August 21, 2020

Protest and new exhibits submitted via mail,
Hardcopy of protest also submitted via email

U.S. Bureau of Land Management
Wyoming State Office
Attn. Duane Spencer, Acting State Director
5353 Yellowstone Road
Cheyenne, Wyoming 82009
blm_wy_og_lease_sale_info@blm.gov

Re: Protest of the Wyoming BLM's September 22-25, 2020 (Third Quarter) Competitive Oil and Gas Lease Sale

Dear State Director Spencer,

Pursuant to 43 C.F.R. § 3120.1-3, WildEarth Guardians, Sierra Club, Waterkeeper Alliance, and Living Rivers: Colorado Riverkeeper (hereafter "Conservation Groups") submit the following protest of the U.S. Bureau of Land Management's ("BLM's") decision to move forward with its September 22-25, 2020 (Third Quarter) competitive oil and gas lease sale. Through the sale, BLM is offering 155 parcels totaling 181,881.206 acres of publicly-owned lands and minerals across the state of Wyoming.[1]

This protest is filed on behalf of the Conservation Groups and their members. The mailing address, to which correspondence regarding this protest should be directed, is as follows:

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The Conservation Groups protest the inclusion of all 155 parcels: WYW 190193 through WYW 190347.

[1] The lease sale notice listing all of the parcels in the September 2020 sale is available at: https://eplanning.blm.gov/public_projects/1502549/200346402/20022367/250028571/203Q%20Final%20Book.pdf.

On June 11, 2020, Guardians submitted comments on the draft Environmental Assessment ("EA")[2] and Finding of No Significant Impact ("FONSI")[3] for BLM Wyoming's Third Quarter 2020 Competitive Oil and Gas Lease Sale. At the time Guardians submitted our protest on this lease sale, BLM had not responded to our comments on the draft EA. That being the case the concerns raised in our comments on the draft EA remain unaddressed and, as a result, we include those concerns in the protest below. In addition, we raise and address several recent developments that occurred since the time of our June 11, 2020 comment submission on the draft EA.

We understand that on July 16, 2020 the Council of Environmental Quality ("CEQ") issued a final rule ("Final Rule") rewriting the entirety of its 1978 National Environmental Policy Act ("NEPA") implementing regulations.[4] However, the Final Rule does not become effective until September 14, 2020, and as such, BLM must continue to apply CEQ's NEPA implementing regulations as currently codified, without regard to the Final Rule. To the extent BLM relies on or applies the Final Rule for the purpose of administering this oil and gas lease sale, BLM's reliance on and/or application of the Final Rule is unlawful for the following reasons:

- CEQ and Mary Neumayr, Chair of the CEQ, acted arbitrarily, capriciously, and contrary to NEPA, in violation of the APA, 5 U.S.C. § 706(2), by failing to prepare an EA or Environmental Impact Statement ("EIS") on the Final Rule, and by failing to evaluate alternatives to, and the full direct, indirect, and cumulative impacts of, the Final Rule;
- CEQ and Mary Neumayr acted arbitrarily, capriciously, and contrary to law by failing to analyze how the Final Rule and its implementation would affect the directive of Executive Order 12898 and CEQ's longstanding policy and practice of fully analyzing the environmental justice impacts of its actions;
- CEQ and Mary Neumayr violated NEPA and the APA by issuing regulations that are inconsistent with the statutory purpose and language of NEPA; and
- CEQ and Mary Neumayr acted in excess of statutory authority by issuing the Final Rule.

STATEMENT OF INTEREST OF THE PROTESTING PARTIES

WildEarth Guardians is a nonprofit environmental advocacy organization dedicated to protecting the wildlife, wild places, wild rivers, and health of the American West. Guardians' members. On behalf of these members, many of whom live, work, and recreate on or near many of the proposed lease parcels, Guardians works to ensure the BLM fully protects public lands and resources as it conveys the right for the oil and gas industry to develop publicly-owned minerals.

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[2] The draft EA for the lease sale, DOI-BLM-WY-0000-2020-0009-EA, is available on the BLM's website at: https://eplanning.blm.gov/public_projects/nepa/1505373/20017843/250023832/2020Q3_DOI-BLM-WY-0000-2020-0009-EA.pdf.

[3] The draft FONSI is available on the BLM's website at: https://eplanning.blm.gov/public_projects/nepa/1505373/20017844/250023833/2020Q3_DOI-BLM-WY-0000-2020-0009-EA_pFONSI.pdf.

[4] Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act; Final Rule, 85 Fed. Reg. 43,304 (July 16, 2020) (to be codified at 40 C.F.R. Part 1500).

Specifically, Guardians works to ensure the BLM meaningfully and genuinely takes into account all of the implications of its oil and gas leasing decisions, including impacts to public health, air quality, water quality and quantity, and our climate and ultimately transitions away from unsustainable fossil fuels and toward a cleaner energy future.

The Sierra Club is a national nonprofit organization of approximately 800,000 members dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Wyoming Chapter of the Sierra Club has members who live near and recreate in the public lands that would be affected by the oil and gas lease sale. Expanded fossil fuel development in the area would harm the interests of Sierra Club members, including their interests in quiet recreation, aesthetic pursuits, and spiritual renewal.

Waterkeeper Alliance is a not-for-profit, member supported, international environmental organization based in New York City. Waterkeeper Alliance unites more than 300 Waterkeeper Organizations and Affiliates that are on the frontlines of the global water crisis, patrolling and protecting more than 2.5 million square miles of rivers, lakes, and coastal waterways on 6 continents. Waterkeeper Organizations and Affiliates defend our fundamental human right to drinkable, fishable and swimmable waters, and combine firsthand knowledge of their waterways with an unwavering commitment to the rights of their communities. Through its Clean and Safe Energy campaign, Waterkeeper Alliance has increasingly engaged in public advocacy, administrative proceedings and litigation aimed at reducing the water quality and climate change impacts of fossil fuel extraction, transport and combustion, including from BLM-controlled lands, throughout the United States. Waterkeeper Alliance and its member Waterkeeper Organizations and Affiliates have members, supporters and staff who have visited public lands in Wyoming, including lands and waters that would be affected by actions under the lease sale, for recreational, scientific, educational, and other pursuits and intend to continue to do so, and are particularly interested in protecting them from water-intensive energy development.

Living Rivers: Colorado Riverkeeper is a nonprofit organization based in Moab, Utah that promotes river restoration through mobilization. By articulating conservation and alternative management strategies to the public, Living Rivers seeks to revive the natural habitat and spirit of rivers by undoing the extensive damage done by dams, and water-intensive energy development on the Colorado Plateau. Living Rivers has approximately 1,200 members in Utah, Colorado, Wyoming, and other states. Living Rivers' members and staff use the public lands in Wyoming including the lands and waters that would be affected by actions under the lease sale, for quiet recreation (including hiking and camping), scientific research, aesthetic pursuits, and spiritual renewal.

As discussed in more depth below, BLM's federal fossil fuel program is currently unsustainable for a livable world given the impacts of fossil fuel extraction on communities, climate, air quality, water resources, and wildlife. Thus, we request that BLM stop approving any additional oil and gas leasing across the West, including this lease sale. Should BLM choose to continue leasing, we request, at a minimum, that it refrain from offering all the parcels up for

lease for the September 2020 sale unless and until it completes its requirements under the Clean Air Act, 42 U.S.C. §§ 7401–7671q; the Federal Land Policy and Management Act of 1976 ("FLPMA"), 43 U.S.C. §§ 1701–1787; the National Environmental Policy Act of 1976 ("NEPA"), 42 U.S.C. §§ 4321–4370h; and NEPA regulations promulgated thereunder by the White House Council on Environmental Quality ("CEQ"), 40 C.F.R. § 1500, *et seq.*

STATEMENT OF REASONS

I. BLM Fails to Comply with the Clean Air Act and FLPMA.

The Clean Air Act requires the Environmental Protection Agency ("EPA") to set National Ambient Air Quality Standards ("NAAQS") to protect public health and welfare. 42 U.S.C. § 7409. After EPA designates NAAQS, states are required to develop State Implementation Plans ("SIPs") to implement, maintain, and enforce the NAAQS. *Id.* § 7410(a)(1).

Federal agency actions must comply with SIPs. Specifically, "[n]o department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity" that does not conform to an approved state SIP. 42 U.S.C. § 7506(c)(1). "The assurance of conformity . . . shall be an affirmative responsibility of the head of such . . . agency." *Id.* Federal agency actions must not 1) "cause or contribute to any new violation of any [air quality] standard," 2) "increase the frequency or severity of any existing violation of any standard in any area," 3) or "delay timely attainment of any standard or any required interim emission reductions or other milestones in any area." *Id.* § 7506(c)(1)(B).

EPA has designated the Upper Green River Basin Area of Wyoming as in marginal nonattainment with the 2008 ozone NAAQS.[5] EA at 3-9. Thus, BLM, a federal agency, is prohibited from undertaking any activity in this area that does not conform to Wyoming's SIP, including actions that increase the frequency and severity of any existing air quality violations or delay timely attainment of any standard. *Id.*; 40 C.F.R. § 93.150(a); *see also* Wyoming SIP at 020-0002-008 Wyo. Code R. § 3.

To determine whether a federal action conforms, BLM must first conduct an "applicability analysis" by calculating whether the proposed activity has direct and indirect emissions of ozone precursors: volatile organic compounds ("VOCs") or nitrogen oxides

[5] EPA, *8-Hour Ozone (2008) Designated Area Partial County Descriptions*, https://www3.epa.gov/airquality/greenbook/hbp.html#Ozone_8-hr.2008.Green_River (last visited June 11, 2020). Although the EPA has designated the Upper Green River Basin as in attainment with the 2015 ozone standards, *see* EPA, *Additional Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards*, 83 Fed. Reg. 25,776, 25,776 (June 4, 2018), https://www.gpo.gov/fdsys/pkg/FR-2018-06-04/pdf/2018-11838.pdf, as the BLM acknowledges, the 2008 standards remains in effect. EPA, *Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area Classifications and State Implementation Plan Requirements*, 81 Fed. Reg. 81,276, 81,278 (Nov. 17, 2016), https://www.gpo.gov/fdsys/pkg/FR-2016-11-17/pdf/2016-27333.pdf.

("NOx") that equal or exceed 100 tons/year. 40 C.F.R. § 93.153(b)(1).[6] Direct emissions are defined as those emissions that are caused or initiated by the Federal action and occur at the same time and place as the action and "are reasonably foreseeable." 40 C.F.R. § 93.152. Indirect emissions are defined as those emissions that are caused by the Federal action, but may occur later in time or distance, and are reasonably foreseeable, and which the Federal agency can practically control and will maintain control over. *Id.* "A Federal agency must make a determination that a Federal action conforms to the applicable implementation plan in accordance with the requirements of this subpart *before* the action is taken." *Id.* § 93.150(b) (emphasis added).

Notwithstanding these provisions, EPA's conformity regulations exempt from emissions calculations "[t]he portion of an action that includes major or minor new or modified stationary sources that require a permit under the New Source Review (NSR) program (Section 110(a)(2)(c) and Section 173 of the [Clean Air] Act) or the [Clean Air Act's] prevention of significant deterioration program (title I, part C of the Act)." Id. § 93.153(d)(1) (hereinafter "NSR exemption"). EPA has interpreted this exemption narrowly.[7]

In addition to the Clean Air Act, BLM must comply with FLPMA. FLPMA requires that the Secretary of Interior manage public lands "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values." 43 U.S.C. § 1701(a)(8). To achieve this, "[t]he Secretary [of the Interior] shall, with public involvement and consistent with the terms and conditions of this Act, develop, maintain, and, when appropriate, revise land use plans which provide by tracts or areas for the use of the public lands." *Id.* § 1712(a).

BLM's land use plans, or Resource Management Plans (RMPs), generally apply to each BLM field office. In general, RMPs must be up-to-date. Both BLM regulations and BLM's Land Use Planning Handbook provide that "[RMP] revisions are necessary if monitoring and evaluation findings, new data, new or revised policy, or changes in circumstances indicate that decisions for an entire plan or a major portion of the plan no longer serve as a useful guide for resource management." 43 C.F.R. § 1610.5-6; BLM Land Use Planning Handbook, H-1610-1, Section VII.C at 46. Furthermore, amendments are encouraged whenever there is a need to "[c]onsider a proposal or action that does not conform to the plan," "implement new or revised policy that changes land use plan decisions," "respond to new, intensified, or changed uses on public land," or "consider significant new information from resource assessments, monitoring, or

[6] *See also* U.S. Dep't of the Interior, BLM, *Instruction Memorandum No. 2013-025:Guidance for Conducting Air Quality General Conformity Determinations* (Dec. 4, 2012), https://www.blm.gov/policy/im-2013-025.

[7] See EPA, Determining Conformity of General Federal Actions to State or Federal Implementation Plans, 58 Fed. Reg. 63,214, 63,232 (Nov. 30, 1993) (hereinafter "1993 EPA Conformity Rules") (explaining in response to a request to expand activities subject to the NSR exemption to those where an air quality analysis occurs, that "an air quality analysis is not adequate by itself to justify an exemption from the conformity rules since it does not ensure that actions would be prohibited, as necessary to prevent a NAAQS violation"); see also Exhibit A, EPA Comments on the Normally Pressured Lance Natural Gas Development Project Draft Environmental Impact Statement (concluding that the NSR exemption only applies to stationary emissions sources permitted under a federally-approved state permitting program and that drill rigs did not count as stationary sources) (document obtained from a Freedom of Information Act request); Exhibit B, EPA Comments on WY's Presumed to Conform List (accord).

scientific studies that change land use plan decisions." 43 C.F.R. § 1610.5-5; Handbook Section VII.B at 45.

When BLM issues a new RMP or amends a RMP, the agency must also comply with the requirements of NEPA. *See* 43 C.F.R. § 1601.0–6. Thus, BLM is required to issue an Environmental Impact Statement ("EIS") with each RMP. *Id.* Although BLM may tier its project-level analyses to a broader NEPA document, such as the EIS accompanying the RMP, 43 C.F.R. § 46.140, "[n]othing in the tiering regulations suggests that the existence of a programmatic EIS . . . obviates the need for any future project-specific EIS, without regard to the nature of magnitude of a project." *League of Conservation Defs.–Blue Mountains Biodiversity Proj. v. Blackwood*, 161 F.3d 1208, 1215 (9th Cir. 1998). Furthermore, "[a] NEPA document that tiers to another broader NEPA document . . . must include a finding that the conditions and environmental effects described in the broader NEPA document are still valid or address any exceptions." *Id.* Put another way, "[t]o the extent that any relevant analysis in the broader NEPA document is not sufficiently comprehensive or adequate to support further decisions, the tiered NEPA document must explain this and provide any necessary analysis." 43 C.F.R. § 46.140(b).

BLM is also required to ensure that its on-the-ground actions conform with the existing RMP. 43 U.S.C. § 1732(a); *see also* 43 C.F.R. § 1610.5-3 ("All future resource management authorizations and actions . . . shall conform to the approved plan."). "The statutory directive that BLM manage 'in accordance with' land use plans, and the regulatory requirement that authorizations and actions 'conform' to those plans, prevent BLM from taking actions inconsistent with the provisions of a land use plan." *Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55, 69 (2004).

A. BLM Fails to Conduct a Conformity Analysis As Required by the Clean Air Act.

Here, ten parcels (WYW 190336 through WYW 190345) totaling 18,565.17 acres are within the 2008 Upper Green River Ozone Nonattainment area. EA at 3-10. Although BLM describes the conformity requirements imposed by the Clean Air Act, *see id.* at 3-9 to 3-10, the agency fails to complete an applicability analysis and/or a conformity analysis as required by law. 40 C.F.R. § 93.153(b). Instead, BLM erroneously claims that emissions are not reasonably foreseeable because the lease is "made on a broad scale" and that "[g]eneral conformity is addressed at the proposal stage when emission generating activities are reasonably foreseeable and can be quantified." EA at 3-10. But, a look at the information before the agency belies this argument. Because development in this basin is well-established and per-well emissions estimates are available, BLM's leasing is clearly a cause of future, reasonably foreseeable indirect emissions which are quantifiable now. Thus, BLM's failure to complete a conformity analysis at the lease sale stage violates the Clean Air Act.

