



June 3, 2016

By Hand Delivery

Mary Jo Rugwell
State Director
U.S. Bureau of Land Management
Wyoming State Office
5353 Yellowstone Road
Cheyenne, WY 82003

Re: Protest of August 2016 Competitive Oil and Gas Lease Sale

Dear Ms. Rugwell:

Pursuant to 43 C.F.R. § 3120.1-3, WildEarth Guardians hereby protests the Bureau of Land Management's ("BLM's") proposal to offer 85 publicly owned oil and gas lease parcels covering 88,897.80 acres of land in the High Desert District Office of Wyoming and to offer 80 parcels totaling 77,385 acres of land in the High Plains and Wind River/Bighorn Basin District Offices of Wyoming for competitive sale on August 2, 2016. These lease parcels include the following, as identified by the BLM in its Final August 2016 Notice of Competitive Lease Sales and related Information Notices:

**Parcels to be Auctioned on August 2, 2016 as Identified in the BLM's May 4, 2016
Notice of Competitive Lease Sale**

Lease Number	Acres	Field Office	County
WY-1608-001	897.61	Newcastle	Niobrara
WY-1608-002	1715.32	Newcastle	Niobrara
WY-1608-003	240.00	Newcastle	Niobrara
WY-1608-004	120.00	Newcastle	Niobrara
WY-1608-005	284.80	Newcastle	Niobrara
WY-1608-006	40.00	Newcastle	Niobrara
WY-1608-007	280.00	Newcastle	Niobrara
WY-1608-008	479.96	Newcastle	Weston
WY-1608-009	600.00	Newcastle	Niobrara
WY-1608-010	1040.00	Newcastle	Niobrara
WY-1608-011	480.00	Newcastle	Weston
WY-1608-012	480.00	Newcastle	Weston
WY-1608-013	1513.32	Newcastle	Niobrara

WY-1608-014	200.00	Newcastle	Niobrara
WY-1608-015	280.23	Newcastle	Weston
WY-1608-016	40.00	Newcastle	Weston
WY-1608-017	960.00	Newcastle	Niobrara
WY-1608-018	600.00	Newcastle	Niobrara
WY-1608-019	786.43	Newcastle	Weston
WY-1608-020	440.00	Newcastle	Weston
WY-1608-021	1552.00	Newcastle	Weston
WY-1608-022	840.00	Newcastle	Weston
WY-1608-023	240.00	Newcastle	Weston
WY-1608-024	80.00	Newcastle	Weston
WY-1608-025	240.00	Newcastle	Weston
WY-1608-026	521.09	Newcastle	Crook
WY-1608-027	201.58	Newcastle	Crook
WY-1608-028	562.57	Newcastle	Crook
WY-1608-029	320.00	Newcastle	Crook
WY-1608-030	448.71	Newcastle	Crook
WY-1608-031	365.97	Newcastle	Crook
WY-1608-032	441.72	Newcastle	Crook
WY-1608-033	81.88	Newcastle	Crook
WY-1608-034	2379.90	Casper	Converse
WY-1608-037	478.50	Casper	Converse
WY-1608-038	314.01	Casper	Converse
WY-1608-039	1709.38	Casper	Converse
WY-1608-040	1569.96	Lander	Carbon
WY-1608-041	1800.00	Lander	Fremont
WY-1608-042	2160.00	Lander	Fremont
WY-1608-043	307.23	Lander	Fremont
WY-1608-044	375.69	Lander	Fremont
WY-1608-045	1472.64	Worland	Big Horn
WY-1608-046	2055.96	Worland	Washakie
WY-1608-047	1382.56	Worland	Washakie
WY-1608-048	2320.52	Worland	Big Horn
WY-1608-049	2080.00	Worland	Big Horn
WY-1608-050	2076.46	Worland	Big Horn
WY-1608-051	2151.16	Worland	Big Horn
WY-1608-052	2130.31	Worland	Big Horn
WY-1608-053	761.87	Worland	Big Horn
WY-1608-054	2040.00	Worland	Big Horn
WY-1608-055	2060.25	Worland	Big Horn
WY-1608-056	2326.38	Cody	Big Horn
WY-1608-057	2422.68	Cody	Big Horn
WY-1608-058	942.72	Cody/Worland	Big Horn
WY-1608-059	2505.74	Cody	Big Horn

