



August 23, 2017

*By Electronic Mail*

ATTN: Foidel Creek Mine LBA 1 EA  
C/O Jennifer Maiolo  
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**Re: Foidel Creek Mine LBA EA, Federal Coal Lease COC78449**

Dear Ms. Maiolo:

WildEarth Guardians (“Guardians”) submits the following comments on the Bureau of Land Management’s (“BLM’s”) proposal to issue a Lease by Application (“LBA”) to allow Twentymile Coal, LLC, a subsidiary of coal giant Peabody Energy, to expand its Foidel Creek coal mine in Routt County, Colorado. The mine is located near Steamboat Springs in Routt, County. The proposed LBA is for the Wolf Creek coal seam within the existing Foidel Creek Mine permit boundary (C-1982-056). The proposal contains an estimated 4 million tons of recoverable coal, and the additional federal coal recovery would extend the life of the Foidel Creek Mine by approximately 6 years, although the proposed lease appears to be part of a much larger mining plan.

We request that BLM deny the proposal. The Foidel Creek Mine is a massive underground coal mine; the largest in Colorado and one of the largest in the western United States. While the mine continues to expand, the BLM continues to give short shrift to effective environmental scrutiny of the operations, instead opting for minimal review under the National Environmental Policy Act (“NEPA”) and limited public outreach.

Here, BLM’s proposed approach to approving the latest coal lease for Foidel Creek is particularly egregious. Twentymile Coal is seeking the lease to enable the company to begin extracting from a brand-new coal seam, the Wolf Creek seam, which is deeper and of questionable quality. The BLM has never fully analyzed and assessed the impacts of mining the Wolf Creek seam, or at least never fully analyzed and assessed the impacts of Twentymile Coal’s new mining plan, which was approved by the State of Colorado as Permit Revision No. 10. In fact, for every federal coal lease approved for the Foidel Creek Mine, the BLM has only addressed mining of the Wadge seam. *See e.g.*, 73 Fed. Reg. 64,981 (Oct. 31, 2008), “Notice of Competitive Coal Lease Sale Officer,” in which the BLM states, “The coal resource to be offered

consists of recoverable coal reserves in the TCC Wadge seam[.]” This is very disconcerting as mining the Wolf Creek Seam appears to pose numerous new and more significant environmental concerns. In particular, mining the Wolf Creek Seam would appear to pose new and very different potentially significant impacts related to subsidence, to energy consumption and associated impacts, to air and water quality, and to overall impacts related to coal production. It is notable that the BLM’s estimates of leased reserves within the Foidel Creek Mine permit area appear to be based on estimates from the Wadge seam and do not reflect the full scope of potential mining that may occur in the Wolf Creek seam. Given this, the BLM has no basis to move forward with the proposed lease application unless and until it completes a full and rigorous environmental impact statement that completely analyzes and assesses this new and significant change in the mining operations at the Foidel Creek Mine.

What’s more, we are very concerned that the BLM in the past has not effectively analyzed and assessed the full scope of direct, indirect, and cumulative impacts related to mining at Foidel Creek. The mine is the sole supplier of coal to the Hayden power plant, supplying 1.10 million tons last year via rail to fuel the coal-fired power plant owned by Xcel Energy.<sup>1</sup> In addition, Foidel Creek fuels many other power plants, including the following:

**Coal-fired Power Plants Fueled by Foidel Creek Mine Through May, 2017<sup>2</sup>**

<b>Coal-fired Power Plant</b>	<b>Location</b>	<b>Tons of Foidel Creek Coal Burned in 2017, (through May)</b>
Apache	Arizona	64,823
Cherokee	Colorado	422,990
Green Bay West Mill	Wisconsin	26,766
Hayden	Colorado	567,664
Herbert A. Wagner	Maryland	11,750
Valmont	Colorado	55,226

Since its construction, numerous leases and modifications have been issued for Foidel Creek but in spite of this, the BLM has never prepared an EIS that fully addresses the impacts of coal burning, both at the Hayden power plant and at other coal-fired power plants, as well as the related impacts of coal transport, coal processing, and coal waste processing. It is very

<sup>1</sup> U.S. Department of Energy, The Energy Information Administration (EIA) EIA-923 Monthly Generation and Fuel Consumption, Time Series File, December 2016. Data from EIA-923 and EIA-860 Reports, available at: <http://www.eia.gov/electricity/data/eia923/> (last accessed 8/22/2017).

<sup>2</sup> U.S. Department of Energy, The Energy Information Administration (EIA), Fuel Receipts and Cost, Time Series File, through May, 2017. Data from EIA-923 and EIA-860 Reports, available at: <http://www.eia.gov/electricity/data/eia923/> (last accessed 8/22/2017).

concerning that for such a massive industrial operation with such an extensive footprint on the landscape of the United States of America, the BLM has never prepared an EIS.

The lack of an EIS is especially concerning given the BLM's piecemeal approach to approving new coal leases for Foidel Creek. The proposed lease application comes on the heels of a 2016 modification of coal lease COC-54608, a 2012 modification of coal lease COC-72980, the 2012 approval of coal lease COC-74219 (which was called the "Wadge Seam" lease), the 2009 approval of coal lease COC-72980, the 2005 approval of coal lease COC-67514, and approvals of additional leases and lease modifications prior to 2005. For every lease and lease modification, it appears the BLM has prepared EAs, indicating the agency is inappropriately segmenting its reviews under NEPA and failing to account for the impacts of all cumulative and similar actions occurring at the Foidel Creek Mine.

It is particularly notable that even in the last EA for the modification of coal lease COC-54608, the BLM tiered to a 1980 EIS that addressed leasing in the broader Green River-Hams Fork coal production region. This nearly 40-year-old EIS cannot possibly serve to demonstrate that the BLM has adequately analyzed and assessed the present-day impacts of mining at Foidel Creek such that a finding of no significant impact would be warranted.

Here, BLM must deny any coal lease by application that is not consistent with applicable regulations or that, for environmental or other reasons, would be contrary to the public interest. *See* 43 C.F.R. § 3425.1-8(a). As it stands, the BLM has no basis for approval given its deficiencies under NEPA. At this point, it is clear that the BLM cannot ensure that lease approval would comply with applicable regulations and cannot demonstrate that approval would be in the public interest.

Accordingly, BLM must deny the proposal. If the agency decides to move forward to consider the proposed lease anyway, we request the agency at a minimum address the following issues and potentially significant impacts.

### **1. An EIS is Required**

While an EIS is clearly required given that the BLM has never prepared an EIS for mining at Foidel Creek, has not adequately analyzed and assessed the impacts of mining the Wolf Creek coal seam, and has inappropriately piecemealed past leasing approvals and overlooked cumulative impacts and similar actions, the agency is also compelled to prepare an EIS based on its own guidance and NEPA requirements.

To begin with, BLM's own NEPA manual indicates that "approval of any mining operation where the area to be mined, including any area of disturbance, over the life of the mining plan is 640 acres or larger in size" normally requires the preparation of an EIS.<sup>3</sup> Here, the lease by application requests approval for a 640-acre coal lease, which is meant to facilitate mining of the lease area and more. BLM's guidance is bolstered by Interior Department directives, which state that approval of mining requires an EIS where "[t]he environmental

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<sup>3</sup> Bureau of Land Management H-1790-1 – National Environmental Policy Act Handbook, § 7.2 "Actions Requiring an EIS" (2008).

impacts of the proposed mining operations are not adequately analyzed in an earlier environmental document covering the specific leases or mining activity,” “[t]he area to be mined is 1280 acres or more, or the annual full production level is 5 million tons or more,” and “[m]ining and reclamation operations will occur for 15 years or more.” 516 DM 13.4(A)(4).

Here, although the proposed lease is 640 acres in size, it appears the lease is meant to facilitate mining across a much larger area, indicating an EIS is certainly necessary. In fact, under Twentymile’s latest permit revision, the area permitted for mining under the company’s new Wolf Creek seam mining plan is more than 22,000 acres. What’s more, it appears that mining and reclamation operations for the broader Wolf Creek mining plan would be longer than 15 years. Further, given that the environmental impacts of mining have not been adequately analyzed in earlier NEPA documents, there is no basis for concluding an EIS is not required here.

