COLUMBIA LAW SCHOOL

SABIN CENTER FOR CLIMATE CHANGE LAW

July 26, 2016

Coal Programmatic EIS Scoping
Bureau of Land Management
20 M St. SE, Room 2134 LM
Washington, D.C. 20003

Re: Scope of PEIS for the Federal Coal Leasing Program

Dear Bureau of Land Management (BLM):

Thank you for this opportunity to comment on the programmatic environmental impact statement (PEIS) for the federal coal leasing program. The Sabin Center for Climate Change Law applauds the Department of Interior (DOI)'s decision to conduct a nationwide programmatic review aimed at modernizing the management of publicly owned coal reserves, and submits the following recommendations on the scope of issues that should be evaluated in the PEIS:

(1) Scope of Emissions: The PEIS should include an inventory of both direct and indirect greenhouse gas (GHG) emissions from federal coal leasing, including all downstream emissions from transportation, processing, and end-use of the coal.

(2) Social Cost of GHG Emissions: The PEIS should use the federal social cost of carbon (SCC) and other available tools to assign a cost value to the impacts of the inventoried emissions, including non-CO_2 GHG emissions, and use this information to evaluate possible carbon price alternatives and their effect on coal production, revenues, and environmental impacts.

(3) Effect of Production on our Ability to Meet GHG Targets: The PEIS should consider how coal production under existing federal leases will affect our ability to attain national and international GHG reduction targets, and whether any new coal production can be allowed on federal lands without undermining our ability to meet those targets.

These recommendations are discussed in greater detail below.

1. BLM Should Prepare Inventories of Direct and Indirect GHG Emissions

We recommend that BLM prepare an inventory of all direct and indirect GHG emissions from federal coal leasing, including downstream emissions from the transportation, processing and end-use of federal coal. The inventory should encompass current and projected emissions under existing leases, and emissions from future leasing scenarios that are under consideration in the

PEIS.[1] It should also clearly delineate estimated emissions from different parts of the coal supply chain and different emission sources. Finally, the information should be presented in a way that is clear and accessible to decision-makers and the public – for example, readers should be able to easily determine the proportion of emissions that is attributable to a particular activity or source category, and compare emissions across different leasing scenarios.

Including downstream emissions in the inventory is consistent with the requirements of the National Environmental Policy Act ("NEPA"), as they have been interpreted by the Council on Environmental Quality ("CEQ") and federal courts. NEPA requires agencies to evaluate both direct and indirect environmental effects from projects. Indirect effects are "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."[2] Such effects include "growth inducing effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."[3]

CEQ has issued draft guidance explaining how this requirement should apply to GHG emissions. The guidance states that NEPA analysis should include "emissions from activities that have a reasonably close causal relationship to the Federal action, such as those that may occur as a predicate for the agency action (often referred to as upstream emissions) and as a consequence of the agency action (often referred to as downstream emissions)."[4] To illustrate this point, the guidance notes that the NEPA analysis for a proposed open pit mine could include emissions from "clearing land for the extraction, building access roads, transporting the extracted resource, refining or processing the resource, and using the resource."[5] CEQ's interpretation of NEPA is entitled to substantial deference.[6] It is also consistent with federal case law, including several cases holding that GHG emissions from coal combustion are an indirect effect of coal production.[7]

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[1] If data is available, BLM may also want to account for historical emissions so that it can consider the long-term cumulative impact of the federal coal program on climate when deciding how to proceed with the program.

[2] 40 C.F.R. § 1508.8(b)

[3] *Id.*

[4] CEQ, *Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews*, 79 Fed. Reg. 77,802, 77,826 (Dec. 24, 2014).

[5] *Id.*

[6] Robertson v. Methow Valley Citizens Council (1989) 490 U.S. 332, 355 (1989) (CEQ regulations entitled to "substantial deference"); Andrus v. Sierra Club, 442 U.S. 347, 358 (1979) (same).

