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Re: GCC Energy Federal Coal Lease Application, Dunn Ranch Area, Southwest Colorado

Dear U.S. Bureau of Land Management and U.S. Office of Surface Mining:

On behalf of WildEarth Guardians, San Juan Citizens Alliance, and Sierra Club, we are writing to object to the U.S. Bureau of Land Management's ("BLM's") proposal to offer for sale a federal coal lease in response to an application submitted by the company, GCC Energy. Called the Dunn Ranch lease by application, GCC Energy is seeking a new lease to expand the company's King II coal mine in southwest Colorado by nearly 2,500 acres. We also object to the U.S. Office of Surface Mining Reclamation and Enforcement's ("OSMRE's") proposal to approve mining of the prospective federal coal lease. It is entirely premature for OSMRE to have any role in this process other than as a cooperating agency under the National Environmental Policy Act ("NEPA").

If the agencies continue to proceed with their consideration and review of the proposed

Dunn Ranch coal lease application, we request the agency address the following issues and concerns.

I. OSMRE's Involvement is Premature

OSMRE's involvement in the NEPA process for the Dunn Ranch lease application as anything but a cooperating agency is inappropriate and counter to NEPA at this point. OSMRE has no role in the current decisionmaking process other than to provide information and expertise to guide the BLM's review of the proposed federal coal lease, which is the role that cooperating agencies play under 40 C.F.R. § 1501.6.

In fact, it is entirely speculative to conclude that OSMRE has any role to play in this process at this point given that the agency's decisionmaking space doesn't even emerge until well after a coal lease is issued. Not only does BLM have to decide whether to offer the lease for sale, then offer a lease for sale at competitive auction and issue the lease should it receive a bid that represents fair market value, but OSMRE cannot recommend any mining at all unless and until GCC has obtained revised mining permits under the Surface Mining Control and Reclamation Act ("SMCRA") from both the State of Colorado and OSMRE. After that, OSMRE still has to consult with the U.S. Fish and Wildlife Service to ensure its actions will not adversely modify critical habitat or jeopardize the continued existence of threatened and endangered species.

All these actions must be taken before OSMRE has authority to even consider making a recommendation regarding a mining plan modification. Furthermore, all these actions must be taken before OSMRE can effectively and fully consider a range of reasonable alternatives and adequately analyze and assess impacts to the human environment, including all direct, indirect, and cumulative impacts, as required by NEPA.

OSMRE can certainly participate as a cooperating agency. However, its involvement as anything more than a cooperating agency will not serve to allow the agency to avoid or otherwise limit future NEPA compliance related to any potential mining plan modification.

II. An Environmental Impact Statement is Required

We object to the BLM's decision to prepare an Environmental Assessment ("EA") for the proposed lease application. The proposed lease is clearly a class of action that normally requires the preparation of an environmental impact statement ("EIS"). Furthermore, given the potentially significant impacts of the proposed King II mine expansion, an EIS is all the more warranted.

That an EIS is normally required for an action like the proposed GCC Energy coal lease is demonstrated by applicable agency guidance under NEPA. Under the BLM's NEPA Handbook, for example, an EIS is normally required in conjunction with "[a]pproval 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." BLM NEPA Handbook, H-1790-1, Section 7.2; *see also* 516 Departmental Manual ("DM") 11.8(B)(7). OSMRE's NEPA guidance states that an

EIS is normally required where “[t]he environmental impacts of the proposed mining operation are not adequately analyzed in an earlier document covering the specific leases or mining activity[,] [t]he area to be mined is 1280 acres or more[, and] [mining] and reclamation operations will occur for 15 years or more.” 516 DM 13.4(A)(4).

Here, there is no question that the impacts of leasing and mining coal at the King II mine have not been adequately analyzed in earlier NEPA documents. Neither the BLM nor OSMRE have ever prepared an EIS for the King II operations and reasonably foreseeable development. The Tres Rios Resource Management Plan, which was prepared by the BLM in 2015, and the underlying Final EIS, which was prepared in 2013, did not analyze the impacts of mining at King II nor did those documents contemplate a new federal coal lease by application. In fact, it is not even clear that the 2015 Resource Management Plan determined the area of the proposed coal lease to be suitable for leasing.

Coupled with the fact that the coal lease will impact 2,462 acres and extend the life of the mine by 22 years, it seems to be an action that certainly normally requires the preparation of an EIS.

While the lack of any adequate environmental analysis under NEPA underscores the need for an environmental impact statement, the context and intensity of the potentially significant impacts of mining at King II further justify preparation of an EIS.

An EIS must be completed for all major federal actions that significantly affect the quality of the human environment. See 40 CFR § 1502.3. As to the question of whether significant impacts will in fact occur and thus require an EIS, it is enough to raise “substantial questions whether a project may have a significant effect” on the environment. *See Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d at 1212 (9th Cir. 1998), citing *Idaho Sporting Congress v. Thomas*, 137 F.3d at 1149 (9th Cir. 1998). An EIS must therefore be prepared if “substantial questions are raised as to whether a project ... may cause significant degradation of some human environmental factor.” *Id.*

Significance is defined at 40 C.F.R. § 1508.27. In particular, to determine whether a major federal action will significantly impact the environment, BLM and OSMRE must evaluate the impacts of a proposed action in terms of the “context” and the “intensity” of the impacts. 40 CFR § 1502.27(a) and (b). With regards to intensity, the agencies must fully consider “the degree to which the effects on the quality of the human environment are likely to be highly controversial,” “the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks,” “the degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973,” and “...whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.” 40 C.F.R. §§ 1508.27(b)(4), (5), (9), and (10).

Although the February 2018 scoping notice lacks detail, it appears that BLM and OSMRE’s proposal is significant in both context and intensity. In terms of context, the lease will directly impact nearly 2,500 acres. Additionally, by allowing for coal mining on the new lease, in

conjunction with mining on existing leases, the agency's decisions will, in effect, authorize myriad other indirect impacts, including connected road construction and maintenance, truck traffic, the operation and maintenance of coal processing facilities on site, the disposal of mine waste at GCC's nearby King I mine site, the development of mine ventilation systems, and other impacts.

