July 24, 2017

BY ELECTRONIC MAIL

Bureau of Land Management
Utah State Office
Vernal Field Office
Attn: Stephanie Howard
170 South 500 East
Vernal, Utah 84078
blm_ut_vernal_comments@blm.gov

Re: December 2017 Vernal Field Office Oil and Gas Lease Sale EA Comments, DOI-BLM-UT-GO10-2017-0028-EA

Dear Ms. Howard,

WildEarth Guardians submits the following comments on the Bureau of Land Management's ("BLM's") draft environmental assessment ("EA"), DOI-BLM-UT-GO10-2017-0028-EA, and proposed finding of no significant impact ("FONSI") in support of its December 12, 2017 competitive oil and gas lease sale for the Vernal Field Office in Utah. The agency is proposing to offer for lease 64 parcels comprising 66,625.93 acres in Duchesne and Uinta counties. Three of these parcels are directly adjacent to Dinosaur National Monument in northeastern Utah.

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 air quality and climate implications of its oil and gas leasing decisions and objectively and robustly weighs the costs and benefits of authorizing the release of more pollutants known to cause health impacts and greenhouse gas emissions known to contribute to global warming.

As discussed below, WildEarth Guardians requests that the BLM refrain from offering all the parcels up for lease until it completes its requirements under the National Environmental Policy Act ("NEPA") and protects air quality consistent with the Clean Air Act and Federal Land Policy and Management Act ("FLPMA").

I. The BLM's Environmental Assessment Violates the National Environmental Policy Act.

Here, the BLM falls short of complying with NEPA for three reasons. First, the BLM fails to properly consider the state of Utah's recommendation to designate Duchesne and Uinta counties, where all of the proposed leases are located, as in nonattainment with the Environmental Protection Agency's 2015 National Ambient Air Quality Standard for ozone. Second, the BLM fails to analyze the reasonably foreseeable greenhouse gas emissions from cumulative and similar actions in the surrounding area. Third, the agency fails to assess the significance of any emissions, particularly in terms of carbon costs. Finally, the BLM fails to fully disclose the impacts to Dinosaur National Monument, including the cumulative impacts from increased light pollution from other pending leases and existing development.

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," resulting in 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 agency must prepare an Environmental Impact Statement ("EIS"). *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).

Within an EA or EIS, the scope of the analysis must 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." 40 C.F.R. § 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." 40 C.F.R. § 1508.25(a)(3). Key indicators of similarities between actions include "common timing or geography." *Id*.

A. The BLM Fails to Consider the Impacts of the Lease Sale on Nonattainment with EPA's 2008 and 2015 National Ambient Air Quality Standards for Ozone.

As stated above, the BLM must analyze cumulative effects from "past, present, and reasonably foreseeable actions, regardless of what entity or entities undertake the actions," and "shall integrate the NEPA process with other planning at the earliest possible time . . . to head off potential conflicts." *Id*. at § 1508.7, 1501.2.

Here, although the BLM does discuss potential air quality impacts through its Air Resource Management Strategy Modeling Project and determines that "all [modeling] scenarios predict exceedances of the ozone NAAQS [National Ambient Air Quality Standards] and state AAQS [Ambient Air Quality Standards] in the Uinta Basin," EA at 70, the BLM ignores the state of Utah's actual measurements of ozone levels in Duchesne and Uinta counties and the state's recommendation to designate both as in nonattainment under the Clean Air Act. The Environmental Protection Agency ("EPA") is scheduled to take action on the state's recommendation this coming October, officially designating the Uinta Basin as nonattainment. The BLM's complete omission of this information is in violation of NEPA's requirement to analyze the cumulative impacts from other agencies' past actions and reasonably foreseeable future actions.

On October 26, 2015, the EPA promulgated a new NAAQS for ozone as required by the Clean Air Act in order to protect public health and welfare. *See* National Ambient Air Quality Standards for Ozone, 80 Fed. Reg. 65292 (Oct. 26, 2015), (citing 42 U.S.C. 7409(d)(1)), https://www.gpo.gov/fdsys/pkg/FR-2015-10-26/pdf/2015-26594.pdf. In its rule, the EPA set the primary standard for ozone at .070 parts per million over an 8-hour averaging time. *Id*.[1] Compliance with the NAAQS is demonstrated when the three year average of the fourth highest annual 8-hour readings are at 0.070 parts per million or below. The states then had one year to assess compliance with the standard and identify initial designations of compliance. *Id.* at 65437 (citing 42 U.S.C 7407(d)(1)).

