63).

³⁶⁷ *See* U.S. Env’t Prot. Agency, *EPA External Review Draft of Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances* (2022) [hereinafter Peer Review Report].

Numerous departments, including Interior, and agencies, including BLM, have used the SC-GHG to contextualize and assess the significance of climate impacts in NEPA reviews. Interior has used the SC-GHG on many occasions in recent years in NEPA reviews.

In 2021, an Interior secretarial order recognized that the SC-GHG provides “a useful measure to assess the climate impacts of GHG emission changes for Federal proposed actions, in addition to rulemakings,” as it can serve as “an essential tool to quantify the costs and benefits associated with a proposed action’s GHG emissions and relevant to the choice among different alternatives being considered.”³⁶⁸ Following that memorandum, the agency used the SC-GHG repeatedly in NEPA analysis, including for Bureau of Land Management and Bureau of Ocean Energy Management fossil-fuel leasing and management decisions.³⁶⁹ After the October 2024 memorandum discussed above, the agency began applying EPA’s updated SC-GHG estimates in its NEPA reviews.³⁷⁰

The Council on Environmental Quality (CEQ) has also previously endorsed the use of the SC-GHG in NEPA analysis.³⁷¹ In a 2023 guidance document, CEQ explained that the SC-GHG “can assist agencies and the public in assessing the significance of climate impacts.”³⁷² CEQ also explained that the SC-GHG “provides an appropriate and valuable metric that gives decision makers and the public useful information and context about a proposed action’s climate effects even if no other

³⁶⁸ U.S. Dep’t of the Interior, Secretarial Order No. 3399 § 5(b), Department-Wide Approach to the Climate Crisis and Restoring Transparency and Integrity to the Decision-Making Process (Apr. 16, 2021) (submitted as Ex. 64).

³⁶⁹ *E.g.* Bureau of Ocean Energy Mgmt., *2024–2029 National Outer Continental Shelf Oil and Gas Leasing Proposed Final Program* 5-24–5-25 (2023) (calculating the climate costs of offshore leasing program); Bureau of Land Mgmt., *Willow Master Development Plan: Supplemental Environmental Impact Statement* 46–52 (2023).

³⁷⁰ *E.g.* Bureau of Land Mgmt., *Coastal Plain Oil and Gas Leasing Program Supplemental Environmental Impact Statement* G-3 tbl.G-1 (2024) (calculating climate costs of future potential development using EPA SC-GHG estimates).

³⁷¹ National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, 88 Fed. Reg. 1196, 1198 (Jan. 9, 2023).

³⁷² *Id.* at 1202–03.

costs or benefits are monetized, because metric tons of GHGs can be difficult to understand and assess the significance of in the abstract.”³⁷³

The SC-GHG enables decisionmakers to rationally consider climate impacts in a manner that satisfies NEPA’s requirements. Disregarding the SC-GHG risks violating NEPA, particularly if the agency does not otherwise assess climate effects in a way that rationally brings those effects to bear on the agency’s decisions.

When a project or plan has climate consequences that must be assessed under NEPA, monetizing climate damage fulfills an agency’s legal obligations under NEPA in ways that simple quantification of tons of greenhouse gas emissions cannot. Such an analysis must be added to the meaningful qualitative discussion addressed above, and is particularly critical in this instance, given the agencies’ failure on that front. NEPA requires “hard look” consideration of the environmental effects of major federal government actions. The U.S. Supreme Court has called the disclosure of impacts the “key requirement of NEPA,” and held that agencies must “consider and disclose the *actual environmental effects*” of a proposed project in a way that “brings those effects to bear on [the agency’s] decisions.”³⁷⁴

The tons of greenhouse gases emitted by a project are not the “actual environmental effects” under NEPA. 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.”³⁷⁵ In other words, the actual effects and relevant factors that must be analyzed and disclosed to the public are the incremental climate impacts caused by a project’s greenhouse gas emissions, including: property lost or damaged by sea-level rise; changes in energy demand; lost productivity and other impacts to agriculture; and human health impacts, including cardiovascular and respiratory mortality from heat-related illnesses, changing disease vectors like malaria and dengue fever, increased diarrhea, and changes in associated pollution.