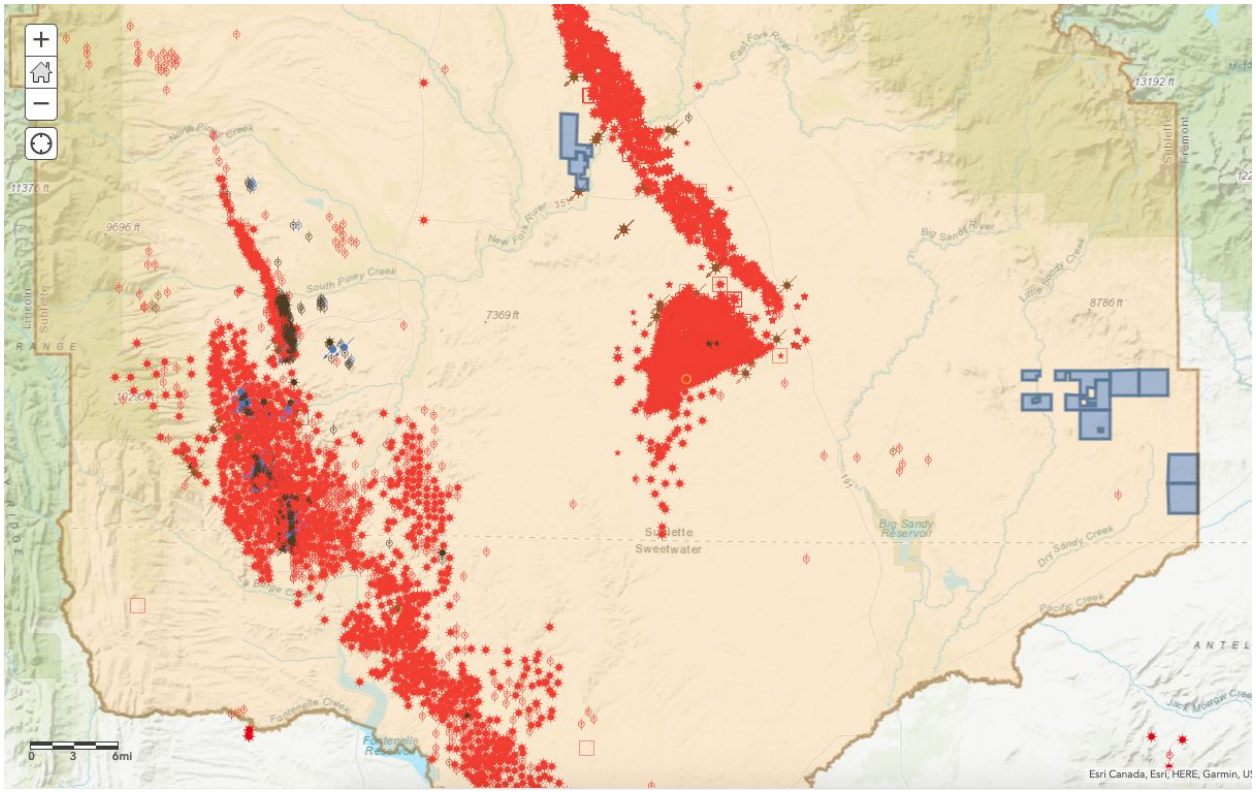
As noted above, BLM must assess direct and indirect emissions from the proposed lease parcels. Direct emissions are defined as "those emissions of a criteria pollutant or its precursors that are 1) caused or initiated by the Federal action and 2) originate in a nonattainment or maintenance area and 3) occur at the same time and place as the action and 4) are reasonably foreseeable." 40 C.F.R. § 93.152. Indirect emissions are defined as those emissions 1) "that are

caused or initiated by the Federal action," 2) "originate in the same nonattainment or maintenance area but occur at a different time or place as the action," 3) "are reasonably foreseeable," 4) "that the agency can practically control," and 5) "for which the agency has continuing program responsibility." *Id.* "Reasonably foreseeable emissions are projected future direct and indirect emissions that are identified at the time the conformity determination is made; the location of such emissions is known and the emissions are quantifiable as described and documented by the Federal agency based on its own information and after reviewing any information presented to the Federal agency." *Id.*

Under the plain language of EPA's conformity regulations, BLM's actions approving oil and gas leases for the September 2020 sale will undoubtedly result in indirect emissions of ozone precursors. Emissions would not occur without BLM's approval and issuance of an oil and gas lease, thus they are "caused or initiated by" the federal action. The lease parcels are clearly within the nonattainment area as shown by the map below, and emissions would occur once BLM approves development. And, development is almost guaranteed. According to BLM's own data, since 1994, wells drilled in the Pinedale Field Office have had a 96% success rate.[8] Because this area is an established field with thousands of active oil and gas wells near the lease parcels, BLM can estimate ozone precursors. Indeed, as shown below, other BLM field offices regularly estimate per well VOC and NOx emissions at the lease sale stage using this type of information. Finally, BLM can practically control emissions through lease stipulations imposed at the leasing stage, *see* 43 C.F.R. § 3101.1–2, and conditions of approval imposed at the drilling stage. *See* 43 C.F.R. § 3162.5-1.

This conclusion is first demonstrated by a quick look at a map of the lease parcels in the context of existing development. The proposed lease parcels are directly within an established oil and gas field, the Pinedale Anticline, and next to a slew of active wells.

[8] BLM, Reasonably Foreseeable Development Scenario for Oil and Gas Activities on Federal Lands in the Pinedale Field Office, Wyoming 1, 50 (2006), https://www.sciencebase.gov/catalog/item/4f4e4adfe4b07f02db687bd8 (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 1).



Active oil and gas wells as of August 2019 next to the parcels for the September 2020 lease sale (in blue). The 2008 Ozone Nonattainment Area is in light brown. Oil and gas well data provided by Wyoming Oil and Gas Conservation Commission.

Because of the heavily-developed nature of the Pinedale area, a number of analyses, including one from BLM, have calculated actual emissions from an average well in the Pinedale Anticline. For example, the Kleinfelder report estimates that a typical gas well in the Upper Green River Basin emits, on average, 14.6 tons of NOx and 5.2 tons of VOCs per year.[9] As a result, to calculate per well emissions, all BLM has to do is use this number and multiply it by the estimated number of wells on the proposed lease parcels. Here, if eight wells are developed on the ten lease parcels in the first year,[10] emissions from the lease parcels will exceed de minimis levels for a marginal nonattainment area, thereby triggering a full conformity analysis for NOx. In reality, the Pinedale Field Office sees more than 150 federal wells drilled per year.[11]

Furthermore, even if the Kleinfelder report did not exist, the reasonably foreseeable nature of emissions from the lease parcels is underscored by the fact that the BLM's own analyses predict emissions. As shown by the chart below, BLM estimated emissions from oil and

[9] *See* Kleinfelder, *Air Emissions Inventory Estimates for a Representative Oil and Gas Well in the Western United States*, 2–3 (2013) (report developed for the BLM) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 2).

[10] In fact, there will likely be more wells because most of the proposed leases are within the "moderate" development area, which estimates 20-100 wells per township. *See* Pinedale RMP, Map 4-1, https://eplanning.blm.gov/epl-front-office/projects/lup/63200/78625/89858/79_Map_4-01.pdf.

[11] *See* BLM, 2016 RFDS supra, at 49, Figure 18.

gas development in the Pinedale RMP.[12] BLM could use this information in conjunction with well numbers from BLM's 2016 Reasonably Foreseeable Development Scenario (RFDS) to predict emissions for the September 2020 lease sale. Indeed, as the Tenth Circuit recently held, the number of wells predicted by a RFDS are by definition reasonably foreseeable. *Dine Citizens Against Ruining Our Env't v. Bernhardt*, 923 F.3d 831, 853 (10th Cir. 2019), reh'g denied (June 24, 2019).

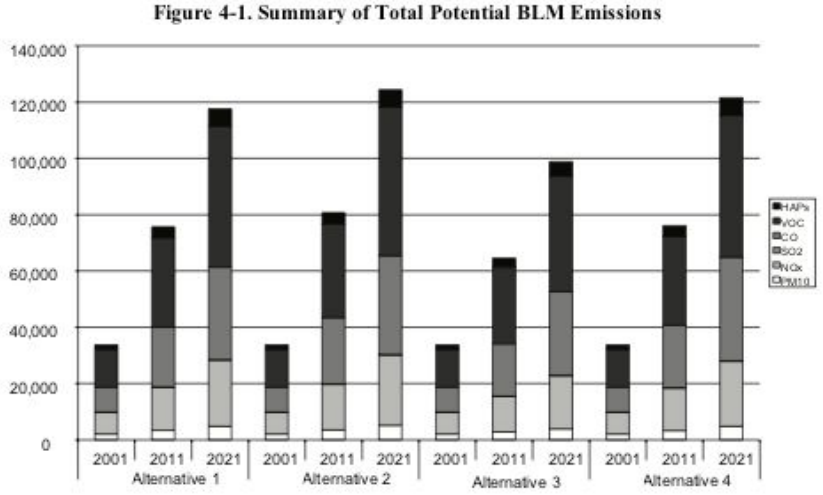


Chart from Pinedale RFDS

Moreover, BLM admits in the EA that the assumptions in its RFDS are accurate, thereby making emissions even more reasonably foreseeable. EA at 3-22 ("Based on the above information, the RFD provides a valid estimate of future well development including for Federal lands in Wyoming."). Yet, for some unexplained reason, BLM continues to maintain that it is impossible to estimate an approximate number of wells per lease sale parcel. Not so. BLM field offices in neighboring states easily complete this task. For example, the New Mexico BLM recently included the following chart in its draft EA for the November 2019 Pecos District lease sale.[13]

[12] The FEIS for the Pinedale RMP is available at: https://bit.ly/2FVg0wk. The emissions estimates are in Chapter 4 at 4-8, Figure 4-1.

[13] BLM, Carlsbad Field Office, November 2019 Oil and Gas Lease Sale EA: DOI-BLM-NM-P020-2019-0797-EA at 11 (2019), https://eplanning.blm.gov/epl-front-office/projects/nepa/122600/176835/215506/EA_PDO_November_2019_Lease_Sale_to_BLM_07142019_508.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 3).

Table 2.2. Estimated Well Count and Production for the Nominated Lease Parcels

Parcel (Acres)	Total Horizontal Wells	Surface Disturbance (acres)	Oil Production (bbl)	Gas Production (mcf)	Produced Water Production (bbl)
1 (1,533.92)	43	193.5	7,020,000	57,520,000	17,130,000
2 (80)	2	9	370,000	3,000,000	890,000
3 (80)	2	9	370,000	3,000,000	890,000
4 (640)	18	81	2,930,000	24,000,000	7,150,000
5 (159.89)	3	13.5	400,000	1,070,000	1,150,000
6 (40.52)	1	4.5	190,000	1,520,000	450,000
7 (40)	2	9	260,000	1,700,000	950,000
8 (681.19)	19	85.5	3,120,000	25,540,000	7,610,000
9 (40)	1	4.5	180,000	1,500,000	450,000
10 (120)	3	13.5	550,000	4,500,000	1,340,000
Total: (3,415.52)	**94**	**423**	**15,390,000**	**123,350,000**	**38,010,000**

In that same EA, BLM also estimated total VOCs and NOx emissions from the proposed parcels, further underscoring the conclusion that such calculations are possible.[14]

Table 3.6 Percent Increase from Future Potential Development of the Lease Parcels

	Lease Sale Emissions (Tons per Year)					
	PM_{10}	$PM_{2.5}$	NOx	SO_2	CO	VOC
Human-caused Current Emissions (Chaves, Eddy and Lea counties)	40,085	6,021	29,482	1,886	50,227	115,793
One well emissions	*5.31*	*0.81*	*6.19*	*0.11*	*2.63*	*1.17*[b]
Total Emissions from Lease Sale (94 wells)	499.14	76.14	581.86	10.34	247.22	109.70
Percent Increase	1.25%	1.26%	1.97%	0.55%	0.49%	0.09%

[a] The representative well used to calculate emissions is a horizontal oil well. Emissions for vertical wells were not used from this analysis due to current predominance in horizontal technological drilling methods and because presenting horizontal oil wells emissions estimates represents a more conservative summary of emissions, compared with emissions from a vertical well, with the exception of SO_2, which could be 4 to 5 times greater in a vertical well scenario. However, sulfur dioxide emissions are still estimated to be within the same magnitude and less <1 ton per year of SO_2 emissions per well. See Appendix G for additional discussion of emission factors.

[b] VOC emissions at the operational phase represent a 95% control efficiency and estimates potential emissions representing the contribution for "one oil well" from the emissions at storage tanks, gathering facilities, etc.

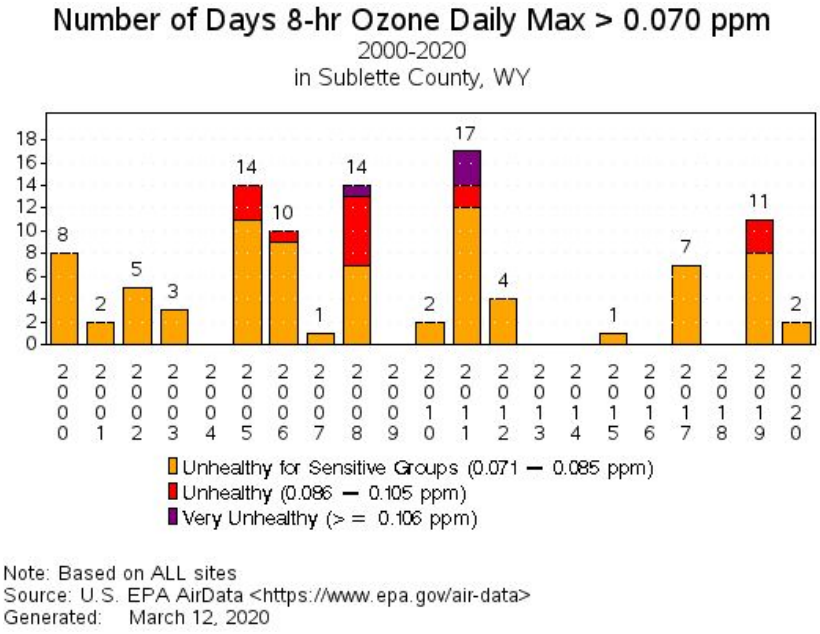
Although BLM claims that it will complete a conformity analysis at the application permits to drill ("APD") stage, BLM frequently approves APDs with very limited opportunities to comment and without showing its full conformity analysis.[15] Moreover, by the time BLM reaches the APD stage, overall emissions are segmented such that many fall within the de minimis exemption. EPA made clear when it published its general conformity regulations that it discourages segmentation, noting "[t]he segmentation of projects for conformity analyses when

[14] *Id.* at 33.

[15] BLM, Pinedale Anticline – Environmental Assessment for Pinedale Energy Partners Operating, LLC, Natural Gas Wells on the Stewart Point 5-17 Well Pad (2020), https://eplanning.blm.gov/public_projects/nepa/1505070/20016331/250021792/1PEPO_SP5A1_17_EA.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 4).

emissions are reasonably foreseeable is not permitted by this rule."[16] EPA's Question & Answer document[17] which accompanied the 1993 regulations underscores this conclusion, finding in the context of an example about prescribed burns in a land management plan that "to the extent that emissions from all or some of the burns were reasonably foreseeable at the time the plan was developed, the cumulative effect should be considered."[18] To date, BLM has leased, or has proposed for lease, 135 parcels within the ozone nonattainment area between March 2019 and September 2020. Even if BLM does not believe that the Clean Air Act requires such an analysis, NEPA undoubtedly requires BLM to assess the cumulative impacts of its proposed action on ozone levels in the Upper Green River Basin. *See* 40 C.F.R. § 1508.7. Thus, we request that BLM take a hard look at its recent slate of leasing within the ozone nonattainment area and how ozone levels will increase as a result.

From a practical standpoint, the need for a conformity analysis is underscored by the fact that ozone levels have been rising in the Pinedale area. According to EPA's ozone monitoring data, Sublette County, where the bulk of the lease parcels in the nonattainment area are located, experienced 11 days of ozone exceedances in 2019.[19] And, the county has also already had two ozone exceedances in 2020.



Note: Based on ALL sites
Source: U.S. EPA AirData <https://www.epa.gov/air-data>
Generated: March 12, 2020

[16] 58 Fed. Reg. at 63,240 .

[17] EPA, General Conformity Guidance: Questions & Answers 1, 16 (1994) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 5).

[18] *Id.* at 16.

[19] EPA, Ozone Exceedances Chart, Sublette County Wyoming, 2000-2019, https://www.epa.gov/outdoor-air-quality-data/air-data-ozone-exceedances (last visited Mar. 12, 2020).

A calculation of current ozone design values using EPA monitoring data from 2017 to 2019[20] indicates that at least one monitoring station is exceeding the 2015 ozone standard and is at 96% of the 2008 standard. Put simply, ozone levels in the Upper Green River Basin remain high and BLM's actions leasing and permitting additional wells in the area can only serve to further exacerbate the problem and delay attainment thereby triggering general conformity requirements.

3 Year Average of 4th Highest Ozone Reading, Upper Green River Basin, Wyoming 2017-2019

	Site ID	2017 (ppm)	2018 (ppm)	2019 (ppm)	3-year average (ppm)
Big Piney	560350700	0.066	0.064	0.060	0.063
Boulder	560350099	0.073	0.058	0.085	**0.072**
Daniel South	560350100	0.061	0.064	0.063	0.063
Juel Spring	560351002	0.068	0.065	0.066	0.066
Moxa	560370300	0.067	0.068	0.065	0.067
Pinedale	560350101	0.065	0.066	0.062	0.064
Skyline Drive	560359991	0.062	0.068	0.063	0.064

An applicability analysis is not foreclosed by the decision in *WildEarth Guardians v. U.S. Bureau of Land Management*, 322 F. Supp. 3d 1134, 1143 (D. Colo. 2018). As the court noted, its decision was limited to the record before it. *See id.* at 1148. The court also outlined a path forward to make conformity estimates in future cases, a path which we discuss above. *Id.* at 1143. As a result, BLM Wyoming cannot rely on this decision in order to support its failure to take action here, especially in light of the various emissions estimates before the agency.

Finally, BLM must look at the collective impacts of leasing within the nonattainment area. To date, BLM has leased, or has proposed for lease, 135 parcels within the ozone nonattainment area between March 2019 and August 2020. As EPA made clear when developing its general conformity regulations, it discourages the segmentation of projects into de minimis actions.[21] EPA's Question & Answer document[22] which accompanied the 1993 regulations underscores this conclusion, finding in the context of an example about prescribed burns in a land management plan that "to the extent that emissions from all or some of the burns were reasonably foreseeable at the time the plan was developed, the cumulative effect should be considered." Moreover, NEPA undoubtedly requires BLM to assess the cumulative impacts of its proposed action on ozone levels in the Upper Green River Basin. See 40 C.F.R. § 1508.7. Thus, we request that BLM take a hard look at its recent slate of leasing within the ozone nonattainment area and how ozone levels will increase as a result.

