

**Powder River Basin Resource Council
Center for Biological Diversity
Sierra Club**

August 30, 2010

Sarah Bucklin
Bureau of Land Management
Wyoming High Plains District Office
2987 Prospector Dr.
Casper, WY 82604

Sent via electronic mail to casper_wymail@blm.gov

Re: Final Environmental Impact Statement for the Wright Area Coal Lease Applications

Dear Ms. Bucklin,

Thank you for the opportunity to review the Final Environmental Impact Statement (FEIS) and present our comments and concerns on the proposed Wright Area Coal Lease Applications.

The Powder River Basin Resource Council ("Powder River") has a long history of involvement working for responsible coal leasing and mining in the Powder River Basin. Powder River was formed in 1973 by ranchers and concerned citizens of Wyoming to address the impacts of strip mining on rural people and communities. Today, we work for the preservation and enrichment of our agricultural heritage and rural lifestyle; the conservation of our unique land, mineral, water, and clean air resources, consistent with the responsible use of those resources to sustain the livelihood of present and future generations; and the education and empowerment of our citizens to raise a coherent voice in the decisions that will impact their environment and lifestyle. Our members live, raise families, ranch, work, and travel throughout the Powder River Basin near the various coal mines of the area. We write these comments on their behalf.

BLM's selected alternative would authorize the leasing of 5 billion tons of federal in-place coal reserves underlying just over 36 thousand acres of surface lands.¹ Mining this amount of coal would directly disturb over 50 thousand acres of vegetation, greatly impacting lands used for wildlife habitat and rangeland grazing. EIS at 3-185. By any measure, proposing to authorize the Wright Area leases is one of the most significant actions BLM has ever taken in the state of Wyoming.

Leasing five billion tons of federal coal is clearly a major federal action that warrants careful consideration and analysis through the NEPA process. BLM has a legal responsibility in this EIS

¹ Of course, nowhere in the EIS does BLM disclose these cumulative amounts of minerals or surface lands. It is left up to the reader to do its own addition from BLM's tables of the various alternatives for the six lease tracts. Tables 2-2 through 2-13; Tables 3-1 to 3-6.

to discuss alternatives, mitigation measures, and fully disclose environmental impacts. Although an improvement over the draft EIS, as described below, the final EIS is still legally deficient. The document needs to be substantially revised and should be re-circulated for public comment before BLM moves forward with authorizing these six coal leases.

I. BLM's interpretation of the purpose & need of this federal action unlawfully forecloses consideration of reasonable alternatives

At the outset of any NEPA document, a federal agency is required to analyze the purpose and need for the project. *See, e.g.* 40 C.F.R. § 1502.10 (describing the recommended format for an environmental impact statement).

The purpose and need statement is particularly important in the context of an EIS because an agency must consider a reasonable range of alternatives that meet the purpose and need. NEPA mandates that federal agencies “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(2)(E). This alternatives analysis is “the heart of the environmental impact statement.” 40 C.F.R. § 1502.14. Alternatives analysis is important because “[w]ithout substantive, comparative environmental impact information regarding other possible courses of action, the ability of an EIS to inform agency deliberation and facilitate public involvement would be greatly degraded.” *New Mexico v. BLM*, 565 F.3d 683, 708 (10th Cir. 2009).

BLM says the purpose of its action is to respond to an application for a coal lease. BLM thus believes that the range of alternatives is limited to approving or denying the coal lease application. Response to Comments at 2. However, the public purpose of BLM's coal leasing program is actually much broader than that, as acknowledged by the agency. BLM states that “coal-fired electric generating plants are the cornerstone of the nation's central power configuration.” Response to Comments at 1. Further, BLM states that “the continued extraction of coal is essential in order to meet the nation's energy needs. As a result, private development of federal coal is integral to the BLM coal leasing program...” EIS at 1-17. Therefore, this public purpose of helping “to meet the nation's energy needs” is what BLM should use as the basis for considering a reasonable range of alternatives. Renewable energy and/or energy efficiency are reasonable alternatives that provide a stable supply of power to the nation and therefore must be considered in this EIS.

BLM acknowledges that “the addition of non-carbon fueled electric generation sources could reduce future GHG emissions” and “the addition of alternate sources of electric generation would potentially help to conserve carbon-based fuels and provide a broader portfolio of electric sources.” Response to Comments at 2. Nevertheless, BLM ultimately concludes that without a specific project being proposed, it is impossible for the agency to compare impacts of a renewable energy alternative. *Id.* BLM seems to be presuming that because there is not a specific renewable energy proposal for the lands that will be leased under its proposal, it is impossible to compare alternatives. However, even without a specific renewable project in hand BLM could easily compare the environmental impacts of renewable energy and energy efficiency in general versus coal mining. Specifically, the carbon footprint of renewable energy projects, such as wind

energy facilities proposed in the Powder River Basin and elsewhere in Wyoming, is known and could easily be compared to the carbon footprint of coal mining and coal-fired power plants in the Powder River Basin and elsewhere in Wyoming. Renewable energy and energy efficiency options are also well known to have water consumption benefits, benefits which are very important in an arid state like Wyoming. The carbon, economic, and environmental benefits of energy efficiency investments are well established and have been extensively studied by utilities, government agencies, and independent parties.² BLM could easily integrate this sort of information into an alternatives analysis.

Ultimately, of course, BLM cannot make choices for utilities nor propose its own renewable energy projects; nevertheless, BLM can – and should – compare the environmental trade-offs that directly result from its actions. If BLM continues to lease coal, more coal will be available for purchase by utilities and this drives down the price of coal and creates a situation where utilities are more likely to continue to burn coal as opposed to switching to cleaner sources of energy. Cheap and easily obtainable coal supplies are dwindling and BLM manages some of the world's best coal reserves.³ BLM notes that production related to these lease tracts will likely be between 291 and 307 million tons of coal per year. EIS at 2-9. This amounts to over a quarter of U.S. production in 2008.⁴ The agency's role in maintaining a high-carbon, environmentally-costly energy supply is a serious consequence of BLM's coal leasing program.

Moreover, BLM has a duty to “[i]nclude reasonable alternatives not within the jurisdiction of the lead agency” in its EIS. 40 C.F.R. § 1502.14(c).⁵ Thus, BLM could consider renewable energy projects or energy efficiency initiatives that could be proposed or approved by other agencies, including its cooperating agency of the U.S. Forest Service, which manages surface lands included in the proposed lease tracts. We acknowledge this is an unconventional approach to the typical alternatives analysis we see in BLM EISs. However, given the extreme environmental impacts that result from the BLM's coal leasing program, BLM must fully consider alternatives and other options. If BLM's purpose for coal leasing truly is to meet the nation's energy needs, then alternatives to coal that meet the nation's energy needs must be considered. This type of alternatives analysis would be fully consistent with NEPA, CEQ regulations, and the BLM NEPA handbook. BLM could easily include analysis of renewable

² See attached study from Synapse Energy and water and public health benefits of renewable energy and energy efficiency in Utah.

