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The Council on Environmental Quality

Attn.: Ted Boling

722 Jackson Place, N.W.

Washington, D. C. 20503

Re: Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions

Dear Mr. Boling:

The Center for Climate Change Law at Columbia Law School respectfully submits these comments on the above referenced draft guidance (“the Guidance”). The Center for Climate Change Law develops information resources and legal responses to address climate change.

We urge CEQ to issue guidance on consideration of climate change in federal land and resource management actions under NEPA. With regard to fossil fuel extraction-related projects on federal lands, such as oil, gas, or coal leases, we believe there is a compelling need for agencies to consider the indirect downstream greenhouse gas (GHG) emissions from the ultimate use of such fossil fuels. As we show in Part I below, existing case law, agency practice, and federal policy initiatives support an approach that requires agencies to consider, in their NEPA analyses of projects involving exploration and extraction of fossil fuels, the effects of the use of these resources.

In Part II, we show that federal protocols do exist for assessing GHG emissions and sequestration from land management strategies. As we point out, a multitude of methodologies exist for assessing GHG emissions from forestry management practices, and the federal government itself has set forth and used certain methodologies.

I. Consideration of the effects of resource extraction on federal lands must include the downstream GHG emissions from the use of those resources.

The “effects” that must be considered in a NEPA analysis include direct, indirect, and cumulative effects. 40 C.F.R. § 1508.25(c). Specifically, “indirect effects” are those that “are caused by the action and are later in time or farther removed in distance, but are still *reasonably foreseeable*.” 40 C.F.R. § 1508.8 (emphasis added). The Supreme Court has interpreted

“reasonably foreseeable” to mean “a reasonably close causal relationship between the environmental effect and the alleged cause,” a relationship the Court analogizes to “the familiar doctrine of proximate cause from tort law.” *Dep’t of Transp. v. Public Citizen*, 541 U.S. 752, 767 (2004) (internal quotation marks and citations omitted). An environmental effect is reasonably foreseeable if it is “sufficiently likely to occur that a person of ordinary prudence would take [them] into account in reaching a decision.” *City of Shoreacres v. Waterworth*, 420 F.3d 440, 453 (5th Cir. 2005); *Sierra Club v. Marsh*, 976 F.2d 763, 767 (1<sup>st</sup> Cir. 1992); *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549 (8<sup>th</sup> Cir. 2003) (citing *Marsh*).

It is a matter of reality that fossil fuels are extracted specifically for use in producing energy. It is also a matter of reality that the processing and use of these fossil fuels, separate and apart from their extraction, have environmental impacts, including emissions of GHGs known to cause climate change. In fact, CO<sub>2</sub> emissions from fossil fuel combustion are the largest source of GHGs in the U.S., comprising a full 80% of U.S. GHG emissions. U.S. Environmental Protection Agency (EPA), *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008*, Executive Summary at 7 (2010).

No stretch of logic is necessary, then, to conclude that GHG emissions are a “reasonably foreseeable” effect of fossil fuel extraction. In the following section, we point out that some courts have already recognized these reasonably foreseeable indirect effects of resource extraction projects and that agencies already make the necessary assessments in their EISs. Finally, we point to the plethora of existing policy initiatives directing agencies to consider the effects of climate change as indication that climate change is a problem that a person of ordinary prudence should take into account in reaching a decision. In short, the consideration of indirect downstream GHG emissions has legal precedent, is capable of being implemented, and should be implemented.

*A. Case law supports a conclusion that indirect downstream GHG emissions from fossil fuel extraction-related projects are reasonably foreseeable and must therefore be considered under NEPA.*

Courts have recognized and interpreted NEPA’s requirement to consider “reasonably foreseeable” indirect effects in a way that requires agencies to consider the GHG impact of fossil fuel use resulting from a fossil fuel extraction project. The Eighth Circuit, for instance, found that under NEPA, the Surface Transportation Board was required to examine the indirect downstream air quality effects from a proposal to construct and upgrade rail lines that would haul coal from mines in the Powder River Basin of Wyoming toward Minnesota. It was reasonably foreseeable, the court found, that this project would increase coal consumption by increasing the supply of low-sulfur coal to power plants and lowering the cost of coal. *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003). In its analysis, the Eight Circuit noted that:

“[T]he proposition that the demand for coal will be unaffected by an increase in availability and a decrease in price, which is the stated goal of the project, is illogical at best. The increased availability of inexpensive coal will at the very

least make coal a more attractive option to future entrants into the utilities market when compared with other potential fuel sources, such as nuclear power, solar power, or natural gas. Even if this project will not affect the short-term demand for coal . . . , it will most assuredly affect the nation’s long-term demand for coal . . . .” *Id.* at 549.