In response to this requirement, Utah completed a report in September 2016 which recommended "the establishment of a nonattainment area for the 2015 ozone standard in the counties of Duchesne and Uintah." Exhibit 1, State of Utah Department of Environmental Quality, *Utah Area Designation Recommendations for the 2015 8-Hour Ozone National Ambient Air Quality Standard*, September 2016, https://documents.deq.utah.gov/air-quality/planning/air-quality-policy/DAQ-2017-002501.pdf. In its report, Utah concludes that the Uinta Basin's background concentration of ozone "has exceeded the 2015 ozone standard." *Id.* at 51. The state also concludes that "[w]ith the emission inventory data and evidence provided by the wintertime ozone studies, it can be concluded that oil and gas production and development is the most significant emission source in the Basin." *Id.* at 42. Therefore, the state recommends "the establishment of a nonattainment area for the 2015 ozone standard in the counties of Duchesne and Uintah." *Id.* at 54. EPA will take action on this recommendation in October of this year as required by the Clean Air Act. *See* NAAQS Ozone Rule, 80 Fed. Reg. at 65437.

[1] The EPA also retained prior ozone NAAQS, including the 2008 ozone NAAQS, which limited ambient concentrations to no more than 0.075 parts per million over an eight hour period. *See* 40 C.F.R. § 50.15.

This recommendation is bolstered by the fact that monitoring data continues to show the Uinta Basin is out of attainment with all applicable ozone NAAQS, including both the 2008 and 2015 NAAQS. Based on complete monitoring for the years 2014–2016 (available on the State of Utah's website at http://www.airmonitoring.utah.gov/dataarchive/archo3.htm), three monitors in the Uinta Basin are out of compliance with the NAAQS. All other monitors continue to record exceedances and have three-year averages that are within 95% of the NAAQS.

Ozone Data for Monitors in the Uinta Basin, Duchesne and Uinta Counties, Utah

Monitor	2014 Fourth Highest	2015 Fourth Highest	2016 Fourth Highest	Three Year Average (2014-2016)
Roosevelt	0.062	0.060	0.081	0.067
Myton	0.067	0.066	0.085	0.072
Dinosaur National Monument	0.064	0.067	0.075	0.068
Vernal	0.062	0.064	0.073	0.066
Redwash	0.061	0.067	0.083	0.070
Ouray	0.079	0.068	0.096	0.081
Whiterocks	0.064	0.068	0.081	0.071

At a minimum, the BLM should have considered the recommendation by the state that the Uinta Basin is in nonattainment and the inevitability that the EPA will act on this recommendation very soon. The BLM's EA for the December 2017 oil and gas lease sale completely fails to acknowledge the fact that the Uinta Basin will be designated nonattainment, thereby failing to demonstrate that air quality impacts will not be significant.

The failure to appropriately analyze and assess the impacts of reasonably foreseeable development of the proposed leases to air quality and specifically ground-level ozone concentrations also means that approval of the proposed leasing would fail to "protect public health and welfare from any actual or potential adverse effect . . . notwithstanding attainment and maintenance of all national ambient air quality standards." 42 U.S.C. § 7470(1). Further, it means that approval of the lease modifications would violate the BLM's duty under FLPMA to "provide for compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards[.]" 43 U.S.C. § 1712(c)(8).

On the matter of FLPMA compliance, it is concerning that the underlying Resource Management Plan fails to address the fact that the Uinta Basin is out of attainment with the ozone NAAQS and that the BLM has not proposed to undertake any revision or amendment to the RMP to address ozone violations in the Basin. As it stands, implementation of the current RMP is clearly failing to protect air quality standards consistent with FLPMA. Indeed, if implementation of an RMP is not providing for compliance with applicable air pollution standards or implementation plans, then the BLM must amend or revise the RMP to ensure compliance in accordance with 43 C.F.R. §§ 1610-5.5 or 1610-5.6. To this end, the BLM must amend or revise the Vernal RMP so as to protect air quality consistent with FLPMA and must do so before moving forward with any additional leasing in the Uinta Basin.

The agency's Land Use Planning Handbook underscores the need for the BLM to amend or revise the Vernal RMP to address air quality concerns in the Uinta Basin. The Handbook states that, "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. Here, given the inevitability of EPA designating Uinta Basin as in nonattainment, it appears that decisions for the entire Vernal RMP no longer serve as a useful guide for resource management, particularly with regards to protecting air quality.

