Protest and accompanying exhibits submitted via FedEx

U.S. Bureau of Land Management
New Mexico State Office
Attention: Tim Spisak, Acting State Director
301 Dinosaur Trail
Santa Fe, NM 87508

Re: Protest of the New Mexico BLM’s March 28, 2019 Competitive Oil and Gas Lease Sale

Dear State Director Spisak,

Pursuant to 43 C.F.R. § 3120.1-3, WildEarth Guardians and Western Environmental Law Center submit the following protest of the U.S. Bureau of Land Management’s (“BLM’s”) decision to move forward with its March 28, 2019 competitive oil and gas lease sale. The agency is offering for lease 46 publicly-owned land and mineral parcels comprising 14,008.93 acres across New Mexico and Oklahoma. This protest focuses on the seven parcels (642.520 acres) within the Carlsbad Field Office and Eddy and Lea Counties in southeastern New Mexico.

This protest is filed on behalf of Guardians, WELC, 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


2 The draft EA and FONSI for the Carlsbad parcels are available on BLM’s ePlanning page at: https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=170868.
We protest the following lease parcels:

<table>
<thead>
<tr>
<th>Parcel No.</th>
<th>County</th>
<th>Field Office</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM-201903-001</td>
<td>Eddy</td>
<td>Carlsbad</td>
<td>40.000</td>
</tr>
<tr>
<td>NM-201903-002</td>
<td>Eddy</td>
<td>Carlsbad</td>
<td>40.000</td>
</tr>
<tr>
<td>NM-201903-003</td>
<td>Eddy</td>
<td>Carlsbad</td>
<td>80.000</td>
</tr>
<tr>
<td>NM-201903-004</td>
<td>Lea</td>
<td>Carlsbad</td>
<td>41.560</td>
</tr>
<tr>
<td>NM-201903-005</td>
<td>Lea</td>
<td>Carlsbad</td>
<td>160.000</td>
</tr>
<tr>
<td>NM-201903-006</td>
<td>Lea</td>
<td>Carlsbad</td>
<td>120.960</td>
</tr>
<tr>
<td>NM-201903-007</td>
<td>Lea</td>
<td>Carlsbad</td>
<td>160.000</td>
</tr>
</tbody>
</table>

**INTERESTS OF THE 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. On behalf of our members in New Mexico and across the West, 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 all of the environmental impacts of its oil and gas leasing decisions, including impacts to air quality and objectively and robustly weighing the costs and benefits of authorizing the release of more greenhouse gas emissions known to contribute to climate change.

The Western Environmental Law Center (“WELC”) uses the power of the law to defend and protect the American West’s treasured landscapes, iconic wildlife and rural communities. WELC combines legal skills with sound conservation biology and environmental science to address major environmental issues in the West in the most strategic and effective manner. WELC works at the national, regional, state, and local levels; and in all three branches of government. WELC integrates national policies and regional perspective with the local knowledge of our 100+ partner groups to implement smart and appropriate place-based actions.

STATEMENT OF REASONS

I. BLM’s Proposed Action 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 “protect, restore, and enhance the environment.” Id. § 1500.1(c).

NEPA regulations explain:

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.

To fulfill the goals of NEPA, federal agencies are required to analyze the “effects,” or impacts, of their actions on 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 . . . require[ing] that agencies take a hard look at environmental consequences”) (internal quotations omitted, emphasis added). 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 EIS. See 40 C.F.R. § 1502.3.

Federal agencies are required to determine whether direct, indirect, or cumulative impacts are significant by accounting for both the “context” and “intensity” of those impacts. 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” and “varies with the setting of the proposed action.” 40 C.F.R. § 1508.27(a). Intensity “refers to the severity of the impact” and is evaluated according to several additional elements,
including, for example: 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).

Within an EA or EIS, the scope of the analysis must also include “[c]umulative actions” and “[s]imilar actions.” 40 C.F.R. §§ 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.

In addition to NEPA, BLM must comply with the Federal Land Policy and Management Act (“FLPMA”), 43 U.S.C. §§ 1701–1787. 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 (emphasis added); see also 43 C.F.R. § 1610.5-6. Furthermore, the Handbook provides that amendments are recommended whenever the BLM must “[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.” BLM Land Use Planning Handbook, Section VII.B at 45; see also 43 C.F.R. § 1610.5-5.

When the 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 EIS with each RMP. Id. Although the BLM may tier its project-level analyses to a broader NEPA document, such as the EIS accompanying the RMP, 43 C.F.R. § 46.140, “[n]othing in the tiering regulations suggests that the existence of a programmatic EIS . . . obviates the need for any future project-specific EIS, without regard to the nature of magnitude of a project.” 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.” Id. § 46.140(b).
A. BLM’s Public Comment Process for the March 2019 Sale Fails to Comply with NEPA and FLPMA.

To start, BLM’s public comment process for the March 2019 lease sale fails to comply with NEPA and FLPMA. As the BLM is aware, on September 21, 2018, the U.S. District Court for the District of Idaho issued a Memorandum Decision and Preliminary Injunction in Western Watersheds Project v. Zinke, No. 1:18-cv-00187-REB (D. Idaho Sept. 21, 2018) (decision attached as Exhibit 1). This decision enjoins BLM from implementing parts of BLM Instruction Memorandum 2018-034, which substantially limited and eliminated opportunities for public comment on the oil and gas leasing process. Exhibit 1 at 40–42.

Although the injunction was decided within the context of the greater sage grouse habitat management areas, id. at 56, its reasoning applies to all oil and gas lease sales completed under BLM IM 2018-034 because of the fundamental conflicts between the IM, NEPA, and FLPMA. As a result, we hereby request that BLM postpone and defer all parcels included in the March 2019 competitive oil and gas lease sale, and any other future lease sales, unless and until the agency fully complies with the Preliminary Injunction issued in the aforementioned case and addresses the legal deficiencies identified therein.

In his Memorandum Decision and Order, Judge Bush ruled that environmental plaintiffs were likely to succeed on the merits of both their substantive and procedural challenges to IM 2018-034 under FLPMA, 43 U.S.C. §§ 1712(a) & (h), 1739(e); NEPA, 43 U.S.C. § 4332(C), 40 C.F.R. § 1506.6; and the Administrative Procedure Act (“APA”), 5 U.S.C. § 706(2). Exhibit 1 at 36, 41, 42. The court reviewed BLM’s IM 2018-034 and concluded that it constituted final agency action with respect to several critical elements of the BLM’s oil and gas leasing process, including: (a) BLM decisions whether or not to permit public involvement, (b) length of public review and comment, and (c) length of public protests of oil and gas lease sales. Id. at 23–34. As the court noted, “the burden of such constraints upon public participation and compressed protest periods falls most heavily upon members of the public, as those who have nominated potential lease parcels and BLM have had far more time to evaluate and consider the details of such parcels.” Id. at 25.

In reviewing the plaintiffs’ claims, and BLM’s defenses, under the standards applicable to review of motions for preliminary relief, the court determined that the plaintiffs are likely to succeed on the merits of the claim that IM 2018-034’s constraints on public participation are: (1) procedurally invalid because BLM imposed binding requirements for oil and gas leasing on BLM-administered lands and minerals without required public notice and comment, id. at 33–34, and (2) that IM 2018-034 “improperly constrains public participation in BLM oil and gas leasing decisions.” Id. at 36.

On this latter point, the court found:

It is well-settled that public involvement in oil and gas leasing is required under FLPMA and NEPA. . . . On a very fundamental level, it strains common sense to see how these requirements are fulfilled when just comparing IM 2018-034 to IM 2010-117. That is, how can it be said that IM 2018-034 provides the required
public participation “to the fullest extent possible” and ‘to the extent practicable,” when it is dramatically more restrictive (at least on the issue of public participation) than the previously-established IM (IM 2010-117) it only recently replaced?