³ In its EIS and Response to Comments, BLM repeatedly speaks about the “low-sulfur” content of PRB coal and infers that PRB coal helps to reduce sulfur dioxide emissions at power plants. However, power plants are governed by Clean Air Act mandates and must meet sulfur dioxide reductions regardless of whether they use PRB coal.

⁴ <http://www.eia.doe.gov/cneaf/coal/page/acr/table1.html>

⁵ See also *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 814 (9th Cir. 1999) (rejecting agency determination that a citizen-proposed alternative was too “remote and speculative” to be considered under NEPA because it did not necessarily fall within the authority of the agency). The court held that considering alternatives “not within the jurisdiction of the lead agency” is necessary to complying with NEPA's “hard look” mandates. *Id.*

energy and energy efficiency options with consideration of the environmental benefits of its no action alternative or a reduced leasing scenario alternative that should be considered within the reasonable range of options plainly within the authority of BLM.

Finally, leasing is “an agency-proposed action” that requires a robust alternatives discussion. While the Wright Area Mines may have applied for the coal lease tracts, the decision is ultimately BLM’s because at this time, the mines do not have any property or other legal interests in the coal. Therefore, the purpose and need of the action is BLM’s to decide and the agency is not constrained by the bounds of a company’s “application.”

In fact, BLM has demonstrated that it has flexibility outside the bounds of the application by considering (and selecting) alternatives to lease substantially more coal than has been requested by the applicants (see discussion in next section). In doing so, BLM has shown that it not just merely responding to an application for a specific amount of coal to meet the specific needs of a mining company but that the agency is engaging in a discretionary action to lease coal based on a variety of considerations and with a larger purpose in mind. In a similar vein, BLM should consider an alternative to lease a lesser amount of coal.⁶ BLM should also consider whether to approve fewer lease tracts, as opposed to all six as the agency has selected. For instance, BLM should consider whether to approve only one lease for each mine at a time.⁷

The lease by application framework is a form of competitive coal leasing and is not merely responding to an application like a permit or a license application. Therefore, BLM must fully consider a range of reasonable alternatives commensurate with the significance of this action. As described above, there is a large variety of reasonable alternatives available for BLM’s consideration in this EIS.

II. BLM must properly analyze the impacts of its preferred alternative

BLM has proposed to lease over one billion tons more coal in these six leases alone than mining companies have applied for in all of the twelve currently pending coal lease applications. In terms of the Wright Area leases alone BLM has proposed to lease almost two billion tons more than the amount of coal originally applied for by the mining companies.⁸ Nowhere in the EIS has BLM fully explained the rationale for choosing this alternative. It is not meant to suit the needs of the mining company; that alternative is the action proposed by the applications. BLM claims that the reconfigured lease tracts “would provide more efficient recovery of the federal coal, increase competitive interest in the tract, and/or reduce the potential that some of the remaining unleased federal coal in this area would be bypassed in the future.” EIS at ES-27.

⁶ BLM specifically acknowledges this authority. EIS at 2-8: “BLM could either increase or decrease the size of each tract as applied for.”

⁷ Limiting the amount of coal leased to each mine would also help promote reclamation opportunities. See discussion below.

⁸ The six lease by applications originally included 3,169.5 million metric tons. EIS Tables ES-1 to ES-12.

However, BLM does not provide information in the EIS that explains this rationale or provides evidence to support it. Mere inferences that this alternative will serve BLM's stated purposes are not enough. BLM must properly explain why this alternative was selected and what benefits, if any, it will provide. BLM has substituted its judgment on mining operations for the judgment of the mining companies and should fully describe the reasons why it has chosen to do so. This analysis is critical to meet the dual purposes of NEPA and to inform the public of the reasons for the agency's actions.

Moreover, BLM's EIS is deficient in explaining the environmental consequences of its preferred alternative. In the EIS, BLM combines the analysis of environmental impacts of the proposed alternative (lease tracts as proposed by the mining companies) with analysis of environmental impacts of the preferred alternative (lease tracts as reconfigured by BLM).⁹ Thus, nowhere in the EIS is the reader – or in fact the agency – presented with an analysis of the environmental benefits or costs of choosing one alternative over the other. While BLM hypothesizes that coal production is expected to stay at the same rate regardless of whether the proposed or preferred alternative is selected, BLM does not disclose the environmental impacts associated with prolonging the life the mines or include a reasonably vetted discussion about whether production – and associated impacts – could increase because of the significantly greater amount of coal that will be available to the companies. It is hard to believe that the environmental impacts of BLM's preferred alternative, which again increases the amount of leased coal by almost 2 billion tons, will not create different environmental impacts related to topics ranging from air quality to ground and surface water to climate change to wildlife impacts than the action proposed by the mining companies. If this is indeed the case, please explain how BLM came to this determination in a scientifically defensible manner.

In order to fulfill the requirements of NEPA, BLM must “[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.” 40 C.F.R. § 1502.14(b). BLM's analysis of its preferred alternative and its resulting environmental consequences is greatly deficient in meeting these requirements.

III. The cumulative impacts section of the EIS must be revised to compare environmental impacts of the various alternatives

In addition to the need to consider a more robust range of reasonable alternatives (see discussion above), BLM must also revise its analysis of cumulative impacts to compare impacts that will occur with each alternative. The cumulative impacts section does not consider the “no action” alternative or differentiate between the proposed and preferred alternatives. Again, the “heart” of an EIS is a comparison of various alternatives to the proposed action and the cumulative impacts analysis is missing this comparison.

⁹ See EIS at 3-13, 3-19, 3-30, 3-45, 3-57, 3-82, 3-93, 3-97, 3-111, 3-143, 3-153, 3-162, 3-173, 3-177, 3-185, 3-192, 3-196, 3-206, 3-210, 3-221, 3-229, 3-233, 3-263, 3-275, 3-283, 3-294, 3-299, 3-302, 3-323-26, and the entirety of Chapter 4 (combining discussion of Proposed Action and Alternatives 2 and 3).

The BLM's NEPA Handbook states that cumulative effects analysis " must be able to describe the incremental differences in cumulative effects as a result of the proposed action and alternatives." BLM NEPA Handbook at 61. The CEQ has provided guidance to agencies that NEPA requires that "cumulative effects must be evaluated along with the direct effects and indirect effects... of each alternative..." and that "...as the proposed action is modified or other alternatives are developed (usually to avoid or minimize adverse effects), additional or different cumulative effects issues may arise."¹⁰

BLM's cumulative impacts analysis must therefore be substantially revised in order to meet the requirements of NEPA.