³⁷³ *Id.* at 1202.

³⁷⁴ *Baltimore Gas & Elec. Co.*, 462 U.S. at 96 (emphasis added).

³⁷⁵ *NRDC v. NRC*, 685 F.2d 459, 486–87 (D.C. Cir. 1982), *rev’d on other grounds*, *Baltimore Gas & Elec. Co.*, 462 U.S. at 106–07.

These impacts are all included to some degree in the different assessment models used by the Working Group and EPA in developing their SC-GHG estimates.³⁷⁶

By monetizing climate damages using the SC-GHG, the agencies can satisfy NEPA's legal obligations and statutory goals to assess the incremental and actual effects bearing on the public interest. The social cost of greenhouse gases methodology calculates how the emission of an additional unit of greenhouse gases affects atmospheric greenhouse concentrations, how that change in atmospheric concentrations changes temperature, and how that change in temperature incrementally contributes to the above list of economic damages, including property damages, energy demand effects, lost agricultural productivity, human mortality and morbidity, lost ecosystem services and non-market amenities, and so forth.³⁷⁷ The SC-GHG therefore captures the factors that actually affect public welfare and assesses the degree of impact to each factor, in ways that just estimating the volume of emissions cannot.

NEPA requires agencies to provide sufficient informational context on environmental impacts. The SC-GHG provides that context, allowing decisionmakers and the public “to translate climate impacts into the more accessible metric of dollars, allow decision makers and the public to make comparisons, help evaluate the significance of an action's climate change effects, and better understand the tradeoffs associated with an action and its alternatives.”³⁷⁸

Although NEPA does not typically require a full and formal cost-benefit analysis, agencies must assess beneficial and adverse effects in a balanced and

³⁷⁶ For a description of what is included in the Working Group's integrated assessment models, see 2010 TSD at 6–8, 29–33. For a description of what is included in the EPA integrated assessment models, see Ex. 63, Greenhouse Gas Report at 47–62.

³⁷⁷ 2010 TSD at 5.

³⁷⁸ 88 Fed. Reg. 1,196, 1,198 (Jan. 9, 2023).

reasonable manner.³⁷⁹ Some courts have warned, for example, that an agency cannot selectively monetize benefits in support of its decision while refusing to monetize the costs of its action.³⁸⁰

In one case, for instance, the U.S. District Court for the District of Colorado found that 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.”³⁸¹ The court explained that, to support a decision on coal mining activity, the agencies had “weighed several specific economic benefits—coal recovered, payroll, associated purchases of supplies and services, and royalties”—but arbitrarily failed to monetize climate costs using the SC-GHG.³⁸² Similarly, in another case, the U.S. District Court for the District of Montana held an environmental assessment to be arbitrary and capricious because it quantified the benefits of action (such as employment payroll, tax revenue, and royalties) while failing to use the SC-GHG to quantify the climate costs.³⁸³

³⁷⁹ *Sierra Club v. Sigler*, 695 F.2d 957, 978–79 (5th Cir. 1983) (holding that NEPA “mandates at least a broad, informal cost-benefit analysis,” and so agencies must “fully and accurately” and “objectively” assess environmental, economic, and technical costs); *Chelsea Neighborhood Ass’n v. U.S. Postal Serv.*, 516 F.2d 378, 386 (2d Cir. 1975) (“NEPA, in effect, requires a broadly defined cost-benefit analysis of major federal activities.”); *Calvert Cliffs’ Coordinating Comm. v. U.S. Atomic Energy Comm’n*, 449 F.2d 1109, 1113 (D.C. Cir. 1971) (“NEPA mandates a rather finely tuned and ‘systematic’ balancing analysis” of “environmental costs” against “economic and technical benefits”).