Id. 36–37. The court went on to state:

IM 2018-034 jettisoned prior processes, practices, and norms in favor of changes that emphasized economic maximization to the detriment if not outright exclusion of pre-decisional opportunities for the public to contribute to the decisionmaking process affecting the management of public lands. That choice was problematic when considering the Congressional directives for public involvement contained in FLPMA and NEPA and the apparent shortcomings of IM 2018-034 in allowing for public participation in BLM oil and gas leasing decisions.

Id. at 40–41. The court further concluded that:

[i]n this case, the record contains significant evidence indicating that BLM made an intentional decision to limit the opportunity for (and even in some circumstances to preclude entirely) any contemporaneous public involvement in decisions concerning whether to grant oil and gas leases on federal lands . . . . The evidence illustrates that the intended result of the at-issue decisions was to dramatically reduce and even eliminate public participation in the future decision-making process. Doing so certainly serves to meet the stated “purpose” of IM 2018-034 – that is, reducing or precluding public participation will “streamline the leasing process to alleviate unnecessary impediments and burdens, to expedite the offering of lands for lease . . . .” Yet, the route chosen by BLM to reach that destination is problematic because the public involvement requirements of FLPMA and NEPA cannot be set aside in the name of expediting oil and gas lease sales. The benefits of public involvement and the mechanism by which public involvement is obtained are not “unnecessary impediments and burdens.”

Id. at 41 (emphasis added).

There is no doubt that this decision has implications in New Mexico. Because of the requirements of BLM IM 2018-034, the New Mexico State Office of the BLM has eliminated the draft EA comment period for the March 2019 sale and cut down the time period allotted for scoping comments and protests from 30 days to $15^3$ or $10^4$ days respectively. BLM is intentionally limiting public participation for this lease sale by restricting the time allotted for comments and protests. BLM has also been consistently limiting the way citizens can submit protests. For the March sale, protests are due February 20th and can only be received via mail or online.

---


4 See BLM’s ePlanning page or the lease sale notice for the March 2019 sale (linked above) for information on the length of the protest period.
hand delivery. Because February 18th is a federal holiday, this means that citizens must mail protests no later than Friday, February 15—effectively making BLM’s protest period a mere seven days. Not only is this approach completely contrary to our democracy, this approach also violates the fundamental purposes of NEPA and FLPMA whether or not the public lands at issue are within sage grouse habitat. Thus, the entire process of identifying, reviewing, and offering oil and gas parcels for BLM’s March 2019 is fundamentally compromised by the unlawful provisions of IM 2018-034, and we request that BLM defer all parcels proposed for sale.

B. BLM Cannot Lease Any of the Parcels Until the BLM Completes the Carlsbad RMP-EIS.

Similarly, because BLM is currently in the process of updating the Carlsbad RMP-EIS, BLM cannot lease any of the March 2019 parcels under the requirements of NEPA and FLPMA.

First, NEPA specifically forbids agency action that limits alternatives while a federal agency is revising a programmatic EIS.

While work on a required program environmental impact statement is in progress and the action is not covered by an existing program statement, agencies shall not undertake in the interim any major Federal action covered by the program which may significantly affect the quality of the human environment unless such action:

(1) Is justified independently of the program;
(2) Is itself accompanied by an adequate environmental impact statement; and
(3) Will not prejudice the ultimate decision on the program. Interim action prejudices the ultimate decision on the program when it tends to determine subsequent development or limit alternatives.

40 C.F.R. § 1506.1(c) (emphases added).

Furthermore, where an “[i]nterim action prejudices the ultimate decision on the program,” NEPA forbids the action. 40 C.F.R. §§ 1506.1(c)(1)-(3). An action prejudices the outcome “when it tends to determine subsequent development or limit alternatives.” Id.

There is no doubt that the current RMP and accompany EIS fail to analyze the significant impacts posed by oil and gas development on the seven parcels for the March 2019 sale coupled with the impacts from the 269 parcels (109,881.89 acres) leased or proposed for lease since September 2017. First, as discussed in more depth in Section E, BLM has failed to analyze the impacts from the use of hydraulic fracturing coupled with horizontal drilling, a more intense form of oil and gas development. Based on data from the Energy Information Administration data, any new wells as a result of the leases are almost guaranteed to use fracking coupled with

---

horizontal drilling.\textsuperscript{6} Indeed, BLM admits in the EA that 34 horizontal wells will likely result from the lease parcels. EA at 14. But, BLM fails to account for significant impacts by relying on the existing, outdated RMP-EIS which in turn fails to analyze fracking. Second, air quality in the area has been rapidly deteriorating as discussed in Section G. EPA has designated stricter federal standards for ozone, monitors in the Carlsbad area have been consistently exceeding these standards, and the increase in oil and gas as a result of fracking is a significant driver of ozone pollution.\textsuperscript{7} But, the BLM’s existing RMP-EIS fails to analyze this important issue. Put simply, the changing impacts of oil and gas development in the area are not covered in an existing NEPA document, and BLM must address this before moving forward with additional leasing.

Leasing these parcels will also prejudice the possible alternatives for the proposed Carlsbad RMP-DEIS. As the BLM has acknowledged in the past, after a lease has been issued, “a lessee has the right to use so much of the leased land as necessary to explore for, drill for, mine, extract, remove, and dispose of all of the leased resource[,]” 43 C.F.R. § 3101.1-2. Put simply, when the oil and gas lease rights are conveyed following the sale, lessees have a right to drill, and the impact on the environment from the exercise of those rights cannot be undone. Once the lease sale is held, BLM will no longer be able to consider an alternative that forbids oil and gas development on these parcels even if the agency determines that this is necessary based on its NEPA analysis. For example, should BLM decide at the RMP-EIS stage that the parcel near Carlsbad Caverns National Park (parcel no. NM-201903-003) coupled with other lease parcels will significantly impact the viewshed and/or the Class I airshed of the park, BLM would not be able to stop all development or impose additional lease stipulations limiting air quality impacts for existing leases. As currently proposed, the preferred alternative in the Carlsbad RMP-DEIS proposes to close 88,502 acres to oil and gas. Carlsbad RMP-DEIS at 2-27 (looking at Alternative C, the preferred alternative). As noted above, the BLM has leased or proposed for lease 269 parcels totaling 109,881.89 acres in this area since September 2017. The March 2019 lease sale would add an additional seven parcels and 642.520 acres. These leases, taken together, exceed the proposed acreage closed to oil and gas leasing in the Carlsbad RMP preferred alternative. Clearly, the area of land impacted by these ongoing lease sales is significant. Thus, the BLM must carefully consider whether moving forward with the lease sale will violate NEPA by prejudicing potential alternatives in the RMP.

Further, although there is a high bar to meet the standard of predetermination of outcomes under NEPA—“predetermination [is] present only when there [is] concrete evidence demonstrating that the agency had irreversibly and irretrievably bound itself to a certain outcome—for example, through a contractual obligation or other binding agreement,”—this standard is met here. \textit{Wyoming v. U.S. Dep’t of Agric.}, 661 F.3d 1209, 1265 (10th Cir. 2011). Because the BLM has a contractual obligation to allow surface use of the leases once the agency issues them without a no surface occupancy (“NSO”) stipulation for the whole parcel, 43 C.F.R. 3101.1-2, BLM cannot actually consider an alternative disallowing development on these areas

---


of land. The language of the CEQ regulations directly supports this conclusion. “Interim action prejudices the ultimate decision on the program when it tends to determine subsequent development.” 40 C.F.R. § 1506.1(c) (emphasis added). At a minimum, if these parcels are leased without full NSO stipulations as is proposed now, the companies that buy the proposed leases will be able develop the land in order to conduct exploration activities, thereby precluding BLM from analyzing and preventing any unforeseen environmental harms. As a result, BLM is predetermining its NEPA analysis for the Carlsbad RMP.