Furthermore, it appears that the proposed action poses significant impacts in terms of context and intensity, mainly with regards to the direct, indirect, and cumulative effects upon wildlife and wildlife habitat, endangered species in Routt County, water quality, air quality, climate, and economic sustainability.

The BLM is therefore obligated under NEPA to prepare an EIS for the proposed coal lease to address these significant impacts. If the BLM decides not to prepare an EIS, it must demonstrate that there will be no significant impacts. If mitigation measures are relied upon to make a finding of no significant impact, the BLM must provide an analysis demonstrating that such mitigation measures will be implemented and will effectively prevent significant impacts.

Ultimately, NEPA’s point is “not better documents but better decisions.” 40 C.F.R. § 1500.1(c). “NEPA’s purpose is not to generate paperwork—even excellent paperwork—but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.” *Id.* As BLM analyzes and assesses the impacts of the present proposal, we request BLM thoroughly and objectively assess whether an EIS is necessary on the basis of inadequate earlier NEPA analysis.

## **2. BLM Must Articulate a Valid Statement of Purpose and Need**

Environmental analyses prepared under the NEPA must state the purpose and need of the underlying government action. 40 C.F.R. § 1502.13 (“The statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.”).

However, agencies are not permitted “to define the objectives [of a proposed action] so narrowly as to preclude a reasonable consideration of alternatives.” *Citizens’ Comm. to Save Our Canyons*, 297 F.3d at 1030; *see also Utah Env’tl. Cong. v. Bosworth*, 439 F.3d at 1184 (stating that an agency cannot “define the project so narrowly that it foreclose[s] a reasonable consideration of alternatives” (quoting *Davis v. Mineta*, 302 F.3d 59 1104, 1119 (10th Cir. 2002)) (internal quotation marks omitted)).

Similarly, a purpose and need statement may not “adopt[] private interests to draft a narrow purpose and need statement that excludes alternatives that fail to meet specific private objectives.” *Nat’l Parks & Conservation Ass’n v. BLM*, 606 F.3d 1058, 1072 (9th Cir. 2009). Instead, the agency must draft the purpose and need statement in light of “the views of Congress” from “the agency’s statutory authorization to act, as well as other congressional directives.” *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991)

Here, the BLM must articulate a purpose and need statement in light of the public purposes behind the governing statutes. For example, one public purpose of SMCRA is to contribute to “the Nation’s energy requirements.” 30 U.S.C. § 1201(b). However, in doing so, the EIS must address “any adverse environmental effects which cannot be avoided should the proposal be implemented.” 42 U.S.C. § 4332(2)(C)(ii). The agency must evaluate “the relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity.” *Id.* § 4332(2)(C)(iv). Another valid public purpose is the generation of public revenues. Mineral Leasing Act (MLA), 30 U.S.C. §§ 181 *et seq.*; Federal Coal Leasing Amendments Act (FCLAA), Pub. L. No. 94-377 (1976).

If, however, the purpose of leasing the coal is to generate public revenues, the NEPA analysis must also include a monetary assessment of the myriad public costs caused by mining and combustion of coal. Further, BLM’s NEPA analysis must address the significant controversy caused by historic undervaluation of coal in coal leases, coal company evasions of public royalties via non-arms-length transactions, and the failure to adequately value coal exports.<sup>4</sup> Of course, the existence of this controversy is a significance factor under NEPA and reason for preparation of an EIS. 40 C.F.R. § 1508.27(b)(4).

### **3. BLM Must Evaluate Connected, Similar, and Cumulative Actions**

In establishing the scope of an environmental analysis, NEPA requires agencies to consider connected, cumulative, and similar actions. 40 C.F.R. § 1508.25(a). Actions are connected if:

[T]hey are closely related and therefore should be discussed in the same impact statement. Actions are connected if they (i) Automatically trigger other actions which may require environmental impact statements; (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously. [or] (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.

*Id.* § 1508.25(a)(1). Actions are cumulative if “when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact

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<sup>4</sup> *E.g.*, Clark Williams-Derry, Sightline Institute, *Unfair Market Value: By Ignoring Exports, BLM Underprices Federal Coal* (2014), attached as Exhibit 1; Mark Squillace, *The Tragic Story of the Federal Coal Leasing Program*, 27 *Natural Res. & Env’t* No.3 (2013); Gov’t Accountability Office, *Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information*, GAO-14-140 (Dec. 2013); Office of the Inspector General, *Coal Management Program*, U.S. Department of the Interior (June 2013); Sanzillo, Tom, “The Great Giveaway: An Analysis of the United States’ Long-term Trend of Selling Federally-Owned Coal for Less than Fair Market Value” (2012).

statement.” *Id.* § 1508.25(a)(2). Actions are similar if:

[W]hen viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. An agency may wish to analyze those actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternative to such actions is to treat them in a single impact statement.

*Id.* § 1508.25(a)(3).

In their NEPA analyses, agencies must provide an “environmental full disclosure.” *Silva v. Lynn*, 482 F.2d 1282, 1285 (1st Cir. 1973). To this end, BLM must address the air quality impacts of nearby power plants (including greenhouse gas and climate change impacts), the water quality impacts, the impacts of coal combustion waste handling and disposal, and any other relevant environmental impacts associated with the power plants. All future mining in the reasonably foreseeable development area constitutes interdependent parts of the larger operation, which is expected mining at Foidel Creek to continue for 6 more years. Consequently, at a minimum, all this mining must be considered in this NEPA analysis, which clearly would require preparation of an EIS.

#### **4. BLM Must Fully Analyze and Assess the Direct and Indirect Impacts of Mining the Foidel Creek Mine LBA**

BLM must fully analyze and assess the surface impacts of mining. We impress upon BLM to fully analyze and assess the impacts of mining to the following:

##### **a. Impacts to Rare and Imperiled Fish, Wildlife, and Plants**

BLM must analyze and assess impacts to rare imperiled fish, wildlife, and plants within and near the proposed lease area, including species listed under the Endangered Species Act as threatened, endangered, proposed, or candidate. We are particularly concerned over the effects of reasonably foreseeable impacts associated with coal combustion.

We are also concerned over the impacts of mining to threatened and endangered species that reside in Routt County, surrounding the mine, such as the bonytail chub, the Colorado pikeminnow, the humpback chub, and razorback sucker. The bonytail chub is among North America’s most endangered fish species. Its distribution and numbers are so low that it is threatened with extinction.<sup>5</sup> No reproducing populations are known in the wild.<sup>6</sup> The Colorado pikeminnow, humpback chub, and razorback sucker are all endangered, while the greenback

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<sup>5</sup> Upper Colorado River Endangered Fish Recovery Program. “Bonytail (*Gila elegans*)”, <http://www.coloradoriverrecovery.org/general-information/the-fish/bonytail.html> (last accessed 8/22/2017).

<sup>6</sup> See The IUCN Red List of Threatened Species, 2017-1, “*Gila elegans*”, <http://www.iucnredlist.org/details/9186/0> (A small number of wild adults exist in Lake Mohave and on the Lower Colorado River Basin, and there are small numbers of wild individuals in the Green River and upper Colorado River sub-basins of the Upper Colorado River Basin. While bonytails were formerly abundant throughout the Colorado River and its larger tributaries, including the Yampa, USFWS listed only two locations where wild bonytails have been documented since 1990).

cutthroat trout is threatened, a status of lesser concern. A Biological Opinion regarding the endangered fish species should be undertaken as this action extends the life of the mine, the Hayden power plant, and affects climate change, thereby continuing to threaten their habitat. Additionally, the Canada lynx also is threatened, and the Western yellow-billed cuckoo is listed on the state, but not federal, watch list.