If the agencies do not believe that the proposed activities are significant in terms of the context of the area that may be impacted, the agency must explain why. Such a discussion should include an explanation as to the thresholds upon which the agencies based their assessment. If the agencies cannot identify any rational thresholds for which to assess the significance of its actions with regards to context, then any future decisions will be arbitrary and capricious.

The proposed activities area also significant in the context of the potential impacts to native species and their habitats, to the climate and to other natural resources, including ground and surface water, and air quality, and to residents and the quality of life in the area. As discussed in more detail below, we are particularly concerned that there has been insufficient documentation of baseline surface and ground water quality from which to adequately analyze and assess the impacts of mining to the cumulative impacts area, and there has never been any analysis of air quality impacts related to the mine, including impacts related to emissions of methane and other regulated pollutants.

With regards to intensity, the agencies' proposed actions appear to pose a number of potentially significant impacts that are highly intensive. For one, the impacts are likely to be highly controversial. Not only have the agencies' proposals already triggered intensive public controversy, but there is also extensive disagreement over BLM and OSMRE's conclusions regarding the full scope of the impacts of mining at King II.

Further, the impacts are highly uncertain and involve unique or unknown risks. In this case, there has never been a comprehensive and adequate study of the environmental impacts of mining at King II and there are myriad uncertainties regarding the true scope of site-specific direct and indirect effects. This includes uncertainty regarding the impacts to threatened and endangered species and their critical habitat both in the area and downstream.

Finally, we are concerned that approval of mining does threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment. In particular, we are concerned that GCC's mining operations at King II are already in violation of the company's federally approved mining plan for coal lease No. COC- 62920 and that any further leasing or mining approvals would, in effect, condone this illegal activity. We are also concerned that GCC has failed to properly report its air emissions to the State of Colorado.

Overall, there is a need for much more intensive scrutiny of mining at King II and an EIS is the only proper and adequate means of applying this scrutiny.

The BLM itself has prepared EISs for similar coal leases in the past. For the recently approved Greens Hollow coal lease in Utah, UTU-84102, which involved underground mining and an expansion of an existing mine by 6,000 acres, the agency prepared an EIS. *See Exhibit 1.*

Similarly, the BLM prepared an EIS for the recently approved Flat Canyon coal lease in Utah, UTU-77114, which also involved underground mining and an expansion of an existing mine by 2,600 acres. *See* Exhibit 2.

III. Issues that Must be Addressed in an EIS

BLM and OSMRE must fully analyze and assess the impacts of mining at the King II mine. We impress upon the agencies to fully analyze and assess the impacts of mining in relation to the following issues:

A. Impacts to Rare Imperiled Fish, Wildlife, and Plants

OSMRE and BLM must analyze and assess impacts to rare imperiled fish, wildlife, and plants within, near, and likely to be affected by the proposed leasing and mining, including species listed under the Endangered Species Act as threatened, endangered, proposed, or candidate.

We are particularly concerned over the impacts of coal mining and coal combustion to threatened and endangered species in the San Juan River drainage, including the Colorado pikeminnow, and razorback sucker. Water consumption and surface and groundwater contamination at the mine all “may affect” these threatened and endangered species and their critical habitat, which includes much of the San Juan River below the confluence with the La Plata River, which drains most of the mine area.

Additionally, OSMRE and BLM must analyze and assess indirect impacts to the Colorado pikeminnow and razorback sucker and their critical habitat, including indirect impacts related to the hauling of coal from the mine site to Gallup, New Mexico. Such impacts would include impacts related to air pollution and spills of fuel and/or coal related to truck accidents.

As part of analyzing and assessing impacts to threatened and endangered species, as well as their critical habitat, the agencies must formally consult with the U.S. Fish and Wildlife Service in accordance with Section 7 of the Endangered Species Act.

B. Impacts to Surface and Ground Water Quality

With regards to water quality, OSMRE and BLM must fully analyze and assess surface and groundwater quality impacts to ensure compliance with state water quality standards and relevant SMCRA requirements. The agencies 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. OSMRE and BLM must ensure that its action ensures compliance with relevant water quality standards in accordance with the Clean Water Act and SMCRA.

The agencies must also address the surface and ground water quality impacts of waste dumping at the King I mine site. Although in 2016, mine regulators committed to conducting a study of water quality impacts related to waste disposal, including testing of ground and surface

water, it is not clear whether any analysis or testing actually occurred. *See* Exhibit 3. Given that OSMRE and BLM have never before analyzed or assessed the water quality impacts of waste disposal at the King I mine site, it is critical the agencies conduct a thorough analysis, which includes gathering test data if such data has not already been gathered.

C. Impacts to Air Quality

OSMRE and 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 (which is produced during blasting).

We are especially concerned over the air quality impacts to nearby Mesa Verde National Park, which is a Class I area under the Clean Air Act and a cultural gem of the American Southwest. OSMRE and BLM must ensure that air quality is not unduly degraded in this Park and also ensure that is safeguarding all air quality-related values in Mesa Verde.

We are further concerned that the impacts of methane emissions and related volatile organic compound (“VOC”) emissions from mine ventilation operations have never been analyzed and assessed. VOCs are key ozone-forming pollutants and are listed as regulated pollutants at 40 C.F.R. 50.100(s). VOCs include gases such as propane and acetylene, both of which the U.S. Mine Safety and Health Administration requires mining companies to vent in order to maintain safety. *See* 30 C.F.R. § 75.321(b). Although the State of Colorado requested information regarding VOC emissions from King II, the state never followed through with that request. *See* Exhibit 4. Thus, it is appropriate for OSMRE and BLM to ensure this information is provided in order to guide the agencies’ analysis and assessment of air quality impacts.

OSMRE and BLM must specifically address all emissions sources, particularly those that are not explicitly permitted by the State of Colorado (including blasting emissions). The agencies must quantify emissions from the mine to ensure an accurate and adequate analysis and assessment of air quality impacts.

D. Impacts Related to Mine Waste Disposal and Related Operations at the Nearby King I Mine

OSMRE and BLM must fully analyze and assess the impacts of mine waste disposal and other related actions occurring at the nearby King I coal mine. GCC currently disposes of mine waste at King I, although it has never formally been approved by the State of Colorado. The impacts of such disposal, particularly to water quality, soils, and vegetation, must be fully analyzed and assessed in an EIS.