IV. BLM must adequately analyze current and projected reclamation status prior to leasing new tracts

Contemporaneous reclamation promotes environmental protection of land and water resources by minimizing the length of time lands are disturbed, maintains stable non-eroding mine sites, reduces fugitive dust from unvegetated areas, and helps to achieve productive end land uses.

BLM has a duty under NEPA to fully disclose and evaluate compliance with SMCRA mandates regarding contemporaneous reclamation and environmental impacts of coal leasing and associated mining. The lack of contemporaneous reclamation at PRB mines is a significant impact that must be properly analyzed. Lack of reclamation has substantial impacts, such as the spread of noxious weeds, decreased air quality as a result of a larger area of disturbance, less water restoration, and a longer loss of livestock and wildlife pastureland.

BLM claims that the agency "has no authority under SMCRA" and thus it "does not regulate or enforce reclamation of mined lands in Wyoming." Response to Comments at 9. However, BLM has a duty under NEPA to adequately analyze numerous reports and data regarding the lack of contemporaneous reclamation at the Wright Area Mines and within the PRB prior to authorizing additional leasing. This is exactly the kind of analysis NEPA mandates – up-front consideration of foreseeable environmental impacts. An alleged lack of "authorization" over one component of coal development (*i.e.* reclamation) does not substantiate the BLM's failure to take a hard look at this issue.

In reports on the Wyoming program, OSM has fully recognized that mines in Wyoming are not meeting contemporaneous reclamation requirements because of a growing gap between disturbed and reclaimed acreages, delays in reclamation activities, failure to achieve bond release, and operational emphases on production over reclamation. OSM's most recent assessment of this issue is that "the data shows that the State program may not be effective in its goal of having all disturbed lands reclaimed to the approved post-mining land use as contemporaneously as possible." 2009 Wyoming Annual Oversight Report at 9. OSM concludes

¹⁰ CEQ, *Considering Cumulative Effects Under the National Environmental Policy Act*, January 1997

that "...there could be delays in backfilling and grading or permanent seeding operations due to the mines' operational emphasis on coal production over reclamation." *Id.*

The mere listing of acreage amounts of "disturbed" and "reclaimed" lands in Chapter 3 of its EIS does not equate to a "hard look" under NEPA. For example, BLM states that at the Black Thunder Mine, to date, 13,874 acres have been disturbed of which 6,476 acres are "areas that had been mined and reclaimed or in the process of being reclaimed." EIS at 3-7. The BLM cites the Thunder Basin Coal Company as the source of this information. In providing this information, the BLM failed to connect the listed acreages with reclamation standards and bond release requirements designed to provide an objective basis of reclamation success.¹¹ Additionally, BLM failed to connect reclamation status with environmental impacts, such as reduced air quality resulting from significant amounts of exposed ground. By lumping all lands undergoing any stage of "reclamation" into one total, BLM has failed to consider that there are different environmental impacts that result from lands in different stages of reclamation. BLM has also failed to consider objective, third-party information, such as reports and information from Wyoming DEQ and OSM, which document a lack of contemporaneous reclamation at the PRB mines.¹²

In addition to general analysis of reclamation status, BLM should specifically analyze the ability of mining operations to contemporaneously reclaim brush lands. Brush lands are very difficult to reestablish and to date very little acreage of brush lands has been reclaimed at PRB mines. Analysis of reclamation potential of brush lands is important given that BLM discloses that 42% of the analysis area is composed of big sage shrubland, EIS at 3-184, and that "reduction in sagebrush would result in a long term reduction of habitat for some species." EIS at 3-186.

V. Bond release is the ultimate measure of reclamation success and bond release status must be analyzed in the EIS

Mines in Wyoming, and especially the PRB, have – over a 30 year history – failed in achieving bond release. According to the OSM 2009 Annual Report, "[t]o date 151,186 acres have been disturbed and of that 6,197 acres (5.3%) have received Phase III bond release in Wyoming." 2009 Wyoming Annual Oversight Report at 8-9. Only 341 acres were released from Phase III bonds in Fiscal Year 2009 whereas 5,497 acres were disturbed. *Id.* at 27. This is a ratio of 0.06.

¹¹ Additionally, the BLM's interpretation of what is "reclaimed" does not appear to be consistent with the OSM directives, is incredibly broad, and includes land that is in various stages of reclamation, not just lands that have achieved final reclamation. Merely re-graded or re-seeded does not equate to reclaimed.

¹² Even under BLM's broad view of "reclaimed" lands including lands that are merely re-seeded, OSM data shows that at the North Antelope Rochelle Mine, the ratio of reclaimed acres to disturbed acres is 0.28. OSM Wyoming Report at 13.

Thank you for mentioning the amount of acreage of PRB mines that have attained Phase I, II, and III bond release. EIS at 3-189. However, merely listing the 2009 numbers does not accurately analyze the reclamation status of Wyoming coal mines.¹³

Moreover, bond release figures are needed for each of the Wright Area mines to determine compliance with contemporaneous reclamation requirements at these mines. For instance, the North Antelope Rochelle mine has disturbed 15,311 acres of which only 1,880 acres have obtained Phase I bond release and only 182 acres have obtained Phase II bond release. No acres have been released from the Phase III bond. OSM Wyoming 2009 Report at 14.

BLM claims that “a percentage assessment of lands that have been released from final bonding requirements is not an accurate assessment of ‘contemporaneous’ reclamation.” Response to Comments at 11. BLM also claims that “Regardless of their bond release status, reclaimed lands are frequently utilized, and are often preferred, by wildlife and are commonly used for livestock grazing.” Response to Comments at 10.

First off, BLM does not provide any scientific documentation or other studies that demonstrate that wildlife prefer “reclaimed lands.” Is this just anecdotal information from the coal mining companies? Because of noise and human activity, it is unlikely that big game, sage-grouse, and other species prefer areas undergoing reclamation work or adjacent to ongoing mining operations. Additionally, while some lands are grazed, they are often grazed as part of the reclamation and re-vegetation process itself. This is not the same as grazing that may be available once a site is fully reclaimed and released from Phase III bonding. Until final bond release, surface lands are under the control of the mining company and grazing access (especially public grazing access through the Forest Service) is severely limited if not prohibited.

Second, BLM’s assurances are irrelevant because bond release is the best measure of reclamation success and therefore bond release status must be considered part and parcel of any discussion of reclamation status. The OSM evaluates the effectiveness of a state program achieving reclamation success based on the number of acres that meet the bond release standards and have been released. OSM Directive REG-8 requires that the annual report includes a comparison and evaluation of the number of acres being mined versus the number of acres being reclaimed. See, e.g. OSM-DEQ 2010 Regulatory Performance Agreement, Dec. 2009, at 2. In this tabular comparison, bond release acreage is used to determine reclamation status. As OSM dictates, “...**the ultimate determination of reclamation success and release of the operator’s liability for further reclamation efforts occurs only through the open and public process of bond release...**” OSM Directive, Nov. 21, 2008, at 2 (emphasis added).