BLM must engage in Section 7 consultation under the Endangered Species Act to ensure its actions do not jeopardize the survival or recovery of threatened or endangered species. Additionally, the mine is home to the “Routt Zone” of Greater Sage-Grouse habitat.<sup>7</sup> The BLM’s Sage-grouse National Technical Team recommended that all coal leasing for surface mining within priority sage grouse habitat areas be determined as “unsuitable” and that for general sage grouse habitat, disturbance associated with surface activities be minimized.<sup>8</sup>

Lastly, the affected environment surrounding the mine is home to several noxious weeds that may exist and spread in the area, due to increased truck traffic to and from the mine. BLM must fully analyze integrated pest management techniques and other mitigation factors in analyzing the disturbance of the surface area due to trucking.

#### **b. Impacts to Surface Water Quality**

With regards to water quality, BLM must fully analyze and assess water quality impacts to ensure compliance with state water quality standards. BLM must identify all existing water quality problems in the area that will be directly, indirectly, and cumulatively affected by the proposed action and disclose any contribution the proposed action will make to those water quality problems. The Hayden power plant consumes approximately 3 million gallons of water from the Yampa River each year.<sup>9</sup> In the West, where water is especially scarce, BLM must address any contribution to this problem associated with mining and reclamation at the Foidel Creek Mine and reasonably foreseeable impacts related to the mining and reclamation. The EIS should also quantify and monetize the impacts from the increased and cumulative impacts of mercury, a potent neuro-toxin that is released principally by coal fired power plants, that is causing wide-spread health effects across our nation and planet, and that is currently contaminating some of the most pristine waters in Colorado, including the nearby Yampa.

#### **c. Impacts to Air Quality**

BLM must specifically address all emissions sources, particularly those that are not explicitly permitted by the State of Colorado, including mobile sources (e.g., nitrogen oxide, or

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<sup>7</sup> Apa, Tony, “Greater Sage-Grouse Biology and Habitat Requirements in Colorado”, slide 5. Available at: [https://cpw.state.co.us/Documents/WildlifeSpecies/LandownerSagegrouseEduc/Apa\\_GreaterSageGrouseBiologyHabitatRequirements.pdf](https://cpw.state.co.us/Documents/WildlifeSpecies/LandownerSagegrouseEduc/Apa_GreaterSageGrouseBiologyHabitatRequirements.pdf) (last accessed 8/22/2017).

<sup>8</sup> See BLM, Sage-grouse National Technical Team, “National Greater Sage-Grouse Conservation Measures/Planning Strategy” (Dec. 21, 2011) at 24, available at [https://eplanning.blm.gov/epl-front-office/projects/lup/9153/39961/41912/WySG\\_Tech-Team-Report-Conservation-Measure\\_2011.pdf](https://eplanning.blm.gov/epl-front-office/projects/lup/9153/39961/41912/WySG_Tech-Team-Report-Conservation-Measure_2011.pdf). Attached as Exhibit 2. (The Team also noted that recent biological studies have found that impacts from human disturbance, particularly energy development, to sage grouse lek sites are “discernable out to >4 miles.” *Id.* at 20.)

<sup>9</sup> Bockelman, Andy, “Hayden Station: Charging up Northwest Colorado”. Craig Daily Press. October 15, 2014, available at: <http://www.craigdailynews.com/news/hayden-station-charging-up-northwest-colorado/>

NOx, emissions from heavy equipment, vehicles, etc.). We request that BLM further address the impacts of fugitive emissions, including volatile organic compound and nitrogen dioxide emissions associated with blasting and stripping of overburden. BLM must quantify emissions from the mine and Hayden power plant to ensure an accurate assessment of air quality impacts.

BLM must fully analyze and assess direct, indirect, and cumulative impacts to air quality, including impacts to air quality in the context of all national ambient air quality standards (“NAAQS”), prevention of significant deterioration (“PSD”) increments for Class I and II areas, and visibility impacts to Class I areas. We are particularly concerned over the impacts of the mining to NAAQS for ozone, particulate matter, and nitrogen dioxide. Flattops and Mt. Zirkel National Wilderness Areas, federal class I designated areas, are within 100 km of the Hayden power plant. The BLM has an affirmative duty to protect air quality, including visibility, in Class I areas and therefore must fully analyze and assess the degree to which the Hayden power plant affects visibility in Class I areas. If adverse visibility impacts are found, the BLM is fully authorized to ensure that these impacts are addressed as a stipulation of issuing any proposed coal lease by application.

In addition to the coal-fired boilers, other significant sources of emissions at this facility include fugitive emissions from coal handling, ash handling and disposal, and vehicle traffic. Point source emissions of particulate matter from Foidel Creek Mine coal crushing and conveying, may include: ash storage silos, ash recycle silos, lime storage silos, ball mill slakers and recycle mixers, among other sources from coal handling.

We request the BLM analyze and assess the potential volatile organic compound emissions that would result from the venting of coal mine gas, whether through vent wells and/or the ventilation shafts. Volatile organic compounds are regulated because they react with sunlight to form ozone. Analyses of coal mine gas from other mines in Colorado, including the West Elk coal mine and Elk Creek coal mine in the North Fork Valley in Delta and Gunnison Counties, indicate that regulated volatile organic compounds—such as propane, xylene, hexane, toluene, benzene, etc.—are released as result of methane gas venting. Regulations at 40 C.F.R. § 51.100(s) provide the definition of a regulated volatile organic compounds under the Clean Air Act and should guide the BLM as it determines the quantity of volatile organic compound emissions likely to be released as a result of mining the proposed lease.

BLM must assess the foreseeable impacts of transportation of coal from the Foidel Creek Mine and the foreseeable combustion of this coal. 40 C.F.R. § 1508.08(b). As BLM noted in a 2011 EA for a similar federal coal lease in the Montana, “Transportation of coal by railroad is a connected action.”<sup>10</sup> It is foreseeable that an expansion of the mine would cause the continuation of transportation by truck or rail to other domestic coal-fired power plants, or even exported to international destinations. Already in 2017, coal has been shipped to 6 different coal-fired power plants.<sup>11</sup> Impacts from this coal train traffic will be significant and is controversial.<sup>12</sup>

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<sup>10</sup> U.S. Department of the Interior Bureau of Land Management, Environmental Assessment, Bull Mountain Mine No. 1 (April, 2011), available at: [https://www.wrcc.osmre.gov/initiatives/bullMountainsMine/AEB\\_DOI-BLM-MT-C010-2009-0010-EA.pdf](https://www.wrcc.osmre.gov/initiatives/bullMountainsMine/AEB_DOI-BLM-MT-C010-2009-0010-EA.pdf)

<sup>11</sup> U.S. Department of Energy, *supra* note 2.



Further, there is no question that all the coal to be mined will be destined for combustion. In addition to greenhouse gas emissions, burning coal causes myriad harmful effects.<sup>13</sup> Coal combustion causes tremendous emissions of nitrogen oxides, sulfur oxides, particulate matter, and mercury, among other deadly pollutants.<sup>14</sup> When coal is burned, it emits 70 percent more carbon dioxide per Btu of energy produced than natural gas. This pollution causes widespread health impacts.<sup>15</sup> One recent study by the Clean Air Task Force found the following health impacts for coal combustion in the United States:<sup>16</sup>

<b>Health Impact</b>	<b>Incidence (annual)</b>	<b>Valuation (in \$millions)</b>
Mortality	13,200	\$96,300
Hospital Admissions	9,700	\$230
ER Visits for Asthma	12,300	\$5
Heart Attacks	20,400	\$2,230
Chronic Bronchitis	8,000	\$3,560
Asthma Attacks	217,600	\$11
Lost Work Days	1,627,800	\$150

The annual costs to the economy from these health impacts is staggering: over \$100 billion.<sup>17</sup> When all of the externalities of coal are added up, the harm caused by coal to our national economy has been estimated at \$175-\$860 billion annually.<sup>18</sup> Indeed, it appears that the cost of the harms from burning coal is greater than the benefit derived from using coal for energy.<sup>19</sup> These effects of coal combustion must be acknowledged, addressed, quantified, and monetized in BLM’s NEPA analysis. BLM must further determine whether the harm caused by coal combustion will be greater than the public benefit derived from coal taxes. *See* 42 U.S.C. § 4332(2)(B); 40 C.F.R. § 1502.23.