WY-1608-060	2543.43	Cody	Big Horn
WY-1608-061	2522.91	Cody	Big Horn
WY-1608-062	1959.70	Cody	Big Horn
WY-1608-063	2551.96	Cody	Big Horn
WY-1608-064	2555.36	Cody	Big Horn
WY-1608-065	2558.08	Cody	Big Horn
WY-1608-066	1893.16	Cody	Big Horn
WY-1608-067	678.56	Cody	Big Horn
WY-1608-068	2040.00	Cody	Big Horn
WY-1608-069	2235.81	Cody	Big Horn
WY-1608-070	1980.96	Cody	Big Horn
WY-1608-071	1237.02	Cody	Big Horn
WY-1608-072	80.00	Lander	Fremont
WY-1608-073	160.00	Lander	Fremont
WY-1608-074	80.00	Lander	Fremont
WY-1608-075	40.00	Lander	Fremont
WY-1608-076	200.00	Lander	Fremont
WY-1608-077	1523.97	Worland	Hot Springs
WY-1608-078	240.00	Worland	Hot Springs
WY-1608-079	200.00	Worland	Hot Springs
WY-1608-080	160.00	Worland	Hot Springs
WY-1608-081	240.00	Worland	Hot Springs
WY-1608-082	320.00	Worland	Hot Springs
WY-1608-083	1709.77	Worland	Hot Springs
WY-1608-084	120.00	Worland	Hot Springs
WY-1608-085	1354.53	Cody	Park
WY-1608-086	435.47	Cody	Park
WY-1608-087	80.00	Cody	Park

STATEMENT OF INTEREST

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, Guardians has an interest in ensuring the BLM fully protects public lands and resources as it conveys the right for the oil and gas industry to develop publicly owned minerals. More specifically, Guardians has an interest in ensuring the BLM meaningfully and genuinely takes into account the climate implications of its oil and gas leasing decisions and objectively and robustly weighs the costs and benefits of authorizing the release of more greenhouse gas emissions that are known to contribute to global warming.

WildEarth Guardians submitted comments on the BLM’s proposed leasing on February 22, 2016. These flagged concerns over the BLM’s failure to adequately address the climate impacts of the proposed leasing. As part of these comments, Guardians referenced and attached numerous exhibits. For purposes of this protest, our comments and exhibits are hereby incorporated by reference.

The mailing address to which correspondence regarding this protest should be directed is as follows:

Jeremy Nichols
Climate and Energy Program Director
WildEarth Guardians
2590 Walnut St.
Denver, CO 80205

STATEMENT OF REASONS

WildEarth Guardians protests the BLM's August 2, 2016 oil and gas lease sale over The agency's failure to adequately analyze and assess the climate impacts of the reasonably foreseeable oil and gas development that will result in accordance with the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4331, *et seq.*, and regulations promulgated thereunder by the White House Council on Environmental Quality ("CEQ"), 40 C.F.R. § 1500, *et seq.*

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.* at 1500.1(b). This consideration is meant to "foster excellent action," meaning decisions that are well informed and that "protect, restore, and enhance the environment." *Id.* at 1500.1(c).

To fulfill the goals of NEPA, federal agencies are required to analyze the "effects," or impacts, of their actions to the human environment prior to undertaking their actions. 40 C.F.R. § 1502.16(d). To this end, the agency must analyze the "direct," "indirect," and "cumulative" effects of its actions, and assess their significance. 40 C.F.R. §§ 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." 40 C.F.R. § 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.* at § 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. 40 C.F.R. § 1508.7.

An agency may prepare an environmental assessment ("EA") to analyze the effects of its actions and assess the significance of impacts. *See* 40 C.F.R. § 1508.9; *see also* 43 C.F.R. § 46.300. Where effects are significant, an Environmental Impact Statement ("EIS") must be prepared. *See* 40 C.F.R. § 1502.3. Where significant 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).