[7] Since 2014, there have been five district court decisions regarding the scope of downstream emissions that must be evaluated in NEPA reviews for proposals involving the extraction of coal. In all of these cases, the reviewing court agreed that GHG emissions from coal combustion was a reasonably foreseeable indirect effect of coal production.. High Country Conservation Advocates v. U.S. Forest Serv., 52 F. Supp. 3d 1174 (D. Colo. 2014) (USFS must consider downstream emissions from coal combustion); Dine Citizens Against Ruining Our Env't v. U.S. Office of Surface Mining Reclamation & Enf't, 82 F. Supp. 3d 1201 (D. Colo. 2015) (OSM must consider downstream emissions from coal combustion); WildEarth Guardians v. U.S. Office of Surface Mining, Reclamation & Enf't, 104 F. Supp. 3d 1208, 1230 (D. Colo. 2015) (OSM must consider downstream emissions from coal combustion); Wildearth Guardians v. U.S. Office of Surface Mining, Reclamation & Enf't, No. CV 14-103-BLG-SPW, 2015 WL 6442724 (D. Mont. Oct. 23, 2015) report and recommendation adopted in part, rejected in part sub nom. Guardians v. U.S. Office of Surface Mining, Reclamation & Enf't, No. CV 14-103-BLG-SPW, 2016 WL 259285 (D. Mont. Jan. 21, 2016) (OSM failed to take hard look at environmental impacts when issuing FONSI, including downstream

The courts have not yet had opportunity to define an agency's obligation to evaluate emissions from the transportation or processing of fossil fuels in the context of a proposal that involves fossil fuel production, but the Ninth Circuit held that NEPA required analysis of conventional air pollutants from the transportation and processing of gold ore as indirect effects of a gold mine where there was sufficient information about the transportation route and processing activities to generate a reasonable estimate of those emissions.[8]

Demonstrating that such analysis is feasible, many federal agencies (including BLM) have begun to account for downstream emissions in their NEPA reviews. For example, the United States Forest Service ("USFS") conducted a life cycle assessment for an oil and gas leasing decision in 2013, which quantified emissions from transport, refining, and end-use.[9] In 2015, USFS prepared a revised DPEIS for the Colorado Roadless Rule coal mining exemptions that included a much more detailed analysis of GHG emissions from mining, transportation (both within the U.S. and to overseas markets) and combustion.[10] BLM also recently published an EIS in which it acknowledged that "the burning of the coal is an indirect impact that is a reasonable progression of the mining activity"[11] and quantified emissions from combustion.[12]

The NEPA documents cited above suggest that the preparation of a downstream emissions inventory is a relatively straightforward task, and that tools and data are available to estimate emissions from each different phase of the coal supply chain.[13] The more challenging task is to determine how these emissions differ from a theoretical "no action" baseline – the idea being to calculate the incremental (or net) impact of agency action on GHG emissions. (This type of analysis has not been required by the courts, but it has been upheld.[14]) To calculate net impact, agencies typically use a model to determine what energy sources would be substituted for the federal resource if it were not produced (e.g., non-federal coal, oil and gas, renewables, energy efficiency, and energy conservation) and then estimate the supply chain emissions for the substitute energy sources.

GHG emissions); Wildearth Guardians v. U.S. Office of Surface Mining, Reclamation & Enf't, No. 12-CV-85-ABJ (D. Wyoming 2015) (OSM's analysis was adequate because it disclosed emissions from coal combustion).

[8] S. Fork Band Council Of W. Shoshone Of Nevada v. U.S. Dep't of Interior, 588 F.3d 718, 725 (9th Cir. 2009).

[9] U.S. FOREST SERV., RECORD OF DECISION AND FINAL ENVIRONMENTAL IMPACT STATEMENT, OIL AND GAS LEASING ANALYSIS, FISHLAKE NATIONAL FOREST 169 (Aug. 2013) (Table 3.12-7: GHG emissions from transportation, offsite refining and end-use are 299,627 MT CO_2e; total direct and indirect emissions are 365,336 MT CO_2e). *See also id.,* Appendix E/SIR-2 (more detailed calculations of direct and indirect emissions).

[10] U.S. FOREST SERV., RULEMAKING FOR COLORADO ROADLESS AREAS, SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT (Nov. 2015) at 33.

[11] BUREAU OF LAND MGMT., FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE LEASING AND UNDERGROUND MINING OF THE GREENS HOLLOW FEDERAL COAL LEASE TRACT, UTU-84102, 287 (Feb. 2015).

[12] *Id.* at 286.

[13] For example, BLM can estimate emissions from the combustion of coal by multiplying the amount of coal to be produced by the emissions factor for that type of coal. BLM could also adjust its estimates of future emissions to account for the installation of carbon capture and sequestration (CCS) technology at coal-fired power plants. To do so, BLM should use two or more scenarios that reflect varying levels of CCS deployment.