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[20] All data obtained from EPA's Air Data site at https://www.epa.gov/outdoor-air-quality-data/monitor-values-report (last visited June 11, 2020). *See* 2017, 2018, and 2019 Ozone Monitor Value Reports, Sublette County (previously attached to our June 11, 2020 comments on the draft EA as Exhibits 6, 7, 8); 2017, 2018, and 2019 Ozone Monitor Value Reports, Sweetwater County (previously attached to our June 11, 2020 comments on the draft EA as Exhibits 9, 10, 11).

[21] EPA 1993 Conformity Rules, supra, 58 Fed. Reg. at 63,240 ("The segmentation of projects for conformity analyses when emissions are reasonably foreseeable is not permitted by this rule.").

[22] EPA, General Conformity Guidance: Questions & Answers, *supra* at 1, 16.

B. BLM Must Revise the Pinedale and Rock Springs RMPs to Ensure Compliance with FLPMA.

BLM's failure to assess the impacts of additional development on compliance with federal ozone standards under the Clean Air Act also violates the plain language of FLPMA. As noted above, in the development and revision of land use plans, BLM is required to ensure that its on-the-ground actions conform with the existing RMP. 43 U.S.C. § 1732(a); *see also* 43 C.F.R. § 1610.5-3 ("All future resource management authorizations and actions . . . shall conform to the approved plan."). "The statutory directive that BLM manage 'in accordance with' land use plans, and the regulatory requirement that authorizations and actions 'conform' to those plans, prevent BLM from taking actions inconsistent with the provisions of a land use plan." *Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55, 69 (2004). BLM is also required to revise RMPs where "if monitoring and evaluation findings, new data, new or revised policy, or changes in circumstances indicate that decisions for an entire plan or a major portion of the plan no longer serve as a useful guide for resource management." 43 C.F.R. § 1610.5-6.

Here, the Pinedale RMP does not address the air quality issues presented by the Upper Green River Basin nonattainment area or otherwise include a conformity analysis.[23] But, the RMP does generally require BLM to "[m]aintain concentrations of criteria pollutants associated with management actions in compliance with applicable state and federal Ambient Air Quality Standards."[24] Because BLM does not undertake a conformity analysis or otherwise analyze whether allowing more ozone pollution in an area already exceeding ozone standards will result in compliance with federal air quality standards, the lease sale as proposed is not allowed under the Pinedale RMP.

As noted above, EPA data from 2017 to 2019 demonstrates that at least one monitoring station in the nonattainment area is exceeding the 2015 ozone standard. Because the Pinedale RMP-EIS fails to address both the 2008 and 2015 ozone standards and nonattainment designation, it is impossible to see how BLM plans to ensure its actions approved under these RMPs will comply with federal air quality standards. This is particularly the case where the area is already exceeding air quality standards. Common sense dictates that any new development will only worsen noncompliance with federal air quality standards.

BLM must address this significant error by revising the Pinedale RMP-EIS. Indeed, pursuant to 43 C.F.R. § 1610.5-6, BLM is *required* to revise underlying RMPs if "monitoring and evaluation findings, new data, new or revised policy and changes in circumstances affect[] the entire plan or major portions of the plan[.]" 40 C.F.R. § 1610.5-6. As shown by the map below, the ozone nonattainment area covers almost all of the Pinedale Field Office and approximately one-fourth of the Rock Springs Field Office. Accordingly, BLM is required to revise its underlying RMPs-EISs to comply with the Clean Air Act.

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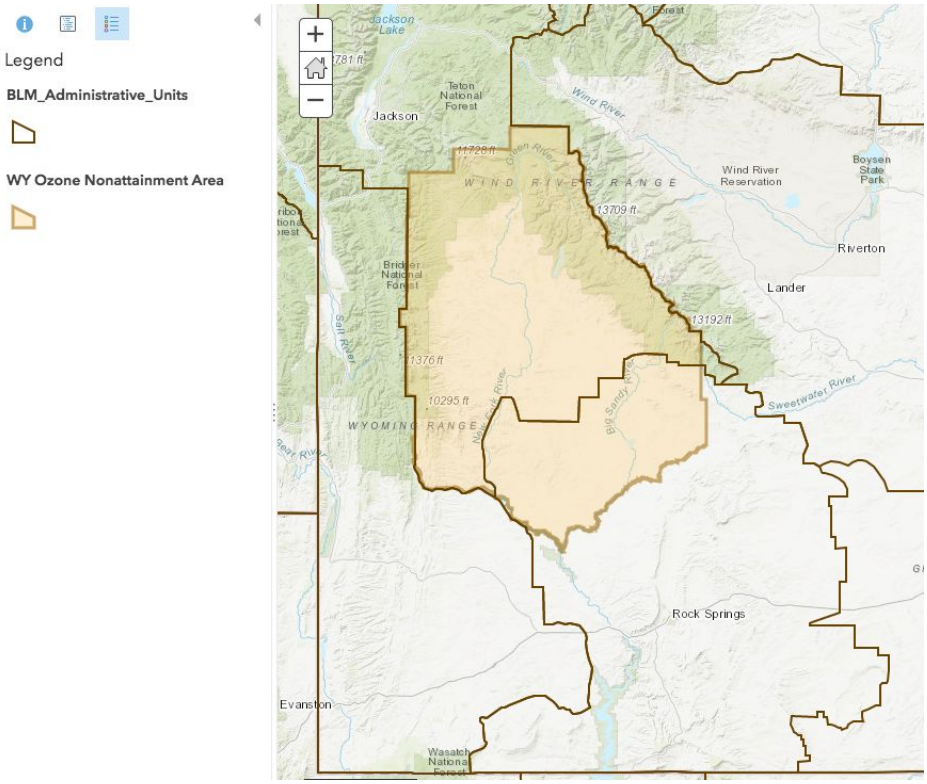
[23] *See generally* Pinedale RMP-EIS, available at https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=88620.

[24] RMP-FEIS at 2-52.

Simply, BLM must, as required by the Clean Air Act or FLPMA, 1) ensure compliance with federal conformity regulations and air quality standards and 2) revise the Pinedale RMP based on new information which affects the entire plan before approving actions that may impact attainment with the 2008 and 2015 NAAQS. Because BLM has failed to take these actions as required by law, the agency's proposed lease sale, approved in reliance on this RMP, cannot move forward.

Finally, the need to postpone leasing and address the impacts of air quality within the Pinedale and Rock Springs Field offices is further underscored by the fact that BLM is in the process of revising the 1997 Green River (Rock Springs) RMP.[25] NEPA prohibits actions which would prejudice alternatives during an RMP revision. 40 C.F.R. § 1506.1. Thus, we advise BLM to proceed with caution to avoid violating FLPMA and NEPA by committing lands to oil and gas development without the proper planning and environmental documents.



In this map, the Pinedale Field Office is the northernmost area overlapped by the nonattainment area. The Rock Springs office is south of Pinedale.

II. BLM Fails to Comply with NEPA and FLPMA.

NEPA is our "basic national charter for protection of the environment." 40 C.F.R. § 1500.1(a). The law requires federal agencies to fully consider the environmental implications

[25] *See generally* Rock Springs RMP Revision ePlanning page, https://eplanning.blm.gov/eplanning-ui/project/13853/510 (last visited June 11, 2020).

of their actions, taking into account "high quality" information, "accurate scientific analysis," "expert agency comments," and "public scrutiny," prior to making decisions. *Id*. § 1500.1(b). This consideration is meant to "foster excellent action," resulting in decisions that are well informed and that "protect, restore, and enhance the environment." *Id*. § 1500.1(c).

NEPA regulations explain that:

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

Id. § 1500.1(c).

To fulfill the goals of NEPA, federal agencies are required to analyze the "effects," or impacts, of their actions to the human environment prior to undertaking their actions. *Id.* § 1502.16(d); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (holding that NEPA imposes "action forcing procedures . . . requir[ing] that agencies take a *hard look* at environmental consequences"). To this end, the agency must analyze the "direct," "indirect," and "cumulative" effects of its actions, and assess their significance. *Id.* §§ 1502.16(a), (b), and (d). Direct effects include all impacts that are "caused by the action and occur at the same time and place." *Id.* § 1508.8(a). Indirect effects are "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." *Id*. § 1508.8(b). Cumulative effects include the impacts of all past, present, and reasonably foreseeable actions, regardless of what entity or entities undertake the actions. *Id.* § 1508.7.

Generally, an agency may prepare an environmental assessment ("EA") to analyze the effects of its actions and assess the significance of impacts. *See id.* § 1508.9; *see also* 43 C.F.R. § 46.300. Where impacts are not significant, an agency may issue a Finding of No Significant Impact ("FONSI") and implement its action. *See* 40 C.F.R. § 1508.13; *see also* 43 C.F.R. § 46.325(2). But, where effects are significant, an agency must prepare an Environmental Impact Statement ("EIS"). *See* 40 C.F.R. § 1502.3.

Federal agencies determine whether direct, indirect, or cumulative impacts are significant by accounting for both the "context" and "intensity" of those impacts. *Id.* § 1508.27. Context "means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality" and "varies with the setting of the proposed action." *Id.* § 1508.27(a). Intensity "refers to the severity of the impact" and is evaluated according to several additional elements, including: the unique characteristics of the geographic area such as ecologically critical areas; the degree to which the effects are likely to be highly controversial; the degree to which the possible effects are highly uncertain or involve unique or unknown risks; and whether the action has cumulatively significant impacts. *Id.* §§ 1508.27(b)(3), (4), (5), (7).

Within an EA or EIS, the scope of the analysis must include "[c]umulative actions" and "[s]imilar actions." *Id.* §§ 1508.25(a)(2) and (3). Cumulative actions include action that, "when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." *Id.* § 1508.25(a)(2). Similar actions include actions that, "when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together." *Id.* § 1508.25(a)(3). Key indicators of similarities between actions include "common timing or geography." *Id*.

A. BLM's Proposal to Lease Parcels in the Buffalo Field Office Is Contrary to the Decision in *Western Organization of Resource Councils v. U.S. Bureau of Land Management*.

BLM's proposal to lease 42 parcels within the Buffalo Field Office, without a valid, supplemental EIS for the Buffalo RMP which addresses the deficiencies identified by the ruling in *Western Organization of Resource Councils v. U.S. Bureau of Land Management* ruling, violates FLPMA and NEPA.

On March 23, 2018, Judge Brian Morris with the Federal District Court in Montana issued an "Opinion and Order," in a case challenging the validity of the Miles City and Buffalo Resource Management Plans ("RMPs"). *Western Org. of Resource Councils v. U.S. Bureau of Land Mgmt.*, CV 16-21-GF-BMM, 2018 WL 1475470, (D. Mont. Mar. 26, 2018).

In the decision, the court ruled for plaintiff environmental groups on three out of the six claims under NEPA. On the first claim, the court held 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." *Id.* at *9. On the third claim, the court held that because "[t]he Buffalo RMP 'contained enough specifics' to permit a 'productive analysis' of the downstream burning of the coal, oil and gas open to potential development under the RMP[s]," the BLM was required to consider these downstream emissions by supplementing the Buffalo FEIS. *Id.* at *13, *18. Finally, on the fifth claim, the court held that "BLM's failure [in the Buffalo RMP and FEIS] to acknowledge th[e] changing science [on the global warming potential of methane] . . . constituted an additional arbitrary decision that undermined the accuracy and integrity of the GWP analysis." *Id.* at *16.

As a result of these flaws, the court indicated that the BLM must "conduct a new coal screening to consider climate change impacts," and "must supplement the . . . Buffalo FEIS with an analysis of the environmental consequences of downstream combustion of coal, oil, and gas open to development under each RMP." *Id.* at *17–18. Put simply, "the deficiencies identified in the Buffalo RMP . . . must be remedied through the preparation of a supplemental EIS[.]" *Id.* at *18. The court also held that the BLM must comply with its findings "at the lease-level and permit-level for any pending or future coal, oil, or gas developments in the Buffalo RMP . . . until BLM produces [] supplemental environmental analyses . . . that comply with NEPA and the APA." *Id.* at *19. The court recently reaffirmed that its order "applies when issuing any new or pending lease of coal, oil, or gas resources in the Buffalo or Miles City

planning areas until Federal Defendants produce remedial analyses that comply with its obligations under NEPA."[26]

Although BLM issued the final Buffalo RMP SEIS on October 4, 2019,[27] as indicated in a protest signed by Guardians,[28] BLM did not address many of the judge's concerns with regard to coal alternatives and the global warming potential of methane. Moreover, BLM does not even cite to this final RMP SEIS to support its lease sale. *See generally* EA at 1-5. Thus, before moving forward with the Buffalo lease parcels, BLM must address these errors.

B. BLM Must Prepare an EIS.

BLM must also prepare an EIS for the lease sale. A federal agency must prepare an EIS when a major federal action "significantly affects the quality of the human environment." 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1502.4. A federal action "affects" the environment when it "will or *may* have an effect" on the environment. 40 C.F.R. § 1508.3 (emphasis added); *see also Airport Neighbors Alliance v. U.S.*, 90 F.3d 426, 429 (10th Cir. 1996).

Significance is gauged based on both the context and intensity of the proposed action. 40 C.F.R. § 1508.27. Context "means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality." *Id.* § 1508.27(a). Intensity "refers to the severity of impact," and is determined by weighing ten factors, including "[1] [t]he degree to which the proposed action affects public health or safety," "[2] [u]nique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas," "[3] [t]he degree to which the effects on the quality of the human environment are likely to be highly controversial," and "[4] "[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts." *Id.* § 1508.27(b)(2)–(5), (7). For this final factor, "[s]ignificance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts." *Id.*

Even "[i]f an agency decides not to prepare an EIS, it must supply a convincing statement of reasons to explain why a project's impacts are insignificant." *Blue Mtns Biodiversity Proj. v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998) (internal quotations omitted) (finding that a timber salvage sale coupled with other salvage sales in the area could result in significant impacts); *see also S. Utah Wilderness All. v. Norton*, 457 F. Supp. 2d 1253, 1261 (D. Utah

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[26] Order Regarding Remedy, *Western Org. of Resource Councils v. U.S. Bureau of Land Mgmt.*, CV 16-21-GF-BMM (D. Mont. July 31, 2018) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 12).

[27] *See generally* BLM, ePlanning page for DOI-BLM-WY-P070-2019-0002-RMP-EIS (Buffalo RMP Coal Supplemental EIS), https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=173977 (last visited Mar. 12, 2020).

[28] *See generally* Western Environmental Law Center et al., Nov. 4, 2019 Protest, Buffalo RMP SEIS (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 13).

2006), *aff'd in part, appeal dismissed in part sub nom. S. Utah Wilderness All. v. Kempthorne*, 525 F.3d 966 (10th Cir. 2008). Thus, BLM must present a robust analysis of these significance factors in its draft EA and FONSI.

The first intensity factor under NEPA is "the degree to which the proposed action affects public health and safety." As discussed more in Section E, numerous scientific reports support the conclusion that the use of fracking impacts public health and safety.[29] Unfortunately, because BLM's underlying RMPs/FEISs and the September 2020 EA do not fully analyze the impacts of fracking, BLM has no evidence to support its conclusion that impacts will be insignificant.

For example, although the BLM provides a 2013 "Hydraulic Fracturing White Paper" in section 5.6 of the EA, this document is severely out-of-date. As noted in a 2019 report summarizing studies on the impacts of fracking, the 2019 Fracking Compendium, "20 percent (355 studies of the now more than 1,700 available studies) were published in 2018 alone."[30] Approximately 778 more were published in 2019. Of these, "69 percent of original research studies on water quality found potential for, or actual evidence of, fracking-associated water contamination, 87 percent of original research studies on air quality found significant air pollutant emissions, and 84 percent of original research studies on human health risks found signs of harm or indication of potential harm."[31] Clearly, the science on the health impacts from fracking is changing rapidly and BLM cannot rely on a stale, static white paper to adequately meet its duty under NEPA.

Perhaps more importantly, the white paper is also not site-specific, and instead presents a summary of generalized impacts which do not describe the impacts to the parcels at issue. For example, BLM fails to assess whether there will be increased impacts to public health from the parcels within the Pinedale area where fracking will worsen exceedances of federal standards for ozone. Ozone pollution is detrimental to public health and welfare, as documented by extensive

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[29] *See* Concerned Health Prof'ls of NY & Physicians for Soc. Responsibility, *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction)* 1, 18 (6th ed. 2019) (hereinafter "Fracking Compendium") ("As fracking operations in the United States have increased in frequency, size, and intensity, and as the transport of extracted materials has expanded, a significant body of evidence has emerged to demonstrate that these activities are dangerous to people and their communities in ways that are difficult—and may prove impossible—to mitigate. Risks include adverse impacts on water, air, agriculture, public health and safety, property values, climate stability, and economic vitality, as well as earthquakes.") (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 14); TEDX, "Scientific Literature Addressing the Health Effects of Unconventional Oil and Gas Development (2018) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 15); *see also* BLM Oil and Gas; *Hydraulic Fracturing on Federal and Indian Lands*, 80 Fed. Reg. 161,128 (Mar. 26, 2015), https://www.gpo.gov/fdsys/pkg/FR-2015-03-26/pdf/2015-06658.pdf (noting that a final rule regulating fracking on federal land will "provide significant benefits to all Americans by avoiding potential damages to water quality, the environment, and public health"); *see also* BLM Oil and Gas; *Hydraulic Fracturing on Federal and Indian Lands*, 80 Fed. Reg. 161,128 (Mar. 26, 2015), https://www.gpo.gov/fdsys/pkg/FR-2015-03-26/pdf/2015-06658.pdf (noting that a final rule regulating fracking on federal land will "provide significant benefits to all Americans by avoiding potential damages to water quality, the environment, and public health").