Here, the BLM fell short of complying with NEPA with regards to analyzing and assessing the potentially significant climate impacts of oil and gas leasing. In support of its proposed leasing, the agency prepared two EAs, one for the High Plains District parcels (DOI-

BLM-WY-070-EA16-66, hereafter “High Plains EA”) and one for parcels in the Wind River/Bighorn Basin District (DOI-BLM-WY-R000-2016-0001-EA, hereafter “Wind River-Bighorn EA”).¹ In the EAs, however, the BLM failed to analyze the reasonably foreseeable greenhouse gas emissions that would result from selling the oil and gas lease parcels, failed to assess the significance of any emissions, particularly in terms of carbon costs.

With regards to climate impacts, the BLM completely dismissed conducting any meaningful analysis of climate impacts. Although the agency generally acknowledges that climate change is a very serious issue and that it is being fueled by the release of human-produced greenhouse gas emissions (*see e.g.* Wind River-Bighorn EA at 3-8), unfortunately the BLM made no effort in the EAs to analyze and assess the reasonably foreseeable greenhouse gas emissions that would result from oil and gas development and the likely climate consequences.

In the High Plains EA, climate impacts were “eliminated” from analysis and no effort was made to quantify reasonably foreseeable greenhouse gas emissions. High Plains EA at 11. In the Wind River-Bighorn EA, the BLM asserted that climate impacts and reasonably foreseeable greenhouse gas emissions were “beyond the scope” of the analysis. Wind River-Bighorn EA, Attachment 2, at 23. The best the BLM could offer was the bizarre assertion that an oil and gas well emits only 0.00059 metric tons of carbon dioxide equivalent (“CO₂e”) annually. *See* High Plains EA at 42. Yet reports by the BLM have estimated that, depending on the type of oil and gas well, per well greenhouse gas emissions range from 791 to 3,682 tons of CO₂e. *See* Exhibit 1, Kleinfelder, “Air Emissions Inventory Estimates for a Representative Oil and Gas Well in the Western United States,” report prepared for Bureau of Land Management (March 25, 2013). These emission estimates, however, do not account for the reasonably foreseeable emissions that would result from the processing, refining, and ultimate combustion of oil and gas. None of the EAs supporting the proposed leasing even attempted to address such reasonably foreseeable impacts.

Instead of using readily available information and methods, including analyses that other BLM offices have been perfectly capable of preparing, the agency instead asserts (both explicitly and impliedly) that it is simply “impossible” to estimate such emissions. *See* High Plains EA at 42. The issue, however, is not that it is impossible to estimate emissions, but that BLM believes it cannot estimate emissions as precisely as it prefers to. This is not allowed under NEPA. Although the agency may believe that without definitive development proposals, it cannot project impacts, the whole point of leasing oil and gas is to facilitate development.² The BLM cannot claim that the act of leasing carries with it no intention to foster future development. Regardless, because leasing conveys a right to develop, absent any stipulations that provide the

¹ The High Plains and Wind River/Bighorn Basin EAs are available on the BLM’s website at https://eplanning.blm.gov/epl-front-office/projects/nepa/61292/73459/80668/v2_HPD_EA.pdf and https://eplanning.blm.gov/epl-front-office/projects/nepa/54939/73447/80656/v2_WRBB_EA.pdf.

² The BLM’s argument, that specific development proposals are required before development-related impacts become reasonably foreseeable is also specious as before a parcel of land is leased, no such development proposals can even be proposed.

agency with authority to constrain or even prevent future development to limit greenhouse gas or climate impacts, the BLM has basis to assert that it is appropriate to wait to conduct its legally required analysis under NEPA, or worse, assert that there would be no reasonably foreseeable emissions associated with its proposed action.

In any case, the BLM has completely failed to provide information and analysis, even brief information and analysis, supporting a FONSI and any decision to sell and issue the aforementioned lease parcels. Either the BLM must prepare an EIS or it cannot proceed with the lease sale as proposed. Below, we detail how BLM’s proposed leasing fails to comply with NEPA.

1. The BLM Failed to Analyze and Assess the Direct, Indirect, and Cumulative Impacts of Greenhouse Gas Emissions that Would Result from Issuing the Proposed Lease Parcels

In the EAs, the BLM completely rejected analyzing and assessing the potential direct and indirect greenhouse gas emissions, including carbon dioxide and methane, that would result from the reasonably foreseeable development of the proposed leases. Although acknowledging that development of the lease parcels would occur and that greenhouse gas emissions would be produced, no analysis of these emissions was actually prepared.