³⁸⁰ *High Country Conservation Advocs. v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1191 (D. Colo. 2014); *accord Mont. Env’t Info. Ctr. v. Off. of Surface Mining (MEIC)*, 274 F. Supp. 3d 1074, 1094–99 (D. Mont. 2017) (holding it was arbitrary for the agency to quantify benefits in an EIS while failing to use the social cost of carbon to quantify costs).

³⁸¹ *High Country Conservation Advocs. v. U.S. Forest Serv.*, 52 F. Supp. 3d at 1191.

³⁸² *Id.* at 1190.

³⁸³ *MEIC*, 274 F. Supp. 3d at 1094–99 (holding that it was arbitrary to imply that there would be zero effects from greenhouse gas emissions). In a recent case from the Northern District of California, moreover, the court found that it violated NEPA for an agency to monetize economic benefits while only accounting for a slim fraction of global climate damages. *California v. Bernhardt*, 472 F. Supp. 3d 573, 623 (N.D. Cal. 2020) (“It is arbitrary for an agency to quantify an action’s benefits while ignoring its costs where tools exist to calculate those costs.”).

These two decisions follow a broader line of case law in which courts find it arbitrary and capricious to apply inconsistent protocols for analyzing some effects compared to others, especially when the inconsistency obscures some of the most significant effects. For example, in *Center for Biological Diversity v. National Highway Traffic Safety Administration*, the U.S. Court of Appeals for the Ninth Circuit ruled that, because the agency had monetized other uncertain costs and benefits of its vehicle fuel efficiency standard—like traffic congestion and noise costs—its “decision not to monetize the benefit of carbon emissions reduction was arbitrary and capricious.”³⁸⁴ More generally, when an agency bases a decision on cost-benefit analysis, it is arbitrary to “put a thumb on the scale” of the analysis.³⁸⁵ Similarly, the U.S. Court of Appeals for the D.C. Circuit has criticized agencies for “inconsistently and opportunistically fram[ing] the costs and benefits of the rule [and] fail[ing] adequately to quantify the certain costs or to explain why those costs could not be quantified.”³⁸⁶

As discussed in this letter, the SC-GHG presents a readily available tool to monetize the effects of greenhouse gas emissions based on peer-reviewed inputs and widely accepted assumptions. Agencies are every bit as capable of monetizing climate damage as they are of monetizing socioeconomic impacts. It is thus arbitrary to monetize social and economic benefits in a NEPA analysis while refusing to monetize climate costs.

Using the SC-GHG in NEPA analysis is preferable for another reason: It captures the fact that the climate damage generated by each additional ton of greenhouse gas emissions depends on the background concentration of greenhouse gases in the global atmosphere. Once emitted, greenhouse gases can linger in the atmosphere for centuries, building up the concentration of radiative-forcing pollution and affecting the climate in cumulative, non-linear ways. As physical and economic systems become increasingly stressed by climate change, each marginal additional ton of emissions has a greater, non-linear impact. The climate damage generated by a given amount of greenhouse gas pollution is therefore a function not

³⁸⁴ 538 F.3d 1172, 1203 (9th Cir. 2008).

³⁸⁵ *Id.* at 1198.

³⁸⁶ *Bus. Roundtable v. SEC*, 647 F.3d 1144, 1148–49 (D.C. Cir. 2011); *see also Johnston v. Davis*, 698 F.2d 1088, 1094–95 (10th Cir. 1983) (remanding an environmental impact statement because “unrealistic” assumptions “misleading[ly]” skewed comparison of the project’s positive and negative effects).

just of the pollution’s total volume but also the year of emission, and with every passing year an additional ton of emissions inflicts greater damage.³⁸⁷

A “hard look” requires more than simply stating the amount of emissions.³⁸⁸ The proposed action’s contribution to climate change must be evaluated in a meaningful context, which cannot be centered in statements that emissions from the proposed action represent only a small fraction of global, national, or regional emissions. Such analyses do no more than attempt to minimize the actual effect of such actions and their associated emissions.