[30] Fracking Compendium, *supra*, at 12.

[31] *Id.*

scientific evidence compiled by the Environmental Protection Agency ("EPA").[32] Exposure to ozone can harm the respiratory system (the upper airways and lungs), aggravate asthma and other lung diseases, and is linked to premature death from respiratory causes. Studies show harmful health effects from both short-term exposures to ozone (hours to days) and long-term exposures (months to years). Because BLM fails to analyze the impacts of the proposed action on ozone levels and public health, BLM's conclusion in the FONSI that "[n]o other aspect of the action alternative would have an effect on public health and safety," is erroneous. FONSI at 6. If BLM has not analyzed what impacts may actually occur from the actual lease sale parcels, it is impossible to conclude that such impacts are insignificant.

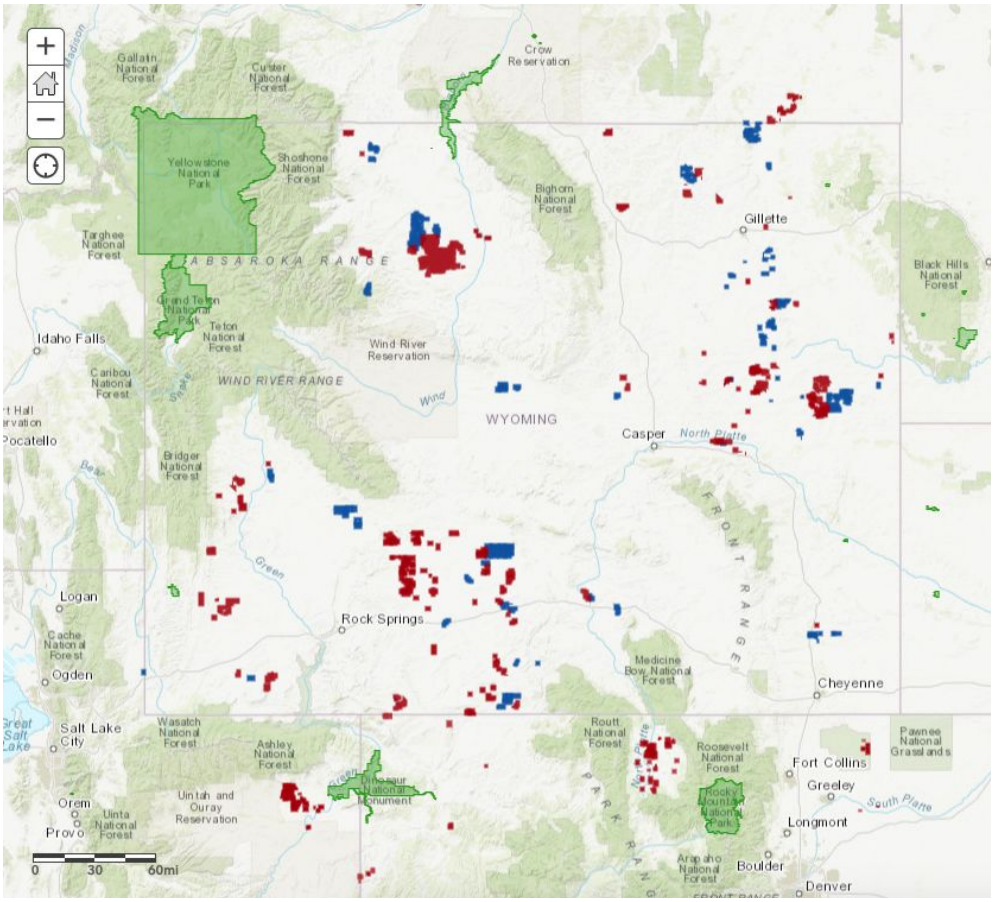
BLM also fails to account for NEPA's second and third intensity factors, which require, respectively, a look at the unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas and the degree to which impacts are highly controversial. Indeed, the situation here is directly similar to the situation in *Center for Biological Diversity v. U.S. Bureau of Land Management*, where the court held that the BLM's "unreasonable lack of consideration of how fracking could impact development of the disputed parcels . . . unreasonably distort[ed] BLM's assessment of at least three of the 'intensity' factors in its FONSI." 937 F. Supp. 2d at 1157. There, the court reasoned that fracking was highly controversial based on the possibility of significant environmental degradation, public outcry, and potential threats to health and safety. *Id.* at 1157–58.

Perhaps more importantly, based on the proximity of the September 2020 lease sale parcels to Yellowstone National Park, Bighorn National Recreation Area, and numerous wilderness study areas, there is no doubt that significant environmental impacts and threats to natural resources, recreational opportunities, and public health and safety could occur. Yet, BLM's EA fails to consider the impacts of the proposed parcels on these special areas. Thus, BLM again cannot conclude that the impacts from the proposed action will be insignificant.

Finally, as shown below, <u>because the Wyoming September 2020 lease parcels are directly adjacent to many other BLM lease sales occurring in 2020 in Wyoming, Colorado, Montana, and Utah,</u> the fourth intensity factor, cumulative impacts, is also implicated by the lease sale, further underscoring the need for an EIS. According to NEPA regulations, "[s]ignificance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts." 40 C.F.R. § 1508.27(b)(7). This latter sentence is particularly important here. As shown by the maps below, the September 2020 lease sale is not occurring in a vacuum. BLM must study the cumulative impacts of these similar actions occurring within the same area through an EIS for the lease sale and a programmatic EIS for BLM's leasing program. *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 77 (D.D.C. 2019) ("Although BLM may determine that each lease

[32] Between 2008 and 2015, there were more than 1,000 new studies demonstrating the health and environmental harms of ozone. *See* U.S. Environmental Protection Agency, Fact Sheet, Overview of EPA's Updates to the Air Quality Standards for Ground-Level Ozone ("2015 Ozone Standard Fact Sheet"), available at https://www.epa.gov/sites/production/files/2015-10/documents/overview_of_2015_rule.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 16).

sale individually has a de minimis impact on climate change, the agency must also consider the cumulative impact of GHG emissions generated by past, present, or reasonably foreseeable BLM lease sales in the region and nation."); WildEarth Guardians v. U.S. Bureau of Land Mgmt., No. CV-18-73-GF-BMM, 2020 WL 2104760, at *10 (D. Mont. May 1, 2020) ("BLM cannot, as it claims, satisfy NEPA's cumulative impacts analysis simply because it put the emissions from a single lease sale into context with state and national greenhouse-gas emissions.").



BLM lease sales in 2020 are shown in red with the Wyoming September 2020 parcels in blue.

Despite this massive swath of land proposed and sold for leasing, BLM's continues to fail to properly assess the significance of sales in the surrounding region in conjunction with the September 2020 lease sale, as discussed more below. Thus, BLM cannot conclude that the impacts from the proposed lease sale will be insignificant, and the agency's FONSI cannot stand.

C. BLM Improperly Defers Its Site-Specific NEPA Analyses to the Application Permit to Drill Stage.

On a similar note, throughout the lease sale EA, BLM attempts to segment its analyses by claiming that it will conduct site-specific NEPA analyses at the Application Permit to Drill ("APD") stage. *See, e.g.*, Water Resources Section, EA at 4-8 ("Without a discrete development proposal, the use of hydraulic fracturing in the oil and gas development process cannot be

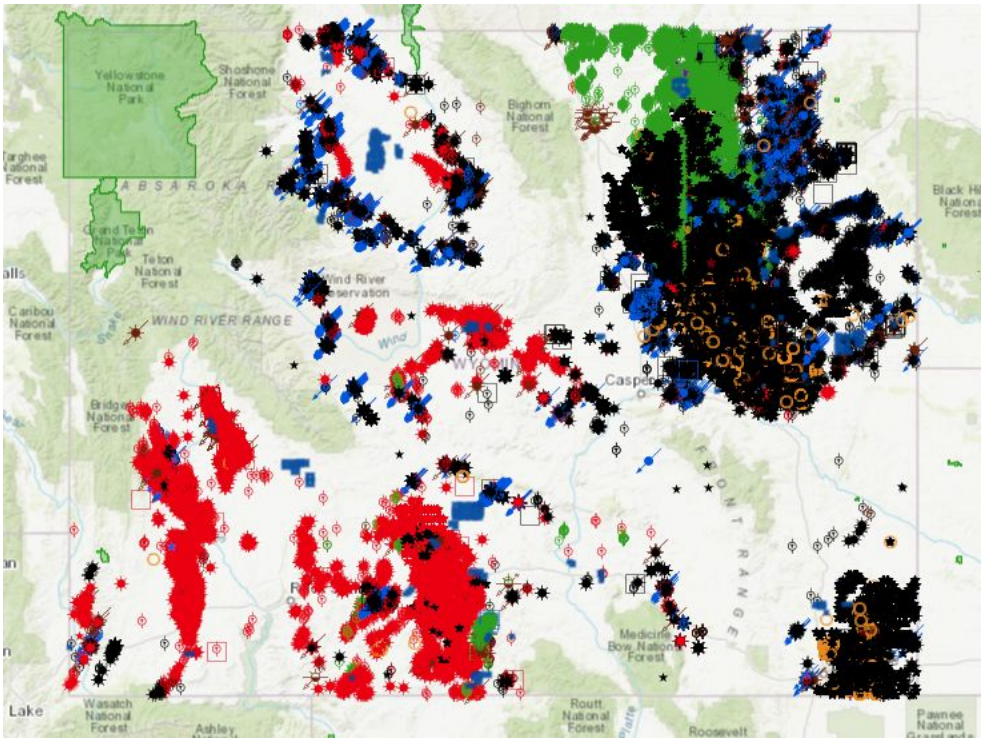
predicted."). However, BLM's deferral of comprehensive NEPA analysis at the lease sale stage ignores two crucial distinctions—such an approach is illegal where impacts are reasonably foreseeable and NEPA forbids BLM from piecemealing its analysis into individually, potentially-insignificant actions.

The law is clear: where a lease constitutes an irretrievable commitment of resources and impacts are reasonably foreseeable, an agency is required to analyze the site-specific impacts of a lease before its issuance. *New Mexico ex. rel. Richardson v. U.S. Bureau of Land Mgmt.*, 565 F.3d 683, 717–18 (10th Cir. 2009); *see also WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 64–65 (D.D.C. 2019) (holding that "an agency cannot defer analyzing the reasonably foreseeable environmental impacts of an activity past the point when that activity can be precluded"). "NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment." *U.S. Bureau of Land Mgmt. v. Kern*, 284 F.3d 1062, 1072 (9th Cir. 2002); *see also* 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information is available to public officials and citizens *before decisions are made* and before actions are taken.") (emphasis added). This is especially the case if postponing the analysis results in a piecemeal look at the impacts. *See* 40 C.F.R. § 1508.27 ("Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts."). Indeed, NEPA provides that BLM must assess three types of actions when determining the scope of its analysis: (1) connected actions, (2) cumulative actions, and (3) similar actions. 40 C.F.R. § 1508.25. Connected actions "are closely related and therefore should be discussed in the same impact statement." Actions are connected if they, among other things: "[a]re interdependent parts of a larger action and depend on the larger action for their justification." *Id.*

All of the above requirements support the conclusion that the BLM must analyze the site-specific impacts from its decision to lease federal minerals at the lease sale stage. First, because drilling cannot occur without BLM first leasing the minerals, leasing and drilling are interdependent, connected actions as defined by NEPA. 40 C.F.R. § 1508.25. Thus, BLM must estimate the impacts of drilling these wells at the lease sale stage. Second, the Tenth Circuit has explicitly held that NEPA requires that agencies prepare a site-specific EIS or EA at the lease sale stage when two factors are met: 1) an irretrievable commitment of resources and 2) reasonably foreseeable impacts. *New Mexico ex. rel. Richardson v. U.S. Bureau of Land Mgmt.*, 565 F.3d 683, 717–18 (10th Cir. 2009). The court held that the issuance of an oil and gas lease without a no surface occupancy ("NSO") stipulation constitutes an irretrievable commitment of resources because after this stage, BLM cannot completely avoid environmental impacts at the permitting stage without this stipulation. *Id.* at 718. The court then reasoned that because the lease occurred in an area that had seen "considerable exploration" and "a natural gas supply [was] known to exist beneath the[] parcels," the impacts from leasing were reasonably foreseeable. *Id.* at 718–19. Thus, BLM was required to conduct a site-specific NEPA analysis of the impacts of lease "prior to its issuance." *Id.*

Here, the situation is directly similar. First, as BLM states in its EA, "once a parcel is sold and the lease is issued, the lessee has the right to use the leased lands to explore and drill for all of the oil and gas within the lease boundaries, subject to the stipulations attached to the lease, restrictions derived from specific nondiscretionary statutes, and other reasonable measures to

minimize adverse impacts." EA at 1-4 (citing 43 C.F.R. § 3101.1-2). Although BLM considered an alternative imposing NSO stipulations for all parcels, it did not adopt this alternative. Thus, allowing leasing here is an irretrievable commitment of resources. Second, BLM admits that the leases are in areas that have seen extensive development and that 46% of federal leases are in production. *See* EA at 3-19. BLM is not required to know every single detail before analyzing the environmental impacts. Instead, impacts must simply be reasonably foreseeable. *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 70 (D.D.C. 2019) (holding that "BLM could have expressed [greenhouse gas emissions] forecasts as ranges, and it could have explained the uncertainties underlying the forecasts, but it was not entitled to simply throw up its hands and ascribe any effort at quantification to "a crystal ball inquiry.") (citing *Scientists' Inst. For Pub. Info. v. Atomic Energy Comm'n.*, 481 F.2d 1079, 1092 (D.D.C. 1973). Here, because these factors are met, BLM is required by law to conduct a site-specific analysis of the impacts from the issuance of its leases at the lease sale stage.



The September 2020 lease parcels are barely visible underneath active gas wells (in red), active oil wells (in black), and active coalbed methane wells (in green).

BLM relies on the outdated language from the Tenth Circuit's decision in *Park County Resource Council, Inc. v. U.S. Department of Agriculture*, 817 F.2d 609 (10th Cir. 1987), to conclude that the filing of an APD may be the first useful point at which a site-specific environmental appraisal can be undertaken. EA at 1-3. But, the Tenth Circuit in *New Mexico ex. rel. Richardson v. U.S. Bureau of Land Management*, directly addressed the *Park County* decision and held that it, in conjunction with the decision in *Pennaco Energy v. U.S. Department of Interior*, 377 F.3d 1147 (10th Cir. 2004), established that "there is no bright line rule that site-specific analysis may wait until the APD. Instead, the inquiry is necessarily contextual." 565

F.3d at 717. The court then laid out two factors to determine whether a NEPA analysis was required at the lease sale stage: 1) whether an irretrievable had occurred and 2) whether environmental impacts were reasonably foreseeable." *Id.* at 718. Here, both factors are met and thus BLM is required to conduct a full site-specific analysis of the environmental impacts from the September 2020 lease sale.

Ultimately, as recognized by numerous courts, the lease sale is the point of no return for the BLM. *See e.g.*, *New Mexico ex. rel. Richardson*, 565 F.3d at 717–18; *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d at 65 ("While it may be true that after the leasing stage BLM can impose conditions to limit and mitigate GHG emissions and other environmental impacts, the leasing stage is the point of no return with respect to emissions. Thus, in issuing the leases BLM "made an irrevocable commitment to allow some " GHG emissions. BLM was therefore required to fully analyze the reasonably foreseeable impacts of those emissions at the leasing stage.") (quoting *Sierra Club v. Peterson*, 717 F.2d 1409, 1414 (D.C. Cir. 1983)). Thus, here, unless the BLM includes a NSO stipulation for every parcel, the agency is required to conduct a site-specific analysis.

Finally, the need to do a full NEPA at the lease sale stage is further supported by the fact that BLM has frequently approved APDs without additional NEPA analysis. For example, the BLM has approved or is planning to approve:

- 30 new oil and gas wells in the Buffalo Field Office, Anschutz Oil Company, Crossbow East III Oil and Gas Plan of Development, https://eplanning.blm.gov/epl-front-office/projects/nepa/122966/175046/212601/CX_Anschutz_CrossbowEastIIIPOD_signed.pdf;
- 1 new oil well in the Cody Field Office, Merit Custer 53H Well APD, Categorical Exclusion, DOI-BLM-WY-R020-2019-0048-CX, https://eplanning.blm.gov/epl-front-office/eplanning/projectSummary.do?methodName=renderDefaultProjectSummary&projectId=121302;
- 1 new oil and gas well in the Cody Field Office, Merit Energy, Spring Creek Unit 107 Well, DOI-BLM-WY-R020-2019-0043-CX, https://eplanning.blm.gov/epl-front-office/eplanning/projectSummary.do?methodName=renderDefaultProjectSummary&projectId=121295;
- 3 new oil and gas wells in the Rawlins Field Office, Southland Royalty Company, Chain Lakes Fed I4 32-8H Natural Gas Well, DOI-BLM-WY-D030-2019-0072-CX, https://eplanning.blm.gov/epl-front-office/eplanning/projectSummary.do?methodName=renderDefaultProjectSummary&projectId=1500827;
- 1 new oil and gas well in the Worland Field Office, Merit Energy Company, Curtis 2H APD, DOI-BLM-WY-R010-2019-0044-CX, https://eplanning.blm.gov/epl-front-office/eplanning/projectSummary.do?methodName=renderDefaultProjectSummary&projectId=122133.[33]

[33] It should be noted that this list of categorical exclusions only includes a handful of the CXs proposed for approval or approved with the relevant BLM field offices.