BLM, in making a predetermined conclusion, creates an unlevel playing field that benefits oil and gas leasing and drilling at the expense of other multiple use resources. There is a long line of cases that warn agencies against making a predetermined decision with respect to their NEPA analysis. The Tenth Circuit Court of Appeals has cautioned: “[I]f an agency predetermines the NEPA analysis by committing itself to an outcome, the agency likely has failed to take a hard look at the environmental consequences of its actions due to its bias in favor of that outcome and, therefore, has acted arbitrarily and capriciously.” Forest Guardians v. U.S. Fish & Wildlife Serv., 611 F.3d 692, 713 (citing Davis v. Mineta, 302 F.3d 1104 (10th Cir. 2002)). The Tenth Circuit further stated that “[w]e [have] held that ... predetermination [under NEPA] resulted in an environmental analysis that was tainted with bias” and was therefore not in compliance with the statute. Id. (citing Davis, 302 F.3d at 1112–13, 1118–26). As a result, we recommend that the BLM postpone any additional leasing within the Carlsbad Field Office unless and until BLM completes the underlying RMP-EIS.

Finally, BLM’s attempt to move forward with leasing without a valid RMP violates FLPMA. As noted above, FLPMA requires revision of an RMP “based on monitoring and evaluation findings, new data, new or revised policy and changes in circumstances affecting the entire plan or major portions of the plan.” 43 C.F.R. § 1601.5-6. Here, the existing RMP completely fails to address the use of fracking coupled with horizontal drilling, a extraction technique which has more intense impacts on the resources including land, water, air, wildlife, and communities. See Diné Citizens Against Ruining Our Env’t v. Jewell, No. CIV 15 0209 JB/SCY, 2015 WL 4997207, at *11 (D.N.M. Aug. 14, 2015), aff’d, 839 F.3d 1276 (10th Cir. 2016). Furthermore, the existing RMP fails to account for current federal ozone standards, which are becoming increasingly relevant for the area as it experiences exceedances of these standards. These issues represent new data and changes in circumstances that affect the entirety of the Carlsbad RMP area. Thus, BLM must wait until the draft RMP is complete before moving forward with additional oil and gas leasing.

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

BLM must also analyze and assess a range of reasonable alternatives. Unfortunately, BLM fails to do so here. “The EA, while typically a more concise analysis than an EIS, must still evaluate the need for the proposal, alternatives as required by NEPA section 102(2)(E), and the environmental impacts of the proposed action and alternatives.” See High Country Conservation Advocates v. U.S. Forest Serv., 52 F.Supp. 3d 1174 (D. Colo. 2014); see also 42 U.S.C. § 4332(E) (requiring agencies to “study, develop, and describe appropriate alternatives to
recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources’’); 40 C.F.R. § 1502.14.

For most lease sale NEPA documents, the BLM only analyzes two extreme alternatives: full leasing or no leasing. The March 2019 lease sale is no exception. See EA at 14–15. 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). Indeed, in 2018 a federal district 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.” Western Org. of Resource Councils v. U.S. Bureau of Land Mgmt., CV 16-21-GF-BMM, 2018 WL 1456624, at *9 (D. Mont. Mar. 23, 2018). BLM must consider alternatives that significantly reduce the proposed acreage for leasing to provide a comparison between its proposed action and other possible actions. BLM could potentially consider alternatives that reduce the lands available for leasing in order to address impacts to Carlsbad Caverns National Park, impacts to air quality generally, impacts to our climate, and/or impacts to water quality and quantity. But, despite being aware of this issue during the scoping period, BLM fails to consider it or otherwise discuss why it dismisses any additional alternatives.

D. BLM Is Required to Prepare an EIS.

BLM also cannot rely on the EA for the March 2019 lease sale to conclude that no significant environmental impacts will occur. Not only does the BLM continue to fail to fully discuss the highly controversial, uncertain impacts associated with fracking, the BLM also fails to fully discuss the impacts of oil and gas development on ozone levels and Carlsbad Caverns National Park.

An EIS is required 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); Airport Neighbors All. v. U.S., 90 F.3d 426, 429 (10th Cir. 1996) (“If the agency determines that its proposed action may ‘significantly affect’ the environment, the agency must prepare a detailed statement on the environmental impact of the proposed action in the form of an EIS.”) (emphasis added). Similarly, according to the Ninth Circuit:

We have held that an EIS must be prepared if “substantial questions are raised as to whether a project ... may cause significant degradation to some human environmental factor.” To trigger this requirement a “plaintiff need not show that significant effects will in fact occur,” [but instead] raising “substantial questions whether a project may have a significant effect” is sufficient.

Idaho Sporting Cong. v. Thomas, 137 F.3d 1146, 1149–50 (9th Cir. 1998) (emphasis in original) (citations omitted).

The significance of a proposed action is gauged based on both context and intensity. 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] the degree to which the proposed action affects public health or safety,” “[2] unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas,” “[3] the degree to which the effects on the quality of the human environment are likely to be highly controversial,” “[4] the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks[,]” and “[5] whether the action is related to other actions with individually insignificant but cumulatively significant impacts.” Id. § 1508.27(b)(2)–(5), (7). For this 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.

The first intensity factor under NEPA is “the degree to which the proposed action affects public health and safety.” Here, there is no doubt the proposed action, which would allow for the use of fracking, impacts public health and safety. Fracking poses risks to public health and safety, water quality and quantity, air quality, our climate, cultural resources, and the economic stability of communities. But, instead of discussing these impacts, BLM simply relies on a description of the process of fracking to claim its duties under NEPA are met. See EA at 46 (App’x D). This approach is unacceptable and in violation of NEPA’s hard look requirement.

A similar argument applies to the 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. 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,” including the aforementioned factors. 937 F. Supp. 2d at 1157. Specifically, 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. Similar reasoning applies here.

---

8 See Concerned Health Prof’ls of NY & Physicians for Soc. Responsibility, Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction) (5th ed. 2018) (hereinafter Fracking Compendium) (“As fracking operations in the United States have increased in frequency, size, and intensity, and as the transport of extracted materials has expanded, a significant body of evidence has emerged to demonstrate that these activities are dangerous to people and their communities in ways that are difficult—and may prove impossible—to mitigate. Risks include adverse impacts on water, air, agriculture, public health and safety, property values, climate stability, and economic vitality, as well as earthquakes.”) (previously attached to our Oct. 19, 2018 scoping comments as Exhibit 3); TEDX, Scientific Literature Addressing the Health Effects of Unconventional Oil and Gas Development (2018) (summarizing studies on the health effects of fracking) (previously attached to our Oct. 19, 2018 scoping comments as Exhibit 4); see also BLM, 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”).
Fracking presents threats to public safety as outlined above. Fracking also presents a significant risk of environmental degradation. The Carlsbad area is geologically unique because of karst and cave formations. And, as BLM admits in the EA, the extraction of oil and gas near these fragile formations present significant threats to water quality. EA at 12.9

Additionally, based on the proximity of some of the March 2019 lease sale parcels to Carlsbad Caverns National Park, there is no doubt that the fourth intensity factor—the unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas—is also implicated. Indeed, as discussed in more depth below, oil and gas is already significantly impacting the Park due to degraded air quality and visibility.10

Finally, BLM must assess cumulative impacts from the lease sale in conjunction with concurrent leases and development in the area. As shown below, BLM has leased or is proposing to lease 269 parcels totaling 109,881.89 acres since September 2017. Many of these parcels are directly adjacent to or very near the March 2019 parcels. Yet, BLM analyzes the impacts from each lease sale in individual EAs. This approach is in direct violation of NEPA’s CEQ regulations against piecemealing. Id. § 1508.27(b)(7). Thus, BLM must analyze cumulative impacts in a programmatic EIS.

---

9 See also James R. Goodbar, Dye Tracing Oil and Gas Drilling Fluid Migration Through Karst Aquifers: A Pilot Study to Determine Potential Impacts to Critical Groundwater Supplies in Southeast New Mexico, USA (noting that “[t]he initial results [of the study] are conclusive that drilling fluids do enter aquifers”) (previously attached to our Oct. 19, 2018 scoping comments as Exhibit 5); see also Carlsbad RMP-DEIS at 4-32 (“Karst resources would be at greater risk of adverse impacts, resulting from surface and subsurface disturbances, in areas across the planning area that have a higher frequency of karst development and features present.”), 4-47 (“There are many aspects of mineral development that would adversely impact karst resources. Adverse impacts from contamination are a primary concern, as drilling fluids, produced saltwater, oil and/or gas, cuttings, and cement could quickly enter groundwater, and subsequently aquifers, springs, and other resurgences through karst features that serve as natural conduits to these water sources.”).