Importantly, the SC-GHG metric is not solely an economic analysis, but rather, it is a tool that allows agencies to meet their statutory obligation to describe a project’s incremental environmental harm that is otherwise difficult to quantify. Indeed, the Interior Department is no stranger to the use of this tool, which its agencies have regularly employed in the context of decisionmaking both nationally and within the Montana/Dakotas field office.³⁸⁹ Finally, the agencies must adopt an appropriate scope of analysis for direct effects that fully captures the reasonably foreseeable consequences of the proposed action’s GHG emissions.³⁹⁰

Given BLM’s obligations to take a “hard look” under NEPA and prevent “unnecessary or undue degradation” of public lands under FLPMA, the agency must use the SC-GHG in its analysis whether to amend the Powder River Basin RMPs.

V. FEDERAL COAL IS NOT NECESSARY TO MEET U.S. ENERGY NEEDS.

Finally, BLM must disclose why reopening public lands to federal coal leasing in the Powder River Basin is necessary to meet the nation’s energy needs.

³⁸⁷ Ex. 63, Greenhouse Gas Report at 78 (explaining that the SC-GHG grows over time); 2010 TSD at 33 (same).

³⁸⁸ See *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1198–1204 (9th Cir., 2008); Bernhardt, 472 F. Supp. 3d at 623; *Ctr. for Biological Diversity v. U.S. Forest Serv.*, 687 F. Supp. 3d 1053, 1077 (D. Mont. 2023).

³⁸⁹ See, e.g., U.S. Dep’t of the Interior, Bureau of Land Mgmt., *Miles City Field Office Final SEIS and Resource Management Plan Amendment*, (May 2024), https://eplanning.blm.gov/public_projects/2021155/200534253/20110900/251010891/MCFO_Final%20SEIS_Proposed%20RMPA_508.pdf.

³⁹⁰ See National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, 88 Fed. Reg. 1196 (Jan. 9, 2023).

Numerous studies demonstrate that the United States can meet energy demands with clean energy.

According to modelers at the Goldman School of Public Policy at the University of California Berkeley, it is technologically and economically feasible for the United States to generate ninety percent of its electricity from carbon-free sources by 2035, and do so while lowering consumers' utility bills and maintaining a reliable electric grid.³⁹¹ Under a clean grid approach, "all existing coal plants are retired by 2035, and no new fossil fuel plants are built beyond those already under construction."³⁹² During normal periods of electricity demand, seventy percent of electricity generation would come from wind, solar, and battery storage, twenty percent from hydropower or nuclear, and ten percent from existing gas plants.³⁹³ In other words: neither existing nor new coal is needed to meet the nation's energy demand. Furthermore, there are other benefits to transitioning to a clean grid. This approach would support more than 500,000 *more jobs* each year than under a status quo regime.³⁹⁴ It would also help avoid more than \$1.2 trillion in health and environmental costs, including 850,000 avoided premature deaths between now and 2050, "largely due to avoided SO₂, NO_x, and CO₂ emissions from coal plants."³⁹⁵

A similar report from Energy Innovation, which synthesized eleven studies published since 2020, concluded that it is technologically feasible to achieve eighty percent clean energy by 2030.³⁹⁶ To reach eighty to ninety percent clean electricity by 2030 would rely almost exclusively on investments in new wind, solar, and battery storage.³⁹⁷ The study found that a clean grid would have significant economic and health benefits: customer electric bills would be less expensive; a net increase of 500,000 to one million new jobs annual; a fifty percent reduction below 2005 greenhouse gas emissions levels by 2030; and an avoided 85,000 to 317,000

³⁹¹ Amol Phadke et al., *2035: The Report: Plummeting Solar, Wind, and Battery Costs Can Accelerate Our Clean Electricity Future 2* (June 2020) (submitted as Ex. 65).

³⁹² *Id.* at 20.

³⁹³ *Id.*

³⁹⁴ *Id.* at 28.

³⁹⁵ *Id.* at 30.