The bond release process recognizes that reclamation occurs in different steps, but ultimately to remain contemporaneous, reclamation must proceed from one step to the other and eventually reach Phase III final bond release. “In practice, evaluation of reclamation success has become virtually synonymous with bond release. Therefore, the procedures for bond release outlined in

¹³ BLM only includes the numbers from evaluation year 2009. The cumulative numbers must be considered. The 2009 OSM report documents that 151,186 acres have been disturbed to date and of that only 6,197 acres have obtained Phase III bond release.

SMCRA have shaped the way reclamation success is evaluated. Instead of keeping the entire bond until reclamation has been judged a complete success, which would be financially burdensome for an operator, the Act provides for a phased release of the bond in portions that reflect the operator's reclamation costs." U.S. Office of Technology Assessment, WESTERN SURFACE MINE PERMITTING AND RECLAMATION, OTA-E-279, June 1986, *available at* <http://www.fas.org/ota/reports/8638.pdf> at 208.

Phase III bond release is particularly important in the context of determining whether water resources have been restored after coal mining. OSM dictates that "Achievement of surface water quality and quantity restoration can be measured by acres of Phase III bond release." OSM Wyoming 2009 Report at 9.

VI. BLM must consider mitigation measures and alternatives related to reclamation

Given the current failure of PRB mines to meet contemporaneous goals and requirements under SMCRA, BLM must not lease new coal and instead should wait to lease new tracts until reclamation of current tracts is complete. This is a delay alternative that must be considered in the EIS. While BLM does consider, but eliminate from detailed analysis, a delay alternative, that alternative was framed in the context of "tak[ing] advantage of higher coal prices and/or allow[ing] recovery of the potential coal bed natural gas resources in the tract prior to mining." EIS at 2-8, 2-67-68. BLM failed to consider the environmental benefits of a delay alternative associated with delaying a lease of the tract until the mines achieve contemporaneous reclamation as indicated by bond release status. Such a delay action would be fully consistent with the requirements of 43 C.F.R. § 3425.1-8(a)(3), which dictates that an application for leasing must be rejected if "leasing of the lands covered by the application, for environmental or other sufficient reasons, would be contrary to the public interest."

If BLM decides to proceed with leasing at this time, the agency should consider lease stipulations related to reclamation. For instance, BLM could propose a lease stipulation that would prevent mining associated with the lease tract until the mine achieves a certain level of final bond release of previously mined lands (30%, 50%, or 75% for example). This would be fully consistent with BLM authority, which allows development related stipulations for federal coal leases.¹⁴ BLM could also propose to lease only one tract of coal per mine, which would limit expansion of mining operations to one direction and allow a greater emphasis on reclamation. Finally, as discussed above, BLM could propose to lease a smaller amount of coal. If BLM's leasing rate is more staggered, it could better promote contemporaneous reclamation. Irrespective of any authority under SMCRA, BLM has the ability under its leasing program to control the pace and scale of mining operations, and if BLM slows its leasing pace, this may help to promote contemporaneous reclamation of previously mined lands. BLM should consider all of these reasonable alternatives, and other alternatives and mitigation measures, in its EIS. An EIS must contain a robust discussion of alternatives and mitigation measures.

¹⁴ See, e.g. the Multiple Mineral Development stipulation allowing BLM to withhold approval of coal mining operations that would interfere with the development of mineral leases issued prior to the coal lease.

VII. BLM should not lease the tracts unless air quality impacts will be minimized and air quality standards will be met

Thank you for responding to our comments on the DEIS. However, we remain concerned that allowing the leasing and subsequent mining of the Wright Area lease tracts will contribute to violations of air quality standards in the area.

In several places of the EIS, BLM discounts various past violations of PM₁₀ standards because of the Natural Events Action Plan (NEAP). *See* Appendix F, EIS at 3-55, 3-58, 3-60. The reliance on the NEAP is misplaced. Wyoming's NEAP was promulgated in response to a provision of the Clean Air Act that allows EPA to "discount[] or weight[]" data from exceptional events if inclusion of this data would cause "computation of exceedances or averages" to "result in inappropriate estimates of their respective expected annual values." An "exceptional event" is defined as "an uncontrollable event caused by natural sources of particulate matter or an event that is not expected to recur at a given location." It should be noted that in the case of surface mining, particulate matter sources are generally not natural and given the high wind rates present most of the year in the Powder River Basin, windy days are certainly likely to recur. Therefore, exceedances of air quality standards at PRB mines should not be "discounted" under the Clean Air Act.

Additionally, the EIS discloses that there was one exceedance in 2008 that EPA determined was not an exceptional event and a notice of violation was issued. EIS at ES-36. BLM also discloses that air quality "modeling showed substantial, localized impact of the 24-hour particulate concentrations, exceeding the national and state ambient air quality standards at some Wyoming near-field receptors for the baseline year (2004), as well as for both development scenarios for 2015 and 2020." EIS at ES-63. BLM's modeling also shows that annual particulate levels will be very close to the standard at the Black Thunder Mine (projected at 49.96 micrograms per cubic meter in 2017) and Jacobs Ranch Mine (projected at 49.61 micrograms per cubic meter in 2015).¹⁵

Although it includes a discussion of PM₁₀ emissions, the EIS does not include a discussion of PM_{2.5} emissions. Chapter 3 of the EIS should be revised to include a separate discussion of current and projected PM_{2.5} emissions and anticipated impacts to air quality and public health that will likely result from each of BLM's analyzed alternatives. Please disclose locations of monitors and whether monitors will be added or moved to monitor air quality for these new lease tracts. PM_{2.5} emissions are particularly dangerous given their size and warrant special attention by BLM.

The EIS states that "there is no NAAQS that regulates short-term NO₂ levels..." EIS at 3-81. However, EPA has recently promulgated a 1-hour standard for NO₂ of 100 ppb.¹⁶ Please analyze

¹⁵ EPA has revoked the annual PM₁₀ standard. However, Wyoming has retained the annual standard of 50 micrograms per cubic meter.

http://deq.state.wy.us/aqd/proposedrules_files/Chapter2_draft%2010-21-09FINAL.pdf

¹⁶ <http://www.epa.gov/air/criteria.html>

compliance with this standard and disclose current and projected short-term NO₂ emissions at the various coal mines and cumulatively across the PRB under the various alternatives presented in the EIS.

Even if standards are not violated, there may be public health impacts as a result of increased emissions. Our members regularly visit areas adjacent to the mines for recreation and work purposes. Additionally, wind is able to carry emissions long distances across Northeast Wyoming and into neighboring states. BLM must fully consider mitigation measures to reduce air quality impacts.

