



November 11, 2019

*Protest submitted via fax and FedEx,
Exhibits submitted via FedEx*

U.S. Bureau of Land Management
Wyoming State Office
Attn. Mary Jo Rugwell, State Director
P.O. Box 1828
Cheyenne, WY 82003
Fax: 307-775-6203

Re: Protest of the Wyoming BLM's December 10–11, 2019 (4th Quarter) Competitive Oil and Gas Lease Sale

Dear State Director Rugwell:

Pursuant to 43 C.F.R. § 3120.1-3, WildEarth Guardians submits the following protest of the U.S. Bureau of Land Management's ("BLM's") decision to move forward with its December 10–11, 2019 (4th Quarter) oil and gas lease sale. The agency is offering for lease 160 publicly-owned land and mineral parcels comprising 173,254.63 acres across the state of Wyoming.¹

This protest is filed on behalf of WildEarth Guardians and our members. The mailing address to which correspondence regarding this protest should be directed is as follows:

Rebecca Fischer, Climate & Energy Program Attorney
WildEarth Guardians
2590 Walnut Street
Denver, CO 80205

Guardians protests the inclusion of all 160 parcels, WY-194Q-001 through WY-194Q-160, inclusive.

¹ The lease sale notice for the December 2019 sale is on the BLM's website at: https://eplanning.blm.gov/epl-front-office/projects/nepa/117392/20005523/250006431/194Q_Sale_Book.pdf. The draft EA, DOI-BLM-WY-0000-2019-0009-EA, and FONSI are available on ePlanning at: <https://eplanning.blm.gov/epl-front-office/eplanning/projectSummary.do?methodName=renderDefaultProjectSummary&projectId=1500291>.

INTERESTS OF PROTESTING PARTY

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 live, work, and recreate in areas on or near all of the proposed lease parcels. Thus, on behalf of our members, Guardians has an interest in ensuring the BLM fully protects public lands and resources as it conveys the right for the oil and gas industry to develop publicly-owned minerals. More specifically, Guardians has an interest in ensuring the BLM meaningfully and genuinely takes into account the 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 from the release of more greenhouse gas emissions known to contribute to global warming.

Because many of the parcels proposed for the December 2019 sale are directly adjacent to those sold at the February 2019 special sale which carried over parcels proposed for sale in December 2018, and the March, June and September 2019 sales, Guardians incorporates by reference our comments, exhibits, and protests for these sales, including comments on the December 2018 draft EA (submitted Sept. 12, 2018), the protest of the February 2019 sale (submitted Jan. 22, 2019), comments on the March 2019 sale (submitted Dec. 13, 2018), the protest of the March 2019 sale (submitted Feb. 26, 2019), comments on the June 2019 sale (submitted March 27, 2019), the protest of the June 2019 sale (submitted May 28, 2019), our comments on the September 2019 sale (submitted June 15, 2019) and our protest of the September sale (submitted August 19, 2019). These incorporated comments and exhibits offer detailed technical information, expert reports, and legal analysis that the agency is required to consider in its decisionmaking process for the proposed action. *See Forest Guardians v. U.S. Fish and Wildlife Serv.*, 611 F.3d 692, 717 (10th Cir. 2010) (“The purpose behind NEPA is to ensure that the agency will only reach a decision on a proposed action after carefully considering the environmental impacts of several alternative courses of action and after taking public comment into account.”); *see also California Trout v. F.E.R.C.*, 572 F.3d 1003, 1016 (9th Cir. 2009) (“[T]he agency must ‘involve environmental agencies, applicants, and the public, to the extent practicable,’ and ‘[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures[.]’”) (internal citations omitted).

As discussed in more depth below, BLM’s federal fossil fuel program is currently unsustainable for a livable world. Thus, we request that BLM stop any additional oil and gas leasing across the West, including refraining from offering all the parcels up for lease at the December 2019 sale. Should BLM choose to continue, Guardians requests that it revise its current analysis to comply with 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.* Thus, 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.² EA at 19. Thus, BLM, a federal agency, is prohibited from undertaking any activity this area that does not conform to Wyoming’s SIP. *See* 40 C.F.R. § 93.150(a); *see also* Wyoming SIP at 020-0002-008 Wyo. Code R. § 3.

To determine whether a formal conformity analysis is needed, 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 (“NOx”) that equal or exceed 100 tons/year. 40 C.F.R. § 93.153(b)(1).³ 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

² 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 May 28, 2019). Although the EPA recently 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>.

³ *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>.

accordance with the requirements of this subpart *before* the action is taken.” *Id.* § 93.150(b) (emphasis added).

In addition to the Clean Air Act, BLM must comply with FLPMA. FLPMA requires that “[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.” 43 U.S.C. § 1712(a).

BLM fulfills this mandate by developing Resource Management Plans (“RMPs”) for each BLM field office. In general, RMPs must be up-to-date. BLM’s Land Use Planning Handbook states 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.” BLM Land Use Planning Handbook, H-1610-1, Section VII.C at 46. Furthermore, the Handbook provides that amendments are needed 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 scientific studies that change land use plan decisions.” *Id.* 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 or 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).

Last but not least, BLM is also required to “provide for compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards[,]” in the development and revision of land use plans. 43 U.S.C. § 1712(c)(8).

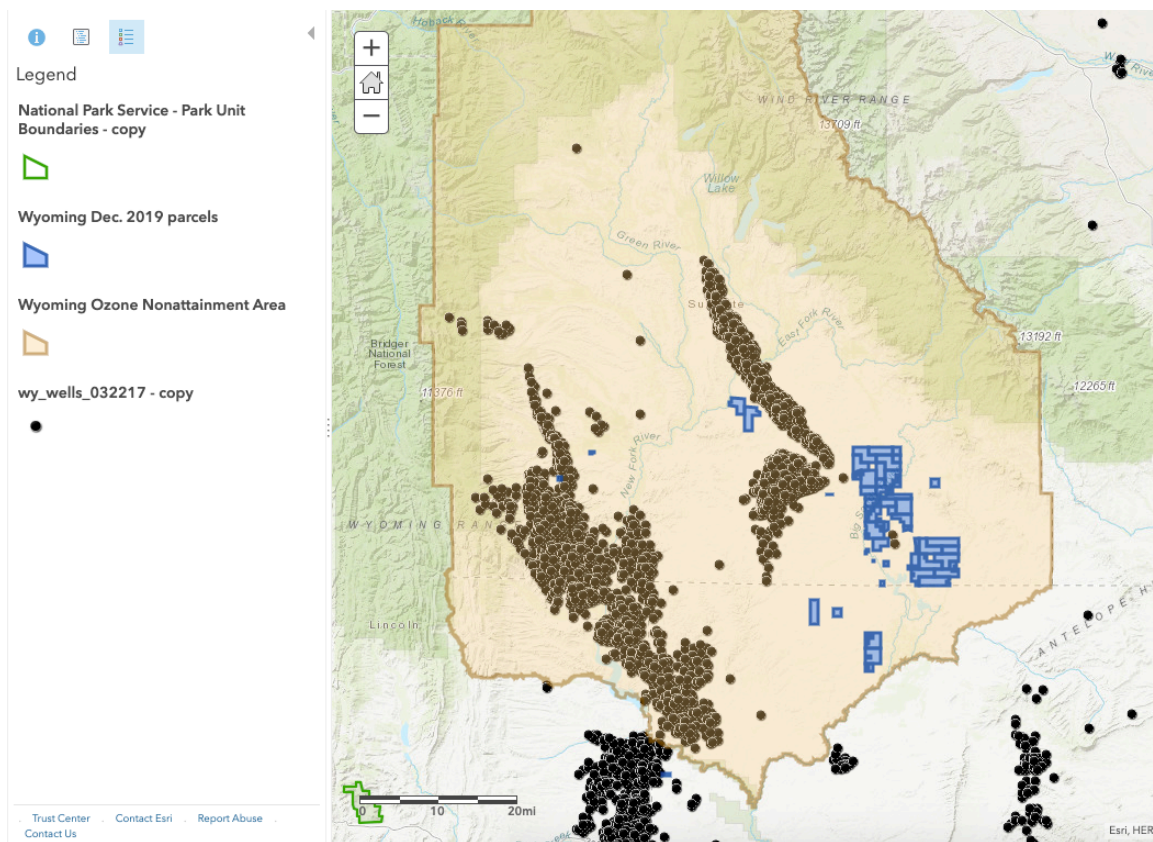
A. BLM Fails to Conduct a Conformity Analysis As Required by the Clean Air Act.

To start, although BLM describes the conformity requirements imposed by the Clean Air Act, EA at 3-10, the agency fails to actually conduct an applicability analysis or conformity analysis as required by 40 C.F.R. § 93.153(b). Yet, there is no doubt that such an analysis is required. An astounding 43 parcels (73,467 acres) in the lease sale are located within Wyoming’s nonattainment area for the 2008 ozone NAAQS. *Id.* And, based on the heavily-developed nature

of the Pinedale area, leasing is clearly a cause of future, reasonably foreseeable emissions. As a result, BLM's failure to conduct a conformity analysis violates the Clean Air Act.

EPA's conformity regulations define "reasonably foreseeable" emissions as projected future direct and indirect emissions that are: (1) identified at the time the conformity determination is made; (2) the location of such emissions is known; and (3) 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. 40 C.F.R. § 93.152.

Here, all of these requirements are met. First, the location of the emissions is known because the location of the lease parcels is known. Second, direct emissions are identifiable and quantifiable because the Pinedale area is heavily developed and thus numerous federal reports provide information regarding existing emissions. Indeed, as shown below, the proposed lease parcels are directly within the Pinedale Anticline and next to a slew of active wells.



*Producing oil and gas wells as of 2017 next to the parcels for the December 2019 lease sale (in blue). The 2008 Ozone Nonattainment Area is in light brown.
The BLM field offices are divided by a dark brown line.*

BLM's job estimating emissions is made even easier by the existence of the Kleinfelder Report. The 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.⁴ All BLM has to do is use this number and multiply it by the estimated number of wells on the proposed lease parcels to calculate emissions. Here, modestly assuming one well per lease,⁵ the 43 parcels within the Pinedale area could emit 627.8 tons of NOx per year and 223.6 tons of VOCs a year. Although it is unlikely that all 43 wells will be developed in the same year, even assuming development of 8 wells in the first year, BLM would still be required to conduct a conformity analysis for NOx. And, only 20 wells are required to be developed in the first year to exceed the de minimis levels for VOCs. In reality, the Pinedale Field Office sees more than 150 federal wells drilled per year.⁶

A similar analysis applies to the Rock Springs Field Office parcels. In the Rock Springs RFDS, the BLM has found that the area where the leases occur has “high” oil and gas occurrence potential.⁷ High occurrence means that development will result in 100 wells per township will be drilled per year. Clearly, BLM has the tools to assess reasonably foreseeable emissions at the lease sale stage but has chosen to postpone its analysis until the APD stage in violation of conformity provisions.

