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Via Electronic Mail

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Re: Comments on Monument Butte Final Environmental Impact Statement

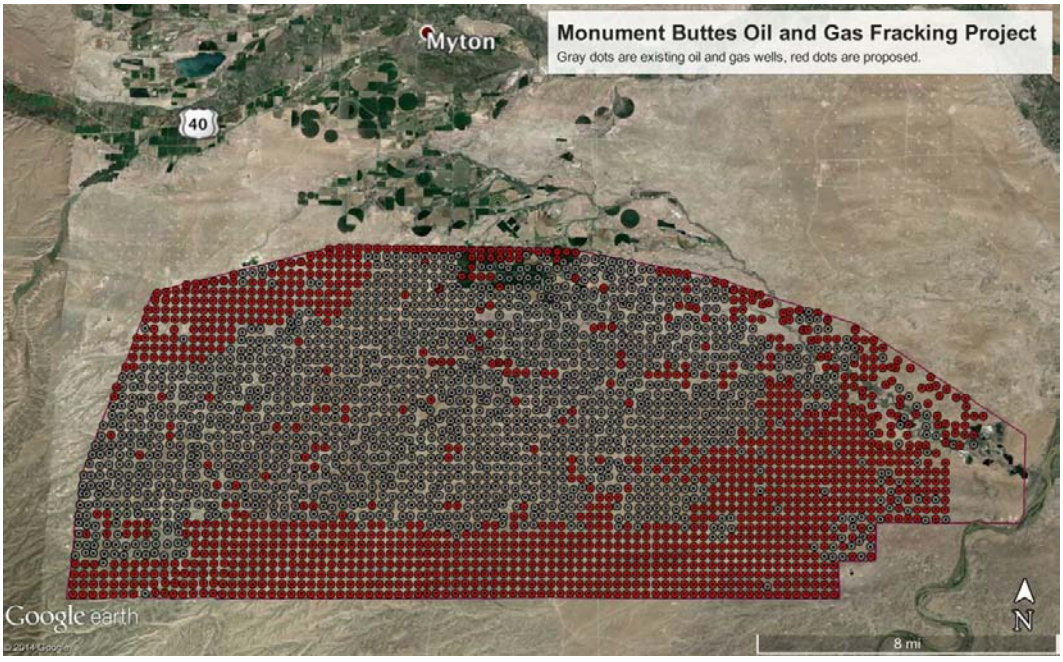
Dear Ms. Howard:

WildEarth Guardians submits the following comments on the Bureau of Land Management's ("BLM's") Final Environmental Impact Statement ("FEIS") for the Monument Butte Area Oil and Gas Development Project. Notice of Availability of the FEIS was published in the Federal Register by the U.S. Environmental Protection Agency ("EPA") on June 24, 2016. *See* 81 Fed. Reg. 41,302 (June 24, 2016).

We are dismayed that the BLM is moving forward with approving this massive oil and gas project at this time. Spurred by the demands of Newfield Exploration Corporation, the BLM is proposing to approve the drilling, fracking, and production of 5,750 new oil and gas wells across 119,743 acres, or 187 square miles—larger than the City of Denver.

The proposed action would escalate the industrialization of this vast region of public lands, destroying wildlife habitat, rendering lands unsuitable for outdoor recreation, degrading clean air, and putting the region's water quality at risk. The BLM estimates that 3,395 oil and gas wells have already been developed in the region. The Monument Butte project would increase the number of wells in the region by nearly 70%, yielding a commensurate increase in air pollution, soil and water contamination risks, fish and wildlife habitat degradation, and global warming pollution. More disappointing is that the project would effectively industrialize this entire region, effectively handing over American public lands to Newfield Energy Corporation to do with as they please. Despite ostensibly being managed for all Americans, the BLM's Vernal Field Office is already virtually completely dedicated to the oil and gas industry. The Monument Butte project would perpetuate this de facto transfer of public lands into private hands.

Despite being "public lands," vast expanses of the Vernal Field Office are dedicated solely for the use of the oil and gas industry. The Monument Butte project would perpetuate this massive-scale industrialization, virtually converting more than 100,000 acres of public lands in the project area into an oil and gas field. Map below prepared using BLM data.