In sum, unless BLM actually commits, through the imposition of a lease stipulation or stipulations, to conduct additional NEPA analysis at the drilling stage, it more often than not does not happen. This means that any commitment to address the impacts development of the proposed leases through subsequent NEPA is, at best, hollow, and at worst, a deliberate attempt to avoid accountability to addressing potentially significant, connected environmental impacts under NEPA.

D. BLM Fails to Analyze a Range of Reasonable Alternatives.

NEPA requires agencies to "present the environmental impacts of the proposal and the alternatives *in comparative form, thus sharply defining* the issues and providing a clear basis for choice among options by the decisionmaker and the public." 40 C.F.R. § 1502.14 (emphasis added). An agency violates this provision of NEPA where it considers "essentially identical" alternatives." *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1039 (9th Cir. 2008). Indeed, as noted above, a federal district court recently invalidated a BLM alternatives analysis because of "BLM's failure to consider any alternative that would decrease the amount of extractable coal available for leasing[.]" *Western Org. of Resource Councils v. U.S. Bureau of Land Mgmt.*, CV 16-21-GF-BMM, 2018 WL 1475470, at *9 (D. Mont. Mar. 26, 2018) ("*WORC*"). The court reasoned that because BLM's statutory mandate included "tak[ing] into account the long-term needs of future generations for renewable and nonrenewable resources," the agency could have eliminated coal from its available leasing. *Id.* at *7. The same logic extends to all nonrenewable resources such as oil and gas as well.

Here, similar to the *WORC* case, BLM has failed to consider any alternatives that significantly reduce the permitted development in order to address other resource concerns such as air quality or climate change. *See* EA at 2-10. Instead, BLM offers an alternative that would lease all available parcels that do not conflict with existing coal resources (a total 155 parcels) and a no action alternative that would lease no parcels. This all-or-nothing approach leaves BLM and the public without any basis with which to compare and contrast the various proposals or otherwise determine the best course of action.

Although BLM does note that it considered three other alternatives, BLM fails to explain why it did not consider an alternative that would eliminate leasing the Upper Green River ozone nonattainment area or an alternative that would reduce greenhouse gas emissions from deeper, more emissions-heavy wells. As noted above, consideration of such an alternative is well within BLM's statutory mandate. *Western Org. of Resource Councils*, 2018 WL 1475470, at *7. Indeed, various agencies policies, including guidance from the CEQ, note that, "[c]onsidering alternatives, including alternatives that mitigate GHG emissions, is fundamental to the NEPA process and accords with NEPA Sections 102(2)(C) and 102(2)(E)."[34] At a minimum, BLM must

[34] *See* CEQ, *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* at 14 (2016), https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 17). Although the Trump Administration has since revoked the CEQ's August 2016 Climate Guidance, BLM is still bound by the CEQ's

consider these alternatives and discuss why they do or do not meet BLM's statutory mandates. *See WildEarth Guardians v. U.S. Bureau of Land Mgmt.,* No. CV-18-73-GF-BMM, 2020 WL 2104760, at *7 (D. Mont. May 1, 2020).

E. BLM Fails to Fully Analyze the Impacts of Multi-Stage Hydraulic Fracturing and Horizontal Drilling in Violation of NEPA and FLPMA.

NEPA imposes "action forcing procedures … requir[ing] that agencies take a hard look at environmental consequences." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (citations omitted). "Taking a hard look includes considering all foreseeable direct and indirect impacts . . . [and] involve a discussion of adverse impacts that does not improperly minimize negative side effects." *League of Wilderness Defs.-Blue Mountains Biodiversity Project v. U.S. Forest Serv*., 689 F.3d 1060, 1075 (9th Cir. 2012) (citing *N. Alaska Envtl. Ctr. v. Kempthorne*, 457 F.3d 969, 975 (9th Cir. 2006)) (internal quotations omitted).

Multiple courts have held that if BLM plans to allow a new oil and gas extraction technique, the agency must analyze the impacts of this technique in either a programmatic or project-specific NEPA document. *See Pennaco Energy, Inc. v. U.S. Dep't of the Interior*, 377 F.3d 1147, 1151, 1153 (10th Cir. 2004) (holding that when a new fossil fuel extraction technology becomes commercially viable, and creates "changed circumstances" such that production of energy with the new technology is "significantly different" than production using previously considered technology, an agency permitting activities utilizing the new technology must take new environmental impacts into account as part of the NEPA process); *see also Ctr. for Biological Diversity v. Bureau of Land Mgmt.*, 937 F. Supp. 2d 1140, 1157 (N.D. Cal. 2013) (invalidating a BLM lease sale because "the scale of fracking in shale-area drilling today involves risks and concerns that were not addressed by the PRMP/FEIS' general analysis of oil and drilling development in the area"); *ForestWatch v. U.S. Bureau of Land Mgmt.*, 2016 WL 5172009, Case No. CV-15-4378-MWF (JEMx) (C.D. Cal. Sept. 6, 2016) (accord); *Dine Citizens Against Ruining Our Environment v. Bernhardt*, 923 F.3d 831, 851 (2019) (holding that BLM needed to—but did not—consider the cumulative impacts to water resources associated with the 3,960 reasonably foreseeably horizontal Mancos Shale wells.").

Today, 67% of the U.S.'s natural gas comes from wells that use fracking, and 50% of the U.S.'s oil comes from wells that use fracking.[35] *Id.* With the use of fracking comes a myriad of potentially significant environmental impacts.[36] Fracking has not only opened up vast areas of minerals that were previously uneconomical to extract—thereby expanding the total land area impacted by development—the process of fracking also causes different and more intense impacts to our public health, air, water, land, and wildlife. *Diné Citizens Against Ruining Our*

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current NEPA regulations, as discussed at the outset, and existing case law incorporating the requirements of the Guidance. *See, e.g.*, *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017).

[35] *See* U.S. Energy Info. Admin., *Hydraulically Fractured Horizontal Wells Account For Most New Oil And Gas Wells*, Jan. 30, 2018, https://www.eia.gov/todayinenergy/detail.php?id=34732 (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 18).

[36] *See generally* Fracking Compendium & TEDX Health Effects, *supra*.

Env't v. Jewell, No. CIV 15-0209 JB/SCY, 2015 WL 4997207, at *11 (D.N.M. Aug. 14, 2015), aff'd, 839 F.3d 1276 (10th Cir. 2016) (finding that "directional drilling causes roughly double the surface impacts of vertical drilling on a well-for-well basis" and that "[i]t can take five to ten times more water to frack a directionally drilled well than a vertical well."). Because the geographic range, the extraction technology, and the type and intensity of oil and gas development has changed significantly in the last decade, BLM must analyze these impacts in either a revised RMP and accompanying FEIS or an EIS for the lease sale. Unfortunately, the EA for the September 2020 lease sale fails to meet these requirements.

BLM will likely contend that its 2013 white paper (EA at Section 5.6) is sufficient under NEPA and that actual levels of development cannot be reasonably determined at the lease sale stage. But, the white paper cannot meet the requirements of NEPA for several, related reasons. First, the white paper is a summary of the process of fracking and ultimately omits key, site-specific information of the impacts of fracking. For example, in it BLM notes that emissions impacting air quality may result from fracking but fails to quantify or otherwise disclose these emissions. Instead the agency punts on this issue, noting "[e]missions associated with a project and HF if proposed will be analyzed through a site specific NEPA document to ensure the operation will not cause a violation of the Clean Air Act." EA at 5-107. This is entirely insufficient under NEPA. Other BLM offices routinely disclose well emissions at the leasing state. For example, the Colorado BLM included the following chart in its September 2019 EA.[37]

Table G-1: Typical New Well Emissions (TPY)*

Parameter	PM_{10}	$PM_{2.5}$	VOC	NO_X	CO	SO_2	CO_2e	HAPs
Construction / Development (Per well)	2.63	0.77	4.09	12.35	9.65	0.37	17,356.8	0.19
Production** (Per well)	0.15	0.08	3.69	2.48	3.55	0.03	131,280.8	0.23

*Weighted average based on 11 recent / new projects in the area of the parcels.

**CO2e production emissions include down-stream combustion.

And, as noted above, the New Mexico BLM included a similar chart in its November 2019 lease sale EA.[38] Although these charts do not specifically break out air emissions from fracturing, they at least estimate emissions per well based on the specific lease parcels instead of entirely deferring any substantive analysis to the APD stage.

BLM also fails to fully analyze impacts to water quality. Although we appreciate that BLM now admits that impacts to water can occur as a result of oil and gas development, we request that BLM analyze the impacts to water quality from the proposed lease parcels and the use of hydraulic fracturing given the significant risks.

[37] BLM, EA for the September 2019 Competitive Oil & Gas Lease Sale, Royal Gorge Field Office (2019), https://eplanning.blm.gov/epl-front-office/projects/nepa/120679/172735/209879/RGFO_EA_Comment_Sept2019.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 19).

[38] BLM, Carlsbad Field Office, November 2019 EA, *supra*.

A variety of studies have found that fracking and other processes can contaminate water resources. For example, EPA concluded in its 2016 study that "hydraulic fracturing water cycle . . . can impact drinking water sources under some circumstances."[39] EPA also found that:

> "[T]he presence of other wells near hydraulic fracturing operations can increase the potential for hydraulic fracturing fluids or other subsurface fluids to move to drinking water resources. There have been cases in which hydraulic fracturing at one well has affected a nearby oil and gas well or its fracture network, resulting in unexpected pressure increases at the nearby well, damage to the nearby well, or spills at the surface of the nearby well. These well communication events, or "frac hits," have been reported in New Mexico, Oklahoma, and other locations.[40]

The most recent Fracking Compendium has additional data to support the conclusion that water contamination from fracking occurs everywhere:[41]

- In February 2019, the U.S. Justice Department reached a settlement with Antero Resources Corporation over claims that it violated the Clean Water Act at 32 different drilling and fracking-related sites in West Virginia. The violations involved unauthorized dumping of fracking waste into local waterways.
- In November 2018, three scientists found that contaminated drinking water in Pavillion, Wyoming was likely caused by gas leaking from faulty gas wells as well as by leaks from 40 unlined pits that, for many years, served as dumps for drilling wastewater. The scientists presented their findings to the community in advance of publishing a peer-reviewed scientific journal article. Statistical analyses show a correlation between what was disposed of in the pits and contaminants appearing in nearby drinking water wells. One of the former EPA scientists told community members that the Wind River Formation drinking water aquifer will likely never be cleaned up. A preliminary report from the EPA in 2011 about groundwater contamination in Pavillion was never finalized.
- In August 2018, a Yale University team collected drinking water samples from 66 households in Belmont County, Ohio that were located at varying distances away from well pads and analyzed them for the presence of fracking-related chemical contaminants. They also interviewed residents about their health symptoms. The primary goal of this exploratory study was to determine whether residential proximity to fracked wells was related to detection and concentrations of health-relevant drinking water contaminants. A second objective was to evaluate possible relationships between proximity to wells and health complaints in the community. The team found that all homes had at least one volatile organic compound or other organic compound above detectable levels and that prevalence of contaminants in

[39] EPA, Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States ES-3 (2016) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 20).

[40] *Id.* at ES-32.

[41] Fracking Compendium, *supra*, at 70–79.

drinking water, including toluene, bromoform, and dichlorobromomethane, was higher in homes closer to the wells.

- In January 2018, the Pennsylvania Department of Environmental Protection determined that fracking wastewater that had leaked from a storage pit contaminated groundwater and rendered a natural spring used for drinking water in Greene County undrinkable.

Data also suggests that there is a greater risk for structural integrity issues, e.g. casing failures, between unconventional and conventional oil and gas wells.[42] Thus, we request here that BLM evaluate the specific lease parcels, discuss whether potential wells could use fracking, at what approximate depth this will occur, potential geological formations which could be impacted, and other appropriate data to assess the risk to water quality from the lease sale.

We also request that BLM take its analysis of impacts to water quantity a step further by estimating water usage from the lease sale as required by law. In *San Juan Citizens Alliance v. United States Bureau of Land Management*, 326 F. Supp. 3d 1227, 1252–54 (D.N.M. 2018), a challenge to oil and gas leases in a national forest, a federal district court held that "given several other cases in which water usage was quantified prior to the application for permit to drill stage, the Court is not persuaded by BLM's unsupported conclusion that it did not have enough information to calculate water usage." Following this, the New Mexico BLM has been including in its leasing EAs a breakdown of the average water use per horizontal well in the Pecos District (31.2 acre feet).[43] Moreover, the New Mexico BLM relied on a recent report by Andrew Kondash et al. describing the increasing water footprint of hydraulic fracturing[44] along with information from FracFocus to calculate this number. This approach can be applied here. The Kondash et al. report includes information on water usage in the Niobrara shale of Wyoming and based on the heavily developed nature of Wyoming, there is no doubt that FracFocus contains many entries for Wyoming to rely on to develop at least basin specific water usage statistics.

Finally, BLM's lack of analysis on the impacts from fracking not only violates NEPA but also violates FLPMA. As noted above, FLPMA requires that the BLM amend an RMP whenever there is a need to "[c]onsider a proposal or action that does not conform to the plan," "respond to new, intensified, or changed uses on public land," or "consider significant new information from resource assessments, monitoring, or scientific studies that change land use plan decisions." BLM Land Use Planning Handbook, H-1610-1, Section VII.B at 45. At a minimum, the use of multi-stage fracking coupled with horizontal drilling in the Newcastle Field Office and the Rock

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[42] Anthony R. Ingraffea et al., Assessment and Risk Analysis of Casing and Cement Impairment in Oil and Gas Wells in Pennsylvania, 2000-2012, PNAS 1, 2 (2013) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 21).

[43] BLM, Pecos District Office, September 2019 Competitive Oil and Gas Lease Sale, Draft Environmental Assessment, DOI-BLM-NM-P000-2019-0003 at 83 (2019), https://eplanning.blm.gov/epl-front-office/projects/nepa/120849/172557/209696/PDO_Sept_2019_Lease_Sale_EA_09May2019_508.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 22).

[44] Kondash, A. J., et al., The Intensification of the Water Footprint of Hydraulic Fracturing. Science. (2018), https://advances.sciencemag.org/content/advances/4/8/eaar5982.full.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 23).

Springs Field Office (Green River RMP) constitutes a "new, intensified, or changed use[] on public land." Based on the date of these respective RMPs, September 2000[45] and October 1997,[46] there is no way that BLM has accounted for the impacts of fracking. As a result, BLM cannot move forward with leasing the parcels in this area until it either completes amendment to these RMP and includes a full analysis of the impacts of fracking and horizontal drilling in a revised lease sale EA.

F. BLM's Analysis of the Direct and Indirect Impacts of Greenhouse Gas Emissions that Would Result from Issuance of the Proposed Lease Parcels Violates NEPA's "Hard Look" Requirement.

Within the context of climate change, NEPA requires BLM to quantify and discuss the significance of the direct, indirect, and cumulative greenhouse gases generated by its proposed action. 40 C.F.R. §§ 1502.16 (outlining what's required in an impacts analysis), 1508.7 (defining cumulative impacts), 1508.8 (defining direct and indirect impacts); *Western Org. of Res. Councils v. U.S. Bureau of Land Mgmt.*, CV 16-21-GF-BMM, 2018 WL 1475470, (D. Mont. Mar. 26, 2018) (requiring consideration of climate change at the RMP stage); *Sierra Club v. Fed. Energy Regulatory Comm'n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017) (requiring quantification of indirect, downstream greenhouse gas emissions from combustion of natural gas carried by a pipeline); *Center for Biological Diversity v. National Highway Traffic. Admin.*, 538 F.3d 1172, 1215 (9th Cir. 2008) (requiring assessment of the cumulative impacts of climate change); *San Juan Citizens All. v. United States Bureau of Land Mgmt*., 326 F. Supp. 3d 1227, 1244 (D.N.M. 2018) (requiring an analysis of climate impacts at the oil and gas leasing stage); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41 (D.D.C. 2019) (requiring a robust analysis of the direct and indirect climate impacts from nine lease sales as well as a quantitative, regional cumulative impacts analysis of reasonably foreseeable BLM lease sales in the region); *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, No. CV-18-73-GF-BMM, 2020 WL 2104760, at *1 (D. Mont. May 1, 2020) (requiring an assessment of the cumulative impacts on climate from oil and gas leasing, including an assessment of the lease sales "in combination with each other, not simply in the context of state and nation-wide emissions").

Here, although the Conservation Groups appreciate the fact that the Wyoming BLM has calculated per parcel direct and indirect greenhouse gas emissions, the agency's analysis is incomplete and misleading. As BLM explains, it calculates per parcel greenhouse gas emissions on a prorated basis. BLM took total emissions from its Reasonably Foreseeable Development Scenarios for each field office and divided it by the total acreage open for leasing under the various RMPs to come up with average emissions per acre. EA at 4-9 (direct), 4-11 (indirect). BLM then multiplies that per acre amount by the acreage in each lease parcel. *Id.* Unfortunately, this approach is ultimately misleading because it treats each acre as equally productive. In reality, certain areas in established oil and gas basins will produce many more wells per acre than

[45] BLM, Record of Decision and Approved Resource Management Plan for Public Lands Administered by the Newcastle Field Office, September 2000, https://eplanning.blm.gov/public_projects/lup/63095/75574/83682/nfo-rmp.pdf.

[46] BLM, Record of Decision and Green River Resource Management Plan, October 1997, https://eplanning.blm.gov/public_projects/lup/63096/75581/83689/greenriver-rmp.pdf.

others. For example, as noted in the Pinedale RMPs, a township in high development areas could produce 100 to 500 wells.[47] But, other well parcels may produce many fewer wells. To remedy this, we request that Wyoming BLM take the approach that other state offices have used where the agency estimates the number of wells per parcel based on location of the well above specific formations. If BLM were to do this, the agency would be able to parse speculative lease parcels from those in established fields, instead of considering the entire lease sale as one block. From this, BLM would be able to determine high impact and low impact parcels based on greenhouse gas emissions. Having this information would allow BLM to consider alternatives to address greenhouse gas emissions for each lease sale (e.g., by excluding speculative, high-emitting parcels). Unfortunately, Wyoming BLM refuses to take this step despite the fact that other BLM routinely estimate such information.