Furthermore, the Handbook states that amendments are needed whenever there is a need to "[c]onsider a proposal or action that does not conform to the plan," "implement new or revised policy that changes land use plan decisions," "respond to new, intensified, or changed uses on public land," or "consider significant new information from resource assessments, monitoring, or scientific studies that change land use plan decisions." *Id.* Section VII.B at 45. Here, the inevitable designation of the Uinta Basin as a Nonattainment Area and the existence of violations of the ozone NAAQS confirms that: 1) implementation of project-level pollutant emitting actions under the RMP do not conform with the requirement to protect air quality standards; 2) the new violations of the ozone NAAQS means the BLM must implement a new policy with bearing on RMP decisions; 3) the inevitable designation of the Uinta Basin Nonattainment Area means that uses of public lands pose new and more intensive air quality impacts than previously determined; and 4) the inevitable designation of the Uinta Basin as nonattainment and the eventual applicability of EPA general conformity rules represents significant new information that has major bearing on RMP decisions.

Given the widespread implications of ozone violations in the Uinta Basin and the inevitable nonattainment designation, it appears that revision of the Vernal RMP is warranted. At a minimum, it must be amended to ensure protection of air quality under FLPMA.

The BLM cannot move forward with the proposed leasing given the air quality implications. The agency must first revise or amend its RMP and must fully comply with NEPA before moving forward with any new leasing.

B. The BLM Fails to Fully Analyze and Assess the Cumulative Impacts of Greenhouse Gas Emissions that Would Result from Issuing the Proposed Lease Parcels.

The Vernal Field Office also completely ignores the cumulative impacts that will result from past and future lease sales in Utah and surrounding states. Indeed, the BLM states that "[s]ince climate change and global warming are global phenomena, for purposes of this NEPA analysis, the analysis presented above about the direct and indirect effects of GHG emissions from the Proposed Action is also an analysis of the cumulative effects of the Proposed Action." EA at 73.

For example, in 2017, the BLM has leased or is planning to lease, the following:

- Colorado: On March 9, 2017, the BLM sold 17 parcels covering 16,447.180 acres. *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/70207/99188/120209/Sale_Results_March2017.pdf. On June 8, 2017, the BLM sold 70 parcels covering 63,268.120 acres in western Colorado. *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/70241/109218/133789/Sale_Results_June2017.pdf. In December of 2017, the BLM is contemplating the sale of 28 parcels covering 27.283.79 acres in western Colorado. *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/72396/96540/116594/GJFO&CRVFO_Initial_Parcel_List_Scoping_Dec2017.pdf. All of these parcels are directly across the border from the December 2017 Vernal Field Office lease sale. *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/72396/96537/116592/PDF_Maps_Scoping_Dec2017.pdf.

- Nevada: the BLM sold 20 parcels (35,502.86 acres) at its March sale and 3 parcels (5760 acres) at its June lease sale. The results for both sales are available at: https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/leasing/regional-lease-sales/nevada.

- New Mexico: The BLM held lease sales on January 25, 2017 where it sold 4 parcels (842.66 acres), https://eplanning.blm.gov/epl-front-office/projects/nepa/68428/96009/116065/Jan2017_SaleResults.pdf, and on June 8, 2017 where it sold 17 parcels (4,230.56 acres), https://eplanning.blm.gov/epl-front-office/projects/nepa/68426/109289/133858/June_8_2017_Sale_Results.pdf. The lease sale scheduled for September will include 62 parcels (15,731.91 acres). *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/69506/108724/133043/Lease_Sale_Notice_508_Compliant_1.pdf.

- Utah: In 2017, the BLM held lease sales on March 23 and June 13, 2017, selling a total of 12 parcels (4,174.460 and 7,478.990 acres respectively). The BLM also has a September 12 lease sale scheduled with 9 parcels (14,943.09 acres) proposed for leasing. *See* https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/leasing/regional-lease-sales/utah. Not only that, but as the BLM is proposing to lease in the Vernal Field Office in December 2017, the agency is simultaneously proposing leasing in the adjacent Price Field Office at the same time. These actions are clearly similar and must be analyzed together in a single NEPA document.