Worse, the proposed actions promises to unlock massive amounts of carbon pollution, even though our nation, together with the world, is working to reduce greenhouse gas emissions and rein in anthropogenic climate change. By the BLM's own estimate, just the construction and production of wells in the Monument Butte project area under the agency's preferred alternative stands to release more than 3.0 million metric tons of carbon dioxide equivalent annually for more than 50 years.[1] According to the EPA's online Greenhouse Gas Equivalency calculator, this nearly equals the emissions from a coal-fired power plant.[2] **Put another way, the BLM's proposal will be equivalent to approving the construction and operation of a coal-fired power plant for up to 51 years.**

Yet this is just the tip of the iceberg. Although the BLM disclosed the greenhouse gas emissions that would result from the construction and production of 5,750 oil and gas wells, it made no effort in the FEIS to analyze and assess the emissions that would result from oil and gas consumption. This is a major oversight. The BLM projects that 335 million barrels of oil, 540,669 million cubic feet of natural gas, 10,085 million barrels of natural gas liquids, and an additional 6.9 trillion cubic feet of natural gas are likely to be produced during the life of the project. Using readily available emissions factors, we estimate that the ultimate consumption of oil and gas produced from the Monument Butte project could be more than 4.8 billion metric tons over the projected 51-year life of the project, or more than 95 million metric tons of additional greenhouse gas emissions every year. *See* Table below. Taken together with the BLM estimates, the lifetime greenhouse gas emissions from this project could be more than 5 billion metric tons, or nearly 100 million metric tons per year, equal to the emissions from 29 coal-fired power plants.

[1] The BLM estimates the life of the project would be from 41 to 51 years. *See* FEIS at ES-6.

[2] The EPA's Greenhouse Gas Equivalency Calculator is available at https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

Consumption-related greenhouse gas emissions from Monument Butte project and total estimated greenhouse gas emissions.

Production	Emission Factor[3]	Total Lifetime Greenhouse Gas Emissions (metric tons)	Estimated Annual Greenhouse Gas Emissions (total emissions/51 years)
335 million barrels of oil	0.43 metric tons CO_2/barrel	144,050,000	2,824,510
540,669 million cubic feet of natural gas	0.005302 metric tons CO_2/therm[4]	29,583,591	580,070
10,085 million barrels of natural gas liquids	0.43 metric tons CO_2/barrel	4,336,550,000	85,030,392
6.9 trillion cubic feet of natural gas from deep wells	0.005302 metric tons CO_2/therm	377,544,816	7,402,839
	TOTALS	4,887,728,407	95,837,812
	BLM ESTIMATE FROM CONSTRUCTION AND PRODUCTION [5]	154,955,289	3,038,339
	GRAND TOTALS	**5,042,683,696**	**98,876,151**

The BLM did not address downstream greenhouse gas emissions that would result from approval of the Monument Butte project. This is a major oversight and it effectively presumes that such emissions would be nonexistent. This could not be further from the truth.

And while the BLM may take issue with its ability to estimate downstream emissions with absolute precision, the National Environmental Policy Act ("NEPA") does not allow agencies to completely ignore impacts because of a perceived lack of precision. As the White House Council on Environmental Quality ("CEQ") recently stated in their final guidance on addressing climate impacts under NEPA, agencies should "quantify a proposed [] action's projected direct ***and indirect*** GHG [greenhouse gas] emissions" (emphasis added). Exhibit 1, CEQ, Memorandum for Heads of Federal Departments and Agencies, "Final Guidance for

[3] Emission factors for natural gas and oil consumption are available on the EPA's Greenhouse Gas Equivalency Calculator website at https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references.

[4] According to the U.S. Energy Information Administration ("EIA") one Mcf, or thousand cubic feet, of natural gas equals approximately 10.32 therms, https://www.eia.gov/tools/faqs/faq.cfm?id=45&t=8.

[5] Total lifetime emissions from construction and production were estimated by taking the annual estimate presented by the BLM in the FEIS on page 4-24 and multiplying it by 51 years, the estimated maximum life of the project.

Federal Departments an Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews" (Aug. 1, 2016), available online at https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf .[6] Here, downstream greenhouse gas emissions would represent "[i]ndirect effects" under NEPA given that they are "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." 40 C.F.R. § 1508.8(b). Given this, the BLM is obligated under NEPA to analyze, disclose, and appropriately assess these emissions.

In this case, it is important to note that the estimates of downstream emissions above are conservative. Among other things, they do not account for methane emissions from processing and refining of oil and gas, they do not account for methane and carbon dioxide emissions from transmission and distribution of natural gas, and they do not account for emissions from oil transportation that would result outside of the project area. They also presume that the final use of the condensate and natural gas will be through combustion. However, it is very likely that the condensate and possibly the natural gas will be used to make products that are not intended for combustion, such as plastics, which are produced through energy intensive (i.e., carbon intensive) processes.

While the lack of an adequate analysis of reasonably foreseeable greenhouse gas emissions is distressing, even more disturbing is BLM's failure to shed any light on the significance of the emissions in the context of global climate change. In spite of acknowledging that, "[g]lobal temperatures are expected to continue to rise as human activities continue to add CO_2, methane, nitrogen oxides, and other greenhouse gases (GHGs) to the atmosphere" (FEIS at 5-7), the BLM asserts "it is not possible" to assess the climate impacts of greenhouse gas emissions. FEIS at 5-8. In essence, the BLM is implying that the reasonably foreseeable greenhouse gas emissions are not significant.