For example, the New Mexico BLM included the following chart in its November 2019 EA. BLM first estimated that 94 wells would result from 10 lease parcels based on the intersection of oil and gas plays and surrounding well densities to the lease parcels.[48] BLM then used this well number and EPA's greenhouse gas emission inventory to calculate a per well CO2e factor. Although this approach is far from perfect, because BLM estimates the number of wells per parcel based on proximity to actual development, it provides a way to more accurately assess the actual impacts of parcels within established oil and fields.

[47] *See* Pinedale RMP, *supra*.

[48] BLM NM, November 2019 EA, *supra*.

Number of Well Completions	2014	2015	2016	2017	2018
Carlsbad Field Office	384	238	141	184	238
Roswell Field Office	7	1	4	2	8
Hobbs Field Office	193	161	244	192	272
Total	584	400	389	378	518
Metric Tons of CO_2e/year	731,517	501,039	487,260	473,482	648,846

Table 3.10. Estimated Annual GHG Emissions from O&G Well Construction and Operation

Annual GHG Emissions	Metric Tons (CO_2e)
Potential GHG Emissions from well Development (94 wells, Year 1 only)	105,824
Potential GHG Emissions from Production Phase (94 wells)	11,920
Total	117,744
Average GHG Emissions 2014-2018 Pecos District Planning Area (Includes Carlsbad, Roswell and Hobbs FOs)	568,429

Similarly, for the March 2018 oil and gas lease sale draft EA,[49] the Billings Field Office in Montana calculated estimated downstream GHG emissions using the following table:

Table 11. Estimated Downstream GHG Emissions due to Fossil Fuel Combustion

County	# of wells estimated for March 2018 Leasing EA		Ave oil prod. Rate (BBL/day/well)	Ave. gas prod. Rate (MCF/day/well)	CO_2 Combustion emission factor (g/MMBTU)	CH_4 Combustion emission factor (g/MMBTU)	N_2O Combustion emission factor (g/MMBTU)	CO_2 Emissions (metric tons)	CH_4 Emissions (metric tons)	N_2O Emissions (metric tons)	CO_2eq Million Metric Tons/Year (MMTY)
	oil	gas									
Carbon	1	0	11.3	0	74,000	10	0.6	1770.24	0.24	0.01	0.0018
Carbon	0	1	0	33	53,060	1	0.1	655.09	0.01	0.00	0.0007
Musselshell	1	0	7	0	74,000	10	0.6	1096.61	0.15	0.01	0.0011
Sweetgrass	0	1	0	17	53,060	1	0.1	327.54	0.01	0.00	0.0003
Stillwater	0	1	0	19	53,060	1	0.1	377.17	0.01	0.00	0.0004
											0.0042

References: http://bogc.dnrc.mt.gov/onlinedata.asp , https://www.eia.gov/oiaf/1605/coefficients.html#tbl3 , https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s03.pdf

This approach follows in a similar vein with New Mexico and takes into account the varying development potential per parcel.

[49] The full Billings FO March 2018 EA is available on BLM's ePlanning website at: https://eplanning.blm.gov/epl-front-office/projects/nepa/87544/127696/155392/Billings_March13_2018_Oil_and_Gas_Lease_Sale_EA.pdf.

In addition, BLM could use the information in the Kleinfelder Report to, at a minimum, more accurately estimate per well emissions for the Upper Green River Basin (Pinedale Field Office) parcels.[50]

TABLE 1-2
SUMMARY OF EMISSION ESTIMATES FOR A SINGLE OIL OR GAS WELL

Well Type:	Gas	Gas	Gas	Oil	Oil
Pollutant	Uinta/ Piceance (tpy)	Upper Green River (tpy)	San Juan (tpy)	Williston (tpy)	Denver (tpy)
NOx	15.6	14.6	5.6	15.6	6.3
CO	3.8	3.9	3.1	8.0	3.4
VOC	3.4	5.2	5.3	17.6	6.7
SO_2	0.0004	0.0004	0.001	0.001	0.001
PM_{10}	6.9	6.7	6.8	6.9	6.6
$PM_{2.5}$	0.8	0.8	0.5	0.8	0.5
CO_2	2,552.1	2,882.1	651.9	3,156.4	1,049.0
CH_4	12.2	14.1	6.1	16.6	1.8
N_2O	0.05	0.05	0.04	0.6	0.04
GWP	2,825	3,194	791	3,682	1,099
Benzene	1.4	1.5	1.4	1.5	1.4
Toluene	1.0	1.2	1.0	1.0	1.0
Ethylbenzene	0.00003	0.01	0.0008	0.0008	0.0006
Xylene	0.6	0.7	0.6	0.6	0.6
n-Hexane	7.5	7.5	7.5	7.9	7.5
Total HAPs	10.4	10.9	10.5	11.0	10.5

Note: Sums may not precisely total due to round off differences. A value of 0.00 indicates that pollutant is not emitted or emitted in de minimis amounts. If there is a non-zero value, at least one significant figure is reported. Greenhouse gas emissions are in terms of short tons CO_2, CH_4, and N_2O. Global Warming Potential (GWP) is in terms of short tons of CO_2 equivalent (CO_2e), using a GWP of 1 for CO_2, 21 for CH_4, and 310 for N_2O.

Finally, BLM must assess the significance of direct and indirect emissions rather than precluding this assessment by comparing a single lease sale to statewide, national, and global emissions. *See WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, No. CV-18-73-GF-BMM, 2020 WL 2104760, at *11 (D. Mont. May 1, 2020). As we have suggested in the past, BLM could compare alternatives within a lease sale where the agency has reduced the total number of parcels. Or BLM could compare direct and indirect emissions to other BLM Wyoming lease sales. Either way, it is clear that BLM is required to complete an assessment of significance under NEPA and the EA as proposed fails to meet this standard.

Ultimately, BLM has additional tools to ensure the accuracy of its greenhouse gas emissions quantification and assess significance, and we request that BLM use these to better inform the public and better inform its decision as required by NEPA.

G. BLM Fails to Fully Analyze the Cumulative Impacts that Will Occur as a Result of Greenhouse Gas Emissions from the Lease Sale.

BLM also fails to fully analyze the cumulative impacts that will occur as a result of greenhouse gas emissions from the lease sale parcel in conjunction with other reasonably foreseeable actions.

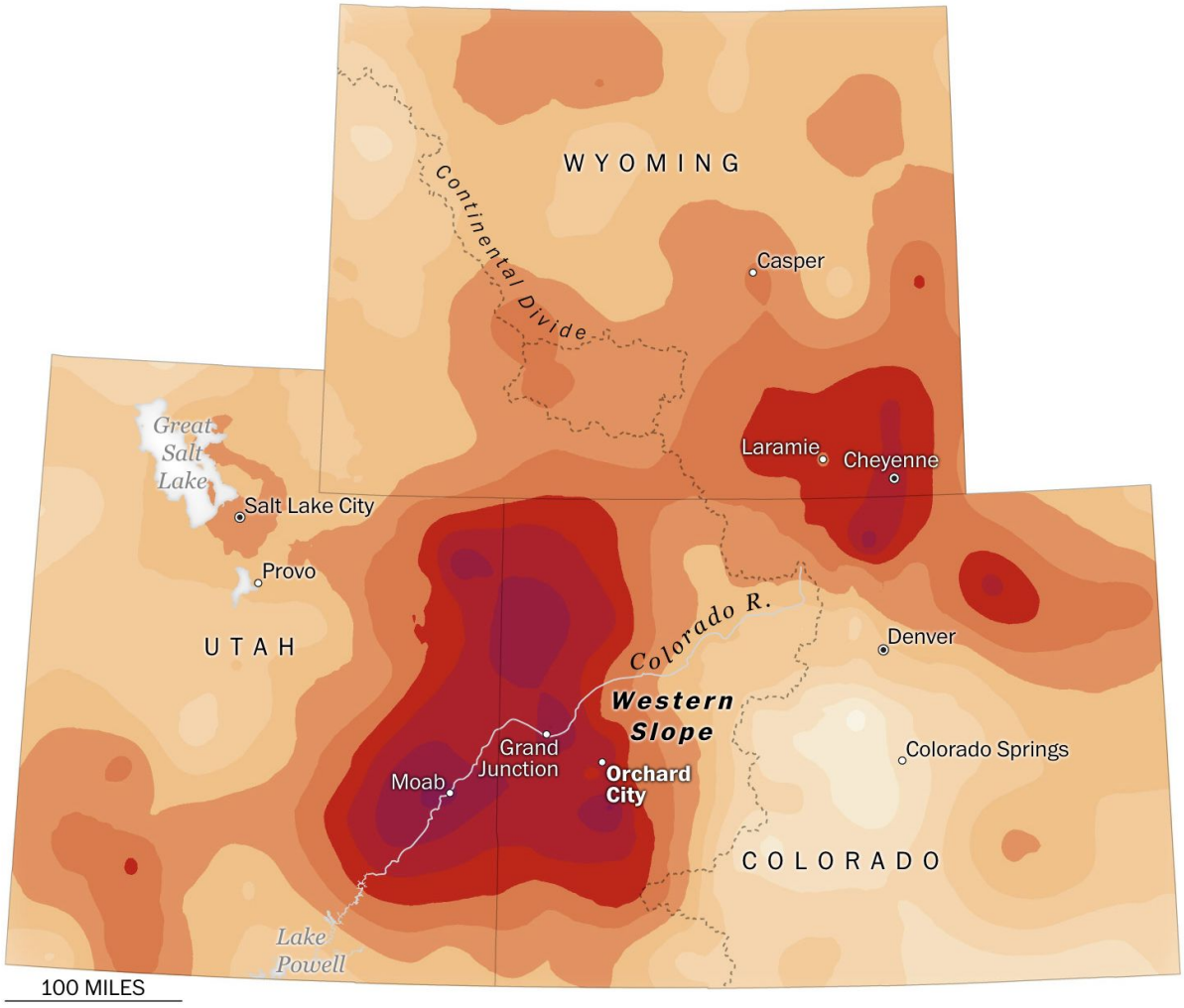
According to NEPA, "[c]umulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and

[50] Kleinfelder, *supra*.

reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." 40 C.F.R. § 1508.7. "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." *Id.* NEPA requires an agency to analyze the impacts of "similar" and "cumulative" actions in the same NEPA document in order to adequately disclose impacts in an EIS. *Id.* §§ 1508.25(a)(2) and (3). Similar actions are those which have "common timing and geography." *Id.* § 1508.25(a)(3).

This is exactly what the federal oil and gas leasing program presents—individual actions with collectively significant impacts. And, the cumulative impacts of fossil fuel emissions from federally authorized activities, such as oil and gas extraction in the western United States, is already contributing to severe local and regional impacts associated with climate change. According to data collected by the National Oceanic and Atmospheric Association and analysis conducted by the Washington Post, sizable portions of the American West, as depicted in the map below, have already warmed more than 2 degrees celsius -- double the global average.[51] This data shows Wyoming, as a whole, has warmed significantly since 1895, with the southeastern portion of the state currently showing the most significant change.[52] And, the largest 2C hot spot in the lower 48 is located just south of Wyoming, along the Colorado-Utah Border.[53]

[51] Eilperin, J., "This giant climate hot spot is robbing the West of its water," Washington Post (August 7, 2020), https://www.washingtonpost.com/graphics/2020/national/climate-environment/climate-change-colorado-utah-hot-spot/?utm_campaign=wp_post_most&utm_medium=email&utm_source=newsletter&wpisrc=nl_most.
[52] *See id.*
[53] *Id.*



Under NEPA, BLM has a duty to catalogue these lease sales and assess the cumulative impacts from them. *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, No. CV-18-73-GF-BMM, 2020 WL 2104760, at *11 (D. Mont. May 1, 2020). For example, BLM has sold, is selling, and will be selling millions of acres of oil and gas leases in the West, including:

- Wyoming:
    - In February 2019, the Wyoming BLM held a special lease sale selling 437 parcels, https://www.blm.gov/press-release/blm-wyoming-oil-and-gas-lease-sale-garners-nearly-88-million.

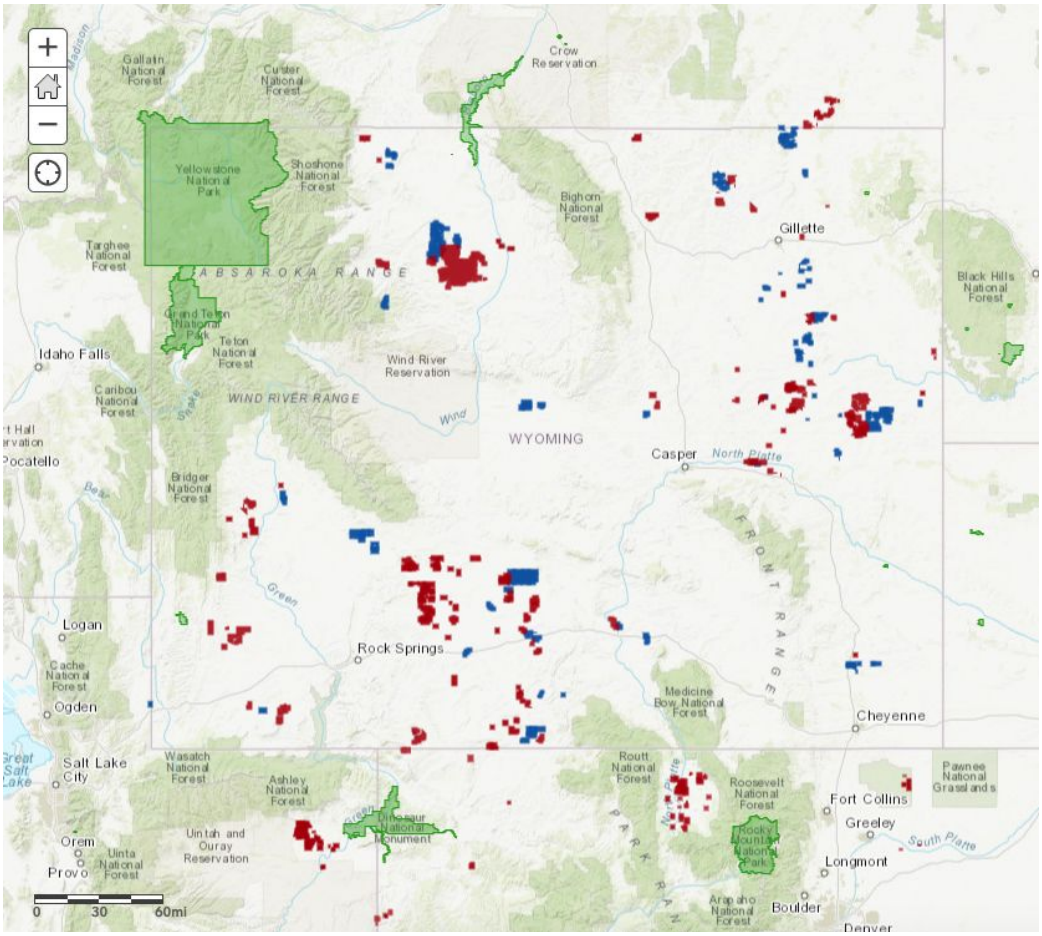
- In March 2019, Wyoming sold 114 parcels, https://eplanning.blm.gov/epl-front-office/projects/nepa/117392/169203/205794/Press_Release.20190320.pdf.
- In June 2019, BLM sold 151 parcels comprising 186,013.53 acres, https://www.energynet.com/library/secure/mime/application/pdf/1735201/Sale_Results_June2019.pdf?s=cTBQtpAW5travjSRDQvV6w&e=1566622800.
- In September 2019, BLM sold 175 parcels totaling 264,000 acres, https://eplanning.blm.gov/epl-front-office/projects/nepa/117392/20004145/250004933/PR_09.19LeaseSale_Results.pdf.
- In December 2019, BLM sold 123 parcels totaling 123,257.56 acres, https://www.energynet.com/govt_listing.pl?sg=5172.
- For March 2020, BLM sold 75 parcels (71,688.5 acres), https://www.energynet.com/govt_listing.pl?sg=5214.

- Colorado:
  - BLM sold 5 parcels (1,055.150 acres) at its March 2019 sale, https://eplanning.blm.gov/epl-front-office/projects/nepa/115103/169660/206230/Sale_Results_March2019.pdf.
  - For its June 2019 lease sale, BLM sold 17 parcels (8,176.84 acres), https://eplanning.blm.gov/epl-front-office/projects/nepa/119117/175852/214216/Sale_Results_June2019.pdf.
  - For its September 2019 lease sale, BLM sold 49 parcels (42,148.72 acres), https://eplanning.blm.gov/epl-front-office/projects/nepa/121040/20004618/250005475/Sale_Results_Sept2019.pdf.
  - For the March 2020 lease sale, BLM sold 9 parcels totaling 10,414.62 acres, https://eplanning.blm.gov/epl-front-office/projects/nepa/1501731/20015361/250020503/Sale_Results_March2020.pdf.