E. Transport Impacts Connected to Coal Production

OSMRE and BLM must fully analyze and assess the impacts of coal transport from the King II mine, including the impacts of trucking coal from the mine and the impacts of hauling the coal by rail to cement processing facilities. Such an analysis must fully analyze and assess the air pollution impacts of transport, the impacts associated with spills of coal from trucks and trains, the water quality impacts related to road degradation from heavy traffic, and the safety impacts associated with transport.

Such an analysis and assessment must disclose impacts related to truck hauling from the mine to all destinations, including the rail loading facility in Gallup. It also must address the impacts related to rail hauling of coal from the Gallup facility.

F. OSMRE Must Analyze the Cumulative Climate and Non-Climate Impacts of Similar Leasing Proposals

BLM and OSMRE must analyze and assess the impacts of similar and/or cumulative mining and coal leasing approvals that are also under consideration by the U.S. Department of the Interior. 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 Finding of No Significant Impact in an EA. *See* 40 C.F.R. §§ 1508.25(a)(2) and (3).

The Interior Department and its agencies are currently weighing numerous coal decisions like the proposed action, which pose similar and cumulative impacts in terms of greenhouse gas emissions and climate impacts. These include, but are not limited to:

- OSMRE’s proposal to approve a mining plan modification that would expand the Caballo coal mine in northeast Wyoming. *See* Exhibit 5.
- BLM and OSMRE’s proposal to approve a new coal lease and an expansion of the Coyote Creek coal mine in North Dakota. *See* Exhibit 6.
- BLM’s proposal to approve a lease modification for the Lila Canyon coal mine in Utah. *See* Exhibit 7.
- OSMRE’s proposal to approve a mining plan modification that would expand the Rosebud coal mine in southeast Montana. *See* Exhibit 8.
- OSMRE’s proposal to approve a mining plan modification that would re-approve an expansion of the San Juan coal mine in northwest New Mexico. *See* Exhibit 9. The San Juan coal mine is very near the King II coal mine, located just over the state border in New Mexico.
- The BLM’s proposal to re-approve four massive federal coal leases in northeast Wyoming, including the North and South Porcupine leases and North and South Hilight coal leases, which would expand the North Antelope-Rochelle and Black Thunder mines, respectively. *See* Exhibit 10.

- The BLM’s proposal to approve a federal coal lease to expand the Antelope mine in northeast Wyoming. *See* Exhibit 11.
- The BLM’s proposal to approve a federal coal lease to expand the Spring Creek mine in southeast Montana. *See* Exhibit 12.
- The BLM’s proposal to approve a federal coal lease to expand the Foidel Creek mine in northwest Colorado. *See* Exhibit 13.

These are just a few pending examples of coal decisions before the Interior Department and its agencies that pose significant climate impacts, particularly in terms of carbon emissions. It is important that OSMRE and BLM analyze the true impacts of mining at King II consistent with the “hard look” NEPA requires, in order to ensure the agencies can make an objective, informed decision on the proposed coal lease.

G. OSMRE AND BLM MUST ADDRESS THE CLIMATE IMPACTS OF THE PROPOSED COAL LEASE

1. BLM and OSMRE Must Provide the Public with a Thorough, Objective, and Transparent Accounting of the Climate Impacts of Expanded Mining at King II

In evaluating a proposal that would result in the mining and burning of more federally owned coal, OSMRE and BLM must do more than simply quantify carbon dioxide (“CO₂”) emissions that will result from burning coal for cement production. Since 2009, the scientific understanding of climate disruption has increased significantly, as has the urgent need for transformative steps to cut greenhouse gas emissions in the U.S. Greenhouse gas emissions that are particularly important to reduce include not only carbon dioxide, but methane as well. Both gases are released as a result of coal mining activities.

Specifically, we request BLM and OSMRE analyze and disclose the following issues:

- 1) Acknowledge the robust scientific consensus on the need to drastically cut global CO₂ emissions;
- 2) Assess whether the proposed mining and related burning of federal coal are inconsistent with guidance from recent climate reports, including the Fourth National Climate Assessment and reports prepared by the Intergovernmental Panel on Climate Change and U.S. Geological Survey;
- 3) Model the market impacts of the proposed expansion of federal coal mining;
- 4) Recognize the scale of the carbon emission problem and take into account the remaining carbon budget for CO₂ emissions from the U.S.; and

- 5) Use the social cost of carbon to analyze and disclose the climate impacts of the proposal and discuss how other Interior Department proposals relate.

2. BLM and OSMRE Must Disclose Scientific Consensus on the Urgent Need to Cut U.S. Greenhouse Gas Emissions

BLM and OSMRE must acknowledge the findings of recent climate reports, including the Fourth National Climate Assessment of 2018, as well as two other studies published last year by the Intergovernmental Panel on Climate Change (“IPCC”) and the U.S. Geological Survey. Additionally, information published in January 2019 specifically points out the urgent need for land management agencies to say “no” to the fossil fuel industry and for elected officials at all levels to steer the industry towards equitable and orderly phase-out. The findings of these recent and important climate reports are summarized below.

i. Fourth National Climate Assessment

Prepared by the U.S. Global Change Research Program (“USGCRP”) and published in 2018, the Fourth National Climate Assessment, Volume II (“NCA4”) identifies and evaluates the risks of climate change that threaten the U.S., and how a lack of mitigation and adaptation measures will result in dire climate consequences for the U.S. and its territories. This report builds upon the foundational physical science set out in the first volume of NCA4, the 2017-released *Climate Science Special Report*, which analyzed how climate change is affecting geological processes across the U.S. Volume II focuses on national and regional impacts of human-induced climate change since the Third National Climate Assessment in 2014, as well as highlighting the future of global warming that will jeopardize human health, economy, and the environment. Excerpts of the Volume II report are attached as Exhibit 14 and the entire report can be downloaded at https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf.¹

The report affirms that it is no longer reliably true that current and future climate conditions will resemble the recent past. Due to human activities that produce greenhouse gas emissions, the atmospheric concentration of carbon dioxide has increased approximately 40 percent since the beginning of the industrial era in the 19th century.² In fact, USGCRP concludes that evidence of anthropogenic climate change is staggering, and that the impacts of climate change are intensifying across the U.S. and its territories. These impacts are multiplying climate risks to Americans’ physical, social, and economic well-being.³ Climate risks threatening the U.S. and its territories include: impacts to the economy, such as property losses up to \$1 trillion in coastal property destruction; loss of reliable and affordable energy supplies and damaged energy infrastructure; declines in agricultural productivity; loss of two billion labor hours annually by 2090 due to temperature extremes; recreational and cultural losses of wildlife and ecosystems such as coral reefs; decreased water quality and security; diminished snowpack, sea level rise, and frequent flooding; increase in droughts, wildfires, and invasive species; and rise in

¹ USGCRP, *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II: Report-in-Brief* (2018).