The BLM appears to assert that estimates of emissions are impossible to determine because it is impossible to determinate what reasonably foreseeable development may occur. However, as the agency notes in the EAs, reasonably foreseeable development scenarios have been analyzed for the High Plains and Wind River-Bighorn Basin Districts through Resource Management Planning. *See e.g.* High Plains EA at 20. In the Cody and Worland Field Offices, for example, the agency estimated in a 2010 reasonably foreseeable development scenario that up to 1,865 new oil and gas wells are likely to be developed by 2027. *See* Table below.

Table 10. Total wells projected to be drilled within the Bighorn Basin Planning Area for the base line and each alternative for the period 2008 through 2027. The projections of the percent of Federal wells drilled for this period is also presented.

Alternative	Coalbed Natural Gas Wells	Non-coalbed Oil and Gas Wells	Total Wells	Percent Federal
Base Line	150	1,715	1,865	72.6
Alternative A	130	1,511	1,641	68.9
Alternative B	84	936	1,020	49.9
Alternative C	124	1,644	1,768	71.1
Alternative D	98	1,436	1,534	66.7

Reasonably Foreseeable Development findings from Bighorn Basin Planning Area Reasonably Foreseeable Development Scenario report (hereafter “Bighorn RFDS”). *See*

BLM, “Reasonably Foreseeable Development Scenario for Oil and Gas, Bighorn Basin Planning Area” (Nov. 8, 2010) at Table 10, available at <http://www.blm.gov/style/medialib/blm/wy/programs/planning/rmps/bighorn/docs/rfds.Par.94367.File.dat/OilandGas.pdf>.

Further, the EAs acknowledge that as a result of past leasing, extensive development has occurred in the High Plains and Wind River-Bighorn Basin Districts. The BLM explains in the Wind River-Bighorn EA, for example, that “[t]here are approximately 847 active, producible, serviceable federal wells in the Lander Field Office and approximately 2,598 active, producible, or service federal wells in the Worland and Cody Field Offices combined.” Wind River-Bighorn EA at 3-1. Further, in the High Plains EA, the BLM explains:

Over the last 10 years including 2010, leasing Federal oil and gas mineral estate has resulted in a total of 13,436 APDs approved in the [Buffalo] FO, 882 APDs in the [Casper] FO, and 327 APDs in the [Newcastle] FO. A total of 14,465 APDs have been approved in the HPD over these last ten years for an annual average of 1,465 APDs; 1,344 APDs per year in Buffalo FO, 88 APDs per year in Casper FO and 33 APDs per year in Newcastle FO. As of 2010, there are over 39,000 producing wells in the HPD consisting of: Buffalo FO with over 31,000, Casper FO with over 5,000 and Newcastle FO with over 3,000.

High Plains EA at 40. These disclosures demonstrate that while the BLM may not know precisely how many wells will be developed, the agency knows that some wells will clearly be developed, and that over the life of the current Resource Management Plans, a certain number of wells are likely to be developed. This cannot support a conclusion that zero wells will be developed or that there will be zero impacts as a result of the proposed leasing, an assertion that the BLM appears to be advancing in both EAs.

The BLM’s position is all the more egregious given that other BLM Field Offices, including, but not limited to, the Four Rivers Field Office in Idaho, the Billings Field Office in Montana, the Miles City Field Office in Montana, the Royal Gorge Field Office in Colorado, and others have not only estimated reasonably foreseeable greenhouse gas emissions associated with the development of oil and gas leases, but clearly do not believe that such information is not “impossible” to analyze under NEPA.