This map shows all of the parcels leased or proposed for lease in the Greater Carlsbad region since 2017. The March 2019 parcels are shown in blue. GIS data obtained from the BLM.

In sum, because the BLM has not yet completed site-specific NEPA analyses analyzing potentially significant impacts, it has not “put forth a convincing statement of reasons’ that explains why [the March 2019 lease sale] will impact the environment no more than insignificantly,” Ocean Advoc. v. U.S. Army Corps of Engrs., 402 F.3d 846, 864 (9th Cir. 2005) (internal citations omitted). According to the Ninth Circuit, such a statement of reasons is “crucial to evaluating whether the [agency] took the requisite ‘hard look.’” Id. As a result, BLM must complete such an analysis before proceeding to lease the proposed parcels.

E. BLM Must Take A “Hard Look” at the Impacts of Hydraulic Fracturing and Horizontal Drilling.

As we’ve noted above and in comments and protests of the December 2017, September 2018, and March 2019 lease sales, the “current” Carlsbad RMP-EIS (adopted in 1988, amended in 1997) does not analyze the significant impacts posed by hydraulic fracturing and horizontal drilling. BLM does nothing to address this deficiency in its March 2019 lease sale EA.

NEPA imposes “action forcing procedures … requir[ing] that agencies take a hard look at

---


Multiple courts have held that if the BLM plans to allow a new oil and gas extraction technique, the agency must analyze the impacts of this technique in either a programmatic or project-specific NEPA document. See *Pennaco Energy, Inc. v. U.S. Dep’t of the Interior*, 377 F.3d 1147, 1151, 1153 (10th Cir. 2004) (holding that when a new fossil fuel extraction technology becomes commercially viable, and creates “changed circumstances” such that production of energy with the new technology is “significantly different” than production using previously considered technology, an agency permitting activities utilizing the new technology must take new environmental impacts into account as part of the NEPA process); see also *Ctr. for Biological Diversity v. Bureau of Land Mgmt.*, 937 F. Supp. 2d 1140, 1157 (N.D. Cal. 2013) (invalidating a BLM lease sale because “the scale of fracking in shale-area drilling today involves risks and concerns that were not addressed by the PRMP/FEIS’ general analysis of oil and drilling development in the area”); see also *ForestWatch v. U.S. Bureau of Land Mgmt.*, 2016 WL 5172009, Case No. CV-15-4378-MWF (JEMx) (C.D. Cal. Sept. 6, 2016) (holding that the BLM “acted unreasonably in failing to discuss, let alone take a ‘hard look’ at, the environmental impact of fracking in the FEIS”).

With the use of fracking comes a myriad of potentially significant environmental impacts.12 Fracking has not only opened up vast areas of minerals that were previously uneconomical to extract—thereby expanding the total land area impacted by development—the process of fracking also causes more intense impacts to our public health, air, water, land, and wildlife. *Diné Citizens Against Ruining Our Env’t v. Jewell*, No. CIV 15-0209 JB/SCY, 2015 WL 4997207, at *11 (D.N.M. Aug. 14, 2015), aff’d, 839 F.3d 1276 (10th Cir. 2016) (finding that “directional drilling causes roughly double the surface impacts of vertical drilling on a well-for-well basis” and that “[i]t can take five to ten times more water to frack a directionally drilled well than a vertical well”).13

Despite evidence of significant impacts, BLM’s existing NEPA analysis for the “current” Carlsbad RMP includes no analysis of the impacts of fracking. This is not surprising considering the fact that widespread use of fracking as an extraction technique did not occur until the early

---


13 See also Fracking Compendium and TEDx, *Health Effects*, supra note 9.
2000s. Today, the vast majority of new wells use horizontal drilling and fracking. While the BLM’s omission of a discussion of the impacts from fracking in the RMPs/FEISs is not surprising, it is certainly an omission that BLM must address before approving additional leasing because of the increased impacts associated with fracking. See Pennaco Energy, Inc., 377 F.3d at 1151, 1153; Ctr. for Biological Diversity, 937 F. Supp. 2d at 1157.

For example, with respect to water quality, reporting from New Mexico has acknowledged a proliferation of “frack hits,” or “downhole communication,” where new horizontal drilling for oil is communicating with both historic and active vertical wells. This is a significant development that could result in well blowouts, contamination of water resources, and issues over who is responsible for liabilities and costs of such impacts. Indeed, the unique geology of the area is very susceptible to frac fluid migration and groundwater contamination as discussed in more depth below. BLM fails to account for this and assumes, without explanation, that its existing casing regulations will prevent any contamination.

With respect to water quantity, just this summer, a federal district court in New Mexico held that BLM’s decision to lease lands within the Santa Fe National Forest for oil and gas without a site-specific analysis violated NEPA. San Juan Citizens All. v. U.S. Bureau of Land Mgmt., 326 F. Supp. 3d 1227, 1242–44 (D.N.M. 2018). Specifically, the court held that the BLM was required to quantify reasonably foreseeable impacts to water quantity, including “mak[ing] estimates of potential water usage for the different methods of hydraulic fracturing[,]” Id.

Here, although Guardians appreciates that BLM calculates the potential amount of water used per well and produced water per well, EA at App’x F and 14 respectively, it is unclear whether the agency considered the latest science on this issue, including the August 2018 Kondash et al. report. According to Kondash et al., “the Permian Basin (Texas and New Mexico) had the largest increase in water use (770%), from 4900 m³ (41,093.43 barrels) per well in 2011 up to 42,500 m³ (356,422.61 barrels) per well in 2016” of all the oil and gas producing regions studied in the report. The Permian had the largest increase in water use as compared to lateral well length. The report also projects that cumulative water use and produced water volumes in the Permian will increase up to 20-fold in gas producing regions and 50-fold in oil producing

---


15 See Exhibit 1, supra note 7.


18 Id. at 2 (“[Oil-producing wells in the Permian basin, where lateral length increase (79%) and water-use increase (770%) were both higher than those in the other studied regions.”).
regions between 2018 and 2030. Finally, the report concluded that “[t]he predicted increasing water use and FP [produced] water production in the Permian and Eagle Ford basins are alarming given the extreme water scarcity in these regions.”

As compared to this report, BLM’s water usage numbers seem to be substantially lower per well. For example, BLM estimates from its 2014 Reasonably Foreseeable Development Scenario (“RFDS”) that water use per well is 7.3 acre feet. This is equal to 9,000.4 m³. As the Kondash et al. report notes, per well water use in the Greater Carlsbad region is now closer to 42,500 m³ per well or 34.46 acre feet—almost five times greater than what BLM estimates. BLM must address this report and ensure that its analysis includes update, accurate estimates.

Similarly, BLM must also take a hard look at the impacts of the disposal of fracking-generated produced water and other wastewater associated with oil and gas development on the leased lands. This includes not only quantification of produced water but also an assessment of existing Class II wastewater disposal wells in the region, whether these wells have capacity to accept produced water, the potential for induced seismicity associated with fracking and wastewater injection, and the risk of groundwater contamination from disposal of this water. Because BLM calculates produced water volumes but fails to assess the significance of these number or the realities of disposal, BLM fails to complete a full assessment of the impacts from produced water.

As a result the above deficiencies, Guardians urges BLM to postpone any leasing until the agency completes a full analysis of the impacts of fracking coupled with horizontal drilling.

F. BLM Fails to Take a Hard Look at Impacts to Caves and Karst In Violation of NEPA and the Cave Resources Protection Act.