[14] *See, e.g.,* Mayo Foundation v. Surface Transportation Board, 472 F.3d 545, 556 (8th Cir. 2006) (finding that, in the downstream emissions analysis for a coal railway, it was appropriate to rely on an assumption that "not all of the… transported coal would represent new combustion, that some would simply be a substitute for existing coal supplies").

We have two recommendations for BLM in regards to a net impact analysis. First, BLM should disclose gross emissions as well as net emissions and all underlying assumptions in the draft PEIS. This will make it easy for the public to comment on the integrity and accuracy of the analysis. Second, BLM should use a reference case that corresponds with a scenario where the United States meets its GHG reduction targets. This is important because the choice of reference case determines the outcome of the analysis: in a scenario where we exceed the GHG targets, a larger proportion of the foregone federal coal production will be substituted by other coal and fossil fuel resources (as opposed to renewables or energy efficiency), and thus the net GHG impact of federal coal production will appear to be smaller.[15]

2. BLM Should Account for the Costs of GHG Emissions in the PEIS

We recommend that BLM use the federal SCC and other available tools to assign a cost value to both direct and indirect GHG emissions—or a benefit value to avoided GHG emissions—that will occur as a result of existing leases and all future leasing scenarios under consideration (including the downstream emissions described in Section 1 of these comments).[16] This information should be used to evaluate different coal production scenarios.

This recommendation is consistent with federal case law requiring agencies to account for the environmental and social impacts of GHG emissions in cost-benefit analyses. In *Center for Biological Diversity v. NHTSA*, the 9th Circuit Court of Appeals held that it was arbitrary and capricious for an agency to ignore the impacts of GHG emissions in a regulatory impact analysis, even when there is uncertainty about those impacts: "[W]hile the record shows there is a range of values, the value of carbon emissions reduction is certainly not zero."[17] More recently, in *High*

[15] To illustrate this point: the Bureau of Ocean Energy Management (BOEM) used the Energy Information Agency (EIA)'s 2015 Reference Case to calculate future demand for oil and gas in the United States when the incremental GHG impacts of the proposed 2017-2022 Outer Continental Shelf (OCS) Leasing Program. The EIA 2015 Reference Case does not account for present and future actions aimed at reducing fossil fuel consumption in the United States, such as the Clean Power Plan, and reflects a scenario in which we would completely fail to meet our domestic and international GHG reduction targets (under the Reference Case, the U.S. will have 445% higher GHG emissions than the level we committed to in our INDC). Because it relied on this Reference Case, BOEM predicted that the demand for oil and gas would remain strong in future years and that it would actually reduce emissions slightly to produce oil and gas closer to home. Thus, "BOEM is dismissing the climate impact of drilling for fossil fuels… because its model assumes we will not act on climate and will accept a catastrophic level of climate change." *See* Lorne Stockman, *Government Assumes U.S. Will Fail Climate Goals in Its 5-Year Offshore Drilling Proposal* (2016), http://priceofoil.org/content/uploads/2016/04/5YearPlan-ClimateTest.pdf.

[16] The SCC is a tool developed by the federal government to estimate the costs of GHG emissions that are either released or avoided as a result of agency rulemakings. It provides a comprehensive estimate of climate change damages, including changes in net agricultural productivity, human health, property damages from increased flood risk, and changes in energy system costs. For more details, see EPA, *The Social Cost of Carbon,* https://www3.epa.gov/climatechange/EPAactivities/economics/scc.html. There is also a peer reviewed methodology that can be used to calculate the social costs of methane and nitrous oxide, which has been used by EPA in prior rulemakings. *See* Marten et al., *Incremental CH_4 and N_2O Mitigation Benefits Consistent with the US Government's SC-CO2 estimates*, 15 CLIMATE POLICY 272 (2015); EPA, REGULATORY IMPACT ANALYSIS OF THE PROPOSED EMISSION STANDARDS FOR NEW AND MODIFIED SOURCES IN THE OIL AND NATURAL GAS SECTOR, 4-14 (2015); EPA, REGULATORY IMPACT ANALYSIS FOR THE PROPOSED REVISIONS TO THE EMISSION GUIDELINES FOR EXISTING SOURCES AND SUPPLEMENTAL PROPOSED NEW SOURCE PERFORMANCE STANDARDS IN THE MUNICIPAL SOLID WASTE LANDFILLS SECTOR, 4-10–4-14 (2015).

[17] Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1200 (9th Cir. 2008).