In the Four Rivers Field Office of Idaho, the BLM utilized an emission calculator developed by air quality specialists at the BLM National Operations Center in Denver to estimate likely greenhouse gases that would result from leasing five parcels. *See* Exhibit 2, BLM, “Little Willow Creek Protective Oil and Gas Leasing,” EA No. DOI-BLM-ID-B010-2014-0036-EA (February 10, 2015) at 41, available online at https://www.blm.gov/epl-front-office/projects/nepa/39064/55133/59825/DOI-BLM-ID-B010-2014-0036-EA_UPDATED_02272015.pdf. Relying on a report prepared in 2013 for the BLM by Kleinfelder, which is attached to this Protest as Exhibit 1, the agency estimated that 2,893.7 tons of carbon dioxide equivalent (“CO₂e”) would be released per well. *Id.* at 35. Based on the analyzed alternatives, which projected between 5 and 25 new wells, the BLM estimated that total greenhouse gas emissions would be between 14,468.5 tons and 72,342.5 tons annually. *Id.*

In the Miles City Field Office of Montana, the BLM estimated likely greenhouse gas emissions from development of oil and gas leases. To do so, the agency first calculated annual greenhouse gas emissions from oil and gas activity within the Field Offices. *See* Exhibit 3, BLM, “Environmental Assessment for October 21, 2014 Oil and Gas lease Sale,” DOI-BLM-MT-0010-2014-0011-EA (May 19, 2014) at 51, available online at [http://www.blm.gov/style/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/lease_sale/2014/oct_21_2014/july23posting.Par.25990.File.dat/MCFO%20EA%20October%202014%20Sale_Post%20with%20Sale%20\(1\).pdf](http://www.blm.gov/style/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/lease_sale/2014/oct_21_2014/july23posting.Par.25990.File.dat/MCFO%20EA%20October%202014%20Sale_Post%20with%20Sale%20(1).pdf). The BLM then calculated total greenhouse gases by assuming that the percentage of acres to be leased within the federal mineral estate of the Field Office would equal the percentage of emissions. *Id.* Although we have concerns over the validity of this approach to estimate emissions (an “acre-based” estimate of emissions is akin to estimating automobile emissions by including junked cars, which has the misleading effect of reducing the overall “per car” emissions), nevertheless it demonstrates that the BLM has the ability to estimate reasonably foreseeable greenhouse gas emissions associated with oil and gas leasing and that such estimates are valuable for ensuring a well-informed decision.³

In the Royal Gorge Field Office of Colorado, the BLM contracted with URS Group Inc. to prepare an analysis of air emissions from the development of seven oil and gas lease parcels. *See* Exhibit 4, URS Group Inc., “Draft Oil and Gas Air Emissions Inventory Report for Seven Lease Parcels in the BLM Royal Gorge Field Office,” Prepared for BLM, Colorado State Office and Royal Gorge Field Office (July 2013). This report estimated emissions of carbon dioxide and methane on a per-well basis and estimated the total number of wells that could be developed in these seven parcels. *See* Exhibit 4 at 3 and 5. This report was later supplanted by the Colorado Air Resource Management Modeling Study, or CARMMS, which estimated reasonably foreseeable emissions of greenhouse gases, criteria pollutants, and hazardous air pollutants associated with oil and gas development throughout Colorado, as well as part of New Mexico, and modeled air quality impacts. *See* Exhibit 5, ENVIRON, “Colorado Air Resource Management Modeling Study (CARMMS) 2021 Modeling Results for the High, Low and Medium Oil and Gas Development Scenarios,” Prepared for BLM Colorado State Office (January 2015), available online at http://www.blm.gov/style/medialib/blm/co/information/nepa/air_quality.Par.97516.File.dat/CARMMS_Final_Report_w-appendices_012015.pdf. As part of the CARMMS report, the BLM estimated per well emissions, including greenhouse gas emissions, in tons per year, as follows:

³ In addition to the Miles City Field Offices, the BLM estimated greenhouse gas emissions associated with oil and gas leasing in the Billings, Butte, and Dillon Field Offices.

Phase	PM ₁₀	PM _{2.5}	VOC	CO	NO _x	SO ₂	CO ₂	CH ₄	N ₂ O	HAP
Conventional Construction	5.21	0.64	0.05	0.23	0.72	0.02	108.1	0.00	0.00	0.01
CBM Construction	3.37	0.44	0.03	0.12	0.36	0.01	56.58	4.06	0.00	0.00
Conventional Production	1.15	0.15	6.67	1.30	0.73	0.00	251.9	17.14	0.00	0.43
CBM Production	2.25	0.25	13.10	1.13	0.62	0.00	181.6	19.05	0.00	1.31

Using these CARMMS estimates, as well as assumptions used in the agency’s reasonably foreseeable development scenario analyses, it appears relatively straightforward for the agency to estimate total greenhouse gas emissions, at least on a cumulative basis. For instance, in the Worland and Cody Field Offices, the agency concluded in 2010 that up to 1,865 new conventional (i.e., non coalbed methane) oil and gas wells could be drilled in the area by 2027. *See* Bighorn Basin RFD at Table 10. 1,865 new wells would amount to 201,606.5 tons of carbon dioxide for construction (1,865 wells * 108.1 tons of CO₂) and 469,793.5 tons/year for production (1,865 wells * 251.9 tons/year), for a total of 671,400 tons of CO₂ annually.