- Wyoming: In February of 2017, the BLM sold 278 parcels covering 183,155.020 acres in the High Plains and Wind River-Bighorn Basin District Offices. *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/65707/96936/117093/SALE_RESULTS_Feb_2017.pdf. In June, the sold 26 parcels covering 31,924.77 acres in the High Desert District Office. *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/65707/110941/135810/SALERESULTS.pdf. And this September

and December, the agency is offering 182 parcels (118,055.540 acres) and 47 parcels (74,136 acres) respectively. *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/65707/107229/132391/Sale_Notice.pdf; https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=94042.

- **All told, the BLM has leased or is proposing to lease approximately 768 parcels or 617,878.04 acres of publically-owned land in the states listed above in 2017.[2]**

The BLM's failure to discuss or acknowledge the lease sales occurring within Utah and across the border in Colorado and in other neighboring Rocky Mountain states is a clear violation of NEPA. Not only has the agency failed to appropriately analyze and assess reasonably foreseeable greenhouse gas emissions from cumulative and similar leasing actions, the agency has failed to demonstrate that the climate impacts will not be significant and that an EIS is not warranted.

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

In addition to the lack of cumulative impacts analysis, it is particularly disconcerting that the agency summarily dismisses 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. *See* EA at 54. At a minimum, under NEPA, the agency is required to explain its decision not to use this important tool,[3] and here the BLM's conclusory statements on this issue do not suffice.

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)." Exhibit 2, U.S. Environmental Protection Agency ("EPA"), "Fact Sheet: Social Cost of Carbon" (Nov. 2013) at 1, formerly available online at https://www.epa.gov/climatechange/social-cost-carbon. The protocol was developed by a working group consisting of several federal agencies.

In 2009, an Interagency Working Group was formed to develop the protocol and issued final estimates of carbon costs in 2010. *See* Exhibit 3, 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

[2] This number does not include the December lease sale in New Mexico.

[3] *See High Country Conservation Advocates v. U.S. Forest Service*, 52 F.Supp. 3d 1174, 1193 (D. Colo. 2014) ("[T]he agencies might have justifiable reasons for not using (or assigning minimal weight to) the social cost of carbon protocol to quantify the cost of GHG emissions from the Lease Modifications . . . [u]nfortunately, they did not provide those reasons in the FEIS . . . . Therefore I find that the FEIS's proffered explanation for omitting the protocol was arbitrary and capricious in violation of NEPA.").

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* Exhibit 4, 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://obamawhitehouse.archives.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf. This report and the social cost of carbon estimates were again revised in 2015. *See* Exhibit 5, Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (July 2015). Again, this report and social cost of carbon estimates were revised in 2016. *See* Exhibit 6, Interagency Working Group on Social Cost of Greenhouse Gases, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866" (Aug. 2016), available online at https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf.

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. *See* Exhibit 7, Interagency Working Group on Social Cost of Greenhouse Gases, United States Government, "Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide" (Aug. 2016).

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 update to the Social Cost of Carbon Technical Support Document, the White House's central estimate was reported to be $36 per metric ton. Exhibit 6 at 4. 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 8, GAO, "Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates," GAO-14-663 (July 2014), http://www.gao.gov/assets/670/665016.pdf.

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

Most recent social cost of carbon estimates presented by Interagency Working Group on Social Cost of Carbon. The 95th percentile value is meant to represent "higher-than-expected" impacts from climate change. *See* Exhibit 7.

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

More importantly, the BLM has also utilized the social cost of carbon protocol in the context of oil and gas approvals. In other 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 10, BLM, "Environmental Assessment for October 21, 2014 Oil and Gas Lease Sale," DOI-BLM-MT-0010-2014-0011-EA (May 19, 2014) at 76, https://blm_prod.opengov.ibmcloud.com/sites/blm.gov/files/MT-DAKS%20Billings%20Oct%202014%20EA%20Protest.pdf. 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 CO_2e increase. *See* Exhibit 11, BLM, "Little Willow Creek Protective Oil and Gas Leasing," EA No. DOI-BLM-ID-B010-2014-0036-EA (February 10, 2015) at 81, https://eplanning.blm.gov/epl-front-office/projects/nepa/39064/55133/59825/DOI-BLM-ID-B010-2014-0036-EA_UPDATED_02272015.pdf. 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 2 at 1. 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 12, Moore, C.F. and B.D. Delvane, "Temperature impacts on economic growth warrant stringent mitigation policy," Nature Climate Change 2 (January 12, 2015). 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 2.