Furthermore, even if the Kleinfelder report did not exist, the reasonably foreseeable nature of the lease parcels is underscored by the fact that the BLM’s own analyses calculate emissions from a *reasonably foreseeable* development scenario (“RFDS”). The agency has even estimated emissions for Pinedale Field Office where some of the parcels are located.⁸ BLM could also use these estimates to assess conformity.

⁴ See Exhibit 1, Kleinfelder, *Air Emissions Inventory Estimates for a Representative Oil and Gas Well in the Western United States*, 2–3 (Mar. 25, 2013) (report developed for the BLM).

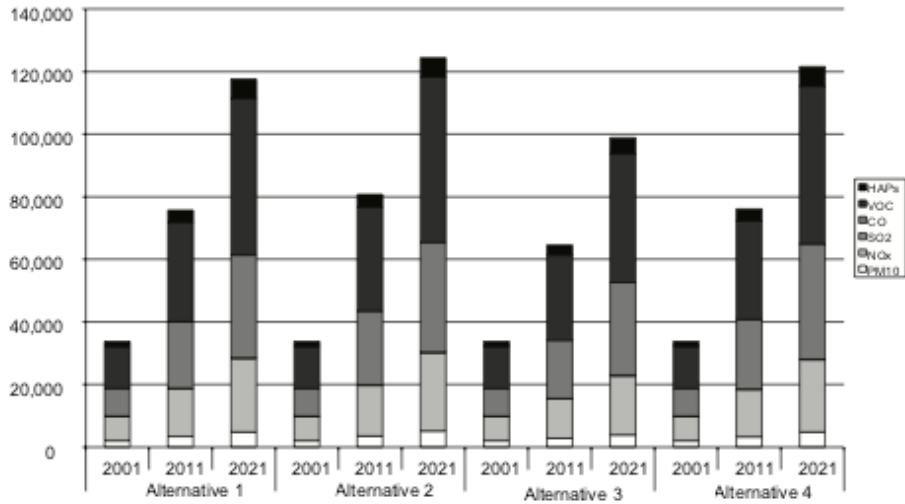
⁵ In fact, there will likely be more wells because most of the proposed leases are within the “very high” development area, which estimates over 500 wells per township, the “high development” area, which estimates between 100-500 wells per township, and the “moderate” development area, which estimates 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.

⁶ See BLM, *Reasonably Foreseeable Development Scenarios for Oil and Gas Activities on Federal Lands in the Pinedale Field Office, Wyoming*, 49, Figure 18 (2016), https://eplanning.blm.gov/epl-front-office/projects/lup/63200/78639/90138/41Final_PFO_RFD_Figure_17&18.pdf.

⁷ See BLM, *Final Reasonably Foreseeable Development Scenario for Oil and Gas, Rock Springs Field Office, Wyoming*, Figure 41 (2013), https://eplanning.blm.gov/epl-front-office/projects/lup/13853/46225/49886/RSFO_RFD_FINAL-resized.pdf.

⁸ 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.

Figure 4-1. Summary of Total Potential BLM Emissions



What’s striking here, is that BLM has in the past admitted that the assumptions in its respective RFDs are accurate, thereby making emissions even more reasonably foreseeable. June 2019 EA (“Current APD permitting trends within the field offices confirm that the RFD assumptions are reasonably accurate.”). Based on this information and the information above, BLM must complete a conformity analysis.

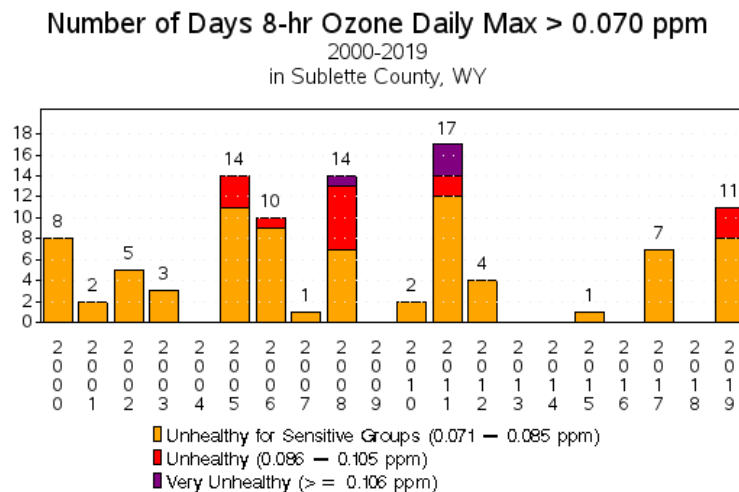
In response, BLM argues that “[t]here are no direct effects from the proposed oil and gas lease sale because it is primarily an administrative action that only conveys the mineral rights to the potentially lessee.” EA at 3-10. But, as the BLM is well-aware, leasing conveys a right to develop, 43 C.F.R. § 3101.2, and is considered an irrevocable commitment of resources. EA at 8; *New Mexico ex rel. Richardson*, 565 F.3d 683, 717–18 (10th Cir. 2009). It is the point at which BLM commits to allowing development, and thus it is not merely an “administrative action.” *Id.* at 718. As the court held there, “[b]ecause BLM *could not prevent the impacts* resulting from surface use after a lease issued, it was required to analyze any foreseeable impacts of such use before committing the resources.” *Id.* (emphasis added). The D.C. District Court recently reaffirmed this conclusion, holding “[T]he 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.” *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 65 (D.D.C. 2019). These mandates coupled with the language of the conformity regulations requiring an analysis before “approv[al] of any activity which does not conform to an applicable [state] implementation plan,” 40 C.F.R. § 93.150(a), makes it clear that BLM is required to conduct a conformity analysis now, at the lease sale stage.

Perhaps more importantly, there is no doubt that even if BLM considers leasing to not be the direct source of emissions, it is an indirect source of emissions and a conformity analysis is required nonetheless. According to EPA’s regulations reasonably foreseeable emissions includes all “direct *and indirect emissions.*” 40 C.F.R. § 93.152 (emphasis added). Direct emissions include all emissions that are caused or initiated by a federal action. Indirect emissions include all emissions that are:

1. Caused or initiated by the federal action, but occur at a different time or place as the action;
2. Reasonably foreseeable;
3. Practically controllable by the BLM; and
4. Are subject to continuing program responsibility by the BLM.

Id. Here, the agency cannot deny emissions produced as a result of developing the leases, would, at a minimum, be considered indirect emissions as they would be caused or initiated by BLM’s action (leasing), would be reasonably foreseeable, would be practically controllable by the BLM by virtue of the agency’s authority to impose Conditions of Approval at the application permit to drill (“APD”) stage, and would be subject to continuing program responsibility by the BLM via the agency’s ongoing administration and oversight of APD approvals.

Moreover, 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,⁹ Sublette County, where the bulk of the nonattainment area is located, experienced 11 days of ozone exceedances.



Note: Based on ALL sites
 Source: U.S. EPA AirData <<https://www.epa.gov/air-data>>
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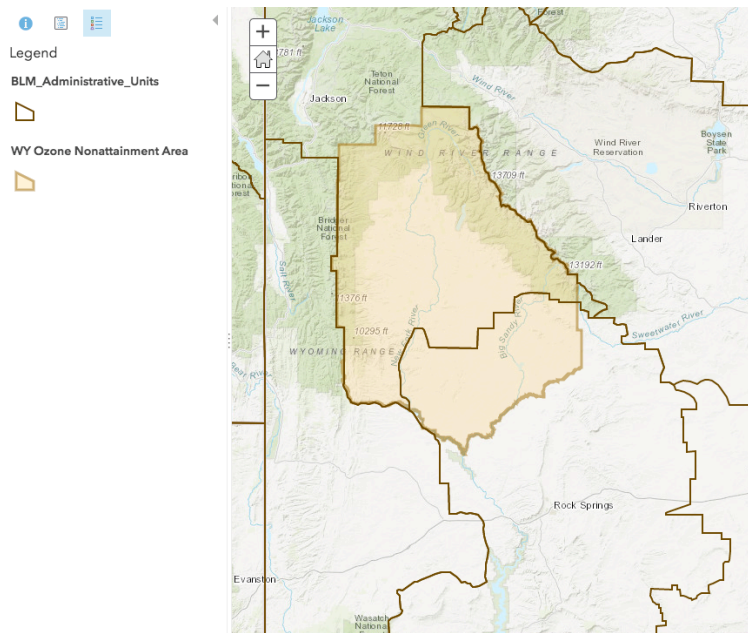
Finally, such an analysis is not foreclosed by the decision in *WildEarth Guardians v. U.S. Bureau of Land Management*, 322 F. Supp. 3d 1134, 1143 (D. Colo. 2018). As the court noted, its decision was limited to the record before it. *See id.* at 1148. The court also outlined a path forward to make such estimates in future cases. *Id.* at 1143.

⁹ EPA, Air Data – Ozone Exceedances Plot, <https://www.epa.gov/outdoor-air-quality-data/air-data-ozone-exceedances> (last visited Nov. 7, 2019).

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

BLM’s failure to conduct an applicability analysis to determine conformity with the Clean Air Act also violates the plain language of FLPMA. As noted above, in the development and revision of land use plans, BLM must “provide for compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards[.]” 43 U.S.C. § 1712(c)(8). The Pinedale RMP does not address the air quality issues presented by the Upper Green River Basin nonattainment area or otherwise conduct a conformity analysis.¹⁰ And, based on the date of the Rock Springs RMP (approved as the Green River RMP in 1997) there is no way it addresses the 2008 standards either. Indeed, a search of the Rock Springs RMP-EIS fails to locate any analysis of the 2008 ozone standards. This conclusion is supported by a glance at BLM’s Analysis of the Management Situation which demonstrates the BLM is recommending revisions to the RMP “to minimize contributions to ozone formation and greenhouse gases.”¹¹

Finally, 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.



¹⁰ See generally Pinedale RMP-EIS, available at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=88620>.

¹¹ See BLM, *Summary of the Analysis of the Management Situation: Rock Springs Resource Management Plan Revision 363* (2013), <https://bit.ly/2HtyMLV>.

In sum, 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 and Rock Springs RMPs based on new information which affects the entire plan before approving actions that may impact attainment with the 2008 NAAQS.

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 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*.