This is underscored by the BLM's attempt to downplay the significance the reasonably foreseeable greenhouse gas emissions from the Monument Butte project by comparing emissions to "global and regional totals." FEIS at 5-8. Not surprisingly, such an analysis shows that reasonably foreseeable emissions are very small, "less than about five hundredths of a percent of the U.S. total shown for 2010 and about 3 percent of the state-wide total projected for 2020." *Id*. **However, this comparison sheds no light whatsoever as to the actual significance of the reasonably foreseeable emissions.** As the CEQ stated in its recent NEPA guidance:

> [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

[6] It is notable that CEQ cites the EPA's Greenhouse Gas Equivalency Calculator as among the greenhouse gas quantification tools available to federal agencies.

> atmospheric GHG concentrations that collectively have a large impact. When considering GHG emissions and their significance, agencies should use appropriate tools and methodologies for quantifying GHG emissions and comparing GHG quantities across alternative scenarios. Agencies should not limit themselves to calculating a proposed action's emissions as a percentage of sector, nationwide, or global emissions in deciding whether or to what extent to consider climate change impacts under NEPA.

Exhibit 1 at 11. Clearly BLM's analysis and assessment of climate impacts flies in the face of NEPA.

The BLM's analysis is further belied by the agency's failure to analyze and assess greenhouse gas emissions from similar and cumulative actions, as required by NEPA. *See* 40 C.F.R. § 1508.25(a)(2) and (3) (requiring that the scope of an EIS include "[c]umulative actions" and "[s]imilar actions"). We are particularly troubled that the FEIS fails to disclose the greenhouse gas emissions that would result from other reasonably foreseeable or proposed BLM actions that have common timing and geography, and that pose similar impacts. These actions include, but are not limited to, other oil and gas projects, including leasing, coal leasing, oil shale development, and other related fossil fuel approvals overseen by the agency.

We are also dismayed that the BLM is spending taxpayer dollars and agency time on the Monument Butte project given the depressed state of the oil and gas industry. Currently, natural gas commodity prices are low, and there is little oil and gas development occurring on public lands. According to Baker Hughes, the Utah rig count currently stands at two rigs operating, a tiny fraction of the 40+ active rigs drilling in the state at the peak of the last boom.[7] *See* Baker Hughes North America Rig Count Data, available at http://phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-reportsother. Prices for natural gas have largely been below $2.00/MMBtu, well below levels at which natural gas production is profitable. *See* EIA Henry Hub Natural Gas Spot Price Data, available at https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm. There would appear to be little reason to approve the Monument Butte project given the lack of interest on the part of industry in developing oil and gas leases at this point. Coupled with the reasonably foreseeable climate consequences of the proposed action, it appears to be grossly counterproductive to approve such a massive fossil fuels project.

We provide more detailed concerns below. Given the deficiencies in the FEIS, it is clear that the BLM must revise and/or supplement the document to ensure compliance with NEPA. As written, the FEIS does not demonstrate that the BLM has prepared a sufficient analysis and assessment of impacts such that the American public can be assured that an informed and objective decision will be made.

[7] For two weeks in 2016, zero rigs were operating in Utah.

I. The FEIS Fails to Analyze and Assess Climate Impacts

We are primarily concerned that the FEIS fails to comply with NEPA with regards to its analysis and assessment of reasonably foreseeable greenhouse gas emissions and climate consequences.

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.

Here, BLM did not fully disclose direct, indirect, and cumulative greenhouse gas emissions, and failed to conduct any analysis and assessment of climate impacts using readily available methodologies, namely the social cost of carbon protocol. This is disturbing as recent reports indicate that federal oil and gas production in the U.S. is responsible for 10% of all U.S. greenhouse gas emissions, not an insignificant amount. *See* Exhibit 2, Stratus Consulting, "Greenhouse Gas Emissions from Fossil Energy Extracted From Federal Lands and Waters: an Update," Final Report Prepared for The Wilderness Society (Dec. 23, 2014), available online at http://wilderness.org/sites/default/files/Stratus-Report.pdf. What's more, reports are increasingly finding that to combat climate change, we have to start keeping fossil fuels in the ground. *See* Exhibit 3, McGlade, C. and P. Ekins, "The geographical distribution of fossil fuels unused when limiting global warming to 2^{o} C," *Nature*, Vol. 15 (Jan. 2015). As the President himself recently remarked, "[I]f we're going to prevent large parts of this Earth from becoming not only inhospitable but uninhabitable in our lifetimes, we're going to have to keep some fossil fuels in the ground rather than burn them and release more dangerous pollution into the sky." Exhibit 4, President of the United States, "Statement by the President on the Keystone XL Pipeline" (Nov. 6, 2015), available at https://www.whitehouse.gov/the-press-office/2015/11/06/statement-president-keystone-xl-pipeline.