³⁹⁶ Dan Esposito, *Studies Agree 80 Percent Clean Electricity By 2030 Would Save Lives and Create Jobs at Minimal Cost 1* (Sept. 2021) (submitted as Ex. 66).

³⁹⁷ *Id.*

premature deaths through 2050.³⁹⁸ All of the studies synthesized in the Energy Innovation report call for a significant level of reduction of coal, often retiring all coal by 2030 or 2035.³⁹⁹

Given that coal is not needed to meet the nation's energy demand, BLM must articulate why opening public lands in the Powder River Basin to federal coal leasing is in the public interest as a management practice under FLPMA.⁴⁰⁰

BLM MUST ACKNOWLEDGE THE WIDESPREAD FAILURE TO CONTEMPORANEOUSLY RECLAIM MINED LANDS.

BLM's NEPA review must consider the impacts of federal coal leasing in the Powder River Basin in light of the coal industry's profound failure to meet obligations to reclaim mined land. The Surface Mining Control and Reclamation Act, 30 U.S.C. §§1201 *et seq.*, establishes minimum federal standards for the regulation of coal mining. But coal-mine operators almost universally fail to meet SMCRA's reclamation standards, and increasingly fall short of their bonding obligations.

The National Wildlife Federation, Western Organization of Resource Councils, and Natural Resources Defense Council published a report in 2015, titled "Undermined Promise II," documenting reclamation and enforcement failures under SMCRA.⁴⁰¹ Of the 287,442 acres of disturbed land in Montana, North Dakota and Wyoming, only 29,673 acres had achieved Phase III bond release, demonstrating successful establishment of vegetation and soils to satisfy permit requirements for post mining land uses.⁴⁰² 257,769 acres—or more than *400 square miles*—remained unreclaimed by federal standards.⁴⁰³ In addition, reclamation that is accomplished often is inadequate to restore pre-mining conditions, particularly hydrologic and habitat conditions. As the report concluded, "[m]ining always alters the ecosystem – topography is gentler, shrub density is lighter, water balance is altered. The long term and cumulative impacts of coal mining and reclamation are significant and

³⁹⁸ *Id.*

³⁹⁹ *Id.* at 14–15.

⁴⁰⁰ *See* 43 U.S.C. § 1701(a)(8).

⁴⁰¹ WORC et al., *Undermined Promise II* (2015) (submitted as Ex. 67).

⁴⁰² *Id.* at 7

⁴⁰³ *See id.*

often permanent.”⁴⁰⁴ BLM’s upcoming review must acknowledge the failure of SMCRA’s contemporaneous reclamation standards and analyze pathways to fully reclaim mined lands while providing economic activity to former coal communities through an increased investment in reclamation efforts.

BLM MUST EVALUATE A REASONABLE RANGE OF ALTERNATIVES.

NEPA requires that federal agencies prepare a “detailed statement” regarding all “major Federal actions significantly affecting the quality of the human environment.”⁴⁰⁵ This statement, the EIS or in some cases EA, must, among other things, describe the environmental impact of the proposed action, and evaluate *alternatives* to the proposal.⁴⁰⁶ In an EIS, federal agencies must take a “hard look” at environmental impacts.⁴⁰⁷ This hard look should, where circumstances warrant it, extend beyond the direct impact of proposed action, to consider indirect and cumulative effects as well.⁴⁰⁸

A critical aspect of the NEPA analysis is the agency’s evaluation of a reasonable range of alternatives. This is particularly so where there are “unresolved conflicts concerning alternative uses of available resources.”⁴⁰⁹ As BLM is well aware in the context of these RMPs, a failure to analyze a sufficient and meaningfully different range of alternatives violates NEPA.⁴¹⁰ BLM signals that it will focus here on two alternatives, the 2024 RMPA scenario, which closes the planning areas to additional leasing and serves as the “no-action” alternative, and

⁴⁰⁴ *Id.* at 25.

⁴⁰⁵ 42 U.S.C. § 4332(2)(C).