First, because the validity of the Buffalo RMP and FEIS have been called in question by a recent legal ruling, the BLM’s proposal to lease 16 parcels within the Buffalo Field Office without a valid, underlying RMP or FEIS or supplemental EIS addressing the deficiencies identified by this ruling violates FLPMA and NEPA.

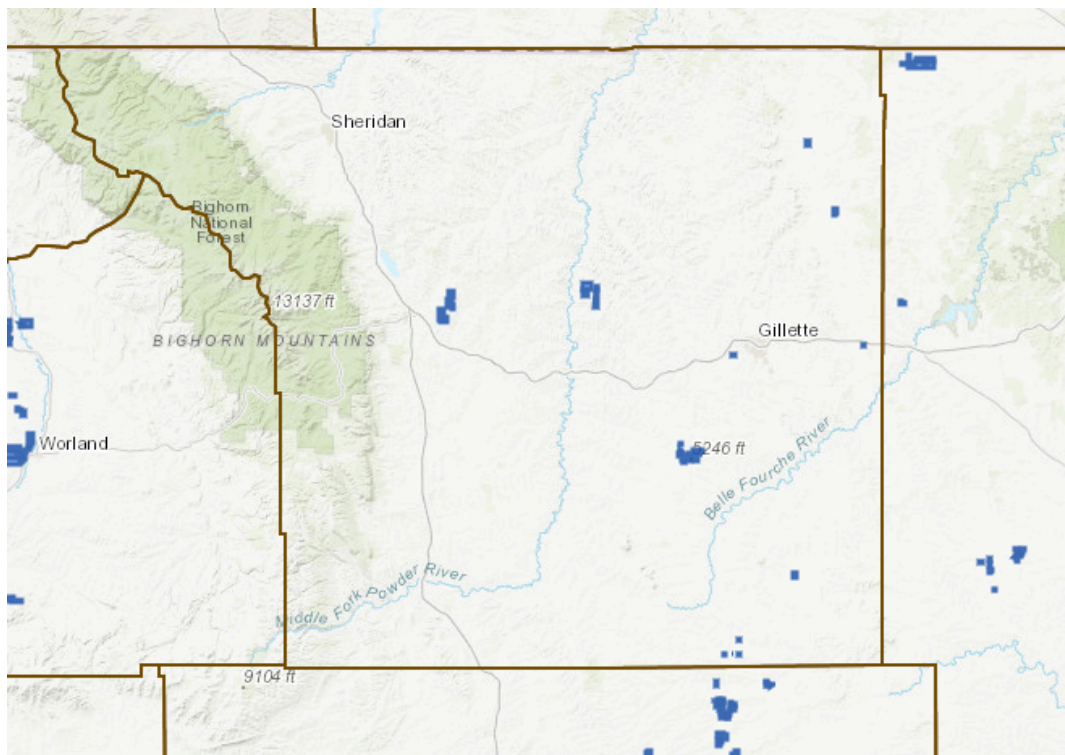
On March 23, 2018, Judge Brian Morris with the Federal District Court in Montana issued an “Opinion and Order,” in a case challenging the validity of the Miles City and Buffalo Resource Management Plans (“RMPs”). *Western Org. of Resource Councils v. U.S. Bureau of Land Mgmt.*, CV 16-21-GF-BMM, 2018 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 held “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 issues any new 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.”¹²

Although BLM has initiated scoping for the supplemental NEPA analysis for the Buffalo RMP,¹³ a final decision has not yet been issued. Yet, BLM is still planning to lease approximately 16 parcels within the Buffalo Field Office at the December 2019 lease sale without having completed a full NEPA analysis in compliance with Judge Morris’ decision. See map below.



*A map of the December 2019 parcels within the Buffalo Field Office.
Parcel location data from BLM.*

¹² Exhibit 2, Order, *Western Org. of Resource Councils v. U.S. Bureau of Land Mgmt.*, CV 16-21-GF-BMM (D. Mont. July 31, 2018).

¹³ See BLM, Notice of Intent for the Potential Amendment to the Approved Resource Management Plan for the Buffalo Field Office, Wyoming, and To Prepare an Associated Supplemental Environmental Impact Statement, 83 Fed. Reg. 61,165 (Nov. 28, 2018), <https://www.govinfo.gov/content/pkg/FR-2018-11-28/pdf/2018-25845.pdf>.

Specifically, the BLM continues to rely on the climate impacts analysis in the Buffalo RMP and FEIS in the lease sale EA. EA at 1-5 (tiering to the Buffalo RMP and EIS). BLM even refers readers to the greenhouse emissions section of the invalid Buffalo RMP/FEIS. EA at 4-5 (“Please refer to the applicable RMP FEIS, including . . . Section 4.1.1 (beginning on page 650) of the BFO ARMP for a discussion of potential impacts to air quality resulting from oil and gas development, including potential direct GHG emissions.”). But, because the existing Buffalo RMP and EIS is invalid, this approach cannot stand.

Although it is possible for BLM to address this gap through the completion of a site-specific NEPA analysis, the EA for the lease sale does not provide the hard look required by NEPA for two reasons: 1) BLM’s analysis of indirect (downstream) greenhouse gas emissions fails to accurately calculate emissions for the proposed action and 2) BLM’s discussion of the global warming potential for methane still fails to acknowledge the changing science in this area.

On the former, the BLM fails to accurately calculate downstream (indirect) greenhouse gas emissions for the proposed action. Instead, the agency uses field office wide calculations from the respective RMPs/EISs to estimate uniform indirect GHG emissions per parcel. *See* EA at 4-11. But this gives the BLM no information with which to weigh whether to lease all of the Buffalo Field Office parcels or defer those with higher GHG emissions. It also directly violates the ruling in another federal court decision, *San Juan Citizens All. v. United States Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1244 (D.N.M. 2018). There, the court held that “BLM’s failure to estimate the amount of greenhouse gas emissions which will result from consumption of the oil and gas produced as a result of development of wells *on the leased areas* was arbitrary.” *Id.* (emphasis added). BLM cannot ignore these binding legal decisions, but because it does, a significant gap in the EA remains thereby rendering the BLM’s decision to move forward with the lease sale in violation of NEPA and Judge Morris’ order.

Next, although Guardians appreciates the fact that the BLM includes additional information on the GWP of methane and the difference between the 20-year and 100-year GWPs, the agency’s assessment is still incomplete. BLM fails to assess emissions using a GWP of 36 from a 2015 analysis of the greenhouse gas emissions associated with coal mine expansions in Colorado’s North Fork Valley as the court directed it to do so.¹⁴ Thus, BLM’s must go back to the drawing board and address why this study and GWP metric is not relevant.

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).

¹⁴ *See* Exhibit 3, Excerpt from U.S. Forest Service, *Rulemaking for Colorado Roadless Areas Supplemental Draft Environmental Impact Statement* 34 (Nov. 2015).

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 the latter 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.*

Finally, “[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 2006), *aff’d in part, appeal dismissed in part sub nom. S. Utah Wilderness All. v. Kempthorne*, 525 F.3d 966 (10th Cir. 2008).

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, there is no doubt the use of fracking impacts public health and safety.¹⁵ Unfortunately, because BLM’s underlying RMPs/FEISs and the December lease sale do not fully analyze the impacts of fracking, BLM cannot conclude 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 generalized and does not assess the impacts of fracking the specific lease parcels. Indeed, BLM entirely defers any site-specific analysis of water resources from fracking to the APD stage. EA at 4-19 (“Without a discrete development proposal, the use of hydraulic fracturing in the oil and gas development process cannot be predicted. However, this EA incorporates by reference, in its entirety, the Hydraulic Fracturing White Paper included in Attachment 5.6. This document provides a general discussion of the hydraulic fracturing process and issues associated with its use.”).

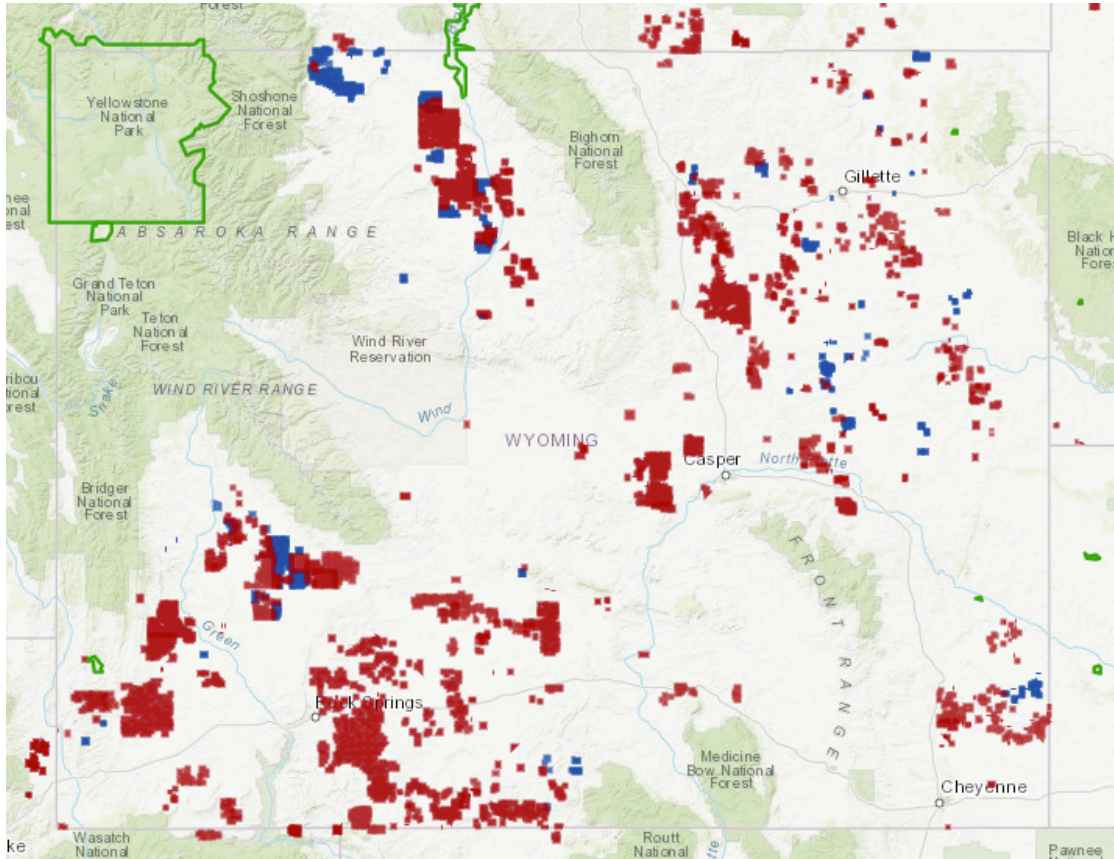
¹⁵ *See* Exhibit 4, Concerned Health Prof’ls of NY & Physicians for Soc. Responsibility, *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction)* (6th ed. 2019) (hereinafter “Fracking Compendium”) (“As fracking operations 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.”); Exhibit 5, TEDX, “Scientific Literature Addressing the Health Effects of Unconventional Oil and Gas Development (2018); *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”).