<sup>12</sup> E.g., Western Organization of Resource Councils, *Heavy Traffic Ahead: Rail Impacts of Powder River Basin Coal to Asia by Way of Pacific Northwest Terminals* (2012) and Western Organization of Resource Councils, *Heavy Traffic Still Ahead* (2014), available at: <http://heavytrafficahead.org/>, both reports are attached as Exhibits 3 and 4, respectively. *See also* statement of Whatcom Doctors, available at: <http://www.coaltrainfacts.org/whatcom-docs-position-statement-and-appendices> (detailing the harmful impacts of increased coal train traffic) (last accessed 8/22/2017).

<sup>13</sup> *See* Epstein, et al., *Full Cost Accounting for the Life Cycle of Coal*, available at: [https://www.researchgate.net/publication/49846799\\_Full\\_cost\\_accounting\\_for\\_the\\_life\\_cycle\\_of\\_coal](https://www.researchgate.net/publication/49846799_Full_cost_accounting_for_the_life_cycle_of_coal) (last accessed 8/22/2017). Attached as Exhibit 5.

<sup>14</sup> *Id.* at 86-87.

<sup>15</sup> Clean Air Task Force, *The Toll from Coal*, at 10 (Sept. 2010) (13,000 annual mortalities in US); Conservation Action Trust, Urbanemissions.info, Greenpeace, *Coal Kills: An Assessment of Death and Disease Caused by India’s Dirtiest Energy Source*, at 1 (2012) (80,000 to 115,000 premature deaths annually); Health and Environment Alliance, *The Unpaid Health Bill: How Coal Power Plants Make Us Sick*, at 5 (March 2013) (estimating 18,500 premature deaths due to coal pollution annually in European Union); Edward Wong, *Air Pollution Linked to 1.2 Million Premature Deaths in China*, N.Y. Times (Apr. 1, 2013) (reporting 1.2 million premature deaths annually due to air pollution in China).

<sup>16</sup> Clean Air Task Force, *The Toll from Coal*, *supra* at 10.

<sup>17</sup> *Id.*

<sup>18</sup> Epstein, et al., *Full Cost Accounting for the Life Cycle of Coal*, *supra*.

<sup>19</sup> Muller et al., *Environmental Accounting for Pollution in the United States Economy*; Ben & Rizk, *Economic Value of U.S. Fossil Fuel Electricity Health Impacts*.

Therefore, in order to fully analyze the air quality impacts, the BLM must undertake a modeling of such effects.

##### **5. BLM Must Analyze and Assess Cumulative Impacts and the Impacts of Similar Actions**

BLM must analyze and assess the impacts of similar and/or cumulative mining and coal leasing approvals that are under consideration by the U.S. Department of the Interior in the same area. Under NEPA, an agency must analyze the impacts of “similar” and “cumulative” actions in the same NEPA document in order to adequately disclose impacts in an EIS or provide sufficient justification for a FONSI in an EA. *See* 40 C.F.R. §§ 1508.25(a)(2) and (3).

Cumulative impacts are those “impact[s] on the environment which result[ ] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.” 40 C.F.R. § 1508.7; *see also Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1075 (9th Cir. 2002). A CEQ guidance document on cumulative effects recognizes that “the most devastating environmental effects may result not from the direct effects of a particular action, but from the combination of individually minor effects of multiple actions over time.”<sup>20</sup> In evaluating cumulative impacts, agencies must do more than catalogue relevant “past projects in the area.” *City of Carmel-by-the-Sea v. United States Dep’t of Transp.*, 123 F.3d 1142, 1160 (9th Cir. 1997). The EIS must also include a “useful analysis of the cumulative impacts of past, present and future projects.” *Id.* This means a discussion and an analysis in sufficient detail to assist “the decisionmaker in deciding whether, or how, to alter the program to lessen cumulative environmental impacts.” *Id.* (citation omitted).

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.*

We are first and foremost concerned over the potentially significant cumulative impacts posed by nearby coal mines and associated power plants in the area, including the Colowyo, Trapper, and Sage Creek mines, and the Craig and Hayden coal-fired power plants. An EIS must fully account for the impacts of these cumulative activities.

Further, an EIS must fully analyze and assess the impacts of similar federal coal leasing and mining approvals. Regionally, the U.S. Department of the Interior, of which the BLM is a part of, is currently weighing numerous coal leasing and mining decisions, similar to the proposed action at hand, which pose similar and cumulative impacts, especially in terms of greenhouse gas emissions and climate impacts. These include, but are not limited to:

- Cordero Rojo in Wyoming, a mining plan modification (WYW174407) adding 569.1 acres, amounting to 55.7 million tons of coal, extending the life of the mine by three

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<sup>20</sup> CEQ, *Considering Cumulative Effects Under the National Environmental Policy Act*, at 1, available at: [https://ceq.doe.gov/publications/cumulative\\_effects.html](https://ceq.doe.gov/publications/cumulative_effects.html) (last accessed 8/22/2017).

- years.<sup>21</sup>
- West Antelope III in Wyoming, a lease by application (WYW184599) for 3,508 acres, totaling 441M tons of coal.<sup>22</sup>
  - Jim Bridger Mine in Wyoming, a lease by application (WYW185637) for 1,721 acres, totaling 19.8M tons of coal.<sup>23</sup>
  - King II Mine in Colorado, a lease modification (COC62920) for 950 acres, totaling 6.3M tons of coal.<sup>24</sup>
  - West Elk Mine in Colorado, a lease modification (COC1362 & COC67232), for 800 and 920 acres, totaling 10.1M tons of coal.<sup>25</sup>

These are just a handful of similar federal coal decisions pending before Interior that pose potentially significant impacts that must be addressed in an EIS.

It is imperative that BLM analyze the impacts of mining at Foidel Creek Mine consistent with the scope required under NEPA in order to ensure that impacts are fully analyzed and assessed.

## **6. BLM Must Address the Climate Impacts of the Proposed Mine Expansion**

### **a. BLM Must Provide the Public with a Thorough, Honest, and Transparent Accounting of the Climate Impacts of the Proposed Mine Expansion**

Over 20 percent of our country's annual greenhouse gas (GHG) emissions (including nearly a quarter of domestic CO<sub>2</sub> emissions) originate from coal, oil, and gas extracted from public lands.<sup>26</sup> Keeping these dirty fuels in the ground is critical to safeguarding our climate. In evaluating a proposal that would result in the mining and burning of nearly 100 million tons of federally-owned coal, BLM must do more than simply quantify CO<sub>2</sub> emissions that will result from burning the Foidel Creek Mine coal.

Specifically, BLM must analyze and disclose the following issues, which were not addressed in the earlier NEPA documents:

- 1) Acknowledge the scientific consensus on the need to reduce CO<sub>2</sub> emissions;
- 3) Model the market impacts of the proposed expansion of federal coal mining;

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<sup>21</sup> Availability of an Environmental Assessment for Public Review and Comment Cordero Rojo Mine Federal Mining Plan Modification. Attached as Exhibit 6.

<sup>22</sup> Department of the Interior Bureau of Land Management; Notice of Intent to Prepare an Environmental Impact Statement. Fed. Reg. 35,237 (July 28, 2017). Attached as Exhibit 7.

<sup>23</sup> Availability of an Environmental Assessment for Public Review and Comment Jim Bridger Coal Mine Complex Federal Mining Plan Modification. Attached as Exhibit 8.

<sup>24</sup> Notice of Opportunity to Comment for King II Coal Mine. Attached as Exhibit 9.

<sup>25</sup> Supplement Draft Environmental Impact Statement for West Elk Coal Mine (executive summary, only). Attached as Exhibit 10.

<sup>26</sup> Moser, Claire, et al., *Cutting Greenhouse Gas from Fossil-Fuel Extraction on Federal Lands and Waters*, CENT. FOR AM. PROGRESS (Mar. 19, 2015), available at: <https://cdn.americanprogress.org/wp-content/uploads/2015/03/PublicLandsEmissions-brief.pdf>. Attached as Exhibit 11.