Because there are significant cave resources located within the Carlsbad FO, BLM must take a hard look at the impacts of its management decisions on caves and karst topography. Two statutes mandate this: NEPA and the federal Cave Resources Protection Act (“CRPA”). As noted above, NEPA mandates that federal agencies take a hard look at the direct, indirect, and cumulative impacts of their actions. 40 C.F.R. § 1502.16(d); Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989). Additionally, Congress passed the CRPA in order to: “(1) to secure, protect, and preserve significant caves on Federal lands for the perpetual use, enjoyment, and benefit of all people; and (2) to foster increased cooperation and exchange of information between governmental authorities and those who utilize caves located on Federal lands for scientific, education, or recreational purposes.” 16 U.S.C. § 4301(b). The CRPA also specifies that “[i]t is the policy of the United States that Federal lands be managed in a manner which protects and maintains, to the extent practicable, significant caves.” Id. § 4301(c).

According to Interior’s regulations, “significant caves” are those which possess one or more of six criteria: habitat for organisms and animals, historical or archaeological properties,

19 Id. at 6.
20 Id.
21 Id. at 2.
specific geologic features, connectivity to important water systems, recreational opportunities, and educational or scientific properties. See 43 C.F.R. § 37.11(c)(1)–(6). “If a cave is determined to be significant, its entire extent, including passages not mapped or discovered at the time of the determination, is deemed significant.” Id. § 37.11(h). “This includes caves that extend from lands managed by any Federal agency into lands managed by one or more other bureaus or agencies of the Department of the Interior, as well as caves initially believed to be separate for which interconnecting passages are discovered after significance is determined.” Id. The regulations then echo the statute, providing that “Federal lands be managed in a manner which, to the extent practical, protects and maintains significant caves and cave resources. The type and degree of protection will be determined through the agency resource management planning process with full public participation.” Id. § 37.2.

According to the EA, two of the parcels (nos. 1 & 2) are located in high karst potential zones EA at 12. And, the BLM admits that “[t]he CFO has responded to three reports of unknown subsurface voids opening during construction related to well development, where there were no known surface sinkholes or caves, in the last year.” EA at 12. Despite this, the BLM undertakes no additional analysis of the impacts of fracking and drilling on karst features. Instead, BLM arbitrarily concludes that its existing lease stipulations will minimize impacts. But, it is exceedingly likely that these stipulations were in place when three sinkholes opened up just in the last year. Thus, it is also exceedingly unlikely that BLM’s stipulations provide enough protection to this unique terrain. BLM has a duty to do so not only under NEPA but also under the CRPA. To this end, we request an alternative removing the high karst potential parcels until BLM has fully analyzed the impacts.

G. BLM Fails to Take a “Hard Look” at the Impacts of the Proposed Action on Carlsbad Caverns National Park.

As shown by the map below, Geographic Information Services (“GIS”) data obtained from the BLM indicates that some of the parcels proposed for the March 2019 lease sale are within the viewshed22 of Carlsbad Caverns National Park. See also EA at 26. These parcels, coupled with surrounding parcels, will no doubt worsen air quality and visibility near the park.

22 BLM sets the visual resource boundary for the park at 50 kilometers or approximately 30 miles. EA at 25.
The March 2019 parcels are in blue. The park boundaries are in green. The 30-mile buffer (approx. 50 kilometers as recommended by BLM) is in tan.

In 2017, 520,000 people visited Carlsbad Caverns to view the park system’s extensive network of caves and unique wildlife. The University of New Mexico’s Bureau of Business & Economic Research estimates that visitors on average spend over 24 million dollars visiting the park.\(^\text{23}\) Under the Clean Air Act, the park is also designated as a Class I airshed. See EA at 26. According to the 2015 air quality data from National Park Service’s Air Resources Division, the park currently faces moderate concerns for ozone and visibility based on risks to human health and vegetation, and significant concerns for nitrogen and sulfur deposition based on the sensitivity of the ecosystems in the area.\(^\text{24}\)

Although we appreciate the fact that BLM analyzes visibility issues that will arise from oil and gas, BLM’s analysis is incomplete. First, BLM relies on a study from 2011 to conclude that visibility impacts are coming from outside the region. But, as noted above, the rapid rise of oil and gas production in New Mexico began in 2010. Thus, this analysis only captures a small portion of the current boom from oil and gas and accompanying impacts. Studies have found that similar levels of oil and gas development in North Dakota result in increased levels of fine particular matter.\(^\text{25}\) BLM must make sure its analysis includes up-to-date, high quality data.


\(^{24}\) NPS, Carlsbad Caverns NP - Air Quality Summary, [https://www.nps.gov/subjects/air/park-conditions-trends.htm](https://www.nps.gov/subjects/air/park-conditions-trends.htm) (previously attached to our Oct. 19, 2018 scoping comments as Exhibit 9).

Second, BLM must complete a cumulative effects assessment of air quality impacts from all of the lease parcels in conjunction with concurrent development. BLM’s analysis as presented diminishes the collective impact each oil and gas well has on the area. When aggregated impacts to visibility and visual resources in general will likely be significant. Indeed, the draft Carlsbad RMP-EIS predicts that there will be “366 days of significant visibility change [for Class 1 areas].” Carlsbad RMP-DEIS at 2-147. BLM cannot piecemeal its analysis in order to avoid this conclusion. Finally, although we suggested in our scoping comments that the BLM consider an alternative that addresses visibility impacts by deferring parcels (such as parcel no. 3) near the Park, BLM fails to do so in the March 2019 lease sale EA. We continue to request that BLM consider this reasonable alternative.

H. BLM Fails to Take a “Hard Look” at the Impacts of the Proposed Action on Ozone Levels.

Relatedly, BLM fails to thoroughly consider the air quality impacts of leasing parcels in an area that has consistently exceeded National Ambient Air Quality Standards (“NAAQS”) for ozone over the past year. As shown below, data from the EPA on air quality in Eddy and Lea Counties demonstrates a combined 13 ozone exceedances in 2017 and 26 in 2018.
The Carlsbad Caverns National Park Monitor is also currently exceeding the NAAQS for ozone. The park monitor recorded 10 exceedances for 2018.

Oil and gas development is one of the largest sources of air pollution in the U.S. It emits nitrogen oxides ("NOx"), volatile organic compounds ("VOCs") (both of which react to form ozone), as well as sulfur dioxide emissions. As the Endocrine Disruption Exchange has noted:

In addition to the land and water contamination issues, at each stage of production and delivery tons of toxic volatile compounds, including benzene, toluene, ethylbenzene, xylene, etc., and fugitive natural gas (methane), escape and mix with nitrogen oxides from the exhaust of diesel-driven, mobile and stationary equipment to produce ground-level ozone. Ozone combined with particulate matter less than 2.5 microns produces smog (haze). Gas field produced ozone has created a serious air pollution problem similar to that found in large urban areas, and can spread up to 200 miles beyond the immediate region where gas is being produced. Ozone not only causes irreversible damage to the lungs, it is equally damaging to conifers, aspen, forage, alfalfa, and other crops commonly grown in the West. Adding to this is the dust created by fleets of diesel-driven water trucks working around the clock hauling the constantly accumulating condensate water from well pads to central evaporation pits.

Unfortunately, here, the BLM’s analysis of air quality impacts is incomplete. First, BLM reports that the “current” ozone design value for one of the monitoring sites is at 0.068 ppm. But, BLM does not explain at what point in time this design value was assessed. As noted above, the area experienced 26 exceedances in 2018 of the current ozone standard of 0.070 ppm. Using the

26 Exhibit 6, supra.
27 The Endocrine Disruption Exchange, *Drilling and Fracking Chemicals Spreadsheet Summary* (2011), available online at: [https://endocrinedisruption.org/assets/media/documents/Multistate%20summary%208-3-17.pdf](https://endocrinedisruption.org/assets/media/documents/Multistate%20summary%208-3-17.pdf) (previously attached to our Oct. 19, 2018 scoping comments as Exhibit 10).
latest information from EPA, the 4th highest 3-year average of ozone levels is as demonstrated by the chart below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Holland St., Carlsbad</th>
<th>Carlsbad Caverns Natl. Park</th>
<th>Jefferson St., Hobbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>0.063</td>
<td>0.069</td>
<td>0.065</td>
</tr>
<tr>
<td>2017</td>
<td>0.076</td>
<td>0.065</td>
<td>0.069</td>
</tr>
<tr>
<td>2018</td>
<td>0.083</td>
<td>0.080</td>
<td>0.076</td>
</tr>
</tbody>
</table>

3-year average (parts per billion) 0.074 0.071 0.070

Clearly, if BLM were to assess compliance with federal ozone standards to date (at 0.070 ppb), it would have no choice but to conclude that Eddy and Lea Counties are violating them. BLM must honestly address this issue in its draft EA.