² *Id.* at 30.

³ *Id.* at 26.

deaths across vulnerable populations due to extreme weather events and heat waves.⁴ To avoid these grave scenarios, the U.S. public and private sectors must invest in and implement mitigation actions to reduce greenhouse gas emissions, as well as adopt adaptation plans to prepare for future impacts.

Furthermore, while cutting carbon dioxide production is most efficient in reducing greenhouse gas emissions and limiting global warming, the report also mentions the need to reduce other climate pollutants such as methane. Methane (“CH₄”) is removed naturally from the atmosphere at a faster rate than carbon dioxide, and can help slow the global rise in temperature.⁵ In terms of methane reduction, NCA4 specifically calls for the replacement of coal with other sources of energy, like wind and solar renewables, in order to mitigate greenhouse gas emissions.⁶ As mentioned previously in this letter, fossil fuel combustion accounts for approximately 85 percent of total U.S. greenhouse gas emissions, of which methane from fossil fuel extraction and processing accounts for most of the remainder.⁷ NCA4 demonstrates how it is essential to phase-out fossil fuel extraction in favor of more renewable energy sources. Renewable energy will not only create less greenhouse gas emissions, but will provide other economic and societal benefits including improving air quality and public health and increasing energy independence and security through increased reliance on domestic sources of energy.⁸

These findings are significant in regards to BLM and OSMRE moving forward with the proposed coal lease, since no matter the amount of methane and carbon dioxide produced from fossil fuel extraction and end-source combustion, NCA4 unequivocally states that we must immediately reduce U.S. greenhouse gas emissions. BLM and OSMRE must take into account this updated climate report, and explicitly acknowledge its findings. We urge BLM OSMRE to consider the report’s conclusions and not move forward with the proposed federal coal lease.

ii. IPCC SR 1.5

In October 2018, the Intergovernmental Panel on Climate Change (“IPCC”) released a special report on the impacts of global warming, commissioned by the Paris Agreement of 2016. *Global Warming of 1.5°C*, finds greenhouse gas emissions produced by human activity have significantly contributed to global warming since the industrial revolution of the 19th century, increasing the rise in global temperature by 0.2°C per decade at present. An excerpt of this report is attached as Exhibit 15. The full report can be downloaded at <https://www.ipcc.ch/sr15/about/content-map/>.⁹ The report forecasts the state of climate at 1.5°C and 2°C, describing the devastating consequences continued warming has for our earth – destroying ecosystems, disrupting global economy, and jeopardizing public health. The report is a stark warning that delayed actions to cut greenhouse gas emissions, as well as the

⁴ *Id.* at 36-48.

⁵ *Id.* at 31.

⁶ *Id.* at 51.

⁷ *Id.*

⁸ *Id.* at 53.

⁹ IPCC, *Global Warming of 1.5°C*, An IPCC Special Report on the Impacts of Global Warming of 1.5°C Above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty, Summary for Policymakers at SMP-4 (2018) (hereafter “SPM”).

implementation of other mitigation and adaptation measures to climate change, will be extremely costly.

The IPCC report assessed scientific, technical, and socio-economic literature to compare the impacts of global warming at 1.5°C to 2.0°C above pre-industrial levels of greenhouse gas emissions, and the results are severe. At 2.0°C warming, as compared to 1.5°C, the following will be even more certain to occur: heavy precipitation and flooding; loss of ice sheets in Antarctica and Greenland triggering multi-meter sea level rise; heat waves, heat-related morbidity and mortality, and spread of vector-borne diseases; species loss and extinction, including doubling the number of insects, plants, and invertebrates losing over half of their geographic range; increased risks of forest fires and the spread of invasive species; increase in ocean temperature, acidity, and deoxygenation; risks to marine biodiversity, fisheries, and the near extinction of coral reef ecosystems; climate-related risks to health, livelihoods, food security, and freshwater supply; and risks to economic growth and the increase of poverty by several hundred million by 2050.¹⁰

Global Warming of 1.5°C concludes that anthropogenic CO₂ emissions must decline approximately 45 percent from 2010 levels by 2030 in order to stay within the range of 1.5°C, reaching net zero emissions around 2050.¹¹ In addition to cutting carbon emissions, the IPCC reports other non-CO₂ emissions, including methane, must be deeply reduced to achieve limiting global warming to 1.5°C with no or limited overshoot.¹² To progress in reducing global greenhouse gas emissions, rapid and transformative changes must be made to our global economy, particularly energy infrastructure. For instance, the IPCC suggests the complete phase-out of coal, explaining “the use of coal, with no or limited overshoot of 1.5°C, shows a steep reduction in all pathways and would be reduced to close to 0% (0-2%) of electricity (*high confidence*).”¹³

In summary, the lower the greenhouse gas emissions in 2030, the less challenging it will be to limit global warming to 1.5°C. Far-reaching climate mitigation and adaptation efforts are needed to both slow the rise in global temperature as well as prepare the planet for climate change impacts that are already in place, due to past and ongoing greenhouse gas emissions. The report specifically notes that “the challenges from delayed actions to reduce greenhouse gas emissions include the risk of cost escalation, lock-in carbon-emitting infrastructure, stranded assets, and reduced flexibility in future options in the medium- and long-term (*high-confidence*).”¹⁴ Therefore, collective, international cooperation on all levels is needed to limit global warming to 1.5°C.

Given this new climate report from the IPCC and its strong evidence of the rise in global temperature and severity of future climate change impacts, BLM and OSMRE should deny the proposed coal lease and consciously decide to not allow its decisions to contribute additional greenhouse gas emissions to the atmosphere, no matter how insignificant emissions may seem.

¹⁰ *Id.* SPM at 8-14.

¹¹ *Id.* SPM at 15.

¹² *Id.* SPM at 16.