- 4) Use the social cost of carbon to analyze and disclose the climate impacts of the proposal;
- 5) Consider the impact of the proposed mining in conjunction with other past, present, and reasonably foreseeable federal coal leases.

To that end, BLM must fully analyze and assess air quality impacts.

#### **b. BLM Must Disclose Scientific Consensus on the Urgent Need to Reduce and Avoid Greenhouse Gas Emissions**

There is overwhelming scientific consensus that in order to avoid the most catastrophic impacts of climate change, we must keep global temperature increase to less than 2 degrees Celsius above pre-industrial temperatures.<sup>27</sup> Meeting this imperative is no easy task. A January 2015 study published in the journal *Nature* concluded that in order to keep warming below this scientifically-accepted threshold, almost all of the world's fossil fuel reserves that are still in the ground, including U.S. coal reserves, must stay there.<sup>28</sup>

The *Nature* study considered two scenarios: one assuming that carbon capture and sequestration (CCS) technology will be unavailable and one assuming widespread deployment of CCS after 2025. Without CCS, 88% of coal reserves globally—and 95% of coal reserves in the United States—must remain unused before 2050 to meet the target of 2 °C.<sup>29</sup> Even when CCS is deployed, the study concluded that 82% of current coal reserves globally—and 92% of current U.S. coal reserves—must remain unburned.<sup>30</sup>

BLM must not only acknowledge this new scientific information, it must address the policy implications that necessarily follow. As summarized by one prominent U.S. climate scientist, “[b]urning all fossil fuels would produce a different, virtually uninhabitable, planet.”<sup>31</sup> The Department of Interior and BLM must disclose the scientific conclusions about rising global temperatures and the need to keep carbon in the ground if we are to avoid the worst effects of climate disruption. In his sharp critique of the Department of Interior’s “status quo” approach to the supply side of the climate problem, Bill McKibben wrote:

But you can't deal with climate on the demand side alone. . . . This is not climate denial of the Republican sort, where people simply pretend the science isn't real. This is climate denial of the status quo sort, where people accept the science, and indeed make long speeches about the immorality of passing on a ruined world to

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<sup>27</sup> See United Nations Framework Convention on Climate Change (UNFCCC), Report of the Conference of the Parties on its Fifteenth Session, held in Copenhagen from 7 to 19 December 2009. Part Two: Action taken by the Conference of the Parties at its Fifteenth Session, at 5. United Nations Climate Change Conf. Report 43 (UNFCC, 2009), available at: <http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf> (last accessed August 17, 2017).

<sup>28</sup> McGlade, Christoph & Ekins, Paul, *The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2°C*, 517 NATURE at 187, (Jan. 9, 2015). Attached as Exhibit 12. (The article defines “reserves” to include fossil fuel resources that are “recoverable under current economic conditions and have a specific probability of being produced.” *Id.*)

<sup>29</sup> *Id.* at 189, Table 1.

<sup>30</sup> *Id.*

<sup>31</sup> Hansen, et al., *Climate Sensitivity, Sea Level and Atmospheric Carbon Dioxide*, 371 Phil. Trans. R. Soc’y (2013).

our children. They just deny the meaning of the science, which is that we must keep carbon in the ground.<sup>32</sup>

#### **d. BLM Must Use the Social Cost of Carbon to Analyze the Proposed Mining's Impacts**

BLM must analyze and assess the climate impacts of mining the Foidel Creek Mine tract using the social cost of carbon protocol. 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 (CO<sub>2</sub>) 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 CO<sub>2</sub> reduction).”<sup>33</sup> The protocol was developed by a working group consisting of several federal agencies, including the U.S. Department of Agriculture, EPA, CEQ, and others, with the primary aim of implementing Executive Order 12866, which requires that the costs of proposed regulations be taken into account.

In 2009, an Interagency Working Group (“IWG”) was formed to develop the protocol and issued final estimates of carbon costs in 2010.<sup>34</sup> These estimates were then revised in 2013 by the IWG.<sup>35</sup> 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.<sup>36</sup> The social cost of carbon estimates were again revised in 2015.<sup>37</sup>

Depending on the discount rate and the year during which the carbon emissions are produced, the IWG 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. IWG’s most recent estimate was \$50 in global damages per ton of carbon dioxide, based on year 2020 emissions, converted from 2007 to 2017 dollars.<sup>38</sup> While Trump’s Executive Order 13783 technically disbanded the IWG in March, 2017, in a recent letter published in the journal, *Science*, scholars urged the government and private sector to continue using IWG’s the estimate of \$50 per ton of carbon dioxide, as it is the “best estimate of the social cost of greenhouse

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<sup>32</sup> McKibben, Bill, “Obama’s Catastrophic Climate Change Denial”, NY TIMES, (May 12, 2015), available at: [http://www.nytimes.com/2015/05/13/opinion/obamas-catastrophic-climate-change-denial.html?\\_r=0](http://www.nytimes.com/2015/05/13/opinion/obamas-catastrophic-climate-change-denial.html?_r=0).

<sup>33</sup> EPA, “Fact Sheet: Social Cost of Carbon” (Nov. 2013) at 1. Attached as Exhibit 13.

<sup>34</sup> 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). Attached as Exhibit 14.

<sup>35</sup> 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). Attached as Exhibit 15.

<sup>36</sup> GAO, “Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates,” GAO-14-663 (July 2014). Attached as Exhibit 16.

<sup>37</sup> 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” (modified July 2015). Attached as Exhibit 17.

<sup>38</sup> Interagency Working Group on the Social Cost of Greenhouse Gases (IWG), “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (2016). Attached as Exhibit 18.

gases”.<sup>39</sup> In the letter, scholars reasoned that IWG’s estimated “already are the product of the most widely peer-reviewed models and best available data.”<sup>40</sup>

The social cost of carbon provides decision makers and the public with an informative, accessible mechanism for both analyzing and understanding the climate impacts of a proposed decision. Although agencies such as OSM and the Forest Service often quantify the *amount* of carbon dioxide or CO<sub>2</sub>-e (carbon dioxide equivalent) emissions from mining and burning coal from federal leases, these agencies have not yet taken the next step of consistently employing the social cost of carbon to tell the public about the *impact* of those emissions. An isolated calculation of the amount of carbon emissions that would result from a particular project does not provide any meaningful insight as to the effect that those emissions will have on our climate. By contrast, the social cost of carbon offers an actual estimate of the damage caused by each incremental ton of carbon emissions.

The social cost of carbon describes those damage estimates in monetary terms, which are far easier for decision makers and the public to comprehend and contextualize than tons of CO<sub>2</sub>-e. In doing so, the social cost of carbon provides a concrete assessment of a project’s social and environmental impacts and provides a tangible sense of the scale of damage that both the public and decision makers can readily understand. As explained by one legal commentator, the social cost of carbon “allow[s] agencies to consider those GHG emissions . . . in a meaningful way,” and that “assigning a price to carbon emissions – even a conservative price – makes the cost of those emissions concrete for agency decision makers.”<sup>41</sup>

Of course, we do not imply that the impacts of climate change can be fully captured by a dollar figure. Droughts, floods, extreme weather events, rising sea levels, and other phenomena related to climate change present threats to our planet that extend far beyond economic harms. Agencies must analyze not only the quantitative (and monetizable) climate impacts of proposed actions, but the qualitative and non-monetizable impacts as well. Nevertheless, to the extent that a project’s impacts can be quantified, the social cost of carbon is the best and most rigorous tool currently available for understanding the damages linked to carbon emissions, rather than simply the extent of the emissions themselves.

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.”<sup>42</sup>

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<sup>39</sup> “Best Cost Estimate of Greenhouse Gases.” R. Revesz, M. Greenstone, M. Hanemann, M. Livermore, T. Sterner, D. Grab, P. Howard and J. Schwartz. *Science* 357 (6352), 655. DOI: 10.1126/science.aao4322. Attached as Exhibit 19.

<sup>40</sup> *Id.*

<sup>41</sup> Squillace, Mark & Hood, Alexander, *NEPA, Climate Change, and Public Land Decision Making*, 42 ENVTL. L. 469, 510, 517 (2012).

<sup>42</sup> EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011). Attached as Exhibit 20.