Similarly, BLM completely omits a discuss of the cumulative impacts of the proposed leases on air quality in conjunction with surrounding development. For example, the Carlsbad RMP-DEIS notes that “10 of 31 monitoring sites had 8-hour design values above [the ozone] NAAQS[,]” and “data suggest[s] that oil and gas production activities are significant contributors to emissions within the CFO boundary.” Carlsbad RMP-DEIS at 2-146, 3-65. And, the RMP-EIS’s conclusion fails to take into account recent upward trends in ozone using 2018 data. As a result, BLM must take a “hard look” at the VOC and NOx emissions generated by all of the leasing occurring at the over the same time period and in a similar geography to determine whether impacts from these emissions will be significant in light of existing air quality conditions on the ground and consider an alternative that eliminates these impacts.

I. BLM Fails to Consider Recent Climate Science or Take a “Hard Look” at the Greenhouse Gas Emissions that Will Result from the Proposed Action.

BLM also fails to consider recent climate science or take a “hard look” at the impacts from greenhouse gas emissions that will result from its proposed lease sale and surrounding lease sales occurring over a similar time period. NEPA requires BLM to consider existing, new, and revised climate science and policy as well as quantify and discuss the significance of the direct, indirect, and cumulative greenhouse gases generated by its proposed action. 40 C.F.R. §§ 1500.1 (requiring “high quality information” and “accurate scientific analysis”), 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

i. **BLM Fails to Consider Recent Climate Science.**

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.”29 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.
- 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.\(^{30}\)

With particular regard to the Southwest Region—which includes Colorado, New Mexico, Utah, Arizona, Nevada, and California—the National Climate Assessment included in the following overview of impacts:

- Snowpack and streamflow amounts are projected to decline in parts of the Southwest, decreasing surface water supply reliability for cities, agriculture, and ecosystems.
- The Southwest produces more than half of the nation’s high-value specialty crops, which are irrigation-dependent and particularly vulnerable to extremes of moisture, cold, and heat. Reduced yields from increasing temperatures and increasing competition for scarce water supplies will displace jobs in some rural communities.
- Increased warming, drought, and insect outbreaks, all caused by or linked to climate change, have increased wildfires and impacts to people and ecosystems in the Southwest. Fire models project more wildfire and increased risks to communities across extensive areas.
- Flooding and erosion in coastal areas are already occurring even at existing sea levels and damaging some California coastal areas during storms and extreme high tides. Sea level rise is projected to increase as Earth continues to warm, resulting in major damage as wind-driven waves ride upon higher seas and reach farther inland.
- Projected regional temperature increases, combined with the way cities amplify heat, will pose increased threats and costs to public health in southwestern cities, which are home to more than 90% of the region’s population. Disruptions to urban electricity and water supplies will exacerbate these health problems.\(^{31}\)

In August 2017, scientists released a Climate Science Special Report as Volume 1 of the Fourth National Climate Assessment.\(^{32}\) The 2017 Special Report contains updated information on climate change attribution, temperature change, precipitation, extreme


storms, and drought, floods and wildfires.

In October 2018, the IPCC issued a special report reaffirming the severe impacts of climate change and concluding that rapid action away from fossil fuels is needed in order for our planet to remain livable. In particular, the IPCC found that impacts between 1.5°C and 2.0°C of warming above preindustrial levels are drastically different.

- 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.
- 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).  

The U.S. has committed to addressing climate change through a variety of laws and obligations. For example, although the Trump Administration has indicated an intent to withdraw the U.S. from the Paris Agreement, the U.S. is still bound by the agreement through 2020. The Paris Agreement commits all signatories to a target holding long-term global average temperature “to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.”

---


BLM is responsible for the management of 700 million acres of federal onshore subsurface minerals. Past reports have concluded that “the ultimate downstream GHG emissions from fossil fuel extraction from federal lands and waters by private leaseholders could have accounted for approximately 23% of total U.S. GHG emissions and 27% of all energy-related GHG emissions.” The U.S. Geological recently updated these figures in a report released in 2018. According to USGS, oil and gas emissions from federal lands and minerals amount to almost 10% of U.S. GHG emissions.

BLM must include the above information in its EA. 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.”). Yet, the EA fails to include any of this new information. See generally EA at Section 3.5. And, because the BLM’s existing RMP-EIS is extremely out-of-date, BLM cannot rely on this document to meet its obligations under NEPA.

ii. BLM Fails to Properly Assess the Significance of Greenhouse Gas Emissions from the Proposed Action.

As noted above, NEPA requires federal agencies to properly assess the impacts of direct, indirect, and cumulative GHG emissions. A federal district court in New Mexico recently reaffirmed that GHG analyses are required for oil and leasing decisions. San Juan Citizens All. v. U.S. Bureau of Land Mgmt., 326 F. Supp. 3d 1227, 1242–44 (D.N.M. 2018). Specifically, 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,” because the indirect effects of leasing were reasonably foreseeable and that BLM’s arguments otherwise were “contrary to the reasoning in several persuasive cases that combustion emissions are an indirect effect of an agency’s decision to extract those natural resources.” Id. at 1244. The court concluded, “[t]his error [] require[d] BLM [to] reanalyze the potential impacts of such greenhouse gases on climate change in light of the recalculated amount of emissions in order to comply with NEPA.” Id. As a result, the court set aside the BLM’s finding of no significant impact, the leases, and remanded the issue to BLM for further analysis. Id. at 1256. Thus, there is no doubt that BLM is required to analyze and quantify the direct and

indirect greenhouse gas emission for the lease sale and BLM must ensure that it complies with the above requirements.

According to BLM’s Analysis of the Management Situation for the Bureau of Land Management Carlsbad Field Office, “[t]he 1988 Carlsbad RMP and subsequent amendments did not make decisions for [greenhouse gases] GHGs (BLM 1988).” Analysis of the Management Situation at 2-97. Thus, BLM must complete a separate GHG emissions analysis of any of the impacts to climate from the proposed leasing.

BLM must also properly assess the significance of emissions. The Council on Environmental Quality (“CEQ”) has recognized the unique nature of climate change and the challenges it imposes on NEPA compliance. On August 1, 2016, CEQ released 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 (hereafter, “Final Climate Guidance”). The Final Guidance applies to all proposed federal agency actions, “including land and resource management actions.” Id. at 9. In its Final Guidance, the CEQ recognized that:

Climate change results from the incremental addition of GHG emissions from millions of individual sources, which collectively have a large impact on a global scale. CEQ recognizes that the totality of climate change impacts is not attributable to any single action, but are exacerbated by a series of actions including actions taken pursuant to decisions of the Federal Government. Therefore, 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. Moreover, these comparisons are also not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations because this approach does not reveal anything beyond the nature of the climate change challenge itself: the fact that diverse individual sources of emissions each make a relatively small addition to global atmospheric GHG concentrations that collectively have a large impact. 

Id. at 10-11.