Country Conservation Advocates v. USFS, a district court in Colorado required the use of the federal SCC in a cost-benefit analysis underpinning the approval of federal coal leases.[18]

We also recommend that BLM use this information to inform its decisions about rental fees and royalty rates. According to Secretarial Order 3338, two of the primary goals of the PEIS are to ensure that the American public receives fair market value (or a "fair return") from the sale of the coal, and to assess whether the program "adequately accounts for externalities related to Federal coal production, including environmental and social impacts."[19] GHG emissions are one of the externalities that should be accounted for when determining whether the American public is receiving fair market value from the sale of the coal. Many other commenters, including the White House and members of Congress, have agreed that climate impacts and other externalities of the federal coal program should be incorporated into the assessment of the market value of federal coal.[20]

An analysis of a range of price alternatives would be consistent with the purposes of NEPA. In particular, BLM should consider a range of carbon price alternatives that correspond with the different SCC estimates at the 5% average, 3% average, 2.5% average, and 3% 95th percentile average, and evaluate the effect of these different pricing scenarios on coal production, revenue, and environmental impacts (including GHG emissions). This information should be used to frame and assess the range of alternative leasing scenarios that are under consideration, and to compare these to a "no leasing" alternative. One critical question will be how higher rental fees or royalties would affect lifecycle GHG emissions from federal coal.[21]

3. BLM Should Consider How Federal Coal Leasing Affects Our Ability to Attain GHG Reduction Targets

The regulations implementing NEPA require federal agencies to consider whether a proposed action is consistent with the objectives of federal, regional, state and local land use plans, policies and controls.[22] Based on this requirement, CEQ's revised draft guidance on NEPA and climate change instructs agencies to provide a frame of reference for decision-makers by disclosing the extent to which a project's GHG emissions are consistent with the goals of

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[18] High Country Conservation Advocates v. U.S. Forest Serv., 52 F. Supp. 3d 1174, 1190-91 (D. Colo. 2014).

[19] U.S. Dept. of Interior, Secretarial Order No. 3388 (Jan 15, 2016).

[20] *See, e.g.*, Letter from Raul Grijalva and others to Secretary Jewell (June 21, 2016), *available at* http://democrats-naturalresources.house.gov/imo/media/doc/Letter%20to%20Jewell%20on%20Coal%20Reforms%20-%20signed%20-%206-21-16.pdf; Executive Office of the President, *The Economics of Coal Leasing on Federal Lands: Ensuring a Fair Return to Taxpayers* (June 2016), *available at* https://www.whitehouse.gov/sites/default/files/page/files/20160622_cea_coal_leasing.pdf; Alan Krupnick et al., Resources for the Future, *Should We Price Carbon from Federal Coal?* (2015), available at http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-Resources-189_Featurette-Krupnick.etal.pdf.

[21] According to one study, the introduction of higher royalties, phased-in over a ten year period, would reduce overall Co2 emissions, even with the Clean Power Plan in place; ramping down coal production could achieve a similar emissions benefit, but with diminished revenue implications. Spencer Reeder & James Stock, *Federal Coal Leasing Reform Options: Effects on CO2 Emissions and Energy Markets* (February 2016), *available at* http://www.vulcan.com/news/articles/2016/coal-leasing-report.

[22] 40 C.F.R. § 1502.16(c). *See also* 40 C.F.R. § 1506.2(d) (where there is an inconsistency with state or local plans or laws, the statement "should describe the extent to which the agency would reconcile its proposed action with the plan or law").

Federal, state, and local climate change policies.[23] BLM should therefore consider whether a continuation of federal coal leasing would be consistent with federal and state climate policies, and in particular, our GHG reduction targets.

As part of our participation in the Paris Agreement to the United Nations Framework Convention on Climate Change (UNFCCC), we have stated that we intend to reduce our economy-wide GHG emissions by 26-28% below 2005 levels by 2025, which will put us on a trajectory to achieve emission reductions of 80% or more by 2050.[24] To achieve this, we must lower annual emissions to 5,460 – 5,312 MtCO2e by 2025 (a reduction of 1,410 – 1,558 $MtCO_2e$ over 2014 levels).[25] Even with the Clean Power Plan and other existing regulations, the U.S. is not yet on track to achieve these reductions—additional measures will be needed to meet the 2025 target.[26]