Put another way, not only is it clear that the BLM must start to reduce greenhouse gas emissions associated with its fossil fuel approvals by keeping oil, gas, and coal in the ground, but the President has even indicated this is a necessary step forward. Thus, the failure of the BLM to adequately analyze and assess greenhouse gas emissions and climate impacts raises well-founded concerns that the agency is not taking this information seriously or taking any meaningful steps

to limit the climate impacts of the Monument Butte project. Below, we detail the shortcomings of the FEIS.

A. The FEIS Fails to Analyze and Assess Reasonably Foreseeable Greenhouse Gas Emissions

The FEIS discloses BLM's estimate of some reasonably foreseeable greenhouse gas emissions. We appreciate this partial disclosure, but these estimates fail to fully disclose the total direct, indirect, and cumulative greenhouse gas emissions that will result from the Monument Butte project.

With regards to direct emissions, we are concerned that the BLM has inaccurately analyzed and assessed the impacts of methane emissions associated with construction and production of wells in the Monument Butte project area. Notably, the BLM presumed that methane has a global warming potential that is 21 times that of carbon dioxide. *See* Air Quality Technical Support Document for the Proposed Monument Butte Oil and Gas Development Project, FEIS, Appendix B at 29. The BLM estimated that, based on an estimate of total direct methane emissions of 12,218 metric tons from the preferred alternative (*see* FEIS at 4-24), the carbon dioxide equivalent, or CO_2e, would equal 256,578 metric tons. However, scientifically based estimates of the global warming potential of methane indicate that its heat-trapping capabilities are much higher and that the BLM underestimated total greenhouse gas emissions associated with methane.

To begin with, the presumption that methane has a global warming potential of 21 is outdated and scientifically unjustified. In 2013, the EPA finalized a rule that established the global warming potential of methane at 25 times that of carbon dioxide over a 100-year period. *See* 78 Fed. Reg. 71904, 71909 (Nov. 29, 2013). Furthermore, in late 2013, the Intergovernmental Panel on Climate Change ("IPCC") reported the global warming potential of methane over a 100-year period should actually be set at 28 and that a 20-year global warming potential of 84 should be utilized to assess shorter-term climate impacts associated with methane emissions. *See* Exhibit 5, Excerpt from IPCC, *Climate Change 2013: the Science Basis. Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press (2013) at 731, available at http://climatechange2013.org/.

In fact, based on updated scientific information, in a recent analysis of the greenhouse gas emissions associated with coal mine expansions in Colorado's North Fork Valley, the U.S. Forest Service, with the BLM as a Cooperating Agency, estimated the CO_2e of projected methane emissions should be based on a global warming potential of 36 based on a 100-year period. *See* Exhibit 6, U.S. Forest Service, "Rulemaking for Colorado Roadless Areas Supplemental Draft Environmental Impact Statement" (Nov. 2015) at 34.

In any event, the BLM's estimate of carbon dioxide equivalency associated with methane emissions is clearly flawed. A calculation of CO_2e based on the various updated global warming potentials indicates that BLM's estimates of total carbon emissions associated with methane releases are four times lower than what they should be. *See* Table below. We would submit that

for the BLM to most accurately disclose the greenhouse gas emissions associated with the Monument Butte project, the agency must analyze CO_2e emissions based on both the 20-year and 100-year global warming potentials for methane, which should be 84 and 36, respectively.

Carbon Dioxide Equivalency (in metric tons) of Disclosed Methane Emissions Based on Obsolete Global Warming Potential of 21 and Global Warming Potentials of 25, 28, 36, and 84.

FEIS Disclosure	21 GWP (100-year)	25 GWP (100-year)	28 GWP (100-year)	36 GWP (100-year)	84 GWP (20 year)
12,218 tons	256,578	305,450	342,104	439,848	1,026,312

Compounding the inaccurate disclosure of direct greenhouse gas emissions is that the BLM entirely failed to analyze the reasonably foreseeable indirect greenhouse gas emissions that would result from the Monument Butte project. As discussed above, the FEIS does not analyze the greenhouse gas emissions that would result from:

- The processing of natural gas and refining of oil;
- The ultimate consumption of oil and natural gas;
- The transmission and distribution of natural gas;
- The transportation of oil outside of the Monument Butte project area and the transportation of refined products; and
- The emissions likely to result from the processing of oil and gas into other products.