Although the BLM may assert that such information is not possible to analyze, there is no basis for such a claim. Not only has the agency estimated reasonably foreseeable development and disclosed in the EAs that greenhouse gas emissions are a likely reasonably foreseeable consequence of issuing the leases and conveying the rights for leaseholders to develop, but using the agency’s own logic, this would mean any analysis of future environmental impacts would be incredibly uncertain. Of course, this would completely undermine NEPA’s mandate that significance be based on “uncertain[ty].” 40 C.F.R. § 1508.27(b)(5). Indeed, if the climate impacts of oil and gas leasing are, as the BLM asserts, so uncertain, then an EIS is justified. As CEQ states, whether or not impacts are significant, and therefore trigger the need to prepare an EIS, are based on whether impacts are “highly uncertain or involve unique or unknown risks.” *Id.* The BLM cannot summarily dismiss significant issues, such as climate change, on the basis of uncertainty without assessing whether this uncertainty necessitates preparation of an EIS.

Regardless, the agency’s arguments in the EAs are belied by the fact that, as just discussed, other BLM Field Offices clearly believe that an analysis of reasonably foreseeable greenhouse gas emissions is not only reasonable, but also possible and useful.

Adding to the shortcomings in the EAs is that the BLM failed to analyze the cumulative impacts of greenhouse gas emissions from past, present, and reasonably foreseeable oil and gas development. As noted above, other BLM Field Offices, including several Montana Field Offices, have analyzed the likely greenhouse gas emissions that would result based on the BLM’s own reasonably foreseeable development scenarios. In Colorado, the BLM estimated the likely greenhouse gas emissions that would result from the reasonably foreseeable development projected in each field office. *See* Exhibit 6, BLM, “CARMMS GHG Emissions,” available online at

http://www.blm.gov/style/medialib/blm/co/information/nepa/air_quality.Par.54983.File.dat/CARMMMS%20GHG%20Data.xlsx. In this case, the BLM has not made any attempt to estimate

greenhouse gas emissions that would result from oil and gas development likely to occur under the agency's reasonably foreseeable development scenarios for any Field Office in the High Desert, High Plains, Wind River, or Bighorn Basin Districts.

In all three EAs, BLM appears to insinuate that greenhouse gas emissions from reasonably foreseeable oil and gas development would simply be insignificant, for example asserting in the High Plains and Wind River-Bighorn EAs that a single well would only emit 0.00059 metric tons of CO₂e annually. This assertion, however, defies the required scope of the BLM's analysis. Under NEPA, an agency must analyze the impacts of "similar" and "cumulative" actions in the same NEPA document in order to adequately disclose impacts in an EIS or provide sufficient justification for a FONSI in an EA. *See* 40 C.F.R. §§ 1508.25(a)(2) and (3). Here, the BLM was required to at least take into account the greenhouse gas emissions resulting from other proposed oil and gas leasing in Wyoming, if not beyond, as well as related oil and gas development, and to analyze the impacts of these actions in terms of their direct, indirect, and cumulative impacts. At a minimum, it would appear the BLM was required to analyze the impacts of leasing in the High Plains and Wind River/Bighorn Basin Districts in a single NEPA document. The failure to conduct such an analysis underscores that FONSI are not warranted.⁴

The failure to address cumulative greenhouse gas emissions is made worse by the fact that the underlying Final EISs prepared for the Newcastle and Casper Field Offices' Resource Management Plans nowhere analyze or assess greenhouse gas emissions associated with oil and gas development. In the Lander and Bighorn Basin Resource Management Plan Final EISs, the BLM attempted to estimate emissions, but fell significantly short of accurately doing so. Both EISs appear to grossly underestimate total greenhouse gas emissions from reasonably foreseeable oil and gas development, for instance asserting that no methane emissions result from oil wells and proffering emission estimates that are far lower than those prepared by ENVIRON for the Colorado Air Resource Management Modeling Study. *See* Exhibit 5.