This short term emissions reduction target is part of a broader commitment on the part of the U.S. and the 177 other signatories of the Paris Agreement to limit global warming to "well below" a 2 °C increase above pre-industrial temperatures, and seek to limit it to 1.5 °C.[27] The only way to achieve this goal is to refrain from extracting and using the majority of the planet's known fossil fuel reserves. According to a recent scientific study, over 80% of global coal reserves *and 92% of U.S. coal reserves* must remain unused to have even a 50% chance of meeting the 2 °C target.[28] President Obama cited this need to keep fossil fuels in the ground as one of the reasons for rejecting the Keystone Pipeline.[29]

BLM should evaluate how coal production under existing federal leases will affect our ability to meet these targets before deciding how to proceed with future leasing decisions. BLM estimates that there are approximately 7.75 billion tons of recoverable coal reserves under existing federal leases, an amount sufficient to continue production for another 20 years at current rates.[30] The combustion of all of this coal would result in the release of approximately 18,000 $MtCO_2$ (based on an average emissions rate for coal of 4,631.5 lbs CO_2 / ton).[31]

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[23] CEQ, *Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews*, 79 Fed. Reg. 77,802, 77,826 (Dec. 24, 2014).

[24] UNITED STATES, INTENDED NATIONALLY DETERMINED CONTRIBUTION, SUBMISSION TO THE UNFCCC SECRETARIAT (2015), http://www4.unfccc.int/submissions/indc/Submission%20Pages/submissions.aspx.

[25] These figures are based on the EPA GHG inventory estimates for 2005 GHG emissions and 2014 emissions (which were used as a baseline for current emissions, since these are the most recent estimates). EPA, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2014 (2016).

[26] C2ES, *Achieving the United States' Intended Nationally Determined Contribution* (June 2015), http://www.c2es.org/docUploads/achieving-us-indc.pdf.

[27] *Paris Agreement, Article 2*, FCC/CP/2015/L.9 (Dec. 12, 2015).

[28] Christophe McGlade & Paul Ekins, *The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2 ℃*, 517 NATURE 187 (2015) (regional estimates of unburnable reserves were based on an "economically optimal" distribution).

[29] Statement by the President on the Keystone XL Pipeline (Nov. 6, 2015), https://www.whitehouse.gov/the-press-office/2015/11/06/statement-president-keystone-xl-pipeline ("ultimately, if 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").

[30] ECOSHIFT CONSULTING, OVER-LEASED: HOW PRODUCTION HORIZONS OF ALREADY LEASED FEDERAL FOSSIL FUELS OUTLAST GLOBAL CARBON BUDGETS (2016).

[31] Carbon Dioxide Coefficients by Fuel. U.S. EIA INDEPENDENT STATISTICS & ANALYSIS, https://www.eia.gov/environment/emissions/co2_vol_mass.cfm.

To understand the magnitude of these emissions, it is helpful to compare them to our "carbon budget" (the total amount of CO_2 or CO_2e that can be emitted if we are to limit warming to 1.5 °C or 2 °C). One of the most recent studies on the global carbon budget concluded that, in order to have a > 66% chance of meeting the 2 °C target, we must limit future emissions to 590 – 1,240 $GtCO_2$ (590,000 – 1,240,000 MtCO2).[32] There are various ways to determine the U.S. share of this budget. One approach is to simply divide the budget by our proportion of the global population (~ 4%), in which case the U.S. emissions budget is 23,600 – 49,600 $MtCO_2$. Using this as our benchmark, the combustion of all of the recoverable coal under existing federal leases would account for 36 – 76% of the U.S. emissions budget.

These are, of course, approximations which do not account for factors such as the differences in coal emissions factors or other methods of calculating the carbon budget. But this cursory analysis nonetheless raises the question of whether we can continue to issue coal leases and meet our climate targets. We urge BLM to conduct a more thorough, quantitative analysis of how much of the U.S. carbon budget may be consumed by the direct and indirect emissions from federal coal.

4. Conclusion

Through the preparation of this PEIS, BLM has an important opportunity to fully evaluate the effects of federal coal leasing on climate change and to reform the program based on these findings. We encourage BLM to prepare a comprehensive inventory of all direct and indirect GHG emissions, to assign a cost value to these emissions, and to use this information to evaluate the extent to which federal coal production is consistent with our GHG reduction targets.

We appreciate this opportunity to comment on the scope of the PEIS. Please do not hesitate to contact us with any questions about these recommendations.

Sincerely,

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[32] Joeri Rogelj et al., *Differences Between Carbon Budget Estimates Unravelled*, 6 NATURE CLIMATE CHANGE 245 (2015).