These emissions are not speculative, nor are they impossible to analyze. As explained above, the EPA has presented emission factors that can enable reasonable estimates of likely greenhouse gas emissions. Further, a recent report prepared by EcoShift consulting actually quantified the likely greenhouse gas emissions that could result from the production of federal oil and natural gas. *See* Exhibit 7, EcoShift Consulting, "The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels," report prepared for Center for Biological Diversity and Friends of the Earth (Aug. 2015), available at http://www.ecoshiftconsulting.com/wp-content/uploads/Potential-Greenhouse-Gas-Emissions-U-S-Federal-Fossil-Fuels.pdf. This report estimated the aforementioned indirect sources, and even quantified potential emissions based on the likely end-use of oil and natural gas.

As explained above, the failure of the BLM estimate reasonably foreseeable indirect emissions is a major oversight. All told, the total direct and indirect greenhouse gas emissions could amount to nearly 100 million metric tons annually, 33 times the amount of direct emissions estimated by the BLM in the FEIS.

However, perhaps the most significant oversight in the FEIS is the BLM's failure to address reasonably foreseeable greenhouse gas emissions from cumulative and similar actions. As NEPA requires, 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. *See* 40 C.F.R. §§ 1508.25(a)(2) and (3). Here, the BLM failed to take into account the greenhouse gas emissions

resulting from other past, present, and reasonably foreseeable oil and gas development in the identified cumulative effects area, including the following actions:[8]

- The Crescent Point Energy project, a BLM proposal to allow Crescent Point Energy U.S. Corp. EnCana to develop 3,925 oil and gas wells northeast of the Monument Butte project area;[9]

- The Greater Chapita Wells Natural Gas Infill project, a BLM proposal to allow EOG to develop 7,028 oil and gas wells east of the Monument Butte project area;[10]

- All past, present, and future BLM oil and gas leasing activities in the region, including upcoming leasing in the Vernal Field Office;[11]

- A proposed BLM right of way approval that would allow Enefit Corp. to develop oil shale in the Uinta Basin;[12]

- Any and all additional Applications for Permits to Drill that have been approved or are being considered for approval in the region.

The FEIS is entirely silent on the impacts of cumulative and similar actions, and thus fails to adequately disclose the reasonably foreseeable greenhouse gas emissions that would result from the Monument Butte project.

C. The FEIS Fails to Analyze and Assess Climate Impacts Using Social Cost of Carbon Protocol.

Compounding the failure of the BLM to disclose the reasonably foreseeable greenhouse gas emissions that would result from the Monument Butte project is that the agency also rejected analyzing and assessing these emissions in the context of their costs to society. The BLM dismissed analyzing climate impacts, claiming that such an analysis is "not possible." However, the agency was capable of analyzing the estimated costs of the climate impacts that would result from the reasonably foreseeable greenhouse gas emissions. It is disconcerting that the agency

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[8] The BLM identifies the "Uinta Basin, nearby Class I areas" as the cumulative impacts analysis area for "Air Quality," which the FEIS indicates includes greenhouse gas emissions and climate impacts. FEIS at 5-2. However, the BLM then states that the proper scope of analysis for greenhouse gas emissions is "global and regional." FEIS at 5-8.

[9] *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/53899/71957/78958/BLM_Scoping_Notice_4-6-16.pdf.

[10] *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/37362/45168/48684/Final_Public_Scoping_Report_12-27-10.pdf.

[11] *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/59590/75180/82843/6-14DraftEA.pdf.

[12] *See* https://eplanning.blm.gov/epl-front-office/projects/nepa/37462/71941/78940/Enefit_American_Oil_Utility_Corridor_Project_Draft_EIS.pdf.

failed 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 assessing the 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)." Exhibit 8, U.S. Environmental Protection Agency ("EPA"), "Fact Sheet: Social Cost of Carbon" (Nov. 2013) at 1, available online at http://www.epa.gov/climatechange/Downloads/EPAactivities/scc-fact-sheet.pdf. The protocol was developed by a working group consisting of several federal agencies, including the U.S. Department of Agriculture, EPA, the White House Council on Environmental Quality, 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* Exhibit 9, 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 10, 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), available online at https://www.whitehouse.gov/sites/default/files/omb/inforeg/scc-tsd-final-july-2015.pdf (last accessed Dec. 15, 2015).

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 11, 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 12, GAO, "Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates," GAO-14-663 (July 2014), available online at http://www.gao.gov/assets/670/665016.pdf.