In light of this, the BLM clearly has no basis to conclude that greenhouse gas emissions resulting from the reasonably foreseeable impacts of oil and gas development associated with the proposed leasing would not be significant. Without any analysis of cumulative greenhouse emissions whatsoever, the agency's proposed FONSI are unsupported under NEPA.

The BLM finally attempts to argue that an analysis of greenhouse gas emissions is more appropriate at the drilling stage. We have yet to see the BLM actually prepare such a site-specific analysis in conjunction with an oil and gas lease development proposal. This is confirmed by a number of EAs prepared by the BLM for APDs in the High Plains and Wind River/Bighorn Basin Districts where no actual analysis of greenhouse gas emissions occurred. For instance:

- In a May 2016 EA for an APD in the Worland Field Office, the BLM prepared no analysis or assessment of greenhouse gas emissions. *See* Exhibit 7, BLM,

⁴ It also indicates the BLM may be inappropriately piecemealing, or segmenting, its analysis under NEPA in an attempt to avoid preparing an EIS.

“Environmental Assessment Federal No. 1 APD and ROW,” EA No. DOI-BLM-WY-R010-2016-0011-EA (May 2016), available online at https://eplanning.blm.gov/epl-front-office/projects/nepa/56594/74382/81840/NH_PawPaw1_EA_APDwithROW_WFO_clean_new.pdf; and

- In a December 2015 EA for an APD in the Worland field Office, the BLM prepared no analysis or assessment of greenhouse gas emissions. *See* Exhibit 8, BLM, “Environmental Assessment NCRU 14-29 APD and ROW,” EA No. DOI-BLM-WY-R010-2016-0002-EA (December 2015), available online at https://eplanning.blm.gov/epl-front-office/projects/nepa/53203/67009/72901/NCRU_14-29_APD_EA.pdf.

In most cases, the BLM in Wyoming categorically excludes the approval of APDs, meaning no analysis under NEPA occurs whatsoever. In Fiscal Year 2016 alone, the BLM has approved 18 APDs in the Casper Field Office with categorical exclusions. *See* Exhibit 9, BLM NEPA Register, List of Completed and Pending Oil and Gas Approvals, queried through BLM NEPA Register online here, <http://www.wy.blm.gov/nepa/search/index.php>.

What’s more, BLM’s argument has no merit as the agency has proposed no stipulations that would grant the agency discretion to limit, or outright prevent, development of the proposed leases on the basis of greenhouse gas emissions and/or climate concerns. The BLM is effectively proposing to make an irreversible commitment of resources, which is the hallmark of significance under NEPA. *See* 42 U.S.C. § 4332(c)(v) and 40 C.F.R. § 1502.16. The failure to prepare an EIS—or any analysis for that matter—to address the potentially significant reasonably foreseeable greenhouse gas emissions that would result from the proposed leases is contrary to NEPA.

2. The BLM Failed to Analyze the Costs of Reasonably Foreseeable Carbon Emissions Using Well-Accepted, Valid, Credible, GAO-Endorsed, Interagency Methods for Assessing Carbon Costs that are Supported by the White House

Compounding the failure of the BLM to accurately estimate the greenhouse gas emissions that would result from reasonably foreseeable oil and gas development is that the agency also rejected analyzing and assessing these emissions in the context of their costs to society. It is particularly disconcerting that the agency refused to analyze and assess costs using 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.

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).” *See* Exhibit 13 to WildEarth Guardians’ February 22, 2016 EA Comments. The protocol was developed by a working group consisting of several federal agencies, including the U.S. Department of Agriculture, EPA, CEQ, and others.

In 2009, an Interagency Working Group was formed to develop the protocol and issued final estimates of carbon costs in 2010. *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (Feb. 2010), available online at <https://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-RIA.pdf>. These estimates were then revised in 2013 by the Interagency Working Group, which at the time consisted of 13 agencies. *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (May 2013), available online at https://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf. This report and the social cost of carbon estimates were again revised in 2015. *See* Exhibit 16 to WildEarth Guardians’ February 22, 2016 EA Comments.