¹³ *Id.*, SPM 21.

¹⁴ *Id.*, SPM 24.

iii. U.S. Geological Survey

The U.S. Geological Survey (“USGS”), a bureau within DOI, released a new study in November 2018 that calculates the amount of greenhouse gases emitted from fossil fuel extraction and combustion on federal lands, as well as the sequestration, or absorption of carbon that naturally occurs on undisturbed public lands. Specifically, from 2004 to 2015, USGS quantified the amounts of CO₂, methane CH₄, and nitrous oxide (“N₂O”) produced from coal, gas, and oil activities, as a result of public lands management. This report is attached as Exhibit 16.

Using data collected from 28 states (not including tribal lands) and offshore Gulf and Pacific continental shelves, USGS concludes that 1,279.0 million metric tons (MMT) CO₂, 47.6 MMT CO₂ equivalent CH₄, and 5.5 MMT CO₂ equivalent N₂O were released between 2004 and 2015.¹⁵ During the same time period, federal lands sequestered an average of 343 MMT CO₂, of which nine states accounted for 60 percent of carbon storage.¹⁶ Therefore, only approximately 15 percent of CO₂ emissions resulting from fossil fuel extraction and end-use combustion were offset by sequestration. Depending on public lands management, federal lands can either be a net sink or source of greenhouse gas emissions.

Significantly, over the 10-year period of this study, the report finds emissions from fossil fuels produced on federal lands represent, on average, 23.7 percent of national emissions for carbon dioxide, 7.3 percent for methane, and 1.5 percent for nitrous oxide.¹⁷ In 2014, Wyoming, offshore Gulf areas, New Mexico, Louisiana, and Colorado had the highest CO₂ emissions from fossil fuels produced on federal lands.

In short, BLM and OSMRE must not only acknowledge this new scientific information, but it must address the policy implications that necessarily follow. BLM and OSMRE 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.

iv. Oil Change International: Drilling Towards Disaster

In January 2019, Oil Change International in collaboration with another 17 not-for-profit organizations published a report called *Drilling Towards Disaster: Why U.S. Oil and Gas Expansion is Incompatible with Climate Limits* (“Report”). This report is attached as Exhibit 17.¹⁸ In addition to discussing why further oil and gas expansion must be halted to avoid climate crisis, the Report discusses the dire need of saying “no” to additional coal reserve development. Already with all developed reserves of coal, gas, oil, and cement combined, we have surpassed the threshold of a 50 percent chance of only a 1.5°C global temperature increase.¹⁹ In fact, we

¹⁵ Matthew D. Merrill et al., *Federal lands greenhouse gas emissions and sequestration in the United States—Estimates for 2005–14*, (2018), 6.

¹⁶ *Id.* at 13.

¹⁷ *Id.* at 6.

¹⁸ Kelly Trout and Lorne Stockman, *Drilling Towards Disaster: Why U.S. Oil and Gas Expansion is Incompatible with Climate Limits* (2019).

¹⁹ *Id.* at 5.

have surpassed this threshold by so much that we are now on the doorstep of a 66 percent chance of a 2°C increase with developed reserves alone.²⁰ Approving GCC’s coal lease application would only further lock us into an unsustainable and catastrophic climate trajectory.

To date, the U.S. is still the world’s third-largest coal producer, behind China and India.²¹ Federally leased coal is a huge player as “[a]round 40% of all U.S. coal production comes from federally leased land.”²² Existing U.S. mines already contain far more coal than the U.S. can extract under a coal phase-out timeline that is consistent with the Paris Agreement goals.²³ Based on both economic efficiency and equity, the U.S. should phase out coal much faster than the global average to meet responsibilities under the Paris goals.²⁴ To be consistent with Powering Past Coal Alliance’s (an alliance that include 28 national governments) coal mining phase out of 2030, more than 70 percent of coal reserves in existing mines need to remain in the ground.²⁵

Although U.S. coal mining is currently in decline, it is not being managed in a way that is fast enough for climate or fair for workers. Again, “[i]f U.S. coal production is phased out over a timeframe consistent with equitably meeting the Paris goals, at least 70 percent of coal reserves in already-producing mines would [need] to stay in the ground.”²⁶ Federal agencies as well as policymakers need to focus on accelerating the phase out of coal by 2030 or sooner, while ensuring a just transition for communities and workers. Therefore, BLM and OSMRE must not steamroll ahead with approving this coal lease.

3. BLM and OSMRE Must Evaluate the Significance of Greenhouse Gas Emissions by Using Available Methodologies

i. BLM and OSMRE Should Use Carbon Budgets to Assess Climate Impacts

One of the measuring standards available to the agency for analyzing the magnitude and severity of BLM and OSMRE-related fossil fuel emissions is by applying those emissions to the remaining global carbon budget. A “carbon budget” offers a cap on the remaining stock of greenhouse gasses that can be emitted while still keeping global average temperature rise below scientifically-backed warming thresholds – beyond which climate change impacts may result in severe and irreparable harm to the biosphere and humanity. Utilizing carbon budgets would offer BLM and OSMRE a methodology for analyzing how the proposed mine expansion and the continued coal combustion from the GCC coal lease may affect the country’s ability to meet recognized greenhouse gas emission reduction targets.

Scientific research has estimated the global carbon budget – the cumulative amount of carbon dioxide that can be emitted – for maintaining a likely chance of meeting the Paris Agreement target of 1.5°C or well below 2°C. According to the Fifth Assessment Report of the

²⁰ *Id.*

²¹ *Id.* at 21.

²² *Id.* at 22.

²³ *Id.*

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.* at 7 (emphasis in original).