Revised Social Cost of CO_2, 2010 – 2050 (in 2007 dollars per metric ton of CO_2)

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 13, 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 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 14, BLM, "Environmental Assessment for October 21, 2014 Oil and Gas lease Sale," DOI-BLM-MT-0010-2014-0011-EA (May 19, 2014) at 76, available online at http://www.blm.gov/style/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/lease_sales/2014/oct__21_2014/july23posting.Par.25990.File.dat/MCFO%20EA%20October%202014%20Sale_Post%20with%20Sale%20(1).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 15, BLM, "Little Willow Creek Protective Oil and Gas Leasing," EA No. DOI-BLM-ID-B010-2014-0036-EA (February 10, 2015) at 81, 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. 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 8. 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 16, Moore, C.F. and B.D. Delvane, "Temperature impacts on economic growth warrant stringent mitigation policy," *Nature Climate Change* (January 12, 2015) at 2. 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 8.

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 17, 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 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.

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 18, 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.

Extensive oil and gas development in the Monument Butte area is already contributing to significant levels of greenhouse gas emissions.

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 FEIS fatally flawed and unable to support a well-informed decision under NEPA.

This is not for lack of the ability to perform a social cost of carbon analysis. Taking the 2016 social cost of carbon figures from the most recent Interagency Working Group Technical Support Document, one can easily estimate the likely climate costs that will result just from the emissions projected in the FEIS. Using the discount rates from the most recent Technical Support Document, the climate costs could range from as low as $94.88 million to as high as $931.6 million annually. *See* Table below. However, this is based on the BLM's disclosures in the FEIS, which fail to account for all direct, indirect, and cumulative greenhouse gas emissions. The climate costs would actually be much higher, and therefore represents a significantly conservative estimate of carbon costs.

Discount Rate (2016)	5.0%	3.0%	2.5%	3.0% (95th percentile)
SCC Value ($/ton of CO_2e)	$11	$38	$57	$108
Total Costs	$33,421,729	$115,456,882	$173,185,323	$328,140,612

Over the life of the project, the carbon costs in total would be even more significant. For carbon emissions released in 2050, for example, which is within the BLM's projected life of the Monument Butte project, total carbon costs could be as high as $212 per ton. Although the BLM estimates the total economic benefits from the Monument Butte project to be "[$]212.4" million under the preferred alternative over the life of the project (*see* FEIS at 4-207), it would appear that the carbon costs very likely far exceed this amount. We are not suggesting that the BLM conduct a comprehensive cost-benefit analysis, but rather highlighting how carbon costs shed important light on the significance of the climate impacts of the Monument Butte project and how the BLM's failure to analyze and assess carbon costs renders the FEIS flawed. Just as the BLM's analysis of economic benefits serves to inform the agency's decision, so too could an analysis of carbon costs.

Regardless, the fact that BLM monetized the economic benefits of the Monument Butte project in the FEIS, yet entirely failed to monetize any economic costs, in particular carbon costs, is the hallmark of an arbitrary analysis and assessment under NEPA. As the CEQ has explained, "if an agency chooses to monetize some but not all impacts of an action, the agency providing this additional information should explain its rationale for doing so." Exhibit 1 at 33. Here, there is no explanation at all, just a baseless argument that climate impacts are "not possible" to analyze and assess, and a lopsided monetized analysis that discloses only purported economic benefits. This is not allowed under NEPA.

II. The FEIS Fails to Analyze and Assess Air Quality Impacts and to Demonstrate Compliance with the Federal Land Policy and Management Act and the Clean Air Act

We are finally concerned that, in spite of the BLM's claim that its preferred alternative will sufficiently protect National Ambient Air Quality Standards ("NAAQs") for ground-level ozone, that there is no support for this in the FEIS. Notably, the FEIS, including the Air Quality Technical Support Document, entirely fails to address ozone impacts in the context of the current NAAQS, which were adopted in October 2015. These new standards, which under the Clean Air Act were established based solely on what is necessary to protect public health, limit allowable ozone concentrations in the air to no more than 0.070 parts per million ("ppm") over an eight hour period. *See* 80 Fed. Reg. 65,292-65,468 (Oct. 26, 2015). Previous standards, which were adopted in 2008, only limited ozone concentrations in the air to no more than 0.075 ppm over an eight-hour period. *See* 40 C.F.R. § 50.15 (2015). In spite of this, the FEIS actually asserts that the current NAAQS in place are those adopted in 2008. *See* FEIS at 3-4.

The failure to even acknowledge the 2015 ozone NAAQS is problematic. As the BLM acknowledges in the FEIS, its analysis and assessment of ozone impacts was predicated upon an analysis and assessment of emissions that contribute to ground-level ozone, namely volatile organic compounds ("VOCs") and nitrogen oxides ("NOx"). Under this approach, the agency determined that, so long as emissions did not increase, the ozone NAAQS would be protected and impacts would not be significant under NEPA. *See* FEIS at 2-32 (disclosing "Adaptive Management" strategy where development under any Record of Decisions "will not result in net increases of VOC emissions"). In the FEIS, the agency asserts that, under the proposed action,

concentrations of ozone would remain "below the NAAQS." FEIS at ES-15. In the Uinta Basin, however, simply maintaining current levels of emissions appears to be a recipe for disaster and certainly does not seem to support any assertion that the current ozone NAAQS will not be violated and/or exceeded.