VIII. BLM should not lease new coal tracts without first ensuring compliance with SMCRA's hydrologic balance protection requirements

The degree of impacts (described below) and especially the projected 5 foot drawdown well outside the mining area (Figures ES-17 & 4-5) also demonstrate that SMCRA's mandates to prevent damage to the hydrologic balance may not be fulfilled at these mines. We renew our comments on the DEIS regarding water impacts and compliance with SMCRA's requirements. BLM cannot disregard its responsibilities under NEPA by relying upon a yet-to-come state permitting structure.

IX. BLM continues to fail to consider mitigation for groundwater impacts

The EIS discloses significant site-specific and cumulative impacts to groundwater resources. *See, e.g.* EIS at ES-40-41, ES-65, EIA at 3-109. BLM states that "[t]he rate and extent of the actual drawdown in the coal is currently much greater than the life-of-mine drawdown predictions" and that "Roughly 30 years of surface mining and the more recent CBNG development have resulted in complete dewatering of the coal aquifer in localized areas..." Additionally, the agency discloses that "resaturation of coal mine pit backfill to form backfill aquifers may take approximately 100 years after cessation of mining." EIS at ES-67. The degree of impacts warrant consideration of mitigation measures; however, BLM's EIS does not include any discussion about possible measures that BLM could put in place to mitigate impacts to water resources.

In terms of groundwater quality, BLM states that TDS levels of reclaimed backfill aquifers will be higher, but that the aquifers "would be expected to meet Wyoming standards for use as livestock water." EIS at ES-48; EIS at 3-115. The coal aquifer is an aquifer used for drinking water in addition to livestock purposes so water should be restored to that quality. EIS at 3-149-150 (documenting that domestic water wells are within the study areas of the lease tracts). The EIS must fully disclose impacts to groundwater quality and discuss whether restored groundwater can be used for domestic and livestock purposes (and in what timeframe groundwater will be available for post-mining land uses). BLM must also fully consider mitigation options to ensure groundwater quality is being protected.

Consideration of mitigation measures is a necessary component of an EIS. BLM must consider mitigation clearly within its authority (such as lease stipulations) and mitigation and

alternatives not within its jurisdiction. This is an important part of the alternatives analysis mandated by 40 C.F.R. § 1502.14.

X. BLM must analyze the environmental impacts resulting from direct greenhouse gas emissions from the mining process

BLM discloses projected greenhouse gas emissions from mining activities but does not associate those emissions, at a site-specific level under any of the analyzed alternatives, with climate change impacts. The only analysis of climate change impacts is in Chapter 4 of the EIS discussing cumulative impacts (and as described below that analysis is greatly deficient). BLM must analyze the climate change impacts related specifically to the proposed and preferred alternatives and subsequent mining activity.

XI. BLM must consider measures to mitigate direct greenhouse gas emissions from the mining process

As discussed in our comments on the DEIS, during coal mining operations, methane that was previously trapped within the coalbed may be released. Methane is a powerful greenhouse gas – an estimated 20 times as potent as carbon dioxide. The estimated annual carbon dioxide equivalent from methane venting related to these coal tracts is 205,624 metric tons per year. EIS at 3-326. This is the equivalent of the greenhouse gas emissions of 144,160 passenger vehicles or a small coal-fired power plant.¹⁷ On a cumulative level, methane emissions from Wyoming's coal mines in 2010 are estimated at 2.3 million tons of carbon dioxide equivalent. Center for Climate Strategies, Wyoming Greenhouse Gas Inventory and Reference Case Projections 1990-2020, 2007. While the amount of greenhouse gases (GHGs) might seem small in comparison to larger sources of GHGs like coal burning, the amount is still significant and can be easily mitigated.

Given the significance of these impacts, BLM is required under NEPA to consider a full range of reasonable mitigation measures that can be implemented. Federal agencies are required to develop, discuss in detail, and identify the likely environmental consequences of proposed mitigation measures. See 40 C.F.R. § 1508.25(b); 40 C.F.R. § 1502.14(f); 40 C.F.R. § 1502.16(h); 40 C.F.R. § 1505.2(c).

In our comments on the DEIS, we asked BLM to consider mitigation options such as flaring, methane capture, and methane drainage. None of these options were considered in the FEIS. In particular, methane drainage is clearly feasible for the Wright Area Mines. As discussed in our DEIS comments, the North Antelope Rochelle Mine has a methane drainage project from surface wells in advance of the mining face. According to reports, from November 1, 2007 to March 31, 2009, the project resulted in a reduction of 982,588 tons of carbon dioxide equivalent that would have otherwise been emitted into the atmosphere. Blue Source, *Coal Mine Methane Capture and Use Project at the North Antelope Rochelle Coal Mine Complex*, June 2009 Monitoring Report

¹⁷ <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>

at 11.¹⁸ In addition to the climate change benefits, the mining company also receives economic benefits through the carbon credit process. BLM should consider this clearly reasonable mitigation measure in its EIS.

BLM should also consider mitigation for other causes of GHG emissions from mining activities. BLM acknowledges that GHG “emissions are projected to increase” at the mines if the lease tracts are added to mining operations. EIS at 3-325. Combined annual carbon dioxide equivalent emissions for the lease tracts resulting from mining will be 2.5 million tons per year. *Id.*¹⁹ These are significant – and unmitigated – impacts. BLM has authority to impose reasonable lease stipulations that will mitigate these impacts.

XII. BLM must inventory projected indirect greenhouse gas emissions from coal burning and fully disclose climate change impacts

Greenhouse gas emissions resulting from burning the coal that will be mined from these lease tracts is within the range of reasonably foreseeable indirect and cumulative impacts that NEPA requires BLM to analyze.²⁰ For this reason, the CEQ has issued guidance that climate change resulting from increased GHG emissions should be considered under NEPA.²¹ Additionally, as discussed in our DEIS comments, Secretarial Order No. 3226 (1/16/09) recognizes the ability of the Department of Interior (DOI) to identify changes that may result from climate change and directs bureaus to “consider and analyze potential climate change impacts” in “long range planning” and/or when making “major decisions affecting DOI resources.”²² Clearly, this leasing

¹⁸ This number also indicates that BLM’s estimate of 205,625 tons for all Wright Area mines might be an inaccurate estimate.

¹⁹ Later in the EIS, BLM says that current annual methane emissions from the Wright Area mines are 4.4 million metric tones of carbon dioxide equivalent. EIS at 4-141. The EIS does not explain the difference between the numbers in Chapter 3 of the EIS and Chapter 4.

²⁰ See *Center for Biological Diversity v. NHTSA*, (9th Cir. 2007): (“The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct.”); 40 CFR § 1508.8 (indirect effects defined as those “caused by an action and are later in time or farther removed in distance, but are still reasonably foreseeable.”)