Additionally, ozone pollution is detrimental to public health and welfare, as documented by extensive scientific evidence compiled by the Environmental Protection Agency (“EPA”).¹⁶ 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 of this gap, BLM’s conclusion in the FONSI that “no other aspect of the action alternative would have an effect on public health and safety,” is suspect. FONSI at 6. If BLM does not know what site-specific impacts may occur, it is doubtful whether the agency will be able to remedy these at the APD stage.

A similar argument applies to NEPA’s second and third intensity factors, which require, respectively, a look at the degree to which impacts are highly controversial and the degree to which impacts are highly uncertain or involve unique and unknown risks. 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. Based on the proximity of the December 2019 lease sale parcels to Yellowstone National Park, Dinosaur National Monument, Fossil Butte National Monument, Fitzpatrick Wilderness, Bridger Wilderness, 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, the BLM’s EA fails to address these issues except in the context of visibility. Thus, BLM again cannot conclude that the impacts from the proposed action will be insignificant.

Finally, as shown below, because the Wyoming December 2019 lease parcels are directly adjacent to seven other BLM lease sales occurring since the beginning of 2019 in Colorado, Montana, and Utah, 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 December 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.

¹⁶ Between 2008 and 2015, there were more than 1,000 new studies demonstrating the health and environmental harms of ozone. See Exhibit 6, 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.



BLM lease sales occurring since the beginning of 2019 are in red. The Wyoming December 2019 parcels appear in blue. GIS information obtained from the BLM.

But, BLM fails to even mention that other lease sales are occurring in the same area, let alone seven lease sales within a three month period. Indeed, except for air quality, GHGs, and mule deer, BLM relies entirely on the cumulative impacts analysis in the RMPs for each field office. *See EA at 4-28 to 4-39.* But, as the court made clear in *WildEarth Guardians v. Zinke*, because “[g]iven the national, cumulative nature of climate change, considering each individual drilling project in a vacuum deprives the agency and the public of the context necessary to evaluate oil and gas drilling on federal land before irretrievably committing to that drilling.” 368 F. Supp. 3d 41, 83 (D.D.C. 2019). Without a full cumulative impacts analysis, 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, the 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., EA at 5-114* (“The potential for induced seismicity cannot be made at the leasing stage; as such, it will be evaluated at the APD stage should the parcel be sold/issued, and a development proposal submitted.”). However, BLM’s deferral of

comprehensive NEPA analysis at the lease sale stage ignores a crucial distinction—the scope of the action approved at the leasing stage (opening up 176,000 acres for oil and gas development) is much broader than the scope of the action approved at the APD stage (a single well). BLM cannot piecemeal its analysis into individually, potentially insignificant actions.

When a lease constitutes an irretrievable commitment of resources and impacts at the lease sale stage 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 Blue Mountains Biodiversity Proj. v. Blackwood*, 161 F.3d 1208, 1215 (9th Cir. 1998) (“Nothing in the tiering regulations suggests that the existence of a programmatic EIS for a forest plan obviates the need for any future project-specific EIS, without regard to the nature of magnitude of a project.”); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 64–65 (D.D.C. 2019) (citing *Sierra Club v. Peterson*, 717 F.2d 1409, 1414 (D.C. Cir. 1983)). Indeed, “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.”). Finally, as noted above, NEPA provides that the BLM must assess three types of actions: (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.*

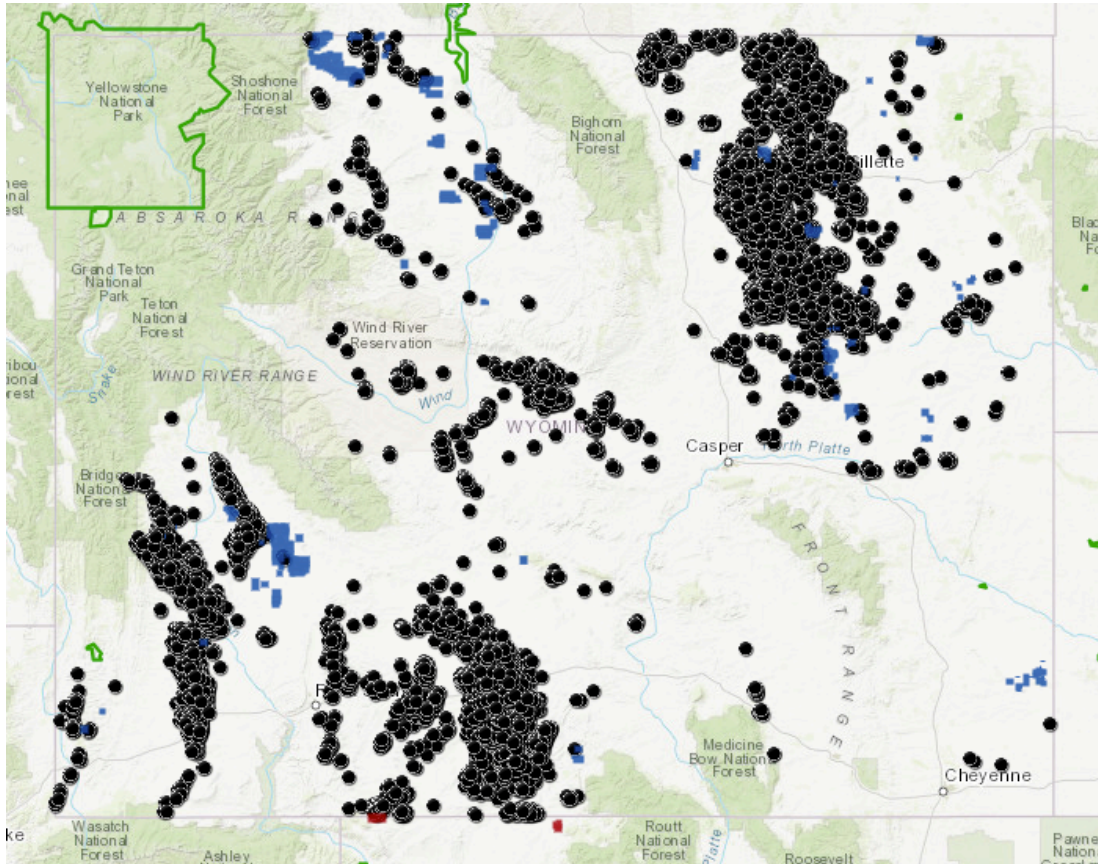
All of the above requirements support the conclusion that the BLM must analyze the site-specific impacts from its decision to lease federal minerals at the lease sale stage. First, because drilling cannot occur without the BLM first leasing the minerals, leasing and drilling are interdependent, connected actions as defined by NEPA. 40 C.F.R. § 1508.25. Thus, the 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 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). First, the court held that issuance of an oil and gas lease without a no surface occupancy (“NSO”) stipulation constituted an irretrievable commitment of resources because the BLM could not completely avoid environmental impacts at the permitting stage without this stipulation. *Id.* at 718. Second, the court further 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 reasonable foreseeable. *Id.* at 718–19. Thus, the court concluded that the 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, the BLM admits that leasing is an irretrievable commitment of resources and fails to impose full NSO stipulations for any of the parcels. EA at 1-4. BLM also admits that the leases are in areas that have seen extensive

development. *See id.* at 3-19. Thus, BLM is required by law to conduct a site-specific analysis of the impacts from the issuance of its leases.

Unfortunately, BLM uses 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 "[f]iling of an Application Permit to Drill (APD) may be the first useful point at which a site-specific environmental appraisal can be undertaken." *Id.* 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 the BLM is required to conduct a full site-specific analysis of the environmental impacts from the December 2019 lease sale.

Although BLM argues that impacts are not reasonably foreseeable because it "cannot determine at the leasing stage whether or not a nominated parcel will actually be leased, or if it is leased, whether or not the lease would be explored or developed[.]" EA at 8, this conclusion is undermined by the extensive oil and gas development which stretches across the state of Wyoming, as demonstrated by the map below. Additionally, 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).



The December 2019 lease parcels are barely visible underneath existing oil and gas wells.

BLM also argues that the lease sale is an administrative action which does not result in direct resource impacts. But, this argument is undermined by BLM’s statement:

Once a parcel is sold and the lease is issued, the lessee has the right to use as much of the leased lands as is necessary 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 (see 43 § CFR 3101.1-2).

EA at 1-4. 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. Thus, unless the BLM includes a NSO stipulation for the entire 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 the BLM has frequently approves APDs without additional NEPA analysis. For example, the BLM has approved or is planning to approve:

- 2 new oil and gas wells in the Buffalo Field Office, Navigation Powder River LLC, Josh Fed 23-42-73-1H & 24-42-73-1H POD Categorical Exclusion, DOI-BLM-WY-P070-

2018-0017CX, https://eplanning.blm.gov/epl-front-office/projects/nepa/98929/133836/163597/CX3_JOSH_POD_SIGNED.pdf;

- 7 new oil and gas wells in the Buffalo Field Office, Anschutz Oil Company, Mojave I Oil and Gas Plan of Development, DOI-BLM-WY-P070-2017-0113-CX, https://eplanning.blm.gov/epl-front-office/projects/nepa/96100/129739/157743/Categorical_Exclusion_Energy_Policy_Act_3.pdf;
- 2 new oil and gas wells in the Casper Field Office, Devon Energy Production Company, L.P. / Cottonwood Draw Unit 38-72 12 Pad Categorical Exclusion, DOI-BLM-WY-P060-2017-0170-CX, <https://eplanning.blm.gov/epl-front-office/eplanning/projectSummary.do?methodName=renderDefaultProjectSummary&projectId=88834>;
- 2 new oil wells in the Cody Field Office, Merit, Phelps 53 and Phelps 55 Oil Wells Categorical Exclusion, DOI-BLM-WY-R020-2017-0100-CX, https://eplanning.blm.gov/epl-front-office/projects/nepa/89320/119582/145938/Final_CX_with_COAs.pdf;
- 5 new oil and gas wells in the Worland Field Office, Merit Energy Company Gooseberry Unit APDs Categorical Exclusion, DOI-BLM-WY-R010-2017-0034-CX, https://eplanning.blm.gov/epl-front-office/projects/nepa/82712/114102/139329/Gooseberry_APDs_390CX-1_FINAL.pdf.¹⁷

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.