- Montana:
  - For the March 2019 lease sale, BLM sold 96 parcels totaling 62,381.12 acres, https://www.blm.gov/sites/blm.gov/files/ResultsList%20%281%29.pdf.
  - For the June 2019 sale, BLM sold 34 parcels (9,436.83 acres) of public lands, https://www.blm.gov/sites/blm.gov/files/ResultsList.pdf.
  - For its September 2019 lease sale, BLM sold 13 parcels amounting to 7,817.89 acres, https://www.blm.gov/sites/blm.gov/files/9-24-19%20Sale%20Results%20-%20NFLSS.pdf.
  - In December 2019, BLM sold 14 parcels totaling 11,921.84 acres, https://www.blm.gov/sites/blm.gov/files/12_18_19%20Competitive%20Oil%20%26%20Gas%20Sale.pdf.
  - And, in March 2020, BLM sold 8 parcels totaling 5,180.84 acres, https://www.blm.gov/sites/blm.gov/files/Comp%20Sale%20Results%2003_24_2020.pdf.

- Utah:
    - For March 2019, BLM sold 90 parcels totaling 135,123.47 acres, https://eplanning.blm.gov/epl-front-office/projects/nepa/117403/169445/206045/4UtahSaleResultsSummary.pdf.
    - For June 2019, BLM sold 8 acres totaling 9,822.52 acres, https://eplanning.blm.gov/epl-front-office/projects/nepa/119572/174908/212467/3-June2019_CompSaleResultsSummary.pdf.
    - For September 2019, BLM sold 63 parcels (70,345.40 acres), https://eplanning.blm.gov/epl-front-office/projects/nepa/121035/20003558/250004196/CompSaleResultsSummary.pdf.
    - For the December 2019 sale, BLM sold16 parcels totaling 9,486.94 acres, https://eplanning.blm.gov/epl-front-office/projects/nepa/123688/20009969/250011670/UtahCompSaleResultsSummary.pdf.
    - And, for the March 2020 sale, BLM sold 22 parcels totaling 28,491.58 acres, https://eplanning.blm.gov/epl-front-office/projects/nepa/1501633/20014446/250019533/Mar2020CompSaleResultsSummary.pdf.

This argument is further supported by a look at the BLM lease sales in the area. As demonstrated by the map below, the Wyoming September 2020 sale is not occurring in a vacuum. Instead, it is surrounded not only by parcels in Wyoming but by parcels from the lease sales in 2020 in Colorado, Utah, and Montana, some of which have parcels only a few miles from the Wyoming border.



BLM lease sales in 2020 are in red. The Wyoming September 2020 sale is in blue. All GIS information obtained from the BLM.

Although, here, BLM includes some information on the cumulative impacts from BLM lease sales occurring in Wyoming and 2014 emissions data from surrounding states, BLM's analysis contains a number of arbitrary assumptions and data gaps. First, BLM arbitrarily limits its cumulative impacts analysis to reasonably foreseeable *federal* lease sales in Wyoming. EA at 85. This approach is directly contrary to the plain language of NEPA, which defines cumulative impacts as "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (*Federal or non-Federal*) or person undertakes such other actions." 40 C.F.R. § 1508.7 (emphasis added). The state of Wyoming also holds quarterly lease sales with parcels near BLM parcels. The March 2020 lease sale in Wyoming offered 243 parcels across the state, many of which are adjacent to the September 2020 parcels.[54]

Second, BLM fails to analyze current lease sales occurring in states within the region. Instead BLM relies on emissions data from 2014 from other states. But, this reliance on stale

[54] EnergyNet, Government Resources Listings, Wyoming Office of State Lands and Investments, Mar. 11, 2020, https://www.energynet.com/govt_listing.pl?sg=5226 (last visited June 11, 2020) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 24).

data fails to reflect the reality of the climate crisis. By only using 2014 data, BLM omits the drastic increase in leasing that has occurred under the Trump Administration.[55] BLM also ignores recent data demonstrating that U.S. greenhouse gas emissions increased in 2018 and that these increases were driven largely by oil and gas natural gas and ultimately replaced any emissions reductions from the decline of the coal industry.[56] BLM must rectify these errors before moving forward with the proposed lease parcels to properly reflect cumulative emissions.

H. BLM Fails to Consider the Significance of the Proposed Action Using Carbon Budgeting.

More importantly, BLM must properly assess the significance of the direct, indirect, and cumulative climate change impacts from the challenged lease sales. Simply providing GHG emissions in the abstract, or comparing lease sale emissions to regional and national totals, fails to inform the decision-maker and the public of the *significance* of the *impacts*. In other words, to appreciate the significance of the impacts of the lease sales, the decision-maker must understand the *context* in which those lease sales are occurring. That context is a global climate crisis.

While the court in *WildEarth Guardians v. Zinke* noted that the challenged EAs were not required to utilize global carbon budgeting to quantify climate impacts "at least at the time they were issued," BLM is, however, still required assess whether this tool is useful and required to properly explain the significance of GHG emissions from the lease sales in conjunction with other regional and national BLM actions, and in the context of the global climate crisis. 368 F. Supp. 3d 41, 83 (D.D.C. 2019). Carbon budgeting remains a valuable tool for assessing the significance of GHG emissions in the current context, and BLM must specifically assess whether carbon budgeting would contribute to informed decisionmaking.

A "carbon budget" offers a cap on the remaining stock of greenhouse gases that can be emitted while still keeping global average temperature rise below scientifically-based warming thresholds beyond which climate change impacts are highly likely to result in severe and irreparable harm to the biosphere and humanity. Carbon budgeting gets closer to the question of climate impacts, as opposed to comparing incremental project emissions to static annual emissions, because it is adjusted based on current day emission levels and remaining budgets for both the world and the U.S. Here, because BLM fails to assess significance in other ways, BLM must specifically assess whether other methodologies for quantifying climate change, such as carbon budgeting, would contribute to informed decisionmaking. *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 79 n.31 (D.D.C. 2019). Simply providing GHG emissions in the abstract, or comparing lease sale emissions to regional and national totals, fails to inform the decision-maker and the public of the *significance* of the *impacts*.

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[55] Kyla Mandel, Lack of Demand Hasn't Stopped Trump from Opening Tons of Lands to Oil and Gas Drilling, Think Progress, Apr. 12, 2019, https://thinkprogress.org/trump-interior-oil-gas-drilling/ (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 25).

[56] Global Carbon Project, Global Carbon Budget 2019, https://www.globalcarbonproject.org/carbonbudget/19/files/GCP_CarbonBudget_2019.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 26).

The science of carbon budgeting is not new. Starting in 2014, the IPCC calculated world carbon budgets and concluded that the only way to meet these budgets was to ratchet down fossil fuels. Specifically, the IPCC, in its 2014 AR5 Synthesis Report, found that carbon emissions from burning *existing* fossil fuel reserves—the known belowground stock of extractable fossil fuels—would considerably exceed both 2°C and 1.5°C of warming.[57] "Estimated total fossil carbon reserves exceed this remaining [world carbon budget] by a factor of 4 to 7."[58] In raw magnitude, global coal, oil and gas resources considered currently economically recoverable contain potential greenhouse gas emissions of 4,196 $GtCO_2$,[59] with the IPCC indicating they are as high as 7,120 $GtCO_2$.[60]

These findings are echoed by other research. To constrain warming within the 2°C guardrail, a 2015 study published in *Nature* found that "a third of oil reserves, half of gas reserves and over 80 percent of current coal reserves should remain unused from 2010-2050."[61] And, in a 2016 analysis, Oil Change International found that burning the oil, gas, and coal in the world's *currently operating* fields and mines would fully exhaust and exceed carbon budgets calibrated to constrain warming below 1.5°C or 2°C.[62] Moreover, Oil Change International found that burning the reserves in currently operating oil and gas fields, excluding coal mines, would alone lead to warming beyond 1.5°C.[63] Put simply, regardless of what IPCC carbon budget calculations are used, *most* of the existing oil and gas fields and coal mines will need to be closed before their reserves are fully extracted in order to limit warming to 1.5°C and that some existing fields and mines will need to be closed to limit warming to 2°C.[64]

More recently, the IPCC's 2018 *Global Warming of 1.5°C* special report provided a revised carbon budget for a 66 percent probability of limiting warming to 1.5°C, estimated at 420 $GtCO_2$ and 570 $GtCO_2$ depending on the temperature dataset used, from January 2018 onwards.[65]

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[57] IPCC AR5, Synthesis Report, Summary for Policymakers 63 (2014), http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 27).

[58] *Id.*

[59] Michael Raupach, *et al., Sharing a Quota on Cumulative Carbon Emissions*, 4 Nature Climate Change 873, 875 (2014) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 28).

[60] IPCC, AR5, *Climate Change 2014: Mitigation of Climate Change* at Table 7.2, https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_full.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 29).

[61] Christopher McGlade & Paul Ekins, *The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2°C*, 517 Nature 187 (2015) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 30).

[62] Greg Muttitt, *et al.*, Oil Change International, *The Sky's Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production* 6 (2016) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 31).

[63] *Id.*

[64] *Id.* at 5, 7.

[65] IPCC Special Report 15, Global Warming of 1.5°: Summary for Policy Makers at SPM-16 (2018), http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 32).

The IPCC also found that compared with the average global emissions rate of 36 $GtCO_2$ per year for 2012-2014, the global emissions rate had increased to 42 $GtCO_2$ per year.[66] At this rate, the global carbon budget would be expended in just 10 to 14 years, underscoring the urgent need for transformative global action to transition from fossil fuel use to clean energy.[67] In fact, according to the U.S. Global Change Research Program, we may have *already* burned through the world's entire carbon budget needed to limit average warming to 1.5°C.[68]

In effect, we're burning through our carbon budget at a rapid pace and thereby limiting the flexibility future generations may require or desire as they intensify our world's transition away from fossil fuels. BLM must acknowledge that the 155 lease parcels will continue generating GHG emissions long after the world's carbon budget has been exhausted. The agency must further assess the implications and impacts of its decisions to knowingly permit expansion of fossil fuel development and GHG emissions directly incompatible with meeting global carbon reduction targets.

To put these global carbon budgets in the specific context of domestic U.S. emissions and the U.S.' obligation to reduce emissions, the U.S. is the world's largest historic emitter of greenhouse gas pollution, responsible for 26 percent of cumulative global CO_2 emissions since 1870, and is currently the world's second highest emitter on an annual and per capita basis.[69] To conform to a 1.5°C target, the estimated U.S. carbon budget is 25 $GtCO_2eq$ to 57 $GtCO_2eq$ on average,[70] depending on the sharing principles used to apportion the global budget across countries.[71] The estimated U.S. carbon budget consistent with limiting temperature rise to 2°C ranges from 34 $GtCO_2$ to 123 $GtCO_2$,[72] again depending on the sharing principles used. Under

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[66] *Id.*

[67] *Id.*

[68] U.S. Global Change Research Program, Climate Science Special Report, Fourth National Climate Assessment, Volume 1 at 396–97 (D.J. Wuebbles et al. eds. 2017), https://science2017.globalchange.gov/ (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 33).

[69] Global Carbon Budget 2019, *supra*.

[70] Robiou du Pont, Yann et al., EQUITABLE MITIGATION TO ACHIEVE THE PARIS AGREEMENT GOALS, 7 NATURE CLIMATE CHANGE 38, Supplemental Tables 1 and 2 (2017) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 34). Quantities measured in $GtCO_2eq$ include the mass emissions from CO_2 as well as the other well-mixed greenhouse gases (CO_2,methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and SF_6) converted into CO_2-equivalent values, while quantities measured in $GtCO_2$ refer to mass emissions of just CO_2 itself.

[71] Robiou du Pont et al. (2017) averaged across IPCC sharing principles to estimate the U.S. carbon budget from 2010 to 2100 for a 50 percent chance of returning global average temperature rise to 1.5°C by 2100, consistent with the Paris Agreement's "well below 2°C" target, and based on a cost-optimal model. The study estimated the U.S. carbon budget consistent with a 1.5°C target at 25 $GtCO_2eq$ by averaging across four equity principles: capability (83 $GtCO_2eq$), equal per capita (118 $GtCO_2eq$), greenhouse development rights (-69 $GtCO_2eq$), and equal cumulative per capita (-32 $GtCO_2eq$). The study estimated the U.S. budget at 57 $GtCO_2eq$ when averaging across five sharing principles, adding the constant emissions ratio (186 $GtCO_2eq$) to the four above-mentioned principles. However, the constant emissions ratio, which maintains current emissions ratios, is not considered to be an equitable sharing principle because it is a grandfathering approach that "privileges today's high-emitting countries when allocating future emission entitlements."

[72] Robiou du Pont et al. (2017) estimated the U.S. carbon budget for a 66 percent probability of keeping warming below 2°C at 60 $GtCO_2eq$ based on four equity principles (capability, equal per capita, greenhouse development

any scenario, the remaining U.S. carbon budget compatible with the Paris climate targets is extremely small.

Federal fossil fuels are a significant contributor to global emissions and could significantly reduce in the U.S.'s remaining carbon budget. Between 2003 and 2014, approximately 25% of all United States and 3-4% of global fossil fuel GHGs are attributable to federal minerals leased and developed by the Department of the Interior.[73] The United States Geological Survey reaffirmed this in its 2018 report which found that federal fossil fuel production currently contributes to 23% of all U.S. greenhouse gas emissions.[74] According to a 2015 report, leased federal fossil fuels could unleash between 30 to 43 Gt of CO2e—an amount equivalent to the U.S. carbon budget under some sharing scenarios.[75] Unleased federal fossil fuels could emit 319 to 450 Gt of CO2e—easily obliterating the U.S.'s entire carbon budget.[76] Either way, any expansion of oil and gas development on federal public lands is entirely incompatible with progress toward addressing the climate crisis.

But, rather than ratcheting down oil and gas, the U.S. is on a path to rapidly expand it with the federal government playing a key role. Oil Change International recently found that use of existing fossil fuel reserves would again push the world far beyond warming or 1.5°C and 2°C and that the U.S. is on track to release a carbon bomb of emissions from oil and gas development in the next 30 years.[77] The report specifically found that:

- Between now and 2030, the United States is on track to account for 60 percent of world growth in oil and gas production, expanding extraction at least four times more than any other country. This is the time period over which climate scientists say global carbon dioxide (CO_2) emissions should be roughly halved to stay in line with the 1.5°C target in the Paris Agreement.[78]
- Between 2018 and 2050, the United States is set to unleash the world's largest burst of CO_2 emissions from new oil and gas development (Figure ES-2). U.S. drilling into new oil and gas reserves – primarily shale – could unlock 120 billion metric tons of

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rights, equal cumulative per capita), and at 104 $GtCO_2eq$ based on five principles (adding in constant emissions ratio, but see footnote above).

[73] Energy Information Administration ("EIA"), *Sales of Fossil Fuels Produced from Federal and Indian Lands, FY 2003 through FY 2014* (July 2015), https://www.eia.gov/analysis/requests/federallands/pdf/eia-federallandsales.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 35).

[74] Merrill, M.D., *et al.*, U.S. Geological Survey, Federal Lands Greenhouse Gas Emissions and Sequestration in the United States—Estimates for 2005–14 (2018), https://pubs.er.usgs.gov/publication/sir20185131 (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 36).

[75] EcoShift, The Potential Greenhouse Gas Emission from U.S. Federal Fossil Fuels, at 1, 3 (2015) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 37).

[76] *Id.*

[77] Kelly Trout & Lorne Stockman, Oil Change International, *Drilling Toward Disaster: Why U.S Oil & Gas Expansion is Incompatible with Climate Limits*, 1, 6 (Jan. 2019), http://priceofoil.org/content/uploads/2019/01/Drilling-Towards-Disaster-Web-v3.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 38).

[78] *Id.* at 6.

CO_2 emissions, which is equivalent to the lifetime CO_2 emissions of nearly 1,000 coal-fired power plants.[79]

- If not curtailed, U.S. oil and gas expansion will impede the rest of the world's ability to manage a climate-safe, equitable decline of oil and gas production. We find that, under an illustrative 1.5°C pathway for oil and gas taken from the Intergovernmental Panel on Climate Change (IPCC), U.S. production would exhaust nearly 50 percent of the world's total allowance for oil and gas by 2030 and exhaust more than 90 percent by 2050.[80]

Simply, BLM's push to unleash more greenhouse gas emissions from oil and gas development is extremely irresponsible and is significantly contributing to the world's climate crisis. BLM must, at a minimum, disclose the world's and the U.S.'s meager remaining carbon budgets and assess the significance of the proposed APDs within the context of these estimates and within the context of carbon emissions that stand to be released from already leased federal fossil fuels.

I. BLM Fails to Analyze the Costs of Reasonably Foreseeable Carbon Emissions Using Well-Accepted, Credible, GAO-Endorsed, Interagency Methods for Assessing Carbon Costs.

In addition to failing to seriously consider carbon budgeting, BLM omits serious consideration of another tool for assessing significance— the social cost of carbon protocol: a valid, well-accepted, credible, and interagency-endorsed method[81] of calculating the costs of greenhouse gas emissions. Failure to use this best available science in the EA violates NEPA's hard look mandate. *See WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 79 n.31 (D.D.C. 2019) (finding that "on remand, BLM must reassess whether the social cost of carbon or another methodology for quantifying climate change may contribute to informed decisionmaking. 'Accurate scientific analysis' is 'essential to implementing NEPA.' 40 C.F.R. § 1500.1(b). And NEPA requires an agency to ensure 'scientific integrity' in its environmental assessments. *Id*. § 1502.24. BLM may not forgo using the social cost of carbon simply because courts have thus far been reluctant to mandate it. Given that the Department of Energy and other agencies consider the social cost of carbon reliable enough to support rulemakings, *see Zero Zone, Inc. v. U.S. Dep't of Energy*, 832 F.3d 654, 677 (7th Cir. 2016), the protocol may one day soon be a necessary component of NEPA analyses.").