Furthermore, although it was initially developed to help agencies develop regulatory impact assessments of proposed rules, the social cost of carbon need not and should not be limited to this application. As CEQ has confirmed, statements that a particular agency decision will result in only a small fraction of global GHG concentrations should not be used to avoid analyzing the impact of those emissions.<sup>43</sup> Such statements, according to CEQ, reflect the nature of climate change rather than the impact of any particular project.<sup>44</sup>

NEPA requires BLM to use the social cost of carbon because it is the best tool available to analyze the economic and environmental impact of increased carbon dioxide emissions. NEPA specifically requires federal agencies to analyze and disclose the environmental effects of their actions, including “ecological . . . aesthetic, historic, cultural, economic [and] health” impacts.<sup>45</sup> Where “information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known,” NEPA regulations direct agencies to evaluate a project’s impacts “based upon theoretical approaches or research methods generally accepted in the scientific community.”<sup>46</sup>

Agencies cannot ignore the effects of GHG emissions from mining operations or coal combustion. *High County Consrv. Advocates v. US Forest Service*, 52 F. Supp. 3d 1174, 1190 (2014). Nor can they “completely [] ignore a tool in which an interagency group of experts invested time and expertise.” *Id.* at 1193. NEPA requires agencies to engage in “a reasonable, good faith, objective presentation of the topics,” such that it “foster[s] both informed decision-making and informed public participation.” *Custer Cnty Action Ass’n v. Garvey*, 256 F.3d 1024, 1035 (10th Cir. 2001) (citations omitted). The social cost of carbon is based on generally accepted research methods and years of peer-reviewed scientific and economic studies. It was developed by experts at a dozen federal agencies and offices, and it is both widely used and generally accepted in the scientific community. As such, it is the best tool now available for agencies to use in predicting and analyzing the climate impacts of proposed federal actions.

Federal agencies’ obligation to use the social cost of carbon to analyze the costs associated with GHG emissions through NEPA was directly affirmed by the court in *High Country*.<sup>47</sup> 52 F. Supp. 3d 1174. In his decision, Judge Jackson identified the IWG’s social cost of carbon protocol as a tool to “quantify a project’s contribution to costs associated with global climate change.” *Id.* at 1190. “The critical importance of [climate change] . . . tells me that a ‘hard look’ has to include a ‘hard look’ at whether this tool, however imprecise it might be, would contribute to a more informed assessment of the impacts than if it were simply ignored.” *Id.* at 1193. To fulfill this mandate, they agency must use the social cost of carbon to disclose the “ecological[,] . . . economic, [and] social” impacts of the proposed action. 40 C.F.R. § 1508.8(b).

Importantly, other agencies within the Interior Department, including the BLM, have already utilized the social cost of carbon protocol in the context of analyzing the impacts of fossil

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<sup>43</sup> Consideration of Greenhouse Gas Emissions and Climate Change Effects in NEPA Reviews, 79 Fed. Reg. at 77,825.

<sup>44</sup> *Id.*

<sup>45</sup> 40 C.F.R. § 1508.8.

<sup>46</sup> 40 C.F.R. § 1502.22(b)(4).

<sup>47</sup> *High Country Conservation Advocates v. U.S. Forest Service*, 52 F. Supp. 3d 1174 (D.Colo. 2014).

fuel development under NEPA. In recent Environmental Assessments for oil and gas leasing in Colorado, the agency estimated “the annual SCC [social cost of carbon] associated with potential development on lease sale parcels.”<sup>48</sup> 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<sub>2</sub>e increase.<sup>49</sup> 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.

Recently, Michael Greenstone, the former chief economist for the President’s Council of Economic Advisers, confirmed that it is appropriate and acceptable to calculate the social cost of carbon when reviewing whether to approve fossil fuel extraction.<sup>50</sup> To be certain, the social cost of carbon protocol presents a conservative estimate of economic damages associated with the environmental impacts climate change. In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published in 2015 found that current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton.<sup>51</sup> In spite of uncertainty and likely underestimation of carbon costs, nevertheless, the SCC is a useful measure to assess the benefits of CO<sub>2</sub> reductions, and costs of not reducing CO<sub>2</sub>.

That the economic impacts of climate change, as reflected by an assessment of social cost of carbon, should be a significant consideration in agency decision-making, is emphasized by a 2014 White House report, which warned that delaying carbon reductions would yield significant economic costs.<sup>52</sup> As the report states:

[D]elaying action to limit the effects of climate change is costly. Because CO<sub>2</sub> accumulates in the atmosphere, delaying action increases CO<sub>2</sub> concentrations. Thus, if a policy delay leads to higher ultimate CO<sub>2</sub> concentrations, that delay produces persistent economic damages that arise from higher temperatures and higher CO<sub>2</sub> concentrations. Alternatively, if a delayed policy still aims to hit a given climate target, such as limiting CO<sub>2</sub> concentration to given level, then that

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<sup>48</sup> 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 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](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). Attached as Exhibit 21.

<sup>49</sup> BLM, “Little Willow Creek Protective Oil and Gas Leasing,” EA No. DOI-BLM-ID-B010-2014-0036-EA (February 10, 2015) at 81, available at: [https://www.blm.gov/epl-front-office/projects/nepa/39064/55133/59825/DOI-BLM-ID-B010-2014-0036-EA\\_UPDATED\\_02272015.pdf](https://www.blm.gov/epl-front-office/projects/nepa/39064/55133/59825/DOI-BLM-ID-B010-2014-0036-EA_UPDATED_02272015.pdf). Attached as Exhibit 22.

<sup>50</sup> See Greenstone, M., “There’s a Formula for Deciding When to Extract Fossil Fuels,” *New York Times* (Dec. 1, 2015), available at: [http://www.nytimes.com/2015/12/02/upshot/theres-a-formula-for-deciding-when-to-extract-fossil-fuels.html?\\_r=0](http://www.nytimes.com/2015/12/02/upshot/theres-a-formula-for-deciding-when-to-extract-fossil-fuels.html?_r=0).

<sup>51</sup> Moore, C.F. & Delvane, B.D., “Temperature impacts on economic growth warrant stringent mitigation policy,” *Nature Climate Change* (January 12, 2015) at 2. Attached as Exhibit 23.

<sup>52</sup> See Executive Office of the President of the United States, “The Cost of Delaying Action to Stem Climate Change” (July 2014). Attached as Exhibit 24.



delay means that the policy, when implemented, must be more stringent and thus more costly in subsequent years. In either case, delay is costly.<sup>53</sup>

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA and supported in federal case law. As explained, NEPA requires agencies to analyze the consequences of proposed agency actions and consider include direct, indirect, and cumulative consequences.

To this end, courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172, 1203 (9th Cir. 2008). The Highway Traffic Safety Administration had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. The Administration had monetized the employment and sales impacts of the proposed action. *Id.* at 1199. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. *Id.* at 1200. The court found this argument to be arbitrary and capricious. *Id.* The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. *Id.* It further noted that other benefits, while also uncertain, were monetized by the agency. *Id.* at 1202.

More recently, a federal court has done likewise for a federally approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *See*, 52 F.Supp.3d 1174, 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.* Recently, a federal district court in Montana reaffirmed the reasoning in *High Country*, indicating that a NEPA analysis that included the economic benefits of a project was incomplete without an assessment of the carbon costs that would result from the development. *See Mont. Env'tl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15-106-M-DWM (D. Mont. Aug. 14, 2017).<sup>54</sup> In agreeing with the Plaintiffs, the Court specifically mentioned the Social Cost of Carbon Protocol as one tool to use to quantify the costs associated with the mine expansion. *Id.* at 35. Further, a D.C. Circuit Court ruled that an agency’s assessment of the environmental impact of pipelines was inadequate, reasoning that it did not contain enough information on the greenhouse-gas emissions resulting from burning the gas that the pipelines carry. *See Sierra Club, et al., v.*

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<sup>53</sup> *Id.* at 1.

<sup>54</sup> *Mont. Env'tl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15-106-M-DWM (D. Mont. Aug. 14, 2017). Attached as Exhibit 25.