²¹ See, e.g. <http://www.nytimes.com/gwire/2010/01/15/15greenwire-no-basis-for-excluding-climate-impacts-from-ne-77722.html> (“CEQ believes that it is appropriate and necessary to consider the impact of significant Federal actions on greenhouse gas emissions and the potential for climate change to affect Federal activities evaluated through NEPA and different approaches for managing those effects”); CEQ draft guidance on consideration of the effects of climate change and greenhouse gas emissions http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf

²² This order was replaced by Secretarial Order No. 3289, Amendment No. 1, Feb. 22, 2010. However, the text of the relevant portion is unchanged and the new order specifically recognizes that that portion of Order No. 3226 remains in effect. A copy of Order No. 3289 is attached.

action is “long range planning” as the coal will not be needed for many years and is a “major decision affecting DOI resources” given the amount of coal being leased.

Coal-fired power plants are the leading emitter of carbon dioxide, a greenhouse gas (GHG). These emissions cause global warming, or climate change, which is widely acknowledged to pose “serious and well recognized” impacts to the human environment and is a pollutant under the Clean Air Act. *Massachusetts v. EPA*, 127 S. Ct. 1438, 1455 (2007).

In terms of global carbon emissions, we are already at the tipping point. Immediate substantial reductions in greenhouse gas emissions are needed in order to reduce or prevent serious impacts from climate change. See <http://www.giss.nasa.gov/research/news/20070530/>. Because atmospheric concentrations of GHGs already exceed safe levels and GHG emissions must be drastically reduced from existing levels to avoid severe impacts, from a scientific perspective, any additional contribution of GHGs results in a significant cumulative effect on the climate.

BLM needs to fully account for all indirect greenhouse gas emissions that will result from its proposed federal action. Once that inventory is complete, BLM should then connect those emissions with specific climate change impacts that will be caused, at least in part, by the release of that amount of greenhouse gases.

BLM includes a brief inventory of projected GHG emissions, Table 4-39, and discloses that the Wright Area mines were the root source of about 5.4 percent of U.S. CO₂ emissions in 2008. EIS at 4-139. Through this information, it is disclosed that the total CO₂ emissions related to these six lease tracts from the combustion of coal are estimated to be 6.5 billion tons. Thank you for including this information. It clearly shows the significance of BLM’s action. However, the EIS needs to include all projected GHG emissions and reductions in carbon sinks.

More importantly, BLM needs to include a full consideration of qualitative impacts that will result from the various alternatives. BLM’s EIS only includes a very cursory overview of climate impacts and does not differentiate impacts from the proposed action or alternatives.²³ Although there are some uncertainties regarding the state of climate science and emissions accumulate at a global scale, an analysis of likely impacts is possible and should be included as a basis for comparison amongst the various alternatives.²⁴

²³ As opposed to this analysis, BLM claims that “given the current state of the science, it is impossible to determine what effect any given amount of GHG emissions resulting from an activity might have on the phenomena of global warming, climate change, or the environmental effects stemming from it. It is therefore not currently possible to associate any particular action and its specific project-related emissions with the creation or mitigation of any specific climate-related effects at any given time or place.” EIS at 4-143.

²⁴ In the context of a coal-fired power plant where quantified GHG emissions were known, EPA told BLM that those emissions could reasonably be attributed to climate change impacts. Letter from K. Goforth, US EPA, to J. Peterson, BLM, November 24, 2008, “Subject: Final Environmental Impact Statement for the White Pine Energy Station Project Nevada [CEQ#

Instead, BLM claims that if it does not lease the coal tracts, carbon emissions will not be reduced. EIS at 4-141 (“It is not likely that selection of the No Action alternatives would result in a decrease of U.S. CO₂ emissions attributable to coal mining and coal-burning...”.) Taken in the positive, BLM is claiming that leasing the coal will not increase carbon emissions. This is an illogical claim and is unsupported by BLM by any analysis or economic or scientific information. Clearly, if BLM leases the coal, the coal will be mined and burned to produce electricity. This will produce carbon dioxide emissions and will contribute to global climate change. It’s as simple as that. BLM claims that other coal may fill the gap for utilities, EIS at 4-141, but at the same time the agency acknowledges that “Many other states rely on Wyoming for coal reserves in view of the fact that Wyoming coal is used to generate electricity in 36 states.” Response to Comments at 14. Additionally, as described above, the Wright Area Mines represent 50% of Wyoming PRB coal production and amount to just over 25% of U.S. production. *See* EIS at 4-139. Utilities would not easily be able to replace that amount of coal supply and even if they were able to replace it, the coal would most likely cost more to mine, transport, and burn (therefore increasing the cost of coal-fired electricity vis-à-vis renewable energy and energy efficiency alternatives).²⁵ As acknowledged by BLM in this EIS, the PRB coal leasing program is currently necessary to meet the nation’s energy needs. Thus, as discussed above in the first section on alternatives, a selection of a no action or reduced leasing alternative will likely lead to fuel switching by utilities and/or a greater investment in demand-side management programs and a subsequent reduction in GHG emissions. If BLM has information that proves otherwise, it needs to be disclosed in the EIS.

BLM also claims that “Climate change models cannot be used to predict future climate changes at any particular scale less than globally.” EIS at 4-134. Past BLM EISs have at least included a discussion of projected impacts in the Western U.S. from USDA and other sources. Additionally, we have asked for an analysis of projected climate change impacts in Wyoming, ranging from economic to environmental impacts. There are tools available for BLM to do a qualitative analysis of projected impacts at the regional or local scale.²⁶ Precision about impacts

20080394]” (“[...]conclusions discounting the quantifiability of the project’s contributions to climate change do not appear to be accurate in light of other available, recent analyses”). In the letter, EPA cites efforts to quantify specific impacts of GHG emissions by the National Highway Transportation and Safety Administration in its Final EIS on the proposed Corporate Average Fuel Economy Standards. Corporate Average Fuel Economy Standard Final EIS, available at [www.nhtsa.dot.gov/staticfiles/DOT/NHTSA/Rulemaking/Rules/Associated Files/CAFE FEIS.pdf](http://www.nhtsa.dot.gov/staticfiles/DOT/NHTSA/Rulemaking/Rules/Associated%20Files/CAFE%20FEIS.pdf).

²⁵ BLM also states that “Fueled by recent overseas demand, Appalachian coal prices have increased dramatically. PRB coal may help to fill the gap left by the Appalachian coal exports...” EIS at 2-69 and “PRB coal reserves are in thick seams, resulting in more production from areas of similar land disturbance, and lower mining and reclamation costs.” EIS at 4-136. PRB coal also has lower sulfur content than other sources of coal and thus without its availability, utilities may need to deploy expensive sulfur dioxide reduction scrubbers or other technology.