The court went on to note that even if the *extent* of the effect was not reasonably foreseeable – that is, where the future power plants would be built and how much coal they would purchase if the increased supply of coal in fact “drove” construction of new plants – the *nature* of the effect was “far from speculative” because it is “almost certainly true” that the proposed action “will increase the long-term demand for coal and any adverse effects that result from burning coal.” *Id.* Where the “*nature* of the effect is reasonable foreseeable but its *extent* is not,” then, the agency could not “simply ignore the effect” under NEPA. *Id.*

In a recent case seeking a preliminary injunction of the permitting of the Alberta Clipper (AC) Pipeline that would transport up to 450,000 barrels per day of heavy crude oil extracted from Canadian tar sands into the U.S., plaintiffs argued, among other things, that the agency was required to consider the indirect downstream impacts of “the refineries that will cause additional air, water, and climate pollution” and “increased consumption of liquid petroleum-based fuels on air quality and climate change.” *Sierra Club v. Clinton*, No. 09-2622, 2010 WL 455324, at \*7 (D. Minn. Feb. 3, 2010).

Although the court ultimately refused to grant the preliminary injunction, its reasoning supports a conclusion that agencies should and can assess the indirect downstream effects of fossil fuel extraction-related projects. Rather than finding that the environmental impacts of the refineries that would refine the oil transported by the proposed pipeline were not reasonably foreseeable and therefore not required under an analysis of indirect effects, the court instead cited to sections of the EIS that identified the refineries that could receive and process oil from the pipeline and discussed the attendant increases in air emissions and the impact on water quality at these refineries. *Id.* at \*9-10. Moreover, the EIS specifically considered “the potential GHG emissions associated with the construction of the AC Pipeline, operation of the AC Pipeline, refining heavy crude oil, refinery upgrades, new refineries, and end use of refined petroleum products.” *Id.* at \*12. Whether or not the analyses were adequate is a separate question, but the fact that the EIS considered these indirect downstream impacts of a proposed pipeline project strongly supports conclusions that (1) such impacts are reasonably foreseeable and within NEPA’s scope and (2) agencies are equipped to assess these impacts.

That the consideration of the indirect downstream emissions should consider GHGs in particular is also supported by the courts. In *Mid States Coalition*, for instance, the Eighth Circuit concluded that the downstream emissions that needed to be considered include emissions not subject to caps under the Clean Air Act, including nitrous oxide, carbon dioxide, particulates, and mercury. *Mid States Coalition*, 345 F.3d at 548-50; *Mayo Foundation v. Surface Transp. Bd.*, 472 F.3d 545, 555 (8<sup>th</sup> Cir. 2006) (decision after remand of *Mid States Coalition*). In a case involving consideration of the indirect effects of a transmission line project connecting power plants in Mexico with the power grid in California, the District Court of the Southern District of California concluded that there was no legal authority for failing to assess emissions of non-

criteria pollutants. *Border Power Plant v. Dep't of Energy*, 260 F.Supp.2d 997 (S.D. Ca. 2003). In that case, the court noted that “carbon dioxide is one of the pollutants emitted by a natural gas turbine” and “ammonia is a by-product of the control technology used” in the turbines – “[b]ecause these emissions have potential environmental impacts and were indicated by the record, . . . failure to disclose and analyze their significance is counter to NEPA.” *Id.* at 1028-29.

B. *Agencies are able to, and some already do, consider indirect downstream GHG emissions from fossil fuel extraction-related projects.*

In four separate EISs relating to various proposed leases for coal mines in Wyoming’s Powder River Basin, the Bureau of Land Management (BLM) considered coal-fired power plant related emissions and byproducts in issuing the coal lease. Buckskin Mine Hay Creek II Coal Lease Application Draft EIS (March 2010); South Gillette Area Coal Lease Application Final EIS (Aug. 2009); Wright Area Coal Lease Application Draft EIS (June 2009); West Antelope II Coal Lease Application Final EIS (Dec. 2008). In those EISs, BLM noted that while issuing a lease for federal coal does not authorize mining, “the impacts of mining the coal are considered in this EIS because it is a logical consequence of issuing” a lease. *E.g.*, South Gillette EIS, at 4-108 (the analyses in each of the four EISs are substantially similar, so the following cites only the South Gillette EIS as an example). BLM went even further in noting that:

“The use of the coal after it is mined is also not determined at the time of leasing, however, almost all of the coal that is currently being mined in the Wyoming [Powder River Basin] is being used by coal-fired power plants to generate electricity. As a result, a discussion of emissions and by-products that are generated by burning coal to produce electricity is included . . . .”