Intergovernmental Panel on Climate Change, total cumulative anthropogenic CO₂ emissions must remain below 400 GtCO₂ from 2011 onward for a 66 percent probability of limiting warming to 1.5°C, and below 1,000 GtCO₂ from 2011 onward for a 66 percent probability of limiting warming to 2°C above pre-industrial levels.²⁷ The 2018 IPCC report *Global Warming of 1.5°C* provided a revised carbon budget for a 66 percent probability of limiting warming to 1.5°C, estimated at 420 GtCO₂ and 570 GtCO₂ depending on the temperature dataset used, from January 2018 onwards.²⁸ At the current emissions rate of 42 GtCO₂ per year, this carbon budget would be expended in just 10 to 14 years, underscoring the urgent need for transformative global action to transition from fossil fuel use to clean energy.²⁹

Importantly, a 2016 global analysis found that the carbon emissions that would be emitted from burning the oil, gas, and coal in the world's *currently operating* fields and mines would fully exhaust and exceed the carbon budgets consistent with staying below 1.5°C or 2°C. This analysis is attached as Exhibit 18.³⁰ Further, the reserves in currently operating oil and gas fields alone, even excluding coal mines, would lead to warming beyond 1.5°C. An important conclusion of the analysis is that *most* of the existing oil and gas fields and coal mines will need to be closed before their reserves are fully extracted in order to limit warming to 1.5°C.³¹ Some existing fields and mines will need to be closed to limit warming to 2°C.³²

In short, there is no room in the carbon budget for *new* fossil fuel extraction *anywhere*, including in the United States.³³ Additionally, most of the world's existing oil and gas fields and coal mines will need to be closed before their reserves are fully extracted to meet a 1.5°C target. The U.S. has an urgent responsibility to lead in this transition from fossil fuel production to 100 percent clean energy as a wealthy nation with ample financial resources and technical capabilities, as well as due to our dominant role in driving climate change and its harms. The U.S. is the world's largest historic emitter of greenhouse gas pollution, responsible for 26 percent

²⁷ IPCC, Summary for Policymakers, in: *Climate Change 2013: The Physical Science Basis*, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F. et al. (eds.)], Cambridge University Press (2013) at 25; IPCC, in: *Climate Change 2014: Synthesis Report*. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)], IPCC, Geneva, Switzerland, (2014), at 63-64, Table 2.2.

²⁸ IPCC, *Global Warming of 1.5°C*, SPM, (2018).

²⁹ *Id.*

³⁰ Oil Change International, *The Sky's Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production*, (September 2016), <http://priceofoil.org/2016/09/22/the-skys-limit-report/>.

³¹ Oil Change International, *The Sky's Limit California: Why the Paris Climate Goals Demand That California Lead in a Managed Decline of Oil Extraction*, (May 2018), <http://priceofoil.org/ca-skys-limit> at 7, 13.

³² Oil Change International, *The Sky's Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production*, at 5, 7.

³³ This conclusion was reinforced by the IPCC Fifth Assessment Report which estimated that global fossil fuel reserves exceed the remaining carbon budget (from 2011 onward) for staying below 2°C (a target incompatible with the Paris Agreement) by 4 to 7 times, while fossil fuel resources exceed the carbon budget for 2°C by 31 to 50 times. See Bruckner, Thomas et al., 2014: Energy Systems. In: *Climate Change 2014: Mitigation of Climate Change*. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press (2014), http://ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_chapter7.pdf at Table 7.2.

of cumulative global CO₂ emissions since 1870, and is currently the world's second highest emitter on an annual and per capita basis.³⁴

Research on the U.S.' carbon budget and the carbon emissions locked in U.S. fossil fuels similarly establish that the U.S. must halt new fossil fuel production and rapidly phase out existing production to avoid the worst dangers of climate change. Scientific studies have estimated the U.S. carbon budget consistent with a 1.5°C target at 25 GtCO₂eq to 57 GtCO₂eq on average,³⁵ depending on the sharing principles used to apportion the global budget across countries.³⁶ The estimated U.S. carbon budget consistent with limiting temperature rise to 2°C – a level of warming well above what the Paris Agreement requires and which would result in devastating harms – ranges from 34 GtCO₂ to 123 GtCO₂,³⁷ depending on the sharing principles used. Under any scenario, the remaining U.S. carbon budget compatible with the Paris climate targets is extremely small.

An analysis of U.S. fossil fuel resources demonstrates that the potential carbon emissions from already leased fossil fuel resources on U.S. federal lands would essentially exhaust the remaining U.S. carbon budget consistent with the 1.5°C target. This analysis estimated that

³⁴ Global Carbon Project, Global Carbon Budget, (November 13, 2017) at 10, 18, 32, <http://www.globalcarbonproject.org/carbonbudget/17/presentation.htm>

³⁵ Robiou du Pont, Yann et al., Equitable mitigation to achieve the Paris Agreement goals, 7 *Nature Climate Change* 38 (2017), and Supplemental Tables 1 and 2. Quantities measured in GtCO₂eq include the mass emissions from CO₂ as well as the other well-mixed greenhouse gases (CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and SF₆) converted into CO₂-equivalent values, while quantities measured in GtCO₂ refer to mass emissions of just CO₂ itself.

³⁶ Robiou du Pont et al. (2017) averaged across IPCC sharing principles to estimate the U.S. carbon budget from 2010 to 2100 for a 50 percent chance of returning global average temperature rise to 1.5°C by 2100, consistent with the Paris Agreement's "well below 2°C" target, and based on a cost-optimal model. The study estimated the U.S. carbon budget consistent with a 1.5°C target at 25 GtCO₂eq by averaging across four equity principles: capability (83 GtCO₂eq), equal per capita (118 GtCO₂eq), greenhouse development rights (-69 GtCO₂eq), and equal cumulative per capita (-32 GtCO₂eq). The study estimated the U.S. budget at 57 GtCO₂eq when averaging across five sharing principles, adding the constant emissions ratio (186 GtCO₂eq) to the four above-mentioned principles. However, the constant emissions ratio, which maintains current emissions ratios, is not considered to be an equitable sharing principle because it is a grandfathering approach that "privileges today's high-emitting countries when allocating future emission entitlements." For a discussion of sharing principles, see Kartha, S. et al., *Cascading biases against poorer countries*, 8 *Nature Climate Change* 348 (2018).