²⁶ *See* <http://www.globalchange.gov/>; T. Barnett, *et al.*, Human-Induced Changes in the Hydrology of the Western United States, *SCIENCE EXPRESS* (Jan. 31, 2008); NRDC, “Hotter and Drier: The West’s Changed Climate” (March 2008)

is not necessary to a meaningful NEPA process. The BLM and other federal agencies already know a great deal about the trends and projections regarding regional climate change impacts and potential effects and that information can easily be included in this EIS. Although still incomplete, past BLM EISs, including the Final EIS for the South Gillette Area Coal Lease Applications contained greater information on climate impacts to the environment, biodiversity, the economy, and human health at a global, national, regional, and local scale. Analysis of these impacts must be a critical component on BLM's EIS on the Wright Area leases as well.

XIII. BLM continues to fail to consider mitigation measures or alternatives related to indirect greenhouse gas emissions from coal burning

Given the seriousness of the impacts from greenhouse gas emissions that will result from the burning of coal mined in these lease tracts, BLM has a duty to consider a reasonable range of mitigation measures and alternatives to reduce impacts. As described above, some of these alternatives include pursuing renewable energy projects or investing in energy efficiency measures to supplement or supplant new coal leasing. Additionally, BLM should consider not leasing these coal tracts until such time as carbon capture and sequestration or other technology is developed and widely used that will allow coal plants to reduce carbon dioxide emissions. This would appropriately mitigate impacts: "More rapid improvements in technologies that provide for less CO₂ emissions, new CO₂ mitigation requirements, or an increased rate of voluntary CO₂ emissions reduction programs could result in significantly lower CO₂ emissions levels than are projected here." EIS at 4-139. Numerous sources have identified the prevention of greenhouse gas emissions from coal-fired power plants as the most significant action that can be taken to reduce the threat of climate change.

While climate change may be a global problem with localized effects and the GHG emissions from burning coal associated with these lease tracts may be only one contributing cause, as the root cause of an estimated 5.4% of emissions, these mines are by any measure a significant contributing factor. While individual GHG emissions accumulate to cause climate change, individual emission reductions also accumulate to reduce its effects. Thus, even if it is difficult to determine the exact climate benefits, any mitigation BLM requires for the reduction of GHGs related to these lease tracts will help to reduce climate change impacts. BLM is able to include a qualitative discussion about reductions in climate change impacts that would occur with mitigation or alternatives described above.

XIV. BLM needs to ensure compliance with the Mineral Leasing Act and the Federal Coal Leasing Act Amendments

BLM has a statutory obligation to ensure that the nominating companies (who have filed applications in an effort to expand their existing operations) are in compliance with Mineral Leasing Act & Federal Coal Leasing Act Amendments requirements prior to any lease sale of the federal coal tracts. Compliance with these statutory provisions must be evaluated in the NEPA

process based on an evaluation of the holdings of parent companies. These companies include Arch Coal, Peabody Energy Corporation, and Rio Tinto Energy America.²⁷

BLM claims that it “will ensure that the provisions of the Mineral Leasing Act and Federal Coal Leasing Amendments are complied with” if the agency decides “to offer an LBA for lease and hold a coal sale.” Response to Comments at 11. In contrast, BLM should analyze this compliance as part of the NEPA process and fully disclose the acreage amounts under lease by these companies.

Thank you for your time and consideration of these comments. If you have any questions or need more information, please do not hesitate to contact me.

Sincerely,



Shannon Anderson
Organizer, Powder River Basin Resource Council
934 N. Main St., Sheridan, WY 82801
sanderson@powderriverbasin.org

Amy Atwood
Senior Attorney, Center for Biological Diversity
PO Box 11374, Portland OR 97211-0374
atwood@biologicaldiversity.org

Steve Thomas
Western Regional Director, Sierra Club
45 E. Loucks Ste. 109, Sheridan, WY 82801
steve.thomas@sierraclub.org

²⁷ However, it should be noted that the Federal Trade Commission recently gave its approval for the sale of Jacobs Ranch Coal Mine from Rio Tinto Energy America to Arch Coal, so the Jacobs Ranch leases should be assessed under Arch Coal.

Download  

THE SECRETARY OF THE INTERIOR
Washington

ORDER NO. 3289, Amendment No. 1 (*Amended material italicized*)

SIGNATURE DATE: February 22, 2010

Subject: Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources

Sec. 1 Purpose and Background. Secretarial Order No. 3285, issued on March 11, 2009, made production and transmission of renewable energy on public lands a priority for the Department. This Order establishes a Department-wide approach for applying scientific tools to increase understanding of climate change and to coordinate an effective response to its impacts on tribes and on the land, water, ocean, fish and wildlife, and cultural heritage resources that the Department manages. This Order replaces Secretarial Order No. 3226, Amendment No. 1, issued on January 16, 2009, and reinstates the provisions of Secretarial Order No. 3226, issued on January 19, 2001.

To fulfill our nation's vision for a clean energy economy, Interior is now managing America's public lands and oceans not just for balanced oil, natural gas, and coal development, but also – for the first time ever – to promote environmentally responsible renewable energy development. Sun, wind, biomass, and geothermal energy from our public and tribal lands is creating new jobs and will power millions of American homes and electric vehicles.

The Department is also taking the lead in protecting our country's water, land, fish and wildlife, and cultural heritage and tribal lands and resources from the dramatic effects of climate change that are already occurring – from the Arctic to the Everglades. The realities of climate change require us to change how we manage the land, water, fish and wildlife, and cultural heritage and tribal lands and resources we oversee. For example:

- New water management imperatives associated with climate change may require restoration of natural systems and construction of new infrastructure to reduce new flood risks or to capture early run-off.
- Strategies to address sea level rise may require acquisition of upland habitat and creation of wetlands and other natural filters and barriers to protect against sea level rise and storm surges. It may be necessary to relocate certain iconic and culturally historic structures.
- Shifting wildlife and habitat populations may require investments in new wildlife corridors.
- New invasions of exotic species and new wildland fire threats due to longer fire seasons and more severe droughts will require innovation and more effective ways of managing the Department's resources.

The Department of the Interior, with its 67,000 employees and scientific and resource management expertise, is responsible for helping protect the nation from the impacts of climate change. In particular the Department must:

- Adapt its water management strategies to address the possibility of shrinking water supplies and more frequent and extended droughts to continue to supply drinking water to more than 31

million people and irrigation water to 140,000 farmers.

- Wisely manage millions of acres of parks, refuges and other public lands, and prudently exercise its shared responsibility for managing the 1.7 billion acres of the U.S. outer continental shelf.
- Conserve and manage fish and wildlife resources, including over 800 native migratory bird species and nearly 2,000 federally listed threatened and endangered species.
- Protect cultural and archaeological resources and iconic structures that may be affected by climate change.
- Address the impacts of climate change on American Indians and Alaska Natives, for whom the Department holds trust responsibilities on behalf of the Federal government.
- Continue to provide state-of-the art science to better understand the impacts of climate change and to develop science-based adaptive management strategies for natural and cultural resource managers.
- Continue its work to quantify the amount of carbon stored in our forests, wetlands, and grasslands, identifying areas where carbon dioxide can be safely stored underground, and ways to reduce the Department's carbon footprint.