*Id.* The EISs then proceeded to estimate “the amount of GHG emissions that could be attributed to coal production that could result from leasing of the proposed [Lease by Applications], as well as from the forecast coal production from all coal mines in the Wyoming Powder River Basin.” *Id.* at 4-110. Specifically, BLM “us[ed] factors derived from laboratory analyses” to estimate, based on past production from coal mines, that “approximately 716.9 million metric tons of CO<sub>2</sub> would be generated from the combustion of [all Powder River Basin coal] before CO<sub>2</sub> technologies are applied,” an amount that “represents approximately 33.6 percent of the estimated 2,134.1 million metric tons of U.S. CO<sub>2</sub> emissions from coal combustion.” *Id.* at 4-117 (citing Department of Energy report). All four EISs also consider the emissions of mercury, coal combustion residues, and other byproducts of coal combustion at power plants to produce electricity. *E.g.*, *id.* at 4-122.

In short, the consideration of indirect downstream GHG emissions from fossil fuel extraction projects is not far-fetched or impossible. Agencies are already considering these impacts with data and tools that already exist. Indeed, these methodologies and projections are likely only to improve with time. The EPA’s Mandatory Reporting of GHGs Rule, 74 Fed. Reg. 56,374 (Oct. 30, 2009), which is in effect and includes methodologies to calculate and report GHG emissions from general stationary fuel combustion sources, electricity generation, and petroleum refineries, among other sources, will produce reports starting March 31, 2011. EPA has also proposed methodologies and reporting requirements to cover the petroleum and natural

gas sectors, including natural gas processing, transmission compression, and distribution. Proposed Rule Amendment to Mandatory Reporting of GHGs, 40 C.F.R. Part 98.2 (proposed Mar. 22, 2010). Not only do methodologies exist for quantifying GHG emissions from the various stages of fossil fuel use, then, but agencies will have access to a growing amount of data that can be used to estimate GHG emissions from proposed resource extraction-related projects.<sup>1</sup>

*C. Federal climate change policy requires agencies to consider the climate change impacts of their activities.*

In the preceding sections, we have shown that legal precedents exist for finding that indirect downstream GHG emissions are reasonably foreseeable effects to be considered in resource extraction projects pursuant to NEPA, and that agencies are able to consider such effects. We now point to the various policies in effect that demand such consideration. President Obama, for instance, has issued an Executive Order “to establish an integrated strategy towards sustainability in the Federal Government and to make reduction of greenhouse gas emissions a priority for Federal agencies.” Exec. Order No. 13,514, 74 Fed. Reg. 52,117 (2009).

The Secretary of the Interior has issued a Secretarial Order directing each bureau and office of the Department of Interior (DOI) to “[c]onsider and analyze potential climate change impacts when undertaking long-range planning exercise . . . and/or *when making major decisions affecting DOI resources.*” Sec. Or. 3226, Amd. No. 1 (Jan. 16, 2009) (emphasis added). A Secretarial Order issued last March and amended earlier this year established “the development of renewable energy as a priority for the Department of Interior,” Sec. Or. 3285, Amd. No. 1 (Feb. 22, 2010); *see also* Sec. Or. 3283 (Jan. 16, 2009) (stating DOI’s policy to “support[] the permitting of environmentally responsible wind, solar, biomass, and geothermal operations” as “alternatives to traditional energy resources”).

In September 2009, a DOI-wide approach was established “for applying scientific tools to increase understanding of climate change and to coordinate an effective response to its impacts on . . . resources that the Department manages.” Sec. Or. 3289 (Sept. 14, 2009). In that Order, the Secretary of Interior announced that DOI is “taking the lead in protecting our country’s . . . lands and resources from the dramatic effects of climate change that are already occurring – from the Arctic to the Everglades,” and found that “[t]he realities of climate change require [DOI] to change how [DOI] manage[s]” the nation’s resources. In yet another Order, the Secretary acknowledged that DOI’s Minerals Management Service, BLM, and Office of Surface Mining Reclamation and Enforcement had oversight of “a significant percentage of the Nation’s oil, natural gas, and coal production, as well as onshore and offshore renewable resources including wind, solar, and geothermal energy” and directed DOI to “take affirmative steps to improve the efficiency, effectiveness, and accountability of its management of energy resources on Federal lands and the Outer Continental Shelf (OCS).” Sec. Or. 3294 (Jan. 6, 2010).