⁴⁰⁶ *Id.*

⁴⁰⁷ *Robertson*, 490 U.S. at 350 (quoting *Kleppe*, 427 U.S. at 410 n.21).

⁴⁰⁸ *Seven Cnty.*, 145 S. Ct. at 1515.

⁴⁰⁹ 42 U.S.C. § 4332(2)(H).

⁴¹⁰ *WORC 2018*, 2018 WL 1475470, at *9 (quoting *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1038 (9th Cir. 2008)) (BLM’s “considerable discretion” to establish the scope of an EIS fails to absolve BLM of its duty to “look at every reasonable alternative”).

the “2019 approved RMP amendment/record of decision”⁴¹¹ which would collectively open 1.7 million acres of coal to future leasing.

BLM appears to overlook the fact that its “action” alternative, presumably the *preferred* alternative, has already been invalidated by the district court for failure to evaluate a reasonable range of alternatives.⁴¹² The court concluded, “[p]ut simply, NEPA requires BLM to bookend its analysis by considering a no-future-leasing alternative and at least one alternative that further reduced leasing by reducing the potential for expansion.”⁴¹³

The court has spelled it out, and neither time nor intervening events have changed that message: BLM must, as an absolute minimum, examine an additional “reduced leasing” alternative.

BLM MUST SATISFY ITS FIDUCIARY TRUST AND STATUTORY OBLIGATIONS TO CONSULT WITH TRIBES IMPACTED BY THE RMP AMENDMENTS.

Amending the RMPs for the Powder River Basin triggers BLM’s trust and statutory obligations to consult with impacted tribes. The federal government’s trust relationship to Indian tribes is rooted in the U.S. Supreme Court’s earliest jurisprudence on federal Indian law.⁴¹⁴ The Court has long recognized the “undisputed existence of a general trust relationship between the United States and

⁴¹¹ Intent to Amend the Resource Management Plan for the Buffalo Field Office, Wyoming, and Prepare an Associated Environmental Assessment, 90 Fed. Reg. at 30094 (referencing the Buffalo Field Office 2019 approved RMPA that made 481,000 acres of federal coal within the planning area available for leasing); Intent to Amend the Resource Management Plan for the Miles City Field Office, Montana, and Prepare an Associated Environmental Assessment, 90 Fed. Reg. at 30093 (referencing the Miles City Field Office 2019 approved RMPA that opened 1,214,380 acres of federal coal to future leasing).

⁴¹² *WORC 2022*, 2022 WL 3082475, at *5 (“The Court stated plainly in *WORC II* that ‘BLM’s failure to consider any alternative that would decrease the amount of extractable coal available for leasing rendered inadequate the Buffalo EIS and Miles City EIS in violation of NEPA. The supplemental NEPA analysis now before the Court treads the same error.’ (citation omitted)).

⁴¹³ *Id.* at *6.

⁴¹⁴ See *Johnson v. M’Intosh*, 21 U.S. 543 (1823) (limiting the alienability of tribal lands without the consent of the federal government); *Cherokee Nation v. Georgia*, 30 U.S. 1, 17 (1831); *Cohen’s Handbook of Federal Indian Law* § 15.03 (2012).

the Indian people.”⁴¹⁵ In discharging this responsibility, federal agencies must observe “obligations of the highest responsibility and trust” and “the most exacting fiduciary standards.”⁴¹⁶ Federal statutes and regulations provide the federal government with the responsibility to manage trust resources for the benefit of tribes.⁴¹⁷ BLM has further recognized:

Tribal interests are not on an equal footing with the interests of most other groups and individuals. Tribes are different from other public land constituencies. They are neither *stakeholders* nor *just another public group* whose interests should be considered. Their special relationship with the United States Government is rooted in history and defined by law. Indian tribal issues and concerns must be identified through government-to-government consultation and public participation techniques, including those forms of notification utilized in the NEPA process.⁴¹⁸

Federal courts have expressly recognized the Secretary’s fiduciary responsibility to tribes in leasing federal coal on non-tribal lands.⁴¹⁹ This sacred responsibility is reflected in several federal statutes and regulations.