Sec. 2 **Authority.** This Order is issued under the authority of Section 2 of Reorganization Plan No. 3 of 1950 (64 Stat. 1262), as amended.

Sec. 3 **Coordinating the Department's Response to Climate Change Impacts on Our Resources.**

The Climate Change Response Council within the Office of the Secretary is renamed the Energy and Climate Change Council (Council). The Council will execute a coordinated Department-wide strategy to address *renewable energy efforts and* to increase scientific understanding of and development of effective adaptive management tools *to address* the impacts of climate change on our natural and cultural resources. The *Energy and Climate Change Council* will be composed of the Secretary (Chair), Deputy Secretary (Vice-Chair), Counselor to the Secretary (Vice-Chair), Assistant Secretaries, Bureau Directors and the Solicitor. The Council will help coordinate activities within and among the Department's agencies and bureaus to develop and implement an integrated strategy for responding to *renewable energy efforts and* climate change impacts involving the resources managed by the Department. The Department's *Energy and Climate Change Council* will also coordinate its *energy and* climate change activities with all relevant Federal Departments and agencies including, but not limited to, the Council on Environmental Quality, the Office of Energy and Climate Change, the Office of Science and Technology Policy, the National Science and Technology Council, the Department of Agriculture, the Department of Commerce, the Department of Defense, and the Environmental Protection Agency.

The *Energy and Climate Change Council* will implement Department-specific *energy activities as described in Secretarial Order # 3285 (Amendment No. 1), and implement* climate change activities through the following mechanisms:

a. **Climate Change Planning Requirements.** Each bureau and office of the Department must consider and analyze potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, developing multi-year management plans, and making major decisions regarding potential use of resources under the Department's purview. These requirements were set forth in Secretary's Orders No. 3226 and 3285, and remain in effect. The organizational changes made by this Order will enable the bureaus and agencies to fulfill these planning requirements.

b. **DOI Climate Science Centers.** Management decisions made in response to climate change impacts must be informed by science and require that scientists work in tandem with those managers

who are confronting climate change impacts and evaluating options to respond to such impacts. Pursuant to P.L. 110-161, the United States Geological Survey (USGS) has been developing regional science centers to provide climate change impact data and analysis geared to the needs of fish and wildlife managers as they develop adaptation strategies in response to climate change. These centers are currently known as “regional hubs” of the National Climate Change and Wildlife Science Center, and are being developed in close collaboration with Interior agencies and other federal, state, university, and non-governmental partners.

The Energy and Climate Change Council will work with USGS and other Department bureaus to rename these regional science centers as ***DOI Climate Science Centers (Centers)*** and broaden their mandate to encompass other climate-change-related impacts on Departmental resources. These eight Centers will synthesize and integrate climate change impact data and develop tools that the Department’s managers and partners can use when managing the Department’s land, water, fish and wildlife, and cultural heritage resources.

c. **Landscape Conservation Cooperatives**. Given the broad impacts of climate change, management responses to such impacts must be coordinated on a landscape-level basis. For example, wildlife migration and related needs for new wildlife corridors, the spread of invasive species and wildfire risks, typically will extend beyond the borders of National Wildlife Refuges, BLM lands, or National Parks. Additionally, some bureau responsibilities (e.g., Fish and Wildlife Service migratory bird and threatened and endangered species responsibilities) extend nationally and globally. Because of the unprecedented scope of affected landscapes, Interior bureaus and agencies must work together, and with other federal, state, tribal and local governments, and private landowner partners, to develop landscape-level strategies for understanding and responding to climate change impacts. Interior bureaus and agencies, guided by the ***Energy and Climate Change Council***, will work to stimulate the development of a network of collaborative “Landscape Conservation Cooperatives.” These cooperatives, which already have been formed in some regions, will work interactively with the relevant ***DOI Climate Science Center(s)*** and help coordinate adaptation efforts in the region.

Sec. 4 Additional Departmental Action to Mitigate Climate Change. In accordance with Secretarial Order No. 3285, the Department has prioritized development of renewable energy on public lands and offshore waters to reduce our dependence on foreign oil and to reduce greenhouse gas pollution. This Order establishes two additional projects to mitigate climate change: the DOI Carbon Storage Project, and the DOI Carbon Footprint Project. Additional mitigation projects will be encouraged and supported by the ***Energy and Climate Change Council***.

a. **The DOI Carbon Storage Project**. This project is being implemented under P.L. 110-140, “The Energy Independence and Security Act of 2007,” which gives the Department statutory responsibility to develop carbon sequestration methodologies for geological (i.e., underground) and biological (e.g., forests and rangelands) carbon storage. The USGS has the lead in administering the Carbon Storage Project, but will work closely with other bureaus and agencies in the Department and external partners to enhance carbon storage in geologic formations and in plants and soils in a manner consistent with the Department’s responsibility to provide comprehensive, long-term stewardship of its resources. The DOI Carbon Storage Project is vital for successful domestic and global geological and biological carbon sequestration efforts.

b. **The DOI Carbon Footprint Project**. The project will develop a unified greenhouse gas emission reduction program, including setting a baseline and reduction goal for the Department’s greenhouse gas emissions and energy use. The Assistant Secretary for Policy, Management and Budget will have the lead in administering the DOI Carbon Footprint Project, with the cooperation of all of the Department’s agencies and bureaus.

Sec. 5 American Indians and Alaska Natives. Climate change may disproportionately affect tribes and their lands because they are heavily dependent on their natural resources for economic and cultural identity. As the Department has the primary trust responsibility for the Federal government for American Indians, Alaska Natives, and tribal lands and resources, the Department will ensure consistent and in-depth government-to-government consultation with tribes and Alaska Natives on the Department's climate change initiatives. Tribal values are critical to determining what is to be protected, why, and how to protect the interests of their communities. The Department will support the use of the best available science, including traditional ecological knowledge, in formulating policy pertaining to climate change. The Department will also support substantive participation by tribes in deliberations on climate-related mechanisms, agreements, rules, and regulations.

Sec. 6 Implementation. The Deputy Secretary is responsible for ensuring implementation of all aspects of this Order. This responsibility may be delegated as appropriate. This Order does not alter or affect any existing duty or authority of individual bureaus.

Sec. 7 Effective Date. This Order is effective immediately and will remain in effect until its provisions are converted to the Departmental Manual or until it is amended, superseded, or revoked, whichever occurs first.

/s/ Ken Salazar
Secretary of the Interior

SO#3289A1 2/22/10