¹⁷ It should be noted that this list of categorical exclusions only includes a handful of the CXs approved with the relevant BLM field offices.

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 ultimately offers an alternative that would lease 160 parcels or a no action alternative that would lease no parcels. This all-or-nothing approach (lease 100% or 0%) leaves the 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 notes that it considered alternatives that it considered three other alternatives that it reject, 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. 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).”¹⁸ At a minimum, BLM must consider these alternatives and discuss why they do or do not meet the BLM's statutory mandates.

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

BLM proffers to lease 8 parcels in the Newcastle Field Office area in the December 2019 lease sale. But, because the RMP-FEIS for this office, the New Castle Field Office Resource Management Plan (“Newcastle RMP”) and Final EIS,¹⁹ is severely out-of-date, fails to analyze the impacts of fracking and horizontal drilling, and the December 2019 EA does not correct this deficiency, BLM cannot lease these parcels.

Courts have held that when BLM's lease sale proposes parcels for fracking,²⁰ the agency must analyze fracking either in the broader RMP or the EA. *See, e.g., Ctr. for Biological Diversity v. Bureau of Land Mgmt.*, 937 F. Supp. 2d 1140, 1156 (N.D. Cal. 2013) (invalidating 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”). Here, BLM has not analyzed the environmental impacts of this new extraction technology or provided even a general comparison of environmental impacts associated with conventional drilling vs. horizontal drilling/multi-stage fracturing.

¹⁸ *See* Exhibit 7, 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. Although the Trump Administration has since revoked the CEQ's August 2016 Climate Guidance, the BLM is still bound by the CEQ's NEPA regulations 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).

¹⁹ Available online at <https://eplanning.blm.gov/epl-front-office/projects/lup/63095/75574/83682/nfo-rmp.pdf>.

²⁰ The term “fracking” refers to extraction methods using a combination of horizontal drilling and multi-stage fracturing.

BLM completed the Newcastle RMP and FEIS in 2000.²¹ But, the frequent use of multi-stage hydraulic fracturing coupled with horizontal drilling did not occur the early 2000s.²² In contrast, 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. *Id.* As the BLM is well aware, the use of multi-stage fracking coupled with horizontal drilling not only opened up vast areas of minerals that were previously uneconomical to extract, the process of fracking causes more intense impacts to our air, water, land, and wildlife.²³ Because the geographic range, the extraction technology, and the intensity of oil and gas development has changed significantly since 2000, the BLM must analyze these impacts in either a revised RMP and accompanying FEIS or an EA/EIS for the lease sale. Unfortunately for the BLM, neither the Newcastle RMP nor the EA for the December 2019 lease sale meet these requirements.

To start, a search of the Newcastle RMP and FEIS fails to uncover in a single mention of multi-stage hydraulic fracturing and horizontal drilling. *See generally* Newcastle RMP/FEIS. The EA fails to correct this deficiency. The main information on fracking in the EA is a Hydraulic Fracturing White Paper in section 5.6. While Guardians appreciates the fact that the White Paper includes information on the process of fracking as well as a discussion of some of the impacts that will result from the use of multi-stage fracking and horizontal drilling, the white paper is not enough to satisfy BLM's obligation under NEPA because the BLM fails to analyze the site-specific impacts of fracking for the lease parcels. For example, in the white paper, BLM notes that gas emissions may result from fracking but fails to discuss actual impacts from the December 2019 lease sale. Instead the agency punts on this issue and notes that "[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 5-106. As noted above, the areas proposed for leasing are heavily developed, therefore there is no doubt that BLM could estimate emissions from fracking for the sale based on current drilling in the area. But, the BLM fails to do this here. BLM's discussion of potential impacts to water from fracking follows in a similar vein. *See id.* at 5-107 to 5-112. BLM calculates water use for fracking on a statewide level but nothing in the white paper discloses impacts from the proposed action at hand—issuance of leases for 160 parcels across the state—an action which could result in potentially significant impacts to water quality and quantity depending on site-specific factors such as aquifer recharge and other competing uses.

²¹ The Newcastle RMP is available on the BLM's website at: <https://eplanning.blm.gov/epl-front-office/projects/lup/63095/75574/83682/nfo-rmp.pdf>. The FEIS is available at: https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1022&context=wyoming_finalimpact.

²² *See* Exhibit 8, U.S. Energy Info. Admin., *Hydraulically Fractured Wells Provide Two-Thirds of U.S. Natural Gas Production* (2015), <https://www.eia.gov/todayinenergy/detail.php?id=26112>; Exhibit 9, EIA *Hydraulic Fracturing Accounts for About Half of Current U.S. Crude Oil Production* (2015), <https://www.eia.gov/todayinenergy/detail.php?id=25372>; *see also* Exhibit 10, 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> (last visited May 28, 2019).

²³ Fracking Compendium & TEDX Scientific Literature, *supra*.

In response to this argument, BLM contends that its white paper is sufficient and that development cannot be reasonably determined at the lease sale stage. But, this is untrue. Such information is readily available from on-the-ground development. For example, water usage for fracking is reported for individual wells on FracFocus. And, BLM knows the estimated pace and level of development through its Reasonably Foreseeable Development Scenarios. There is also no doubt that such information is required. A federal district court recently reaffirmed this for water impacts. *San Juan Citizens All. v. United States Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1254 (D.N.M. 2018) (holding that “sufficient information is available at this stage *to make estimates of potential water usage for the different methods of hydraulic fracturing*, and thus BLM must use that information in deciding whether the action results in a significant impact.”) (emphasis added).

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 constitutes a “new, intensified, or changed use[] on public land.” As a result, the BLM cannot move forward with leasing the parcels in this area until it either completes an amendment to the RMP or includes a full analysis of the impacts of fracking and horizontal drilling in a revised EA or EIS.

F. BLM Fails to Fully & Properly Analyze the Direct and Indirect Impacts of Greenhouse Gas Emissions that Would Result from Issuing the Proposed Lease Parcels.

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 the RMP stage); *Sierra Club v. Fed. Energy Regulatory Comm’n*, 867 F.3d 1357, 1374 (D.C. Cir. 2017) (requiring quantification of indirect greenhouse gas emissions); *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 a lease sale specific analysis); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 52 (D.D.C. 2019) (requiring a robust analysis of the direct and indirect climate impacts from nine lease sales as well as requiring an quantitative, regional cumulative impacts analysis of surrounding, reasonably foreseeable lease sales).

Although Guardians appreciates the fact that the Wyoming BLM included some information on direct and indirect greenhouse gas emissions, unfortunately, the agency fails to calculate direct and indirect, site-specific emissions from the actual lease parcels. Indeed, for both direct and indirect greenhouse gas emissions, BLM relies entirely on regional information

from the various RMPs to calculate top-down per parcel emissions. *See* EA at 4-9 (direct emissions); 4-11 (indirect emissions). But, by assuming each parcel within in field office emits the same, BLM has no information by which to weigh whether to lease certain parcels over other parcels. For example, a coal bed methane well in the Buffalo field office may have few emissions because it is shallower well. But, it is treated the same as a deep shale well tapping into the Niobrara formation in the same field office. Similarly, because BLM does not estimate the number of wells on a particular parcel, a parcel in a heavily developed area is treated the same as a parcel in an exploratory area, thereby further obscuring impacts. Ultimately, although we appreciate that BLM is attempting to calculate per parcel emissions, its approach remains imperfect and misleading. BLM must refine its analysis to present useful information to compare the impacts between differing lease parcels within the same field office.

BLM’s failure to distinguish emissions between different formations is particularly frustrating because there is no doubt that BLM has the tools to estimate this information. For example, in the BLM’s Royal Gorge Field Office of Colorado, the agency contracted with URS Group Inc. to prepare an analysis of air emissions from the development of seven oil and gas lease parcels.²⁴ This report estimated greenhouse gas emissions on a per well basis.²⁵ Similarly, the Kleinfelder Report provides estimates emissions for representative oil and gas wells in the Upper Green River Basin of Wyoming where many of the lease sale parcels are located.²⁶

**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 ₂ O	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 CO₂, CH₄, and N₂O. Global Warming Potential (GWP) is in terms of short tons of CO₂ equivalent (CO₂e), using a GWP of 1 for CO₂, 21 for CH₄, and 310 for N₂O.

²⁴ *See* Exhibit 11, URS Group Inc., “Draft Oil and Gas Air Emissions Inventory Report for Seven Lease Parcels in the BLM Royal Gorge Field Office,” Prepared for BLM, Colorado State Office and Royal Gorge Field Office (July 2013).

²⁵ *Id.* at 3, 5.

²⁶ Kleinfelder, *supra*, at 2.

Other BLM offices consistently calculate both direct and indirect, lease specific greenhouse gas emissions. For example, for its March 2018 oil and gas lease sale draft EA,²⁷ 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 ₂ O Combustion emission factor (g/MMBTU)	CO ₂ Emissions (metric tons)	CH ₄ Emissions (metric tons)	N ₂ O Emissions (metric tons)	CO ₂ eq 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>

Thus, there is no doubt that BLM is able to calculate both direct and indirect lease sale emissions and wells per parcel but has failed to do so here.

Moreover, BLM must estimate total emissions over the lifespan of the proposed lease parcels. To do otherwise would be to obscure the long-term impacts of parcels which may have producing wells for decades to come.

Finally, BLM fails to actually assess the significant impacts that could result from leasing. Instead, the agency hints that emissions will be insignificant by comparing lease sale emissions to nationwide emissions. But, as the CEQ has recognized, “a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA.”²⁸ Thus, such a statement is inappropriate and ultimately irrelevant to properly evaluating the proposed lease sale. Instead, we recommend that BLM use readily available tools such as the social cost of carbon to estimate impacts of the proposed parcels.

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

As noted above, BLM’s analyses also completely fail to account for greenhouse gas emissions from cumulative and similar actions. Indeed, BLM does not attempt to estimate cumulative impacts from greenhouse gas emissions from the project. Thus, BLM is essentially

²⁷ 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.

²⁸ CEQ Final Guidance, *supra*, at 11.

relying entirely on the various RMPs/FEISs, most of which are outdated and/or invalid, and all of which fail to analyze cumulative impacts for the proposed lease sale.

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 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).