Unfortunately, here, while BLM quantifies both direct and indirect greenhouse gas emissions, BLM fails to properly assess the significance of these emissions. Instead, BLM

---


40 Although the Trump Administration has since revoked the CEQ’s August 2016 Climate Guidance and the BLM revoked IM No. 2017-003 regarding the Guidance on October 24, 2017, the BLM is still bound by the CEQ’s NEPA regulations and existing case law applying the Guidance. See Sierra Club v. Fed. Energy Regulatory Comm’n, 867 F.3d 1357, 1374 (D.C. Cir. 2017); San Juan Citizens All. v. U.S. Bureau of Land Mgmt., 326 F. Supp. 3d 1227, 1243 at n.5 (D.N.M. 2018).
dismisses its calculations as insignificant by concluding that direct emission “represent[[]]0.12 percent and 0.0001 percent of New Mexico and U.S. O&G Field Production GHG emissions respectively for the proposed action.” EA at 23. A better assessment of significance might be a comparison between alternatives, calculation of the social cost of carbon (as detailed below), assessment of the proposed action within the context of carbon budgeting (as detailed below), and/or assessment of the proposed action as compared to past lease sales. We request that BLM properly assess significance before moving forward.

iii. **BLM Fails to Properly Assess Cumulative Greenhouse Gas Emissions from the Proposed Action.**

BLM also fails to properly complete a cumulative impacts analysis of the proposed alternatives, including an assessment of the cumulative greenhouse gas emissions that will result from each alternative. 40 C.F.R. §§ 1502.14, 1508.7; Center for Biological Diversity v. National Highway Traffic. Admin., 538 F.3d 1172, 1215 (9th Cir. 2008). Specifically, the BLM fails to analyze greenhouse gas emissions from similar, collectively significant oil and gas leasing and development projects as well as any other GHG-emitting projects in the area. BLM must also analyze the cumulative GHG emissions from the federal fossil fuel program as a whole and at a minimum those emissions stemming from the 269 leases occurring in the area from the September 2017 to present lease sales.

CEQ NEPA regulations define “cumulative impacts” as:

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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R. § 1508.7 (emphasis added).

It is also 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:

- **New Mexico, Texas, Oklahoma, & Kansas:** The lease sale scheduled for September 2017 sold 61 parcels (15,331.91 acres) in southeastern New Mexico. [See](https://eplanning.blm.gov/epl-front-office/projects/nepa/69506/119984/146392/NM_090717_LeaseSaleResults.pdf) For the December 2017 sale, the BLM sold 7 parcels (2,104.15 acres) in southeastern New Mexico. [See](https://eplanning.blm.gov/epl-front-office/projects/nepa/80914/126963/154610/Final_Sale_Results_12_07_2017.pdf) 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](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-](https://eplanning.blm.gov/epl-front-


BLM cannot ignore the impacts from these similar, cumulative federal lease sales.

The need to take into account “similar” and “cumulative” actions is underscored by the fact that BLM frequently acknowledges that the proper geographic area for analyzing and assessing the impacts of greenhouse gas emissions is on a statewide and global scale. EA at 23. 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.

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

Additionally, the BLM fails to include a discussion on the social cost of carbon protocol, a valid, well-accepted, credible, and interagency-endorsed method of calculating the costs of greenhouse gas emissions and understanding the potential significance of such emissions. Failure to use this best available science, violates NEPA’s hard look mandate.

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).” 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. These estimates were then revised in 2013 by the

---


Interagency Working Group, which at the time consisted of 13 agencies. This report and the social cost of carbon estimates were again revised in 2015. Again, this report and social cost of carbon estimates were revised in 2016.

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.

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

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.

---


48 Id. at 4.

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

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

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

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.” 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. Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be “$38,499 (in 2011 dollars).” 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. 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.

---

50 EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011) (previously attached to our Oct. 19, 2018 scoping comments as Exhibit 23).


52 Id.

53 Id.


55 Id. at 83.
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.” 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. And a report from 2017, estimated carbon costs to be $50 per metric ton, a value that experts have found to be the “best estimate of the social cost of greenhouse gases.” 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.

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. 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.

---

56 EPA Factsheet on SCC, supra, at 1.
59 EPA Factsheet on SCC, supra.
60 *See* Executive Office of the President of the United States, “The Cost of Delaying Action to Stem Climate Change,” (July 2014) (previously attached to our Oct. 19, 2018 scoping comments as Exhibit 28).
61 *Id.* at 1.
The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA and is specifically supported in federal case law. Courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. Center for Biological Diversity v. Nat’l Highway Traffic Safety Admin., 538 F.3d 1172, 1203 (9th Cir. 2008). The Highway Traffic Safety Administration had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. The Administration had monetized the employment and sales impacts of the proposed action. Id. at 1199. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. Id. at 1200. The court found this argument to be arbitrary and capricious. Id. The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. Id. It further noted that other benefits, while also uncertain, were monetized by the agency. Id. at 1202.

In 2014, a federal court did likewise for a federally-approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. See High Country Conservation Advocates v. U.S. Forest Serv., 52 F.Supp. 3d 1174, 1193 (D. Colo. 2014) (citing 40 C.F.R. § 1502.23). However, when an agency prepares a cost-benefit analysis, “it cannot be misleading.” Id. at 1182 (citations omitted). In that case, the NEPA analysis included a quantification of benefits of the project, but, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis. Id. at 1196. The agencies then relied on the stated benefits of the project to justify project approval. This, the court explained, was arbitrary and capricious. Id. Such approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. Id. Furthermore, the court reasoned that even if the agency had decided that the social cost of carbon was irrelevant, the agency must still provide “justifiable reasons for not using (or assigning minimal weight to) the social cost of carbon protocol . . . .” Id. at 1193 (emphasis added). In August 2017, a federal district court in Montana cited to the High Country decision and reaffirmed its reasoning, rejecting a NEPA analysis for a coal mine expansion that touted the economic benefits of the expansion without assessing the carbon costs that would result from the development. See Mont. Envtl. Info. Ctr. v. U.S. Office of Surface Mining, No. CV 15-106-M-DWM (D. Mont. Aug. 14, 2017).

A 2015 op-ed in the New York Times from Michael Greenstone, the former chief economist for the President’s Council of Economic Advisers, confirms that it is appropriate and acceptable to calculate the social cost of carbon when reviewing whether to approve fossil fuel extraction.62 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.”

In response to this, BLM argues that it fails to include the SCC for four reasons. EA, App’x E. First, BLM argues that because its proposed action is not a rulemaking, the SCC is not relevant. Id. But, this is belied by the fact that the BLM has assessed SCC for past lease sales including the Montana BLM’s October 2014 lease sale and the Idaho BLM’s Little Willow Creek leasing.64 BLM must explain this inconsistency. BLM also argues that because President Trump withdrew the IWG’s technical documents, the protocol is somehow irrelevant. Id. But, numerous studies following this action have confirmed that the SCC is still an important tool and represents the best available science.65 NEPA requires BLM is use high quality, accurate information and the SCC protocol represents this.

In addition, BLM also concludes that because it does include a specific cost benefit analysis in the EA, the SCC is not useful. Id. But, again the SCC represents a way to assess the significance of a project’s proposed emissions and because BLM fails to properly do so here, BLM must fill this gap. Further, because the BLM’s underlying RMPs-EISs frequently include such information without assessing the costs of oil and gas leasing, the SCC may still be useful at the EA stage.

Finally, BLM argues that because the SCC tool is imprecise for project level emissions and provides a range of potential costs, it is again irrelevant. But as noted above, BLM has successfully used the protocol at the lease sale stage in the past. And, imprecision is frequently present at the NEPA analysis stage. This does not mean that the agency can shirk its duties to assess the reasonably foreseeable impacts.

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 must discuss it in its forthcoming draft EA.

K. BLM Must Assess the Significance of Its Action Within the Context of Global Carbon Budgeting.

Guardians and WELC also urge BLM to take a hard look at the impacts of GHG emissions relative to a global carbon budget in order to meet this NEPA requirement. A “carbon budget” offers a cap on the remaining stock of greenhouse gases that can be emitted while still keeping global average temperature rise below scientifically-based warming thresholds beyond which climate change impacts are highly likely to result in severe and irreparable harm to the


64 Previously attached to our Oct. 19, 2018 scoping comments as Exhibits 24 & 25.

65 Revesz, supra.
biosphere and humanity. Carbon budgeting gets closer to the question of climate impacts, as opposed to incremental emissions, since it is linked directly to increasing temperatures.

