

June 14, 2016

Vernal Field Office, BLM
Attn: Stephanie Howard
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RE: Comments – Enefit American Oil Utility Corridor Project DEIS

Reviewers:

Thank you for the opportunity to provide comments on the Enefit American Oil (Enefit) Utility Corridor Project, DOI-BLM-UT-G010-2014-0007-EIS (Utility Corridor DEIS). We appreciate your time, and attention to this issue. We are submitting these comments on behalf of the Grand Canyon Trust, Living Rivers, Sierra Club, Southern Utah Wilderness Alliance, Western Resource Advocates, the WaterKeeper Alliance, American Rivers, the Natural Resource Defense Council, the Center for Biological Diversity, The Wilderness Society, Utah Physicians for a Healthy Environment, the Science and Environmental Health Network, Wildearth Guardians, and Earthjustice (on behalf of the Grand Canyon Trust).

I. Introduction

The purpose of the proposed rights-of-way is to promote an unprecedented and uniquely destructive project in the Upper Colorado River Basin. Enefit's "South Project," located in northeastern Utah near the White and Green Rivers, will attempt to take a pre-petroleum found within rock – oil shale – bake it at high temperatures, and turn it into a liquid synthetic crude oil. Enefit hopes to produce 50,000 barrels a day at the facility for 30 years.

With the subsidy of rights-of-way over federal public land for power, fuel, water, and roads, Enefit plans to:

- build a half-square mile industrial complex in the desert – the first commercial-scale oil shale operation in the United States;
- strip mine up to 28 million tons of rock per year over 14 square miles of undeveloped lands – resulting in waste rock totaling up to 750 million tons;
- remove up to 100 billion gallons of water from the already over-allocated Colorado River basin during the next three decades, a time when climate change and growing populations are likely to reduce river flows even further;
- nearly double oil production in the Uinta Basin, which already has over ten thousand oil and gas wells;
- emit toxic air pollutants in an area that already suffers from some of the worst smog in the nation, due to winter-time inversions and pollution from existing fossil fuel

production facilities; and

- use an extraction and refining process that results in nearly 40% more carbon per unit of energy than conventional oil, and more even than notoriously dirty tar sands, at a time when the world needs to move quickly to cleaner, not dirtier, fuels if humanity is to avoid the worst impacts of climate change.

This DEIS represents the first real opportunity for BLM to analyze the impacts of a commercial oil shale project in the United States. Thus, it is vital that BLM take an exhaustive and expansive look at Enefit's oil shale project and take all steps necessary to protect public resources. Indeed, the already-known potential harms of the oil shale strip mine and processing plant – to land, water, air and climate – are so destructive that BLM, as part of its obligation to protect the public interest, can and should deny the rights-of-way that facilitate this project.

But Enefit has willfully refused to provide BLM with engineering and design plans for the South Project, and argued that it is therefore impossible to disclose the most controversial impacts of the South Project – air, climate, and water pollution impacts. At the same time, Enefit has demanded that BLM grant the rights-of-way applications nonetheless.

BLM must not permit Enefit to game the system by obtaining BLM's approval before the company discloses the project's true environmental damage. If BLM continues to process Enefit's applications for rights-of-way, despite the fact that they are not in the public interest, the agency must require Enefit to disclose its plans and permit the public and decisionmakers to understand the air pollution, climate impacts, and other harms that Enefit's operations will cause *before* BLM decides on the applications. To do less will cut the heart out of the environmental review mandated by Congress.

II. Background on Enefit American Oil

1. Eesti Energia and Enefit American Oil

Enefit is a subsidiary of Eesti Energia, a state-owned energy development company located in Estonia. The majority of Eesti Energia's past oil shale development work involves electricity produced by burning oil shale in much the same manner that industry burns coal to produce electricity. In recent years, Eesti Energia has sought to ramp up development of liquid transportation fuels by retorting oil shale deposits mined in Estonia.

As part of this effort, Enefit developed and began operating a new retort processor, the Enefit280. Eesti Energia details the results of Enefit280 operation in its 2016 Q1 interim financial report: "During the quarter, our new Enefit280 oil plant increased its output to 38 thousand tonnes and for the first time contributed more than half of our total shale oil output." Eesti Energia, Q1 2016 Interim Report 1 January 2016 – 31 March 2016, at 4, *available at* https://www.energia.ee/-/doc/10187/pdf/concern/Interim_report_2016_Q1_eng.pdf (last viewed June 13, 2016) and attached as Exhibit 1. There is no dispute that the Enefit 280 technology is understood, studied, and fully operational at a commercial scale in Estonia.