*Federal Energy Regulatory Commission*, No. 16-1329 (D.C. Cir. Aug. 22, 2017).<sup>55</sup> Thus, the most recent cases emerging indicate a robust analyses of GHG is necessary.

Using any of the Interagency Working Group’s social cost of carbon values demonstrates that the combustion of coal from the proposed expansion will likely result in massive economic damages associated with climate change. The total climate impacts from the proposal will reach into the hundreds of millions of dollars, and this must be disclosed to the public and decision makers.

**7. BLM Must Rigorously Explore and Objectively Evaluate a Range of Reasonable Alternatives**

NEPA requires agencies to consider “alternatives to the proposed action.” 42 U.S.C. § 4332(2)(C)(iii). It also requires agencies to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” *Id.* § 4332(2)(E). The alternatives analysis “is the heart of the environmental impact statement.” The alternative analysis “should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision-maker and the public.” 40 C.F.R. § 1502.14. In the alternative analysis, the agency must:

- a. Rigorously explore and objectively evaluate all reasonable alternatives and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their elimination.
- b. Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
- c. Include reasonable alternatives not within the jurisdiction of the lead agency.
- d. Include the alternative of “no action”.
- e. Identify the agency’s preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
- f. Include appropriate mitigation measures not already included in the proposed action or alternatives.

*Id.*

This requirement, like the “detailed statement” [EIS], seeks to ensure that each agency decision maker has before him and takes into proper account all possible approaches to a particular project (including total abandonment of that project) which

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<sup>55</sup> *Sierra Club, et al., v. Federal Energy Regulatory Commission*, No. 16-1329 (D.C. Cir. Aug. 22, 2017). Attached as Exhibit 26.

would alter the environmental impact and the cost-benefit balance. Only in that fashion is it likely that the most intelligent, optimally beneficial decision will ultimately be made. *Calvert Cliffs Coordinating Comm., Inc. v. U.S. Atomic Energy Comm'n*, 449 F.2d 1109, 1114 (D.C. Cir. 1971). Agencies must consider alternatives that would partially meet the purpose and need of a project. *NRDC v. Hodel*, 865 F.2d 288, 296 n.4 (D.C. Cir. 1988). “The existence of reasonable but unexamined alternatives renders a [NEPA] analysis inadequate.” *Friends of Southeast’s Future v. Morrison*, 153 F.3d 1059, 1065 (9th Cir. 1998). Agencies may not limit, however, the scope of alternatives to the goals of a private project proponent. *Simmons v. U.S. Army Corps of Eng’rs*, 120 F.3d 664, 669 (7th Cir. 1997). Such limitation is a “losing proposition,” and agencies have a “duty under NEPA to exercise a degree of skepticism in dealing with self-serving statements from a prime beneficiary of the project.” *Id.* Further, courts have long interpreted the mandate to consider reasonable alternatives to require agencies contemplating energy projects to consider reasonable alternative forms of energy generation and energy conservation. *NRDC v. Morton*, 458 F.2d 827, 833-38 (D.C. Cir. 1972); *Hodel*, 865 F.2d at 295-97 (agency required to consider conservation alternatives in analysis of decision to issue oil and gas leases); *Libby Rod & Gun Club v. Poteat*, 457 F. Supp. 1177, 1186-8 (D. Mont. 1978), *aff’d in part and rev’d in part on other grounds*, 59 F.2d 742 (9th Cir. 1979).

BLM must analyze a range of reasonable alternatives. In addition to the No Action Alternative, we request that the BLM consider in detail all or portions of the following alternatives either as primary alternatives, alternative mitigation measures, or as alternatives to the proposed actions.

**a. Clean Alternatives to Continued Coal Consumption, Including Renewable Energy and Energy Efficiency.**

As noted, the law is clear that agencies must consider alternative means of accomplishing its asserted goal. The general purpose of coal mining under SMCRA is to meet the Nation’s energy needs. BLM may meet these goals by promoting renewable energy and energy conservation. Coal fired power generation is fast becoming an obsolete and uneconomical source of electricity, as society is becoming less tolerant of the multifarious harms wrought by coal pollution. On national and international levels, major investors—such as the World Bank, European Investment Bank, and the U.S. Import-Export Bank—have declined or refused to invest in coal energy.<sup>56</sup> It has been repeatedly noted that “coal is a dead man walking.”<sup>57</sup> Major

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<sup>56</sup> World Bank. 2013. *Toward a sustainable energy future for all : directions for the World Bank Group’s energy sector*. Washington DC; World Bank, at 25 (“The WBG will provide financial support for greenfield coal power generation only in rare circumstances.”), available at: <http://documents.worldbank.org/curated/en/745601468160524040/Toward-a-sustainable-energy-future-for-all-directions-for-the-World-Bank-Group-8217-s-energy-sector>; Fried, Rona, European Investment Bank, Ex-Im Bank Move Away from Coal Financing, Sustainable Business (July 31, 2013), available at: <http://www.sustainablebusiness.com/european-investment-bank-ex-im-bank-move-away-from-coal-financing-51758/>

<sup>57</sup> Mufson, Steve, *Coal’s Burnout: Have Investors Moved to Cleaner Energy Sources*, Wash. Post (Jan. 1, 2011), available at: <http://www.washingtonpost.com/wp-dyn/content/article/2011/01/01/AR2011010102146.html> (quoting Kevin Parker, global head of asset management and member of the executive committee at Deutsche Bank); Sands, Derek, *US Coal Industry “A Dead Man Walkin”*: *New York Mayor*, Platts (Feb. 27, 2011) (quoting Michael

private investors have recently announced that investments in coal are a dead-end.<sup>58</sup> A 2013 report by Goldman Sachs sums up the current and projected state of the coal industry:

Earning a return on incremental investment in thermal coal mining and infrastructure capacity is becoming increasingly difficult. Mines are long-lived assets with a long payback period, while thermal coal is a geographically abundant resource in an industry with relatively low barriers to entry. As coal demand becomes increasingly constrained, the competition among suppliers is likely to intensify. The change in outlook is reflected in the way diversified mining companies are reallocating their capital towards more attractive sectors.<sup>59</sup>

Among the reasons behind the impending obsolescence of coal are (1) decreasing acceptance of pollution from coal and, accordingly, increased regulation of coal pollution; (2) increased competition from other energy sources, such as renewables and natural gas; and (3) increases in energy efficiency.<sup>60</sup> A chief reason for the decreased social acceptance of coal is that its externalities—i.e., costs borne by society which are not included in the purchase price of coal—are tremendous, amounting annually to hundreds of billions of dollars in the United States alone.<sup>61</sup> As society has become better able to recognize and calculate these costs that are being foisted upon it, there has been an ever-growing rejection of coal as a legitimate energy source. Stock value of coal companies is plummeting; stock in Peabody, the owner of Foidel Creek Mine and the largest private sector coal company, has been reduced dramatically.<sup>62</sup>

While the economics for coal in the United States and abroad look dismal for the future, development of renewable energy sources and investments in energy conservation and efficiency are promising.<sup>63</sup> As the Colorado Public Service Commission has acknowledged, “Colorado has outstanding wind energy potential. The wind generation potential in Colorado far exceeds what the state’s utilities can use.”<sup>64</sup> To further illustrate, utilities entered 2017 with plans to retire 4.5

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Bloomberg, mayor of New York City), available at: <http://www.platts.com/latest-news/coal/Washington/US-coal-industry-a-dead-man-walking-New-York-6203214>

<sup>58</sup> E.g., Yuen, Anthony, *The Unimaginable: Peak Coal in China*, Citi Research (Sept. 4, 2013) (explaining expected decrease in coal consumption in China and global ripple effects); Bernstein Research, *Asian Coal and Power: Less, Less, Less . . . The Beginning of the End of Coal* (June 2013).

<sup>59</sup> Christian Lelong et al., Goldman Sachs, *Rocks & Ores, The Window for Thermal Coal Investment Is Closing* (July 24, 2013).

<sup>60</sup> *Id.* at 20-29.