A demonstration of the scale of proposed development in Wyoming and surrounding states is made possible by looking at past and pending BLM oil and gas leases sales within the last year. It is notable that at the same time and in this same region, the BLM has sold, is selling, and will be selling thousands of acres of oil and gas leases, including:²⁹

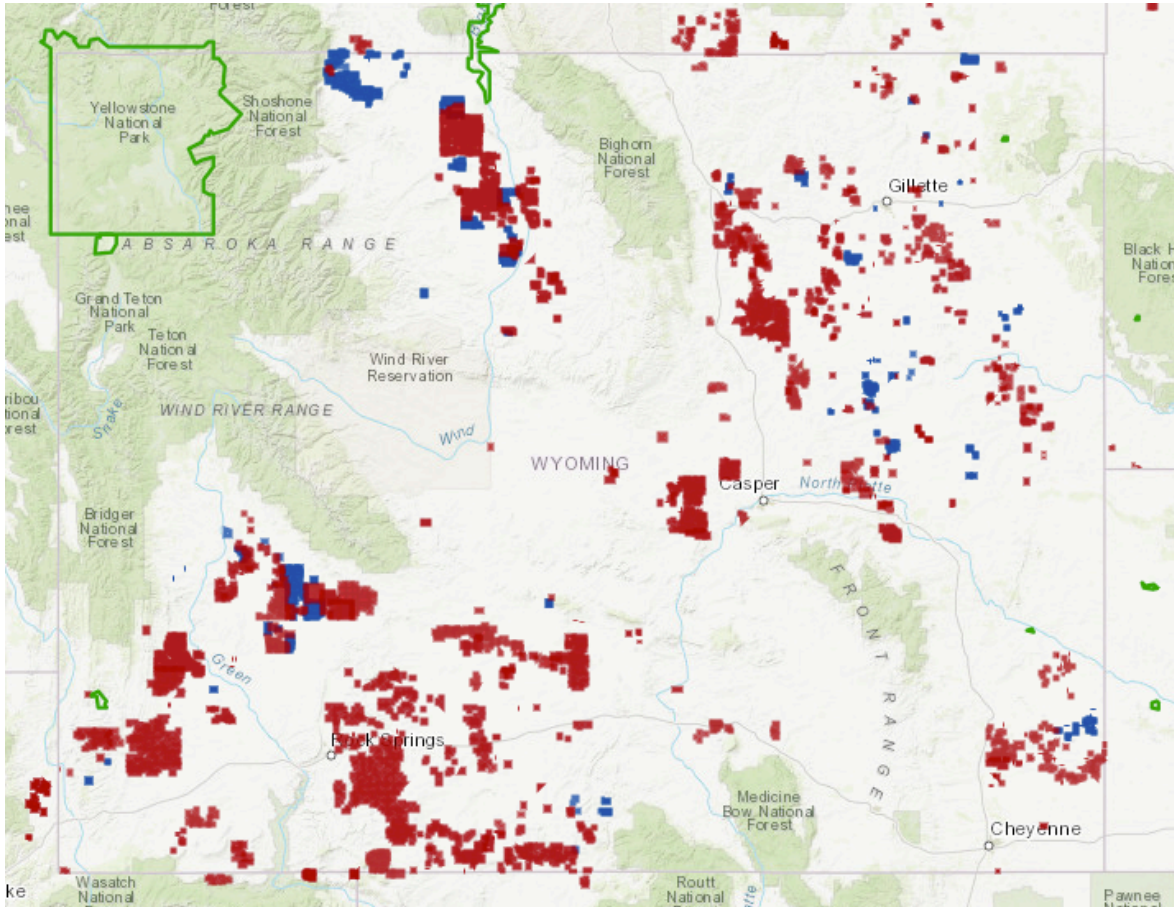
- **Wyoming:** In June 2018, the agency sold 158 parcels (approximately 180,000 acres) in the High Desert and Wind River-Big Horn Basin Districts. https://eplanning.blm.gov/epl-front-office/projects/nepa/85072/149851/183930/Press_Release.2018Jun29.pdf. In September 2018, BLM sold 311 parcels across the state, <https://www.blm.gov/press-release/blm-wyoming-oil-and-gas-lease-sale-garners-61-million>. In December 2018, BLM sold 3 parcels totaling 720 acres, <https://eplanning.blm.gov/epl-front-office/projects/nepa/85072/164525/200668/SaleResults.pdf>. 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.
- **Colorado:** In March 2018, the BLM sold 4 parcels totaling 1,400 acres in southwestern Colorado, <https://www.blm.gov/press-release/blm-colorado-oil-and-gas-lease-sale-nets-10063>. The BLM sold 59 parcels (50,572.56 acres) at the June 2018 sale in northwestern Colorado, https://eplanning.blm.gov/epl-front-office/projects/nepa/89119/147679/181533/Sale_Results_June2018.pdf. The BLM sold 20 parcels totaling 8,159.98 acres across the state at its September 2018 lease sale. See https://eplanning.blm.gov/epl-front-office/projects/nepa/94054/156524/191593/Sale_Results_Sept2018.pdf. BLM sold 20 parcels totaling 7,847.250 acres at the December 2018 lease sale across the state, <https://eplanning.blm.gov/epl-front->

²⁹ Attached in exhibit folder titled BLM lease sales.

[office/projects/nepa/109938/164060/200164/Sale_Results_December2018.pdf](https://eplanning.blm.gov/epl-front-office/projects/nepa/109938/164060/200164/Sale_Results_December2018.pdf). 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. And, 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.

- **New Mexico, Texas, Oklahoma, & Kansas:** At the June 2018 sale, the agency sold 24 parcels (4,152.10 acres) in Kansas, Texas, and Oklahoma, https://eplanning.blm.gov/epl-front-office/projects/nepa/95453/147765/181619/June_2018_Sale_Results.pdf. The September 2018 sale sold 142 parcels (50,796.88 acres) in southeastern New Mexico, https://eplanning.blm.gov/epl-front-office/projects/nepa/103545/156566/191664/SALE_RESULTS_092018.pdf. At the December 2018 sale, BLM sold 107 parcels in northwestern and southeastern New Mexico, <https://www.blm.gov/press-release/blm-quarterly-oil-and-gas-lease-sale-nets-39327344>. At the March 2019 lease sale, BLM sold 36 parcels totaling 10,535.07 acres in New Mexico, https://eplanning.blm.gov/epl-front-office/projects/nepa/115496/169707/206279/Sale_Results_03282019.pdf. And, at the June 2019 sale, BLM sold 47 parcels totaling 38,789.97 acres, https://eplanning.blm.gov/epl-front-office/projects/nepa/119017/175501/213815/June_2019_New_Mexico_Oil_and_Gas_Lease_Sale_Results.pdf.
- **Utah:** In March 2018, the BLM sold 43 parcels comprising 51,482.94 acres in the Moab and Monticello Field Offices in southeastern Utah, <https://eplanning.blm.gov/epl-front-office/projects/nepa/82261/138354/170209/COMPSTATSone.pdf>. The agency sold 11 parcels (12,677.53 acres) at the June 2018 sale, <https://eplanning.blm.gov/epl-front-office/projects/nepa/95599/147976/181839/5SaleStats.pdf>, and 69 parcels (133,921.73 acres) at its September 2018 sale, https://www.blm.gov/sites/blm.gov/files/Programs_OilandGas_Leasing_RegionalLeaseSales_Utah_2018_CompSummary_0.pdf. The BLM sold 96 parcels totaling 139,079.68 acres at its December 2018 sale, https://www.blm.gov/sites/blm.gov/files/UtahSaleResultsSummary_Dec2018.pdf. 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>. And, for June, 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.

Indeed, as noted above, BLM has held or is proposing to hold seven lease sales since the beginning of 2019.



BLM lease sales occurring since the beginning of 2019 are in red. The Wyoming December 2019 parcels appear in blue. GIS information obtained from the BLM.

“Given the national, cumulative nature of climate change, considering each individual drilling project in a vacuum deprives the agency and the public of the context necessary to evaluate oil and gas drilling on federal land before irretrievably committing to that drilling.” *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 83 (D.D.C. 2019). Thus, BLM must analyze the cumulative climate impacts (as well as other impacts) of all of these sales together in a single, programmatic document, regardless of state lines. Climate change is not limited by state borders and the BLM’s analysis must not be either.

Here, although BLM includes some information on nearby state GHG emissions, BLM’s analysis is incomplete. First, it fails to account for BLM lease sales in other states occurring in 2019 and directly across the border from many Wyoming 2019 lease parcels, including the Montana December 2019 and Colorado December 2019 sales (both of which have parcels on the Wyoming border). Second, BLM solely looks at federal quarterly lease sales. This ignores other BLM actions such as BLM Wyoming’s recent action to reissue 83 parcels sold but not issued

between 2008 and 2010.³⁰ This also ignores BLM coal leasing as well as state and private actions, all of which are required by NEPA.

Finally, the need to take into account “similar” and “cumulative” actions is underscored by the fact that the BLM acknowledges that the proper geographic area for analyzing and assessing the impacts of greenhouse gas emissions is on a statewide, regional, and global scale. *See, e.g.*, EA at 4-28 to 4-34 (assessing cumulative emissions on statewide and national scale. Although this assessment was apparently prepared to try to mislead the public into believing that emissions from the proposed development are not significant, it actually emphasizes the need for BLM to not simply account for emissions from the proposed lease sales, but to also account for all greenhouse gas emissions associated with BLM-approved oil and gas projects and lease sales region-wide. BLM cannot insinuate that emissions are insignificant in the context of state and regional emissions, but then fail to disclose the direct, indirect, and cumulative greenhouse gases that would result from all other “similar” and “cumulative” actions within the state and region. Clearly, this failure is in violation of the NEPA’s requirement to analyze cumulative and similar impacts with common timing and geography.

H. BLM Fails to Assess Recent Climate Science.

Within the context of climate change, NEPA also requires BLM to consider existing, new, and revised climate science. *See* 40 C.F.R. §§ 1500.1 (requiring “high quality information” and “accurate scientific analysis”). Climate change has been intensively studied and acknowledged at the global, national, and regional scales. Climate change is being fueled by the human-caused release of greenhouse gas emissions, in particular carbon dioxide and methane. Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are recognized as the key greenhouse gases contributing to climate change. In 2009, the EPA found that these “six greenhouse gases taken in combination endanger both the public health and the public welfare of current and future generations.”³¹ The D.C. Circuit has upheld this decision as supported by the vast body of scientific evidence on the subject. *See Coal. for Responsible Regulation, Inc. v. EPA.*, 684 F.3d 102, 120-22 (D.C. Cir. 2012).