BLM has tribal consultation obligations under the National Historic Preservation Act. Section 106 of the NHPA requires that prior to issuance of any federal funding, permit, or license, agencies must take into consideration the effects of that “undertaking” on historic properties.⁴²⁰

The Mineral Leasing Act and NEPA regulations also prescribe tribal consultation obligations for BLM. BLM’s regulations direct that federal coal is to be

⁴¹⁵ *United States v. Mitchell*, 463 U.S. 206, 225 (1983).

⁴¹⁶ *Seminole Nation v. United States*, 316 U.S. 286, 296–97 (1942).

⁴¹⁷ *See Mitchell*, 463 U.S. at 224.

⁴¹⁸ U.S. Dep’t of the Interior, *BLM Manual 1780 Tribal Relations* 3-1 (Dec. 15, 2016), <https://www.blm.gov/sites/blm.gov/files/uploads/MS%201780.pdf>.

⁴¹⁹ *See N. Cheyenne Tribe v. Hodel*, Case No. CV 82-116-BLG, 12 Indian Law Rep. 3065, 3071 (D. Mont. May 28, 1985), *injunction rev’d by*, 851 F.2d 1152, 1158 (9th Cir. 1988), *remanded to N. Cheyenne Tribe v. Lujan*, 804 F. Supp. 1281, 1285 (D. Mont. 1991); *see also N. Cheyenne Tribe v. Lujan*, 804 F. Supp. at 1285.

⁴²⁰ 54 U.S.C. § 306108.

“developed in consultation, cooperation, and coordination with . . . Indian tribes.”⁴²¹ To satisfy trust obligations, “agencies must at least show ‘compliance with general regulations and statutes not specifically aimed at protecting Indian tribes,’” including NEPA’s requirement to prepare an EIS for major federal actions with potentially significant environmental effects.⁴²²

In the development of land use plans, FLPMA directs BLM to “give priority to the designation and protection of areas of critical environmental concern.”⁴²³ FLPMA defines “areas of critical environmental concern” as “areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, *cultural*, or scenic values, fish and wildlife resources or other natural systems or processes.”⁴²⁴ BLM has the authority to develop RMPs that provide enforceable protections for tribal rights and resources on public lands.

The federal government has enacted Executive Orders and Secretarial Orders to implement tribal consultation obligations. In establishing “Uniform Standards for Tribal Consultation” in 2022, the federal government recognized:

The United States has a unique, legally affirmed Nation-to-Nation relationship with American Indian and Alaska Native Tribal Nations, which is recognized under the Constitution of the United States, treaties, statutes, Executive Orders, and court decisions. The United States recognizes the right of Tribal governments to self-govern and supports Tribal sovereignty and self-determination. The United States also has a unique trust relationship with and responsibility to protect and support Tribal Nations. . . . Tribal consultation is a two-way, Nation-to-Nation exchange of information and dialogue between official

⁴²¹ 43 C.F.R. § 3420.0–2.

⁴²² *Pit River Tribe v. U.S. Forest Serv.*, 469 F.3d 768, 788 (9th Cir. 2006) (quoting *Morongo Band of Mission Indians v. F.A.A.*, 161 F.3d 569, 574 (9th Cir. 1998)); see also *Quechan Tribe of Fort Yuma Indian Reservation v. U.S. Dep’t of Interior*, 755 F. Supp. 2d 1104, 1110 (S.D. Cal. 2010) (stating that “[v]iolation of this fiduciary duty [to tribes] to comply with . . . NEPA requirements during the process of reviewing and approving projects vitiates the validity of that approval and may require that it be set aside”).

⁴²³ 43 U.S.C. § 1712(c)(3).