<sup>61</sup> National Research Council, *Hidden Costs of Energy* (2010); Nicholas Z. Muller et al., *Environmental Accounting for Pollution in the United States Economy*, 101 *Am. Economic Review*, 1649 (2011) (the cost of economic harm from coal vastly exceeds market value generated by coal); Ben Machol & Sarah Razk, *Economic Value of U.S. Fossil Fuel Electricity Health Impacts*, 52 *Env’t Int’l*, 75 (2013) (fossil fuel generation costs nation \$361-886 billion annually in externalized costs); Paul R. Epstein et al., *Full Cost Accounting for the Life Cycle of Coal*, 1219 *Ann. N.Y. Acad. Sci.*, 73 (2011) (life cycle of costs from coal causes \$175 to 523 billion in damages in United States annually).

<sup>62</sup> Moody’s Investor Service, *Moody’s Downgrades Peabody to Ba2; Outlook Stable* (Aug. 21, 2013), available at: [https://www.moody.com/research/Moodys-downgrades-Peabody-to-Ba2-outlook-stable--PR\\_280688?source=email\\_rt\\_mc\\_body&app=n](https://www.moody.com/research/Moodys-downgrades-Peabody-to-Ba2-outlook-stable--PR_280688?source=email_rt_mc_body&app=n).

<sup>63</sup> See, e.g., Intergovernmental Panel on Climate Change, *Renewable Energy Sources and Climate Change Mitigation: Special Report* (2012).

<sup>64</sup> Mont. Pub. Serv. Comm’n, *Draft Economic Impacts of Proposed Amendments of the Colorado Department of Public Service Regulation’s Qualifying Facility Rules 31* (Aug. 2013).

gigawatts (“GW”) of coal (2 percent of 2016 U.S. coal capacity), and add 11 GW of natural gas and 8.5 GW of wind, according to figures from the U.S. Energy Information Administration. Given the risk that coal producers will ultimately be required to pay for their carbon pollution, “some renewable generation is cost-effective even without renewable portfolio standards.”<sup>65</sup>

A highly detailed analysis of different future energy scenarios by Amory Lovins concluded that scenarios based on large scale renewable energy generation (called the “renew” scenario) and widespread distributed generation (the “transform” scenario) combined with aggressive energy efficiency measures have by far, the greatest social, economic, and environmental value. Such measures are affordable and feasible when compared with business as usual scenarios or scenarios involving significant development of nuclear power and coal with CCS.<sup>66</sup> And, the clincher, the renewable and distributed energy scenarios are superior in reliability, security benefits, environmental responsibility, public health benefits, and public acceptability.<sup>67</sup>

In sum, coal energy is fast becoming obsolete: uneconomic, environmentally harmful, and socially unacceptable. Renewable energy and energy conservation and efficiency, on the other hand, are making tremendous gains in cost, and are far superior in environmental and social acceptability. Large-scale deployment of renewable energy and conservation measures are reasonable alternatives that should be considered as alternatives to continued coal mining at the Foidel Creek Mine. As noted above, BLM is required to consider alternatives that are not within its jurisdiction. 40 C.F.R. § 1502.14(c). Consideration of such alternatives is particularly appropriate given that the proposed mining, which is partially for export, will not help, but harm, BLM’s asserted goal of improving the national energy security (by reducing reserves and increasing prices<sup>68</sup>). Further, increased renewable energy development and energy conservation do not suffer from the negative economics and political controversy of coal mining.<sup>69</sup> Nor will they lead to the inevitable “bust” that will occur upon either exhaustion of the coal seam or changes in market conditions. BLM must consider alternatives that will not inevitably lead to a bust, economic recession, and hard times.

## **b. Alternative Mining Levels**

We request the BLM consider in detail an alternative that limits the amount of coal tonnage and/or acreage to be mined to lower levels than are currently proposed. Such an alternative will limit the extent to which the direct and indirect impacts of mining, hauling, and coal combustion will occur, as well as incentivize power plant owners to develop alternative

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<sup>65</sup> *Id.* at 5.

<sup>66</sup> Amory B. Lovins & Rocky Mountain Inst., *Reinventing Fire: Bold Business Solutions for the New Energy Era*, 213-15 (2011).

<sup>67</sup> *Id.*; see also Amory B. Lovins, *A Farewell to Fossil Fuels: Answering the Energy Challenge* Foreign Affairs (Apr./Mar. 2012).

<sup>68</sup> See Unfair Market Value, *supra*.

<sup>69</sup> Cf. Hidden Costs of Energy, *supra*; Muller et al., *Environmental Accounting for Pollution in the United States Economy*, *supra*; Machol & Razk, *Economic Value of U.S. Fossil Fuel Electricity Health Impacts*, *supra*; Epstein et al., *Full Cost Accounting for the Life Cycle of Coal*, *supra*; Unfair Market Value, *supra*; Gov’t Accountability Office, Coal Leasing, *supra*; Office of the Inspector General, Coal Management Program, *supra*; Sanzillo, *The Great Giveaway*, *supra*; Squillace, *supra*.

non-coal-fired electricity generation.

**c. Low or No Pollutant Emitting Equipment**

We request that, in order to limit air quality impacts, that BLM consider, in detail, an alternative that requires the use of equipment that produce less or no emissions, such as natural gas-fired vehicles and machinery and electric machinery powered by solar panels or other renewable energy sources. We also request that BLM investigate whether it should require equipment maintenance standards to ensure that pollutant-emitting machinery is maintained and operated such that air emissions are minimized to the maximum extent practicable.

**d. Other Air Quality Mitigation Alternatives**

We request that BLM consider in detail an alternative or alternative that mitigates the air quality impacts of the proposed mining. For instance, BLM should consider in detail an alternative that requires more stringent mitigation to eliminate nitrogen dioxide emissions, and an alternative that requires a compensatory reduction in emissions for any and all emissions that would continue and/or increase as a result of the proposed coal lease. This last alternative could involve the BLM and/or Peabody securing commitments from oil and gas operators or other coal miners in the region to reduce their emissions.

**e. An Alternative that Requires Peabody to Undertake Actions to Limit or Reduce Other Greenhouse Gas Emissions**

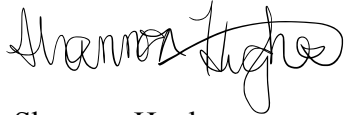
We request the BLM consider in detail an alternative or alternatives that mitigate greenhouse gas emissions associated with the proposed mining. BLM should consider requiring that Peabody secure an increase in the efficiency of the power plants it fuels, either through contractual terms or other mechanisms, to reduce the total carbon dioxide emission rate (this could be accomplished through the establishment of a limit on carbon dioxide emissions at plants, either through a total cap or lower emission rate), require the use of low carbon fuels for the operation of any heavy machinery, and/or require that Peabody use renewable energy to power the Foidel Creek Mine.

**f. An Alternative that Requires Offsite Mitigation or Compensation for the Impacts in Other Ways**

Offsite mitigation, as well as mitigation that requires compensation, is explicitly authorized under NEPA. The definition of mitigation includes “[c]ompensating for the impact by replacing or providing substitute resources or environments.” 40 C.F.R. § 1508.20(e). In this case, we request the BLM consider an alternative or alternatives that would require Peabody to offset its carbon dioxide emissions from the mine and the power plants it fuels with offsite mitigation by developing a comparable amount of renewable energy. Such a mitigation measure would provide additional generation and also help to create cleaner energy sources that will eventually offset the greenhouse gas emissions produced by coal mining and burning. BLM could play a key role in spurring utilities to begin investing in and developing renewable energy as a means to limit fossil fuel consumption.

For the reasons explained above, we urge BLM to reject the proposed lease by application. If, however, BLM decides to move forward with the proposal, it must prepare an EIS to adequately analyze and assess the impacts of mining. This is especially the case with regards to climate impacts, as there is significant new information on climate disruption, new federal greenhouse gas emissions reduction goals, and new tools available to federal agencies to help analyze climate impacts.

Sincerely,

A handwritten signature in black ink that reads "Shannon Hughes". The signature is written in a cursive style with a large, looping initial "S".

Shannon Hughes  
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