The Intergovernmental Panel on Climate Change (“IPCC”) is a Nobel Prize-winning scientific body within the United Nations that reviews and assesses the most recent scientific, technical, and socio-economic information relevant to our understanding of climate change. In one of its reports to policymakers in 2014, the IPCC provided a summary of our understanding of human-caused climate change. Among other things, the IPCC stated:

- Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.

³⁰ Exhibit 12, BLM, Previously Sold Lease Parcels June 2008-May 2010, Environmental Assessment, DOI-BLM-WY-0000-2019-0011-EA (2019), <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=200004950>.

³¹ EPA, *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

- Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.
- Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane, and nitrous oxide that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are extremely likely to have been the dominant cause of the observed warming since the mid-20th century.
- In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans. Impacts are due to observed climate change, irrespective of its cause, indicating the sensitivity of natural and human systems to changing climate.
- Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive, and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.
- Surface temperature is projected to rise over the 21st century under all assessed emission scenarios. It is very likely that heat waves will occur more often and last longer, and that extreme precipitation events will become more intense and frequent in many regions. The ocean will continue to warm and acidify, and global mean sea level will continue to rise.³²

Just recently, the IPCC reaffirmed the severe impacts from climate change and that rapid action away from fossil fuels is needed if we are to limit the impacts of climate change.

- Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.
- Warming from anthropogenic emissions from the pre-industrial period to the present will persist for centuries to millennia and will continue to cause further long-term changes in the climate system, such as sea level rise, with associated impacts but these emissions alone are unlikely to cause global warming of 1.5°C.

³² Exhibit 13, IPCC AR5, Summary for Policymakers (Mar. 2014), http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf.

- Climate models project robust differences in regional climate characteristics between present-day and global warming of 1.5°C, and between 1.5°C and 2°C. These differences include increases in: mean temperature in most land and ocean regions, hot extremes in most inhabited regions, heavy precipitation in several regions, and the probability of drought and precipitation deficits in some regions.
- Climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C.
- Pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems (high confidence). These systems transitions are unprecedented in terms of scale, but not necessarily in terms of speed, and imply deep emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those options (medium confidence).³³

With particular regard to the Great Plains Region—which includes Wyoming, Montana, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas—the Third National Climate Assessment included the following overview:

- Rising temperatures are leading to increased demand for water and energy. In parts of the region, this will constrain development, stress natural resources, and increase competition for water among communities, agriculture, energy production, and ecological needs.
- Changes to crop growth cycles due to warming winters and alterations in the timing and magnitude of rainfall events have already been observed; as these trends continue, they will require new agriculture and livestock management practices.
- Landscape fragmentation is increasing, for example, in the context of energy development activities in the northern Great Plains. A highly fragmented landscape will hinder adaptation of species when climate change alters habitat composition and timing of plant development cycles.
- Communities that are already the most vulnerable to weather and climate extremes will be stressed even further by more frequent extreme events occurring within an already highly variable climate system.

³³ Exhibit 14, IPCC SR 15, *Global Warming of 1.5°: Summary for Policy Makers* (Oct. 2018), http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

- The magnitude of expected changes will exceed those experienced in the last century. Existing adaptation and planning efforts are inadequate to respond to these projected impacts.³⁴

Additionally, in August 2017, the U.S. Global Change Research Program (“USGRCP”), a science-based organization lead by the National Oceanic and Atmospheric Administration (“NOAA”) and comprised of hundreds of scientists and technical experts from federal agencies, states, tribes, local governments, universities, and non-profit, released a Climate Science Special Report as Volume 1 of the Fourth National Climate Assessment.³⁵ The 2017 Special Report contains updated information on climate change attribution, temperature change, precipitation, extreme storms, and drought, floods and wildfire that BLM must use in conducting its analysis. *San Juan Citizens All. v. United States Bureau of Land Mgmt.*, 326 F. Supp. 3d 1227, 1248 (D.N.M. 2018) (“Accordingly, since the date of the ARTSD (2013), substantial progress may have been made in assessing the potential global and regional effects of climate change. On remand, in considering the potential impacts of the full amount of greenhouse gas emissions which are indirect effects of issuing the leases in this case, BLM must not rely on outdated scientific tools and analyses.”).

In 2018, the U.S. Global Change Research Program then released its Fourth National Climate Assessment Volume II: Impacts, Risks, and Adaptation in the United States.³⁶ In addition to providing updated scientific assessment of global and national impacts and risks associated with climate change, the Fourth National Climate Assessment provided a much more granular look at projected regional climate impacts than any of the information BLM considered in the Supplemental EA. The report documents specific and concerning impacts to Wyoming’s environment, natural resources, and economy, that BLM needs to incorporate into its assessment of climate impacts. For example, according to the Fourth National Climate Assessment:

Climate-related impacts are already being felt in the region’s terrestrial and aquatic ecosystems, as well as the local economies that depend upon them. Climate-driven changes in snowpack, spring snowmelt, and runoff have resulted in more rapid melting of winter snowpack and earlier peak runoff due to rapid springtime warming. These effects have resulted in lower streamflows, especially in late summer. Lower flows, combined with warmer air temperatures, have caused stream temperatures to rise. These conditions are negatively affecting aquatic biodiversity and ecosystem functions of riparian areas (areas along the banks of rivers and streams), with important consequences for local economies that depend upon river-based recreation.³⁷

³⁴ Exhibit 15, Jerry M. Melillo, *et al.*, *Climate Change Impacts in the United States: The Third National Climate Assessment* 61 (2014), <https://nca2014.globalchange.gov/downloads>.

³⁵ Exhibit 16, D.J. Wuebbles *et al.*, USGRCP, CLIMATE SCIENCE SPECIAL REPORT, FOURTH NATIONAL CLIMATE ASSESSMENT, VOL. 1 (2017), available at <https://science2017.globalchange.gov/>.

³⁶ Exhibit 17, Reidmiller *et al.*, USGCRP, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018), <https://nca2018.globalchange.gov/>.

³⁷ *Id.* at 957 (internal citations omitted).

Already in Wyoming, “higher-than-normal winter and fall temperatures and low summer precipitation are enabling severe mountain pine beetle outbreaks in whitebark pine... a keystone species of high-elevation ecosystems, providing a critical seed source for more than 20 wildlife species, creating microenvironments that allow other tree species to establish, and influencing snowpack dynamics...[and] an important cultural resource for some tribes in the region.”³⁸

Climate change is projected to further exacerbate challenges posed by the highly variable climate of the Northern Great Plains, including in Wyoming, in the sustainable use of water, land, and energy resources by competing urban, suburban, rural, and tribal populations, including:

1) effectively managing both overabundant and scarce water resources, 2) supporting adaptation of sustainable agricultural systems, 3) fostering conservation of ecosystems and cultural and recreational amenities, 4) minimizing risk to energy infrastructure that is vulnerable to climate change and extreme weather events, and 5) mitigating climate impacts to vulnerable populations.³⁹

Specifically, the fraction of total water that falls as snow in the mountains of Wyoming is expected to decline by as much as “25% to 40% by 2100,” with important implications for Wyoming’s winter recreation industry and water supplies.⁴⁰ Due to declining snowpack, the cross-county ski season in northwestern Wyoming is projected to decline by as much as “60% to 100%” by 2090, with similar losses in season length projected for the region’s downhill ski industry, a \$275 million industry.⁴¹

Declining water availability in the summer is also projected to increase costs for oil production operations, which require significant quantities of freshwater resources, while “higher maximum temperatures, longer and more severe heat waves, and higher overnight lows are expected to increase electricity demand for cooling in the summer, further stressing the power grid.”⁴²

Finally, climate change is projected to have disproportionate effects on Native American Tribes in the region, which are “among the most at risk to climate change” due to high rates of poverty and unemployment and direct reliance on natural resources.⁴³ Already, “[i]ndigenous peoples in the region are observing changes to climate, many of which are impacting livelihoods

³⁸ *Id.* at 958.

³⁹ *Id.* at 947.

⁴⁰ *Id.* at 944.

⁴¹ *Id.* at 958.

⁴² *Id.* at 944.

⁴³ *Id.* at 944-45.

as well as traditional subsistence and wild foods, wildlife, plants and water for ceremonies, medicines, and health and well-being.”⁴⁴

BLM has an obligation to use the best available science in assessing the climate impacts of its leasing decisions. *See* 40 C.F.R. §§ 1500.1 (requiring “high quality information” and “accurate scientific analysis”). The Fourth National Climate Assessment represents the federal government’s most recent analysis of climate impacts, and BLM must discuss in more depth the specific regional impacts identified in its EA.

I. BLM Must Consider the Significance of the Proposed Action Using Carbon Budgeting.

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 incremental emissions to regional and national totals, however, fails to inform the decision-maker 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 D.C. District Court 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 to 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. *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 83 (D.D.C. 2019); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989); 40 C.F.R. § 1508.27. 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.

The science of carbon budgeting has greatly improved in the last few years. Recent reports demonstrate the evident usefulness of carbon budgeting in assessing the significance of future emissions. For example, the October 2018 IPCC *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 GtCO₂ and 570 GtCO₂ depending on the temperature dataset used, from January 2018 onwards.⁴⁵ Compared with the average global emissions rate of 36 GtCO₂ per year noted above for 2012-2014, the IPCC explained the global emissions rate has increased to 42 GtCO₂ per year.⁴⁶ 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.⁴⁷ In effect, we’re burning through our carbon budget at a rapid pace and thereby

⁴⁴ *Id.* at 944.

⁴⁵ IPCC SP15, *supra*, at SPM-16.

⁴⁶ *Id.*

⁴⁷ *Id.*

limiting the flexibility future generations may require or desire as they intensify our world's transition away from fossil fuels.

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 CO₂ emissions since 1870, and is currently the world's second highest emitter on an annual and per capita basis.⁴⁸ And, federal fossil fuel production contributes to 23% of all U.S. carbon dioxide emissions and to 23% of all U.S. greenhouse gas emissions.⁴⁹ Regardless, to conform to a 1.5°C target, the estimated U.S. carbon budget is 25 GtCO₂eq to 57 GtCO₂eq on average,⁵⁰ depending on the sharing principles used to apportion the global budget across countries.⁵¹ The estimated U.S. carbon budget consistent with limiting temperature rise to 2°C ranges from 34 GtCO₂ to 123 GtCO₂,⁵² again depending on the sharing principles used. Under any scenario, the remaining U.S. carbon budget compatible with the Paris climate targets is extremely small.

⁴⁸ Exhibit 18, Global Carbon Project, Global Carbon Budget at 10, 18, 32 (Nov. 13, 2017) <http://www.globalcarbonproject.org/carbonbudget/17/presentation.htm>.