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 \$11 to \$220 per metric ton of carbon dioxide. *See* Chart Below. In its most recent update to the Social Cost of Carbon Technical Support Document, the White House’s central estimate was reported to be \$36 per metric ton. *See* Exhibit 10, White House, “Estimating the Benefits from Carbon Dioxide Emissions Reductions,” website available at <https://www.whitehouse.gov/blog/2015/07/02/estimating-benefits-carbon-dioxide-emissions-reductions>. 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. *See* Exhibit 19 to WildEarth Guardians’ February 22, 2016 EA Comments.

Revised Social Cost of CO₂, 2010 – 2050 (in 2007 dollars per metric ton of CO₂)

Discount Rate	5.0%	3.0%	2.5%	3.0%
Year	Avg	Avg	Avg	95th
2010	10	31	50	86
2015	11	36	56	105
2020	12	42	62	123
2025	14	46	68	138
2030	16	50	73	152
2035	18	55	78	168
2040	21	60	84	183
2045	23	64	89	197
2050	26	69	95	212

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

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

increases of GHG emissions.” Exhibit 17 to WildEarth Guardians’ February 22, 2016 EA Comments.

More importantly, the BLM has also utilized the social cost of carbon protocol in the context of oil and gas approvals. In recent Environmental Assessments for oil and gas leasing in Montana, the agency estimated “the annual SCC [social cost of carbon] associated with potential development on lease sale parcels.” Exhibit 3 at 76. 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. *Id.* Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be “\$38,499 (in 2011 dollars).” *Id.* 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. *See* Exhibit 2 at 81. 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. *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.” Exhibit 3 to WildEarth Guardians’ February 22, 2016 EA Comments. 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 this month found that current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton. *See* Exhibit 15 to WildEarth Guardians’ February 22, 2016 EA Comments. 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. Exhibit 13 to WildEarth Guardians’ February 22, 2016 EA Comments.

That the economic impacts of climate change, as reflected by an assessment of social cost of carbon, should be a significant consideration in agency decisionmaking, is emphasized by a recent White House report, which warned that delaying carbon reductions would yield significant economic costs. *See* Exhibit 11, Executive Office of the President of the United States, “The Cost of Delaying Action to Stem Climate Change” (July 2014), available online at https://www.whitehouse.gov/sites/default/files/docs/the_cost_of_delaying_action_to_stem_climate_change.pdf. 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.

Id. at 1.

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA, specifically supported in federal case law. As explained, NEPA requires agencies to analyze the consequences of proposed agency actions and consider include direct, indirect, and cumulative consequences. In terms of oil and gas leasing, an analysis of site-specific impacts must take place at the lease stage and cannot be deferred until after receiving applications to drill. *See New Mexico ex rel. Richardson v. Bureau of Land Management*, 565 F.3d 683, 717-18 (10th Cir. 2009); *Conner v. Burford*, 848 F.2d 1441 (9th Cir.1988); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1227 (9th Cir.1988).

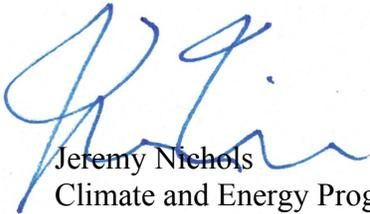
To this end, courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 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.

More recently, a federal court has done 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 Service*, 52 F.Supp.3d 1174 (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. However, 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.*

A recent 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. See Exhibit 12, Greenstone, M., "There's a Formula for Deciding When to Extract Fossil Fuels," *New York Times* (Dec. 1, 2015), available online at http://www.nytimes.com/2015/12/02/upshot/theres-a-formula-for-deciding-when-to-extract-fossil-fuels.html?_r=0.

In light of all this, it appears more than reasonable to have expected the BLM to take into account carbon costs as part of its NEPA analyses. The agency did not. Instead, the BLM rejected the notion that analyzing climate impacts was even possible, implicitly concluding that there would be no climate impacts and no climate costs associated with the proposed oil and gas leasing. This renders the EA fatally flawed and unable to support a FONSI.

Sincerely,



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