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 recent White House report, which warned that delaying carbon reductions would yield significant economic costs. *See* Exhibit 13, Executive Office of the President of the United States, "The Cost of Delaying Action to Stem Climate Change," (July 2014). As the report states:

> [D]elaying action to limit the effects of climate change is costly. Because CO_2 accumulates in the atmosphere, delaying action increases CO_2 concentrations. Thus, if a policy delay leads to higher ultimate CO_2 concentrations, that delay produces persistent economic damages that arise from higher temperatures and higher CO_2 concentrations. Alternatively, if a delayed policy still aims to hit a given climate target, such as limiting CO_2 concentration to 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 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. 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, 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 provided reasons as to why 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).

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 14, Greenstone, M., "There's a Formula for Deciding When to Extract Fossil Fuels," New York Times (Dec. 1, 2015), available at https://www.nytimes.com/2015/12/02/upshot/theres-a-formula-for-deciding-when-to-extract-fossil-fuels.html. Furthermore, 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." Exhibit 15, William D. Nordhaus, Revisiting the Social Cost of Carbon, PNAS, Feb. 14, 2017, http://www.pnas.org/content/114/7/1518.full.pdf.

Clearly, the social cost of carbon provides a useful, valid, and meaningful tool for assessing the climate consequences of the proposed leasing, and the BLM's failure to fully explain its decision not to use this tool is wholly inappropriate under NEPA. While we do not suggest that a comprehensive cost-benefit analysis is required, the agency must provide some explanation for its dismissal of the social cost of carbon beyond its conclusory statement that it "would not be useful" or "instructive." EA at 54.

D. The BLM Fails to Analyze the Cumulative Impacts to the Viewshed of Dinosaur National Monument.

Finally, the BLM's EA for the December 2017 lease sales is invalid because the agency fails to analyze the cumulative impacts of the lease on the viewshed of Dinosaur National Monument.

One of the proposed leases is directly adjacent to the Dinosaur National Monument (069) and four others are in close proximity to the entrance to the Monument (063, 064, 070, 071). In the EA, the BLM does acknowledge that three of these parcels are visible from the road used to access Dinosaur National Monument and that these leases could impact the viewshed of visitors. *See, e.g.*, EA at 6 ("Parcel 71 is located within 0.25 mile of the main road that accesses Dinosaur National Monument, and within 1 mile of the Monument."). But, the BLM's actual analysis of the viewshed impacts lacks clarity and fails to fully analyze the cumulative impacts of the leases on the night skies of Dinosaur National Monument.

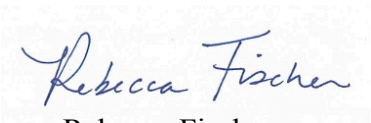
For example, the BLM's affected environment discussion in Section 3.3.9 and its viewshed analysis in Section 4.2.9 misleadingly fails to disclose the actual proximity of these leases. Instead, the BLM notes that the parcels occur in "close proximity to the Dinosaur National Monument," that "Parcel 071 is located approximately 5 miles southwest" of the Monument's visitor center, and that development "may be within the line-of-sight from key observation points (KOP) of the [] Monument." EA at 31, 61. These statements are misleading and do not fully disclose the direct proximity of the five parcels identified above.

More importantly, the BLM fails to fully disclose the importance of the Monument as "one of the darkest places remaining in the United States," Nat'l Park Serv. Stargazing, https://www.nps.gov/dino/planyourvisit/stargazing.htm, or otherwise discuss the cumulative impacts of light pollution to the park from the existing development and the new leases in Utah and across the border in Colorado. *See* ClimateWest Blog, *Trump Selling Public Lands to Oil and Gas Industry*, http://arcg.is/0jj9G9. The BLM's failure to analyze the true impacts to a key feature Dinosaur National Monument is misleading at best, and incompetent at worst.

II. Conclusion

In sum, the BLM fails to comply with the requirements of NEPA in its EA for the December 12, 2017 oil and gas lease sale for three reasons: it omits an analysis of the cumulative impacts of the sale with the 2008 and 2015 federal ozone standards, it omits a full analysis of the cumulative impacts from GHGs generated by lease sales in the area, and it omits a full analysis of the impacts to the night sky over Dinosaur National Monument. The BLM also fails to comply with FLPMA because it fails to amend the RMP to address the significant changes to air quality issues in the area. As a result, WildEarth Guardians requests that agency remove all of the leases from the lease sale until it completes its duties under NEPA and FLPMA.

Sincerely,



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