⁴⁹ See Exhibit 19, Merrill, M.D., et al., U.S. Geo. Survey, Federal Lands Greenhouse Gas Emissions and Sequestration in the United States—Estimates for 2005–14: Scientific Investigations Report 2018-5131 at 1 (2018), <https://pubs.er.usgs.gov/publication/sir20185131>.

⁵⁰ Exhibit 20, 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). Quantities measured in GtCO₂eq include the mass emissions from CO₂ as well as the other well-mixed greenhouse gases (CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and SF₆) converted into CO₂-equivalent values, while quantities measured in GtCO₂ refer to mass emissions of just CO₂ itself.

⁵¹ 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 GtCO₂eq by averaging across four equity principles: capability (83 GtCO₂eq), equal per capita (118 GtCO₂eq), greenhouse development rights (-69 GtCO₂eq), and equal cumulative per capita (-32 GtCO₂eq). The study estimated the U.S. budget at 57 GtCO₂eq when averaging across five sharing principles, adding the constant emissions ratio (186 GtCO₂eq) 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."

⁵² 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 GtCO₂eq based on four equity principles (capability, equal per capita, greenhouse development rights, equal cumulative per capita), and at 104 GtCO₂eq based on five principles (adding in constant emissions ratio, but see footnote above).

Oil Change International recently reaffirmed this conclusion in a report released in January 2019.⁵³ Specifically, it found that using existing fossil fuel reserves would again push the world far beyond warming or 1.5°C and 2°C.⁵⁴ The report also 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 (CO₂) emissions should be roughly halved to stay in line with the 1.5°C target in the Paris Agreement.
- Between 2018 and 2050, the United States is set to unleash the world’s largest burst of CO₂ 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 CO₂ emissions, which is equivalent to the lifetime CO₂ emissions of nearly 1,000 coal-fired power plants.
- 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.
- Nearly 60 percent of the 120 billion tons of CO₂ emissions unlocked by new U.S. oil and gas drilling from 2018 to 2050 is set to come from the Permian and Appalachian Basins (Figure ES-3).
- The CO₂ pollution enabled by oil and gas production in the Permian Basin from 2018 through 2050 could exhaust close to 10 percent of the entire world’s carbon budget for staying within 1.5°C of warming. By its projected peak year of production, 2029, the Permian Basin could see nearly as much oil extraction as Saudi Arabia does today.

As demonstrated above, climate science is ever evolving and extremely relevant to BLM’s work. Without accounting for recent reports on carbon budgeting, BLM is approving actions in the dark, without the full picture of climate change before it contrary to the requirements of NEPA.

J. 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 an incomplete cumulative impacts analysis, the agency omits any consideration of the social cost of carbon protocol: a valid, well-accepted, credible, and

⁵³ Exhibit 21, 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>.

⁵⁴ *Id.* at 11.

interagency-endorsed method⁵⁵ of calculating the costs of greenhouse gas emissions and understanding the potential significance of such emissions. Failure to use this best available science in the EA violates NEPA's hard look mandate. 40 C.F.R. § 1500.1(b).

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 avoided for a small emission reduction (i.e. the benefit of a CO₂ reduction).”⁵⁶ 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 2010.⁵⁷ These estimates were then revised in 2013 by the Interagency Working Group, which at the time consisted of 13 agencies.⁵⁸ This report and the social cost of carbon estimates were again revised in 2015.⁵⁹ Again, this report and social cost of carbon estimates were revised in 2016.⁶⁰

⁵⁵ 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).

⁵⁶ Exhibit 22, 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>.

⁵⁷ *See* Exhibit 23, 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.

⁵⁸ *See* Exhibit 24, 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>.

⁵⁹ *See* Exhibit 25, 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).

⁶⁰ *See* Exhibit 26, 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”

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.⁶¹

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 \$42 per metric ton for 2020.⁶²

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.⁶³

Year	5% Average	3% Average	2.5% Average	High Impact (95 th 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

(Aug. 2016), https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf.

⁶¹ See Exhibit 27, 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).

⁶² *Id.* at 4.

⁶³ See Exhibit 28, GAO, “Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates,” GAO-14-663 (July 2014), <http://www.gao.gov/assets/670/665016.pdf>.

XL oil pipeline include “an estimate of the ‘social cost of carbon’ associated with potential increases of GHG emissions.”⁶⁴

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.”⁶⁵ In conducting its analysis, the BLM used a “3 percent average discount rate and year 2020 values,” presuming social costs of carbon to be \$46 per metric ton.⁶⁶ Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be “\$38,499 (in 2011 dollars).”⁶⁷ 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 CO₂e increase.⁶⁸ 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.⁶⁹

To be certain, the social cost of carbon protocol presents a conservative estimate of economic damages associated with the environmental impacts climate change. As the EPA has noted, the protocol “does not currently include all important [climate change] damages.”⁷⁰ 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.⁷¹ And a report from 2017, estimated

⁶⁴ Exhibit 29, EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011).

⁶⁵ Exhibit 30, BLM, “Environmental Assessment for October 21, 2014 Oil and Gas Lease Sale,” DOI-BLM-MT-0010-2014-0011-EA (May 19, 2014) at 76, https://blm_prod.opengov.ibmcloud.com/sites/blm.gov/files/MT-DAKS%20Billings%20Oct%202014%20EA%20Protest.pdf.

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ See Exhibit 31, 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.

⁶⁹ *Id.* at 83.

⁷⁰ EPA Factsheet on SCC, *supra*, at 1.

⁷¹ See Exhibit 32, Moore, C.F. and B.D. Delvane, “Temperature impacts on economic growth warrant stringent mitigation policy,” *Nature Climate Change* 2 (January 12, 2015).

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.”⁷² 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.⁷³

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.⁷⁴ As the report states:

[D]elaying action to limit the effects of climate change is costly. Because CO₂ accumulates in the atmosphere, delaying action increases CO₂ concentrations. Thus, if a policy delay leads to higher ultimate CO₂ concentrations, that delay produces persistent economic damages that arise from higher temperatures and higher CO₂ concentrations. Alternatively, if a delayed policy still aims to hit a given climate target, such as limiting CO₂ concentration to 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.⁷⁵

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.

⁷² See Exhibit 33, Revesz, R. *et al.* “Best cost estimate of greenhouse gases,” 357 *Science* 655, 655 (Aug. 18, 2017).

⁷³ EPA Factsheet on SCC, *supra*.

⁷⁴ See Exhibit 34, Executive Office of the President of the United States, “The Cost of Delaying Action to Stem Climate Change,” (July 2014).

⁷⁵ *Id.* at 1.

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 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. Env'tl. 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.⁷⁶ 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.”⁷⁷

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. 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.

⁷⁶ See Exhibit 35, 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>.

⁷⁷ Exhibit 36, William D. Nordhaus, Revisiting the Social Cost of Carbon, PNAS, Feb. 14, 2017, <http://www.pnas.org/content/114/7/1518.full.pdf>.

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 sum, 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 complete failure to include it while touting the economic benefits of the lease sale is arbitrary and capricious.

III. BLM Must Take a Hard Look at Impacts to Sage Grouse.

Despite the fact that highly sensitive sage-grouse habitat would be threatened by new leasing, the EA fails in four major respects to disclose or analyze indirect and cumulative impacts of leasing on greater sage-grouse. It fails to meaningfully inform the reader or the decision-maker of the extent of new leasing within priority habitat management areas, both in this lease sale and cumulatively in lease sales since the finalization of the sage-grouse RMP amendments. Second, it tiers to and relies on RMP decisions for management of Wyoming greater sage-grouse habitat that fail to follow the best available science regarding measures necessary to ensure the survival and recovery of the species. Third, the proposed leasing action, violates FLPMA by failing to conform to a key management prescription of those plans – the obligation to “prioritize the leasing and development of fluid mineral resources outside GRSG habitat.” This requirement remains in place for Priority Habitat Management Areas even under the recently-amended BLM Wyoming Sage-Grouse plans. Fourth, because the proposed leases are not in conformance with the 2015 and 2019 RMP amendments and undermine significant assumptions of their accompanying FEISs (i.e., that new oil and gas development will be prioritized outside of greater sage-grouse habitat), the EA cannot tier to or rely on those EISs.

Additionally, despite the fact that 48% of proposed leases fall within Priority Habitat Management Areas, the EA also fails to disclose the significant effects on greater sage-grouse habitat of recently-approved (and recently enjoined⁷⁸) changes to all BLM Wyoming RMPs that substantially reduce the certainty that conservation measures in the 2015 Sage-Grouse Plans will be implemented. EA at 4-22. The EA’s entire analysis of impacts to sage-grouse relies solely on the now invalid RMPs. *Id.* This is inadequate in three respects. First, the RMPs are now enjoined, leaving the 2015 RMPs in effect. Second, the 2015 RMP-level analyzes do not address the effects of individual leasing decisions on particular sage-grouse populations, including

⁷⁸ *W. Watersheds Project v. Schneider*, No. 1:16-CV-83-BLW, 2019 WL 5225454, at *1 (D. Idaho Oct. 16, 2019).

population, trend, and threat data, baseline levels of disturbance, or cumulative impacts from other ongoing or foreseeable leases and exploration and development projects. Third, the reliance on the 2015 RMP FEISs fails to address the fact that the recently-approved 2019 Wyoming Sage-Grouse RMP Amendments substantially reduces the certainty that conservation measures in the 2015 plans will be implemented. See Wyoming Sage-Grouse Amendments Record of Decision at 17-18 (eliminating “net conservation gain” requirement), 19 (modifying requirement to prioritize leasing outside of sage-grouse habitats).

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

BLM has broad discretion and 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.

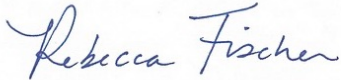
The MLA and FOOGLRA do not in any way restrict the factors that BLM may consider when exercising its considerable discretion under § 226(a). Therefore, even if the BLM bases its decision entirely on the public’s overwhelming opposition to oil and gas development in this area, it has the authority to 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 December 2019 parcels.

V. Conclusion

In sum, the BLM's EA and FONSI for the December 2019 competitive oil and gas lease in Wyoming violate the Clean Air Act, FLPMA, and NEPA, including failing to demonstrate compliance with Judge Contreras' decision in *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41 (D.D.C. 2019) and Judge Morris' order in *Western Organization of Resource Councils v. U.S. Bureau of Land Management*, 2018 WL 1475470. As a result, Guardians requests that BLM defer all of the proposed parcels unless and until it corrects these deficiencies.

Sincerely,

A handwritten signature in blue ink that reads "Rebecca Fischer". The signature is written in a cursive style.

Rebecca Fischer, Climate & Energy Program Attorney
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