³⁷ Robiou du Pont et al. (2017) estimated the U.S. carbon budget for a 66 percent probability of keeping warming below 2°C at 60 GtCO₂eq based on four equity principles (capability, equal per capita, greenhouse development rights, equal cumulative per capita), and at 104 GtCO₂eq based on five principles (adding in constant emissions ratio, but see footnote above). For a 66 percent probability of keeping warming below 2°C, Peters et al. (2015) estimated the U.S. carbon budget at 34 GtCO₂ based on an "equity" approach for allocating the global carbon budget, and 123 GtCO₂ under an "inertia" approach. The "equity" approach bases sharing on population size and provides for equal per-capita emissions across countries, while the "inertia" approach bases sharing on countries' current emissions. Similarly using a 66 percent probability of keeping warming below 2°C, Gignac et al. (2015) estimated the U.S. carbon budget at 78 to 97 GtCO₂, based on a contraction and convergence framework, in which all countries adjust their emissions over time to achieve equal per-capita emissions. Although the contraction and convergence framework corrects current emissions inequities among countries over a specified time frame, it does not account for inequities stemming from historical emissions differences. When accounting for historical responsibility, Gignac et al. (2015) estimated that the United States has an additional cumulative carbon debt of 100 GtCO₂ as of 2013. See Peters, Glen P. et al., *Measuring a fair and ambitious climate agreement using cumulative emissions*, 10 *Environmental Research Letters* 105004 (2015); Gignac, Renaud and H. Damon Matthews, *Allocating a 2C cumulative carbon budget to countries*, 10 *Environmental Research Letters* 075004 (2015).

recoverable fossil fuels on U.S. *federal lands* would release up to 349 to 492 GtCO₂eq of carbon emissions, if fully extracted and burned. This analysis is attached as Exhibit 19.³⁸ Of that amount, *already leased* fossil fuels would release 30 to 43 GtCO₂eq of emissions, while as yet unleased fossil fuels would emit 319 to 450 GtCO₂eq of emissions. Thus, carbon emissions from *already leased* fossil fuel resources *on federal lands alone* (30 to 43 GtCO₂eq) would essentially exhaust the U.S. carbon budget for a 1.5°C target (25 to 57 GtCO₂eq), if these leased fossil fuels are fully extracted and burned. The potential carbon emissions from unleased fossil fuel resources (319 to 450 GtCO₂eq) would exceed the U.S. carbon budget for limiting warming to 1.5°C many times over.³⁹ This does not include the additional carbon emissions that will be emitted from fossil fuels extracted on non-federal lands, estimated up to 500 GtCO₂eq if fully extracted and burned.⁴⁰ This research further establishes that the United States must halt new fossil fuel projects and close existing fields and mines before their reserves are fully extracted to achieve the Paris climate targets and avoid the worst damages from climate change.

Furthermore, research that models emissions pathways for limiting warming to 1.5° or 2°C shows that a rapid end to fossil fuel extraction in the United States is critical. Specifically, research indicates that global fossil fuel CO₂ emissions must *end entirely* by mid-century and likely as early as 2045 for a reasonable likelihood of limiting warming to 1.5° or 2°C. This report is attached as Exhibit 20.⁴¹ Due to the small U.S. carbon budget, our country must end fossil fuel CO₂ emissions even earlier: between 2025 and 2030 on average for a reasonable chance of staying below 1.5°C, and between 2040 and 2045 on average for a reasonable chance of staying below 2°C.⁴² Ending U.S. fossil fuel CO₂ emissions between 2025 and 2030, consistent with the Paris climate targets, would require an immediate halt to new production and closing most existing oil and gas fields and coal mines before their reserves are fully extracted.

Ending the approval of new fossil fuel production and infrastructure is also critical for preventing “carbon lock-in,” where approvals and investments made now can lock in decades' worth of fossil fuel extraction that we cannot afford. New approvals for wells, mines, and fossil fuel infrastructure – such as pipelines and marine and rail import and export terminals -- require upfront investments that provide financial incentives for companies to continue production for decades into the future.⁴³ Given the long-lived nature of fossil fuel projects, ending the approval

³⁸ Ecoshift Consulting et al., “The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels,” Prepared for Center for Biological Diversity & Friends of the Earth (2015), <http://www.ecoshiftconsulting.com/wpcontent/uploads/Potential-Greenhouse-Gas-Emissions-U-S-Federal-Fossil-Fuels.pdf>.

³⁹ Ecoshift Consulting et al., “The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels,” at 4.

⁴⁰ Ecoshift Consulting et al., “The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels,” at 3 (“the potential GHG emissions of federal fossil fuels (leased and unleased) are 349 to 492 Gt CO₂e, representing 46% to 50% of potential emissions from all remaining U.S. fossil fuels”).

⁴¹ Rogelj, Joeri et al., Energy system transformations for limiting end-of-century warming to below 1.5°C, 5 Nature Climate Change 519 (2015); IPCC, *Global Warming of 1.5°C*, SPM, (2018).

⁴² Climate Action Tracker, USA (last updated 30 April 2018), <http://climateactiontracker.org/countries/usa> at Country Summary figure showing U.S. emissions versus year.

⁴³ Davis, Steven J. and Robert H. Socolow, Commitment accounting of CO₂ emissions, Environmental Research Letters 9: 084018 (2014); Erickson, Peter et al., Assessing carbon lock-in, 10 Environmental Research Letters 084023 (2015); Erickson, Peter et al., Carbon lock-in from fossil fuel supply infrastructure, Stockholm Environment Institute, Discussion Brief (2015); Seto, Karen C. et al., Carbon Lock-In: Types, Causes, and Policy Implications, 41 Annual Review of Environmental Resources 425 (2016); Green, Fergus and Richard Denniss, Cutting with both

of new fossil fuel projects avoids the lock-in of decades of fossil fuel production and associated emissions.⁴⁴ Reports detailing the need to prevent “lock-in” and to utilize supply-side climate action are attached as Exhibits 21 and 22.

ii. BLM and OSMRE Must Use the Social Cost of Carbon to Analyze Climate Impacts

BLM and OSMRE must analyze and assess the climate impacts of mining the proposed coal lease using the social cost of carbon protocol. The social cost of carbon is a tool that was created by federal agencies is one method BLM and OSMRE can use to quantify and disclose the harm caused by the proposed project’s carbon dioxide emissions. The social cost of carbon provides a metric for estimating the economic damage, in dollars, of each incremental ton of carbon dioxide emitted into the atmosphere. *See* Exhibit 23.⁴⁵

The social cost of carbon protocol for assessing climate impacts is a method for “estimat[ing] the economic damages associated with a small increase in carbon dioxide (CO₂) emissions, conventionally one metric ton, in a given year [and] represents the value of damages avoided for a small emission reduction (i.e. the benefit of a CO₂ reduction).” *See* Exhibit 24. The protocol was developed by an Interagency Working Group (“IWG”) consisting of several federal agencies.