⁴²⁴ *Id.* § 1702(a) (emphasis added).

representatives of the United States and of Tribal Nations regarding Federal policies that have Tribal implications. Consultation recognizes Tribal sovereignty and the Nation-to-Nation relationship between the United States and Tribal Nations, and acknowledges that the United States maintains certain treaty and trust responsibilities to Tribal Nations. Consultation requires that information obtained from Tribes be given meaningful consideration, and agencies should strive for consensus with Tribes or a mutually desired outcome.⁴²⁵

Secretarial Order 3317 sets forth consultation goals and objectives, including an acknowledgment that “[g]overnment-to-government consultation between appropriate Tribal officials and the Department requires Departmental officials to demonstrate a meaningful commitment to consultation by identifying and involving Tribal representatives *in a meaningful way early in the planning process*.”⁴²⁶ The Order further clarifies that consultation should happen repeatedly as a proposal moves through various phases: “[e]fficiencies derived from the inclusion of Indian tribes in all stages of the tribal consultation will help ensure that future Federal action is achievable, comprehensive, long-lasting, and reflective of tribal input.”⁴²⁷

In 2021, the Secretaries of Interior and Agriculture issued a “Joint Secretarial Order on Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Waters.”⁴²⁸ The Order provides guidance for federal agencies to manage public lands, natural resources, water, and wildlife in collaboration with tribal partners.⁴²⁹ Specifically, the Order calls for “tribal co-stewardship,”⁴³⁰ including “collaborative agreements and/or provisions in land management plans.”⁴³¹ As a result, BLM is directed by the Department’s guidance

⁴²⁵ 87 Fed. Reg. 74,479 (Dec. 5, 2022).

⁴²⁶ Secretarial Order No. 3317, <https://www.doi.gov/document-library/secretary-order/3317-department-interior-policy-consultation-indian-tribes> (emphasis added).

⁴²⁷ *Id.*

⁴²⁸ Secretarial Order No. 3403, Joint Secretarial Order on Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Waters (Nov. 15, 2021), <https://www.doi.gov/sites/doi.gov/files/elips/documents/so-3403-joint-secretarial-order-on-fulfilling-the-trust-responsibility-to-indian-tribes-in-the-stewardship-of-federal-lands-and-waters.pdf>.

⁴²⁹ *Id.*

⁴³⁰ *Id.* § 1.

⁴³¹ *Id.* § 5(a).

in Secretarial Order 3403 to collaborate with tribal nations as partners in the process of adopting any amendments to RMPs.

In assessing whether to amend the RMPs to reopen public lands in the Powder River Basin to federal coal leasing, BLM is required to consult with affected federally recognized tribes. For example, BLM should consult with the Northern Cheyenne Tribe, whose traditional homelands encompass the entire Powder River Basin and whose Reservation in present-day southeast Montana is surrounded by federal coal mining. The federal government is obligated to engage in a meaningful government-to-government consultation with impacted Tribal Nations in a manner that recognizes and respects tribal sovereignty and co-stewardship.

CONCLUSION

The science is clear: by prohibiting federal coal leasing, we improve our chances of avoiding a climate catastrophe. BLM has numerous statutory responsibilities to address the potential consequences of any decision to amend the Miles City and Buffalo RMPs with respect to public interest and environmental harms. The scoping process provides a much-needed opportunity both to understand the full range and depth of the impacts of reopening the Powder River Basin for federal coal leasing and to take action to reduce or eliminate the detrimental effects of such leasing. These comments emphasize the direct, indirect, and cumulative impacts of federal coal leasing in the Powder River Basin. In evaluating these impacts, BLM should recognize that ending federal coal leasing and taking immediate action to reduce climate change impacts on existing leases is essential. We urge BLM to preserve the 2024 RMPAs for the Buffalo and Miles City Field Offices to prohibit federal coal leasing in the Powder River Basin.

Sincerely,

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On behalf of Montana Environmental Information Center, Northern Plains Resource Council, Sierra Club, Western Organization of Resource Councils, WildEarth Guardians, Wyoming Outdoor Council, and Center for Biological Diversity.