The FEIS appears to confirm this complete. As the BLM discloses, current background eight-hour concentrations of ozone are 0.106 ppm, more than 50% above the current NAAQS. *See* FEIS at 3-8. Here, while not increasing emissions may be an important first step toward reducing ozone concentrations in the region, it does not appear designed to actually foster any kind of decrease in ozone concentrations. If anything, under the BLM's proposed action, ozone concentrations will simply remain at 0.106 ppm, far higher than the current NAAQS.

Even looking at EPA's most recent design value data (design value data being the three-year average of the annual fourth highest daily eight-hour ozone values), monitors in Duchesne and Uintah Counties are showing long-term ozone concentrations far higher than the current NAAQS.

EPA Design Value Data for Uinta Basin Ozone Monitors. Data Available at https://www.epa.gov/sites/production/files/2016-07/ozone_designvalues_20132015_final_07_29_16.xlsx.

AQS Site ID	County	Street Address	2013 4th Highest Daily Max Value	2014 4th Highest Daily Max Value	2015 4th Highest Daily Max Value	Three-Year Average
490130002	Duchesne	290 S. 1000 W.	0.104	0.062	0.060	**0.075**
490137011	Duchesne	6000 SOUTH AND 10000 WEST (MYTON)	0.089	0.067	0.066	**0.074**
490472002	Uintah	2 Miles west of Redwash atop Deadman's Bench	0.085	0.061	0.067	**0.071**
490472003	Uintah	2 miles south of Ouray and south of the White and Green River confluence	0.092	0.079	0.068	**0.080**
490477022	Uintah	WHITEROCKS & COUNTY	0.074	0.064	0.068	**0.069**

However, what concerns us more is the fact that the FEIS plainly discloses that under the Proposed Action, as well as the BLM's preferred alternative, the amount of VOC emissions will actually increase as compared to the No Action Alternative. As the FEIS states, total VOC emissions under the No Action Alternative are projected to be 2,116.9 tons per year, whereas emissions under the Proposed Action will be 10,360.9 tons per year. Although the BLM claims that emissions will be reduced under the Proposed Action, this is actually a misleading claim in

the FEIS. There will not be a reduction in emissions, but rather with the implementation of the agency's "Adaptive Management" strategy, the increase in emissions under the Proposed Action would not be as great. The FEIS confirms this, showing, for example, that under the Proposed Action emissions of VOCs from a subset of activities would be more than 12,000 tons annually without Adaptive Management, but nearly 4,000 tons annually with mitigation. *See* FEIS at 4-8. This does not represent a reduction in emissions as compared to the No Action Alternative; it simply shows that emissions will not be as high as if the BLM refused to require any mitigation.

Thus, there is absolutely no merit or validity to the BLM's claim that its proposed emission management strategy under either the Proposed Action or the Preferred Alternative will either maintain emissions at current levels or actually reduce emissions. Everything in the FEIS indicates that ozone-forming emissions will increase, even as ozone concentrations in the region are violating the current NAAQS.

Oil and Gas Development in the Uinta Basin is Cumulatively Fueling the Region's Unhealthy Ozone Problem.

Although the FEIS's failure to adequately analyze and assess ozone impacts represents a fatal flaw under NEPA, it also has substantive implications under the Federal Land Policy and Management Act ("FLPMA") and Clean Air Act.

Under FLPMA, the BLM has a duty to ensure compliance with federal air quality standards. *See* 43 U.S.C. § 1712(c)(8). FLPMA specifically states that BLM land use plans shall, "provide for compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standard or implementation plans." *Id*. BLM

regulations further mandate that "each land use authorization" shall "require compliance with air and water quality standards established pursuant to applicable Federal or State law." 43 C.F.R. § 2920.7(b)(3).

In this case however, it does not appear as if the BLM will comply with the air quality mandates of FLPMA and its implementing regulations if it authorizes the Monument Butte oil and gas project.

To begin with, it does not appear that the 2008 Vernal Resource Management Plan ("RMP") is in compliance with FLPMA. As noted, FLPMA explicitly mandates that land use plans must provide for compliance with applicable federal air quality standards. *See* 43 U.S.C. § 1712(c)(8). Here, it does not appear that the Vernal RMP explicitly provides for compliance with federal air standards. In particular, the Air Quality Management Decisions in the 2008 RMP do not explicitly state that the BLM shall ensure compliance with federal air standards. *See* 2008 RMP at 70. This is of significant concern because it allows the BLM to flout compliance with the NAAQS for ozone and other pollutants. Because the NAAQS are federal air standards, the failure of the RMP to require compliance is contrary to FLPMA.