The social cost of carbon protocol for assessing climate impacts is a method for "estimat[ing] the economic damages associated with a small increase in carbon dioxide (CO2) emissions, conventionally one metric ton, in a given year [and] represents the value of damages

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[79] *Id.*

[80] *Id.*

[81] Although Executive Order 13,783 disbanded the Interagency Working Group, the entity which developed the social cost of carbon protocol, and withdrew the technical support documents discussed below, the protocol is still "generally accepted in the scientific community." 40 C.F.R. § 1052.22(b)(4).

avoided for a small emission reduction (i.e. the benefit of a CO2 reduction)."[82] The protocol was developed by a working group consisting of several federal agencies.

NEPA does not, of course, require agencies to monetize adverse impacts in all cases. *See* 40 C.F.R. § 1502.23. NEPA does, however, require BLM to take a hard look at the "ecological …, aesthetic, historic, cultural, economic, social, [and] health," effects of its actions, "whether direct, indirect, or cumulative." 40 C.F.R. § 1508.8. Monetization of costs may be required where available "alternative mode[s] of [NEPA] evaluation [are] insufficiently detailed to aid the decision-makers in deciding whether to proceed, or to provide the information the public needs to evaluate the project effectively," *Columbia Basin Land Prot. Ass'n v. Schlesinger*, 643 F.2d 585, 594 (9th Cir. 1981), or the agency presents a misleading analysis assessing the economic benefits of the project without a counterbalanced discussion of economic costs, *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp. 3d 1174, 1193 (D. Colo. 2014).

In 2009, an Interagency Working Group was formed to develop the protocol and issued final estimates of carbon costs in 2010.[83] These estimates were then revised in 2013 by the Interagency Working Group, which at the time consisted of 13 agencies.[84] This report and the social cost of carbon estimates were again revised in 2015.[85] Again, this report and social cost of carbon estimates were revised in 2016.[86]

Most recently, as an addendum to previous Technical Support Documents regarding the social cost of carbon, the Department of the Interior joined numerous other agencies in preparing estimates of the social cost of methane and other greenhouse gases.[87]

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[82] U.S. Environmental Protection Agency ("EPA"), "Fact Sheet: Social Cost of Carbon" (Nov. 2013) at 1, formerly available online at https://www.epa.gov/climatechange/social-cost-carbon (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 39).

[83] *See* Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (Feb. 2010), https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 40).

[84] *See* Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (May 2013), https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 41).

[85] *See* Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (July 2015) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 42).

[86] *See* Interagency Working Group on Social Cost of Greenhouse Gases, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866" (Aug. 2016), https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 43).

[87] *See* Interagency Working Group on Social Cost of Greenhouse Gases, United States Government, "Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide" (Aug. 2016) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 44).

Depending on the discount rate and the year during which the carbon emissions are produced, the Interagency Working Group estimates the cost of carbon emissions, and therefore the benefits of reducing carbon emissions, to range from $10 to $212 per metric ton of carbon dioxide. *See* Chart Below. In one of its more recent updates to the Social Cost of Carbon Technical Support Document, the White House's central estimate was reported to be $36 per metric ton.[88]

In July 2014, the U.S. Government Accountability Office ("GAO") confirmed that the Interagency Working Group's estimates were based on sound procedures and methodology.[89]

Year	5% Average	**3% Average**	2.5% Average	High Impact (95th Pct at 3%)
2010	10	**31**	50	86
2015	11	**36**	56	105
2020	12	**42**	62	123
2025	14	**46**	68	138
2030	16	**50**	73	152
2035	18	**55**	78	168
2040	21	**60**	84	183
2045	23	**64**	89	197
2050	26	**69**	95	212

Most recent social cost of carbon estimates presented by Interagency Working Group on Social Cost of Carbon. The 95th percentile value is meant to represent "higher-than-expected" impacts from climate change.

Although often utilized in the context of agency rulemakings, the protocol has been recommended for use and has been used in project-level decisions. For instance, the EPA recommended that an EIS prepared by the U.S. Department of State for the proposed Keystone XL oil pipeline include "an estimate of the 'social cost of carbon' associated with potential increases of GHG emissions."[90]

More importantly, BLM's Billings Field Office, has also utilized the social cost of carbon protocol in the context of oil and gas approvals. For example, the Billings Field Office estimated "the annual SCC [social cost of carbon] associated with potential development on lease sale parcels."[91] In conducting its analysis, the BLM used a "3 percent average discount rate and year

[88] *Id.* at 4.

[89] *See* GAO, "Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates," GAO-14-663 (July 2014), http://www.gao.gov/assets/670/665016.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 45).

[90] EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 46).

[91] BLM, "Environmental Assessment for October 21, 2014 Oil and Gas Lease Sale," DOI-BLM-MT-0010-2014-0011-EA (May 19, 2014) at 76,

2020 values," presuming social costs of carbon to be $46 per metric ton.[92] Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be "$38,499 (in 2011 dollars)."[93] In Idaho, the BLM also utilized the social cost of carbon protocol to analyze and assess the costs of oil and gas leasing. Using a 3% average discount rate and year 2020 values, the agency estimated the cost of carbon to be $51 per ton of annual CO_2e increase.[94] Based on this estimate, the agency estimated that the total carbon cost of developing 25 wells on five lease parcels to be $3,689,442 annually.[95]

To be certain, the social cost of carbon protocol presents a conservative estimate of economic damages associated with the environmental impacts of climate change. As the EPA has noted, the protocol "does not currently include all important [climate change] damages."[96] As explained:

> The models used to develop [social cost of carbon] estimates do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature because of a lack of precise information on the nature of damages and because the science incorporated into these models naturally lags behind the most recent research.

Id. In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published in 2015 found that current estimates for the social cost of carbon should be increased six times for a mid-range value of $220 per ton.[97] And a report from 2017, estimated carbon costs to be $50 per metric ton, a value that experts have found to be the "best estimate of the social cost of greenhouse gases."[98] In spite of uncertainty and likely underestimation of carbon costs, nevertheless, "the SCC is a useful measure to assess the benefits of CO2 reductions," and thus a useful measure to assess the costs of CO2 increases.[99]

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https://blm_prod.opengov.ibmcloud.com/sites/blm.gov/files/MT-DAKS%20Billings%20Oct%202014%20EA%20Protest.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 47).

[92] *Id*.

[93] *Id*.

[94] *See* BLM, "Little Willow Creek Protective Oil and Gas Leasing," EA No. DOI-BLM-ID-B010-2014-0036-EA 81 (February 10, 2015), https://eplanning.blm.gov/epl-front-office/projects/nepa/39064/55133/59825/DOI-BLM-ID-B010-2014-0036-EA_UPDATED_02272015.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 48).

[95] *Id*. at 83.

[96] EPA Factsheet on SCC, supra, at 1.

[97] *See* Moore, C.F. and B.D. Delvane, "Temperature impacts on economic growth warrant stringent mitigation policy," Nature Climate Change 2 (January 12, 2015) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 49).

[98] *See* Revesz, R. *et al*. "Best cost estimate of greenhouse gases," 357 *Science* 655, 655 (Aug. 18, 2017) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 50).

[99] EPA Factsheet on SCC, supra.

That the economic impacts of climate change, as reflected by an assessment of social cost of carbon, should be a significant consideration in agency decision making, is emphasized by a 2014 White House report, which warned that delaying carbon reductions would yield significant economic costs.[100] As the report states:

> [D]elaying action to limit the effects of climate change is costly. Because CO_2 accumulates in the atmosphere, delaying action increases CO_2 concentrations. Thus, if a policy delay leads to higher ultimate CO_2 concentrations, that delay produces persistent economic damages that arise from higher temperatures and higher CO_2 concentrations. Alternatively, if a delayed policy still aims to hit a given climate target, such as limiting CO_2 concentration to a given level, then that delay means that the policy, when implemented, must be more stringent and thus more costly in subsequent years. In either case, delay is costly.[101]

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA and is specifically supported in federal case law. Courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. *Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1203 (9th Cir. 2008). The Highway Traffic Safety Administration had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. The Administration had monetized the employment and sales impacts of the proposed action. *Id*. at 1199. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. *Id*. at 1200. The court found this argument to be arbitrary and capricious. *Id*. The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. *Id.* It further noted that other benefits, while also uncertain, were monetized by the agency. *Id*. at 1202.

In 2014, a federal court did likewise for a federally-approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *See High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp. 3d 1174, 1193 (D. Colo. 2014) (citing 40 C.F.R. § 1502.23). However, when an agency prepares a cost-benefit analysis, "it cannot be misleading." *Id*. at 1182 (citations omitted). In that case, the NEPA analysis included a quantification of benefits of the project, but, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis. *Id*. at 1196. The agencies then relied on the stated benefits of the project to justify

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[100] *See* Executive Office of the President of the United States, "The Cost of Delaying Action to Stem Climate Change," (July 2014) (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 51).

[101] *Id.* at 1.

project approval. This, the court explained, was arbitrary and capricious. *Id*. Such approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. *Id*. Furthermore, the court reasoned that even if the agency had decided that the social cost of carbon was irrelevant, the agency must still provide "*justifiable reasons* for not using (or assigning minimal weight to) the social cost of carbon protocol . . . ." *Id.* at 1193 (emphasis added). In August 2017, a federal district court in Montana cited to the *High Country* decision and reaffirmed its reasoning, rejecting a NEPA analysis for a coal mine expansion that touted the economic benefits of the expansion without assessing the carbon costs that would result from the development. *See Mont. Envtl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15-106-M-DWM (D. Mont. Aug. 14, 2017).

A 2015 op-ed in the New York Times from Michael Greenstone, the former chief economist for the President's Council of Economic Advisers, confirms that it is appropriate and acceptable to calculate the social cost of carbon when reviewing whether to approve fossil fuel extraction.[102] In 2017, the Proceedings of the National Academy of Sciences of the United States of America ("PNAS"), acknowledged in a peer-reviewed article from February of this year that the social cost of carbon analysis is "[t]he most important single economic concept in the economics of climate change," and that "federal regulations with estimated benefits of over $1 trillion have used the SCC."[103]

Although BLM does not include specific calculations of economic benefits of the lease sale, the agency does discuss at length how BLM calculates bonus bids and royalty payments from federal oil and gas leasing, *see* EA at 3-40, 4-3, 4-26, 4-40, and notes that the no action alternative would eliminate royalties. EA at 2-1. Perhaps more importantly, many of BLM's underlying RMPs-EISs disclose economic benefits without assessing the economic costs as well. For example, the Pinedale RMP includes the following table assessing the royalties and taxes collected from oil and gas production. The RMP does not assess the social cost of carbon.

[102] *See* Greenstone, M., "There's a Formula for Deciding When to Extract Fossil Fuels," New York Times (Dec. 1, 2015), available at https://www.nytimes.com/2015/12/02/upshot/theres-a-formula-for-deciding-when-to-extract-fossil-fuels.html (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 52).

[103] William D. Nordhaus, Revisiting the Social Cost of Carbon, PNAS, Feb. 14, 2017, http://www.pnas.org/content/114/7/1518.full.pdf (previously attached to our June 11, 2020 comments on the draft EA as Exhibit 53).

Table 4-22. Total Estimated Mineral Tax Royalties and Taxes from the Planning Area (2005$)

Alternative	Ad Valorem	Severance	Federal Royalties	Total Mineral Revenues
Alternative 1	$2,761,367,891	$2,832,656,411	$5,287,792,294	$10,881,816,597
Alternative 2	$2,870,748,704	$2,944,861,041	$5,497,333,510	$11,312,943,256
Alternative 3	$2,549,002,261	$2,549,002,261	$4,757,991,857	$9,791,846,490
Alternative 4	$2,767,877,412	$2,839,333,984	$5,300,208,255	$10,907,419,651

Total amount for 20-year study period.
This table summarizes the net present value of estimated mineral royalties and taxes by alternative. Royalties and taxes have been discounted using a real discount rate of 7% as recommended by OMB.
An average mill levy of 58.49 was applied to the value of production to determine the ad valorem tax revenues.
Ad valorem and severance taxes revenues are based on oil and gas sales, which is estimated to be 91.04% of the value of production (WY Consensus Revenue Estimating Group, 10/05/06).

Pinedale RMP-FEIS at 4-135.

In light of this information, the social cost of carbon provides a useful, valid, and meaningful tool for assessing the climate consequences of the proposed leasing, and the BLM's failure to include it while disclosing the economic benefits of the lease sale is arbitrary and capricious.

III. BLM Should Use Its Discretion Not to Lease the Proposed Parcels.

BLM has broad discretion and should remove the parcels from nomination. The agency's chosen path of opening this vast swath of Wyoming up to oil and gas development would threaten our climate, clean air, clean water, wildlife, and communities. Quite simply, developing this area for oil and gas represents an unnecessary and avoidable risk that would threaten Wyoming's other important multiple use resources.

BLM has broad discretion – and often the responsibility, though too often ignored – not to lease public lands for minerals development to safeguard other multiple use, environmental, and human health resources and values. *See, e.g.*, *Udall v. Tallman*, 380 U.S. 1 (1965); *Rocky Mountain Oil & Gas Ass'n v. U.S. Forest Serv.* 157 F.Supp.2d 1142 (D. Mont. 2000). BLM's authority to open these parcels to oil and gas development is derived from the Mineral Leasing Act of 1920, 30 U.S.C. § 181 *et seq.* Nowhere does the Mineral Leasing Act ("MLA") mandate that any particular lands be offered for lease. Rather, the Act states generally that "[a]ll lands subject to disposition under this chapter which are known or believed to contain oil or gas deposits *may* be leased by the Secretary." 30 U.S.C. § 226(a) (emphasis added). The Ninth Circuit has held that the "permissive word 'may' in § 226(a) allows the Secretary to lease such lands, but does not require him to do so…. [T]he Secretary has discretion to refuse to issue any lease at all on a given tract." *Burglin v. Morton*, 527 F.2d 486, 488 (9th Cir. 1975). The Supreme Court reached the same conclusion in *Udall v. Tallman*, 380 U.S. 1, 4 (1965), in which the Court declared that the Mineral Leasing Act "left the Secretary discretion to refuse to issue any lease at all on a given tract." *See also Bob Marshall All. v. Hodel*, 852 F.2d 1223, 1230 (9th Cir. 1988) (providing that refusal to issue leases constitutes a "legitimate exercise of the discretion granted to the Interior Secretary"); *McDonald v. Clark*, 771 F.2d 460, 463 (10th Cir. 1985) ("While the statute gives the Secretary the authority to lease government lands under oil and gas leases, this

power is discretionary rather than mandatory."); *McTiernan v. Franklin*, 508 F. 2d 885, 887 (10th Cir. 1975) (under § 226(a), the government "may refuse to issue any lease at all on a given tract"); *Pease v. Udall*, 332 F.2d 62, 63 (9th Cir. 1964) (finding that the MLA "has consistently been construed as leaving to the Secretary, within his discretion, a determination as to what lands are to be leased thereunder"); *Pacific Legal Foundation v. Watt*, 529 F.Supp. 982, 991 n.14 (D. Mont. 1982) (under § 226(a) "the Secretary has discretion either to issue or refuse to issue oil and gas leases").

Indeed, BLM's discretion over oil and gas leasing is so great that courts have held that the agency may decide not to allow leasing even after the lands have been offered for lease and a qualified applicant selected. In *McDonald,* the Tenth Circuit Court of Appeals provided: "The fact that land has been offered for lease does not bind the Secretary to actually lease the land, nor is the Secretary bound to lease the land when a qualified applicant has been selected." 771 F.2d at 463. The Court continued, saying "the Secretary may withdraw land from leasing at any time before the actual issuance of the lease, even if the offer was filed long before the determination not to lease was made." *Id.* (citing *Arnold v. Morton*, 529 F.2d 1101, 1106 (9th Cir. 1976); *Schraier v. Hickel*, 419 F.2d 663, 665-67 (D.C. Cir. 1969)).

Moreover, nothing in the Federal Onshore Oil and Gas Leasing Reform Act ("FOOGLRA") requires BLM to open lands at the behest of the oil and gas industry. The MLA, as amended by FOOGLRA in 1987, 30 U.S.C. § 181 *et seq*., simply requires BLM to *consider* oil and gas leasing on land consistent with the RMP. As identified above, just because land is identified for leasing does not mean that it must be leased. If review of a potential lease proposed for sale reveals problems, or that other resources and values should be protected, the agency can decide not to lease, period, and in fact, may be duty-bound, pursuant to laws such as FLPMA, not to lease to ensure that other resources and values are protected. For example, in *Marathon Oil Co.*, 139 IBLA 347 (1997), BLM removed parcels from a competitive lease sale for environmental reasons, even after they had been offered for sale pursuant to industry nomination. In that case, the IBLA held that "BLM enjoys considerable discretion to depart from its RMP in any specific case, and it may well be able to justify excluding these parcels from leasing for environmental purposes." *Id.* at 356.

The MLA and FOOGLRA do not in any way restrict the factors that BLM may consider when exercising its considerable discretion under § 226(a). Therefore, even if the BLM bases its decision entirely on the public's overwhelming opposition to oil and gas development in this area, it has the authority to do so. Indeed, it would be irresponsible for BLM to propose these lease parcels for sale without first performing the necessary due diligence and environmental review to determine, on a site-specific basis, whether these lands should be conserved as is.

Based on this expansive authority and discretion, as well as the reasons outlined above, we request that BLM reconsider its decision to lease the September 2020 parcels.

IV. Conclusion

In sum, BLM's EA and FONSI for the September 2020 competitive oil and gas lease in Wyoming violate the Clean Air Act, FLPMA, and NEPA. As a result, the Conservation Groups request that BLM defer all of the proposed parcels unless and until it corrects these deficiencies.

Sincerely,

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