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. 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. 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. In effect, we’re burning through our carbon budget at a rapid pace and thereby limiting the flexibility future generations may require or desire as they intensify our world’s transition away from fossil fuels.

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. In addition, between 2003 and 2014, approximately 25% of all United States and 3-4% of global fossil fuel GHG are attributable to federal minerals leased and developed by the Department of the Interior. Regardless, to conform to a 1.5°C target, the estimated U.S. carbon budget is 25 GtCO₂eq to 57 GtCO₂eq on average, depending on the sharing principles used to apportion the global budget across countries. The estimated U.S. carbon budget consistent with limiting temperature rise to 2°C ranges from 34 GtCO₂ to 123 GtCO₂, again depending on the sharing

---


67 IPCC SP15, supra, at SPM-16.

68 Id.

69 Id.


72 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.

73 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).
principles used. Under any scenario, the remaining U.S. carbon budget compatible with the Paris climate targets is extremely small.

While not accounting for revised calculations from its 2018 report, the IPCC, in its 2014 AR5 Synthesis Report, found that carbon emissions from burning existing fossil fuel reserves—the known belowground stock of extractable fossil fuels—would considerably exceed both 2°C and 1.5°C of warming. "Estimated total fossil carbon reserves exceed this remaining [carbon budget] by a factor of 4 to 7."\(^74\) "For the 2°C or 1.5°C limits, respectively 68% or 85% of reserves must remain in the ground."\(^75\) The reserves in currently operating oil and gas fields alone, even with no coal, would take the world beyond 1.5°C.\(^76\) In raw magnitude, global coal, oil and gas resources considered currently economically recoverable contain potential greenhouse gas emissions of 4,196 GtCO\(_2\),\(^77\) with the IPCC indicating they are as high as 7,120 GtCO\(_2\).\(^78\)

These findings—in particular by the IPCC—are echoed by other research. To constrain warming within the 2°C guardrail, a 2015 study published in Nature found that “a third of oil reserves, half of gas reserves and over 80 percent of current coal reserves should remain unused from 2010-2050.”\(^79\) In a 2016 analysis, Oil Change International found that burning the oil, gas, and coal in the world’s currently operating fields and mines would fully exhaust and exceed carbon budgets calibrated to constrain warming below 1.5°C or 2°C.\(^80\) Moreover, Oil Change International found that burning the reserves in currently operating oil and gas fields, excluding coal mines, would alone lead to warming beyond 1.5°C. An important conclusion of the Oil Change International analysis that remains salient, regardless of what IPCC carbon budget calculations are used, is that most of the existing oil and gas fields and coal mines will need to be closed before their reserves are fully extracted in order to limit warming to 1.5°C and that some existing fields and mines will need to be closed to limit warming to 2°C.\(^81\)

Oil Change International recently reaffirmed this conclusion in a report released in January 2019.\(^82\) Specifically, it found that using existing fossil fuel reserves would again push

---

\(^74\) IPCC AR5 Synthesis Report, supra, at 63.

\(^75\) Exhibit 16, Greg Muttitt, et al., The Sky’s Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production, Oil Change International, at 6 (Sept. 2016).

\(^76\) Id. at 5, 17.

\(^77\) Exhibit 17, Michael Raupach, et al., Sharing a Quota on Cumulative Carbon Emissions, Nature Climate Change (Sept. 2014).

\(^78\) IPCC AR5, Mitigation of Climate Change, Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (2014), supra, at Table 7.2.


\(^80\) Greg Muttitt et al., supra.

\(^81\) Id. at 5, 7.

\(^82\) Exhibit 19, 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).
the world far beyond warming or 1.5°C and 2°C. 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.

Based on these reports, it is clear that carbon budgeting is particularly significant to any action by BLM within the Permian Basin. This particularly true because BLM’s existing land use plan for the area is severely out-of-date and fails to assess cumulative climate actions or any climate impacts at all. BLM is approving actions in the dark, without the full picture of climate change before it contrary to the requirements of NEPA.

I. BLM Fails to Prevent Unnecessary and Undue Degradation of Lands as Required by FLPMA.

Finally, FLPMA mandates that BLM, “[i]n managing the public lands,” the agency “shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.” 43 U.S.C. § 1732(b). More specifically, BLM must prevent degradation that is “unnecessary” and degradation that is “undue.” Mineral Policy Ctr. v. Norton, 292 F.Supp.2d 30, 41–43 (D.D.C. 2003). This protective mandate applies to agencies planning and management decisions, and should be considered in light of its overarching mandate that the BLM employ “principles of multiple use and sustained yield.” 43 U.S.C. § 1732(a); see also, Utah Shared Access All. v. Carpenter, 463 F.3d 1125, 1136 (10th Cir. 2006) (finding that BLM’s

83 Id. at 11.
authority to prevent degradation is not limited to the RMP planning process). While these obligations are distinct, they are interrelated and highly correlated. BLM must balance multiple uses in its management of public lands, including “recreation, range, timber, minerals, watershed, wildlife and fish, and [uses serving] natural scenic, scientific and historical values.” 43 U.S.C. § 1702(c). It must also plan for sustained yield or “control [of] depleting uses over time, so as to ensure a high level of valuable uses in the future.” Norton v. S. Utah Wilderness All., 542 U.S. 55, 58 (2004).

“Application of this standard is necessarily context-specific; the words ‘unnecessary’ and ‘undue’ are modifiers requiring nouns to give them meaning, and by the plain terms of the statute, that noun in each case must be whatever actions are causing ‘degradation.’” Theodore Roosevelt Conservation P’ship v. Salazar, 661 F.3d 66, 76 (D.C. Cir. 2011) (citing Utah v. Andrus, 486 F.Supp. 995, 1005 n.13 (D. Utah 1979) (defining “unnecessary” in the mining context as “that which is not necessary for mining”—or, in this context, “for oil and gas development”—and “undue” as “that which is excessive, improper, immoderate or unwarranted.”)); see also Colorado Env’tl Coal., 165 IBLA 221, 229 (2005) (concluding that in the oil and gas context, a finding of “unnecessary or undue degradation” requires a showing “that a lessee’s operations are or were conducted in a manner that does not comply with applicable law or regulations, prudent management and practice, or reasonably available technology, such that the lessee could not undertake the action pursuant to a valid existing right.”).

Here, that action is oil and gas drilling and production as authorized by the proposed lease sale. The inquiry, then, is whether the agency has taken sufficient measures to prevent degradation unnecessary to, or undue in proportion to, the development that will occur under proposed alternative. See Theodore Roosevelt Conservation P’ship v. Salazar, 661 F.3d at 76. For example, ozone pollution may cause “undue” degradation where it exceed federal air quality standards. Where this pollution is avoidable, even if in the process of avoiding such emissions lessees or operators incur reasonable economic costs that are consistent with conferred lease rights, it is “unnecessary” degradation. 43 U.S.C. § 1732(b).

Therefore, drilling activities may only go forward as long as unnecessary and undue environmental degradation does not occur. This is a substantive requirement, and one that the BLM must define and apply in the context of oil and gas development authorized through the lease sale. In other words, the BLM must define and apply the substantive UUD requirements in the context of the specific resource values at stake.

Further, these UUD requirements are distinct from requirements under NEPA. “A finding that there will not be significant impact [under NEPA] does not mean either that the project has been reviewed for unnecessary and undue degradation or that unnecessary or undue degradation will not occur.” Ctr. for Biological Diversity, 623 F.3d 633, 645 (9th Cir. 2010) (quoting Kendall’s Concerned Area Residents, 129 IBLA 130, 140 (1994)). In the instant case, BLM must specifically account for UUD in its NEPA analysis, which is distinct from its compliance under NEPA, and is also actionable on procedural grounds.
II. Conclusion

Unless and until BLM complies with the requirements outline above, Guardians and WELC recommend that BLM cancel the March 28, 2019 lease sale.

Sincerely,

Rebecca Fischer  
Climate & Energy Program Attorney  
WildEarth Guardians  
2590 Walnut St.  
Denver, CO 80205  
(406) 698-1489  
rfischer@wildearthguardians.org