That the RMP is flawed is evidenced by the fact that the BLM is proposing to approve the Monument Butte proposal even though the FEIS clearly discloses that current ozone concentrations in the Uinta Basin are out of compliance with the ozone NAAQS and even though all reasonable information indicates the proposed development will contribute to these and future violations. In other words, it appears the proposed Monument Butte project will simply make a bad situation worse. It appears that the RMP, in failing to require compliance with federal air quality standards, has emboldened the BLM to dismiss the impacts of the project to the NAAQS.

In addition to the apparent failure of the Vernal RMP to assure compliance with federal air quality standards, it also appears that BLM is violating its project-level obligations to ensure that all land use authorizations comply with federal air quality standards. The FEIS clearly discloses that under all action alternatives, the ozone problem in the Uinta Basin will be made worse. This is due to the fact that emissions will continue to increase in the project area amidst clear violations of the ozone NAAQS. This can hardly be said to comply with FLPMA's requirement that the BLM comply with federal air standards in implementing projects.

The BLM may claim that it is only obligated to ensure the operator complies with state and federal air quality regulations, but such a claim flies in the face of FLPMA's plain and unambiguous language and also appears flatly contrary to its own regulations. FLPMA and applicable regulations require compliance with federal air quality standards. Although reliance on federal and state air quality regulations may be appropriate where such standards are clearly protecting the NAAQS, where such standards are not protecting the NAAQS—such as in the Uinta Basin—the BLM has an affirmative and independent duty to protect air standards and ensure compliance with the NAAQS.

Finally, any approval of the Monument Butte project will have significant Clean Air Act implications. Pursuant to Clean Air Act, the BLM is prohibited from undertaking any activity in a nonattainment area that does not conform to an applicable implementation plan, including a

state and/or federal implementation plan. *See* 42 U.S.C. § 7506(a)(c); *see also* 40 C.F.R. § 93.150(a). Specifically, the BLM must make a conformity determination for any activity authorized in an ozone nonattainment area that has direct and indirect emissions of VOCs or nitrogen oxides ("NOx") that exceed 100 tons per year. *See* 40 CFR § 93.153(b)(1).[13] To demonstrate conformity, the agency must follow the procedures at 40 CFR §§ 93.158 and 93.159. *See* 40 CFR §§ 93.150(b). Overall, to ensure conformity, agency actions must not "cause or contribute to any new violation of any [air quality] standard" or "increase the frequency or severity of any existing violation of any standard in any area." *Id.* § 7506(c)(1)(B).

Here, although the Uinta Basin is not yet designated an ozone nonattainment area by the EPA, all indications are that such a designation will be made by October of 2017 given that, under the Clean Air Act, the EPA has two years after the promulgation of a NAAQS to make nonattainment designations. *See* 42 U.S.C. § 7407(d)(1)(B). Once that designation is made, then Clean Air Act general conformity requirements will apply to the Monument Butte project and any Record of Decision, particularly given that federal agency action will be ongoing through the issuance of Applications for Permits to Drill ("APD").

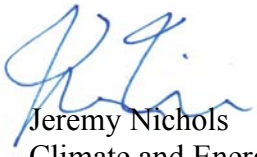
Given this, and given BLM's obligations under FLPMA to comply with the Clean Air Act, it would appear that the agency must ensure that if it actually approves a Record of Decision for the Monument Butte project, it do two things: 1) The agency must explicitly commit to make a general conformity determination for any and all outstanding development left to be approved under the Record of Decision once the nonattainment designation is made and 2) The agency must explicitly state that it must deny any subsequently reviewed APD and/or APDs that do not conform to any implementation plan under the Clean Air Act.

To this end, we would urge the BLM to conduct a general conformity analysis now in order to eliminate significant future uncertainty and risk. Most importantly, we would urge the BLM to conduct such an analysis in order to ensure adequate protection of clean air and public health. As it stands, if the BLM proceeds to issue its Record of Decision based on the current FEIS, it will not eliminate the need for a general conformity determination once the Uinta Basin is designated a nonattainment area in 2017.

[13] Direct emissions are defined as those emissions that are caused or initiated by the Federal action and occur at the same time and place as the action. Indirect emissions are defined as those emissions that are caused by the Federal action, but may occur later in time and/or distance, and are reasonably foreseeable, and which the Federal agency can practically control and will maintain control over. *See* 40 C.F.R. § 93.152.

Thank you for the opportunity to comment.

Sincerely,



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