In short, federal policy considers climate change a problem to be addressed and prioritizes renewable energy generation as one means to address the problem. Given DOI’s expressly stated policies to prioritize the development of renewable energy, to protect the

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<sup>1</sup> In any event, when information is “incomplete or unavailable,” CEQ has specific procedures for “evaluating reasonably foreseeable significant adverse effects on the human environment.” 40 C.F.R. § 1502.22.

country's resources from the effects of climate change, and to change its management of energy resources to increase accountability, it only makes sense that DOI and other federal agencies should consider the indirect downstream climate change impacts of resource extraction projects where there is legal precedent for doing so and where methodologies currently exist for such assessment.

## II. Methodologies exist for assessing the GHG effects of forestry management practices.

The draft Guidance notes that “[l]and management techniques, including changes in land use or land management strategies, lack any established Federal protocol for assessing their effect on atmospheric carbon release and sequestration at a landscape scale.” Guidance at 4. In fact, however, an abundance of different protocols exist for measuring GHG emissions related to forestry practices.

Two “gold standard” accounting methodologies for GHG emissions from forestry practices are the Intergovernmental Panel on Climate Change (IPCC) *Good Practice Guidance for Land Use, Land Use Change and Forestry*<sup>2</sup> and the Greenhouse Gas Protocol Initiative *Land Use, Land-Use Change, and Forestry Guidance for GHG Project Accounting (LULUCF Guidance)*.<sup>3</sup> Numerous forestry offset protocols, which set forth the requirements for establishing GHG emission reductions from forest activities necessary to create tradable offset credits, incorporate or derive their accounting methodologies from the IPCC and the GHG Protocol Initiative.

The IPCC Guidance is intended primarily for use in national level accounting of GHGs,<sup>4</sup> but provides a framework for GHG estimation of forestry activities on a smaller scale. The Voluntary Carbon Standard, for instance, which was formed by the Climate Group, the International Emissions Trading Association and the World Economic Forum to provide a global standard and program for approval of credible voluntary offsets, has developed a *Guidance for Agriculture, Forestry, and Other Land Use*<sup>5</sup> that derives in part from the IPCC methodology. The Voluntary Carbon Standard provides GHG accounting protocols for afforestation, reforestation and revegetation activities; reduced deforestation and degradation; agricultural land management activities; and improved forest management activities.

The GHG Protocol Initiative's LULUCF Guidance is intended for organizational level GHG inventory and reduction accounting, with a focus on reforestation and forest management activities. A number of other programs base their accounting requirements on the GHG Protocol Initiative's guidance.<sup>6</sup> The Climate Action Reserve, for instance, has developed *Forest*

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<sup>2</sup> Available at <http://www.ipcc-nggip.iges.or.jp/public/gpplulucf/gpplulucf.html>.

<sup>3</sup> Available at <http://www.ghgprotocol.org/files/lulucf-final.pdf>. The GHG Protocol Initiative is spearheaded by the World Resources Institute and World Business Council on Sustainable Development. The LULUCF Guidance supplements the general Protocol for Project Accounting, available at [http://www.ghgprotocol.org/files/ghg\\_project\\_protocol.pdf](http://www.ghgprotocol.org/files/ghg_project_protocol.pdf).

<sup>4</sup> EPA uses IPCC's methodologies in developing the *Inventory of U.S. Greenhouse Gas Emissions and Sinks*. See <http://epa.gov/climatechange/emissions/usinventoryreport.html>.

<sup>5</sup> Available at <http://www.v-c-s.org/afl.html>.

<sup>6</sup> See Amelia Ravin & Teresa Raine, *Best Practices for Including Carbon Sinks in Greenhouse Gas Inventories 3* (2007), at <http://www.epa.gov/ttn/chief/conference/ei16/session3/ravin.pdf>.

*Project and Verification Protocols*<sup>7</sup> that provide a methodology for calculating GHG emission reductions from reforestation, improved forest management, and avoided conversion projects, including guidance on reporting and verifying such reductions. The California Climate Action Registry utilizes the Climate Action Reserve's forestry protocol for its forest sector offsets.<sup>8</sup> Other methodologies include the Regional Greenhouse Gas Initiative's methodology for afforestation offset projects<sup>9</sup> and the Chicago Climate Exchange's *Forestry Carbon Sequestration Project Protocol*.<sup>10</sup>