Although Executive Order 13,783 disbanded the IWG, the entity which developed the social cost of carbon protocol, and withdrew the technical support documents discussed below, the protocol is still “generally accepted in the scientific community.” *See* Exhibit 25. Indeed, the Trump Administration still uses the SCC protocol despite drastically reducing the damages caused by carbon emissions.⁴⁶

Work on the protocol, began in 2009, with final estimates of carbon costs issued by the IWG in 2010. This report is attached as Exhibit 26. These estimates were then revised in 2013, 2015, and then in 2016. The 2013, 2015, and 2016 reports are attached as Exhibits 27, 28, and 23, respectively.

arms of the scissors: the economic and political case for restrictive supply-side climate policies, *Climatic Change* <https://doi.org/10.1007/s10584-018-2162-x> (2018).

⁴⁴ Erickson et al. (2015): “The essence of carbon lock-in is that, once certain carbon-intensive investments are made, and development pathways are chosen, fossil fuel dependence and associated carbon emissions can become “locked in,” making it more difficult to move to lower-carbon pathways and thus reduce climate risks.” Green and Denniss (2018): “When production processes require a large, upfront investment in fixed costs, such as the construction of a port, pipeline or coalmine, future production will take place even when the market price of the resultant product is lower than the long-run opportunity cost of production. This is because rational producers will ignore ‘sunk costs’ and continue to produce as long as the market price is sufficient to cover the marginal cost (but not the average cost) of production. This is known as ‘lock-in.’”

⁴⁵ Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Technical Updated of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (May 2013, Revised August 2016).

⁴⁶ *See* Brad Plumer, *Trump Put a Low Cost of Carbon Emissions. Here’s Why It Matters*, *New York Times*, Aug. 23, 2018, <https://www.nytimes.com/2018/08/23/climate/social-cost-carbon.html>.

Most recently, as an addendum to previous Technical Support Documents regarding the social cost of carbon, the Department of the Interior joined numerous other agencies in preparing estimates of the social cost of methane and other greenhouse gases. This addendum is attached as Exhibit 29.

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 \$10 to \$212 per metric ton of carbon dioxide.

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.” This letter is attached as Exhibit 30. BLM has also utilized the social cost of carbon protocol in the context of oil and gas approvals. For example, the Billings Field Office estimated “the annual SCC [social cost of carbon] associated with potential development on lease sale parcels.” *See* Exhibit 31. 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. Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be “\$38,499 (in 2011 dollars).” In Idaho, the BLM also utilized the social cost of carbon protocol to analyze and assess the costs of oil and gas leasing. Using a 3% average discount rate and year 2020 values, the agency estimated the cost of carbon to be \$51 per ton of annual CO₂e increase. *See* Exhibit 32. 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.

To be certain, the social cost of carbon protocol presents a conservative estimate of economic damages associated with the environmental impacts climate change. As the EPA has noted, the protocol “does not currently include all important [climate change] damages.” Exhibit 24. As the EPA explained:

The models used to develop [social cost of carbon] estimates do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature because of a lack of precise information on the nature of damages and because the science incorporated into these models naturally lags behind the most recent research.

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. *See* Exhibit 33. A report from 2017, estimated carbon costs to be \$50 per metric ton, a value that experts have found to be the “best estimate of the social cost of greenhouse gases.” This report is attached as Exhibit 34. Yet, in spite of uncertainty and likely underestimation of carbon costs by the IWG SCC, nevertheless, “the SCC is a useful measure to assess the benefits of CO₂ reductions,” and thus a useful measure to assess the costs of CO₂ increases. *See* Exhibit 24.

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA and is specifically supported in federal case law. Courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. *Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 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.

In 2014, a federal court did likewise for a federally-approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *See High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp. 3d 1174, 1193 (D. Colo. 2014) (citing 40 C.F.R. § 1502.23). However, when an agency prepares a cost-benefit analysis, “it cannot be misleading.” *Id.* at 1182 (citations omitted). In that case, the NEPA analysis included a quantification of benefits of the project, but, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis. *Id.* at 1196. The agencies then relied on the stated benefits of the project to justify project approval. This, the court explained, was arbitrary and capricious. *Id.* Such approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. *Id.* Furthermore, the court reasoned that even if the agency had decided that the social cost of carbon was irrelevant, the agency must still provide “*justifiable reasons* for not using (or assigning minimal weight to) the social cost of carbon protocol” *Id.* at 1193 (emphasis added). In August 2017, a federal district court in Montana cited to the *High Country* decision and reaffirmed its reasoning, rejecting a NEPA analysis for a coal mine expansion that touted the economic benefits of the expansion without assessing 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).

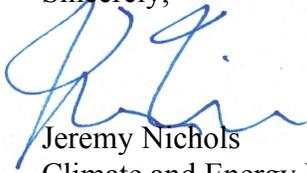
A 2015 op-ed in the New York Times from Michael Greenstone, the former chief economist for the President’s Council of Economic Advisers, confirms that it is appropriate and acceptable to calculate the social cost of carbon when reviewing whether to approve fossil fuel extraction. *See Exhibit 35.* In 2017, the Proceedings of the National Academy of Sciences of the United States of America, acknowledged in a peer-reviewed article that the social cost of carbon analysis is “[t]he most important single economic concept in the economics of climate change,” and that “federal regulations with estimated benefits of over \$1 trillion have used the SCC.” This article is attached as Exhibit 36.

In sum, the social cost of carbon provides a useful, valid, and meaningful tool for assessing the climate consequences of the proposed leasing, and the BLM and OSMRE must utilize this methodology to effectively analyze and assess the climate impacts of the proposed coal lease.

Again, we object to the BLM's proposal to move forward with analyzing and assessing the proposed federal coal lease. Issuance of the lease appears wholly contrary to the American public interest of avoiding the costs of climate change, of increased air and water pollution, of increased contamination risks, and of local impacts to public lands and other resources. In assessing whether the federal coal lease is in the public interest, the BLM must complete and disclose a thorough comparison of costs and benefits to justify any public interest determination.

Thank you for the opportunity to comment. This letter and its exhibits are being submitted via the BLM's ePlanning website. This letter alone is being e-mailed to the project contact and other BLM and OSMRE officials who are a part of the decisionmaking process.

Sincerely,



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