These voluntary, state, and regional methodologies aside, the federal government itself has provided and utilized guidelines for quantifying GHG emissions and reductions from forestry activities. As the Guidance notes, the Department of Energy has released inventory and reporting guidelines for use in the Voluntary Reporting of Greenhouse Gases Program established by Section 1605(b) of the Energy Policy Act of 1992. The guidelines include tools for calculating GHG emission and reduction and general reporting guidelines as well as technical guidelines.<sup>11</sup> The technical guidelines include a section on forestry emissions and sequestration prepared by the U.S. Department of Agriculture that sets forth "procedures for estimating changes in carbon stocks for seven general classes of forestry activities," including afforestation and forest reforestation, agroforestry, forest management including commercial thinning and prescribed fires, and activities that result in the production of wood products including timber harvest.<sup>12</sup>

Additionally, as the Guidance itself also points out, EPA has developed accounting methodologies for use in its voluntary Climate Leaders program, including a methodology for calculating GHG emissions for afforestation and reforestation activities.<sup>13</sup> In connection with this program, EPA has also developed the Reforestation/Afforestation Project Carbon On-line Estimator, which estimates the net carbon offset produced by a reforestation or an afforestation project in the United States.<sup>14</sup>

The Forest Service, noting that "[a]ccurate estimates of carbon in forests are crucial for forest carbon management, carbon credit trading, national reporting of greenhouse gas inventories to the United Nations Framework Convention for Climate Change, . . . and registering forest-related activities for the national 1605(b) Voluntary Reporting of Greenhouse Gases Program and other greenhouse gas registries for States and regions," has also developed a number of forest carbon calculation tools.<sup>15</sup> These tools include measurement guidelines for forest carbon sequestration and a comprehensive handbook of methods and techniques used in forest carbon measurement and monitoring. The Department of Agriculture has also produced the *U.S. Agriculture and Forestry Greenhouse Gas Inventory: 1990-2005*, which provides

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<sup>7</sup> Available at <http://www.climateactionreserve.org/how/protocols/adopted/forest/current/>.

<sup>8</sup> See <http://www.climateactionreserve.org/tools/protocols/industry-specific-protocols.html>.

<sup>9</sup> See <http://www.rggi.org/offsets/categories/afforestation>.

<sup>10</sup> Available at [http://www.chicagoclimatex.com/docs/offsets/CCX\\_Forestry\\_Sequestration\\_Protocol\\_Final.pdf](http://www.chicagoclimatex.com/docs/offsets/CCX_Forestry_Sequestration_Protocol_Final.pdf).

<sup>11</sup> See [http://www.eia.doe.gov/oiaf/1605/reporting\\_tools.html](http://www.eia.doe.gov/oiaf/1605/reporting_tools.html).

<sup>12</sup> See Department of Energy, *Technical Guidelines: Voluntary Reporting of Greenhouse Gases (1605(b)) Program* 245-50 (2007), at [http://www.eia.doe.gov/oiaf/1605/January2007\\_1605bTechnicalGuidelines.pdf](http://www.eia.doe.gov/oiaf/1605/January2007_1605bTechnicalGuidelines.pdf).

<sup>13</sup> Available at [http://www.epa.gov/climateleaders/documents/resources/draft\\_reforestation\\_offset\\_protocol.pdf](http://www.epa.gov/climateleaders/documents/resources/draft_reforestation_offset_protocol.pdf).

<sup>14</sup> Available at <http://ecoserver.env.duke.edu/RAPCOEv1/>.

<sup>15</sup> See <http://www.nrs.fs.fed.us/carbon/tools/>.

comprehensive estimates of GHG emissions and sinks in U.S. agriculture and forests at the state, regional, and national level.<sup>16</sup>

As the above catalog demonstrates, methodologies and accounting tools for calculating GHG emissions from forestry activities exist and are already in use, including by various federal agencies. Although the parameters of these methodologies vary and many are still being revised and refined to improve their accuracy, their existence and use show that it is presently possible for federal agencies to meaningfully assess the GHG emissions of forest management activities. CEQ should therefore require such consideration under NEPA.

### III. Conclusion

For the reasons explained in Part I, consideration of indirect downstream GHG emissions is legal and feasible, and excluding such indirect GHG emissions from the threshold triggering consideration of climate change under NEPA contradicts existing policy goals. CEQ should therefore reconsider its proposal not to include indirect GHG emissions within the reference point of 25,000 metric tons of CO<sub>2</sub>-equivalent GHG emissions that will serve as an “indicator” for the consideration of GHG emissions under NEPA. For the reasons explained in Part II, CEQ should require federal agencies to consider the GHG impacts of forestry activities.

Sincerely,



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<sup>16</sup> Available at [http://www.usda.gov/oc/climate\\_change/AFGGInventory1990\\_2005.htm](http://www.usda.gov/oc/climate_change/AFGGInventory1990_2005.htm).