Enefit has sought to expand liquid fuel development by initiating operations in both Jordan and

the United States. As part of this effort, in March 2011, Enefit purchased 100% ownership of the Oil Shale Exploration Company (OSEC), one of the four companies in 2007 to receive a federal research, development and demonstration (RD&D) lease from BLM. In acquiring OSEC, Enefit obtained ownership of all property, leases and assets from OSEC, including OSEC's RD&D lessee (Lease # UTU-84087). Enefit has also acquired state and private landholdings near its RD&D lease, including the South Project parcel, over 19,000 acres of state land leases and private holdings. Draft EIS at 3-97.

Enefit's initial plans for commercial scale oil shale development are hinged to the South Project parcel. The 13,000 acre South Project property lies along the Utah-Colorado boarder and is adjacent to (southeast of) Enefit's 160 acre federal research, development, and demonstration (RD&D) lease and the 4,960 acre federal preferential right lease area that Enefit would be able to expand into if it proves commercial viability of its process. The South Project, as proposed, would involve the strip mining of over 9,000 acres of land and the construction and operation of a 50,000 barrel per day oil shale retort facility. It is this project that requires, among other things, a right-of-way (ROW) across BLM land for utilities—19 miles of water supply pipeline, eight miles of natural gas supply pipeline, 10 miles of oil product line, 29 miles of powerlines, and five miles of upgrading to Dragon Road.

2. Eesti and Enefit's Impacts in Estonia

Oil shale mining in Estonia has resulted in adverse impacts to public and environmental health. Many of these impacts have been extensively studied, and there is also existing information on the impacts of the Enefit280 technology in Estonia.

First, a significant environmental impact of mining and processing of oil shale is that it creates a substantial amount of solid waste. Indeed, to produce 50,000 barrels/day, Enefit will have to mine 28 million tons of rock a year, in addition to digging up and relocating whatever overburden is necessary. More troubling is that after the shale is retorted, the residual char, or spent shale, is chemically altered for the worse. The spent shale, transformed due to its exposure to increased temperatures, contains a number of soluble inorganics including significant quantities of arsenic and selenium. Natalya Irha & Erik Teinemaa. *Behavior of Three- to Four-Ring PAHs in the Presence of Oil Shale Ash and Aluminosilicate Matter*, 22 Polycyclic Aromatic Compounds, 663 – 671, (2002) attached as Exhibit 2. Compounding matters, spent shale also contains highly carcinogenic polycyclic aromatic hydrocarbons (PAHs).

Even under the best of circumstances, it is not technically evident that the hazardous char waste stream can be fully segregated from the rest of the retorted spent shale material. Anne Karhu, *Environmental Hazard of the Waste streams of Estonian Oil Shale Industry: An Ecotoxicological Review*, 23 Oil Shale 53-93 (2006), available at <http://www.kirj.ee/public/oilshale/oil-2006-1-5.pdf> (last viewed June 13, 2016) at attached as Exhibit 3. The inability to separate or manage for these mixed waste streams presents additional challenges. Intrusion and exposure to water concentrates undesirable inorganic elements into quantities that pose critical problems for the overall welfare of an ecosystem. Argonne National Laboratory, *Environmental Consequences of, and Control Processes For, Energy Technologies*, Pollution Technology Review No. 181, Argonne National Laboratory, Noyes Data Corporation, Park Ridge NY, 102-115, (1990). Given

the vast volume of wastes produced by a retort facility, the sheer industrial scale of such an operation presents considerable challenges in any endeavor to stabilize and manage such a waste stream. Preventing leaching of inorganic elements in a spent shale waste pile has so far proven to be a practical impossibility.

Due to this problem in Estonia, the European Union (EU) has taken measures to further tighten the regulatory controls that govern the disposition of spent shale as a hazardous material in Estonia. In 2000, facing the inclusion of Estonia as a new member of the EU, the EU adopted increasingly more stringent requirements for the management of spent shale waste. Commission Decision 2000/532/EC of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste (notified under document number C(2000) 1147 OJ L 226 (2000), 3-24. The EU was motivated to act because Estonia had generated over 110 million tons of spent shale waste (generated from aboveground retorting of oil shale). In 2003, after further analysis revealed that the spent shale waste piles created by the Estonian oil shale industry were exceedingly toxic, the EU issued specific guidance to further regulate the administration of spent shale wastes created by retorting. Council Decision 2003/33/EC *Establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II to Directive 1999/31/EC*, OJ L 11/27, 16.1, (2003).

Second, the processing of oil shale into electricity and petroleum products has had profound environmental implications in the context of climate change. A number of papers have established that oil shale is possibly the dirtiest feedstock to be found on the planet in terms of CO₂ emissions. See, e.g., Adam Brandt, *Greenhouse gas emissions from liquid fuels produced from Estonian oil shale*. Prepared for European Commission - Joint Research Center, 2011 available at https://circabc.europa.eu/sd/d/9ab55170-dc88-4dcb-b2d6-e7e7ba59d8c3/Brandt_Estonian_Oil_Shale_Final.pdf (last viewed June 13, 2016) and attached as Exhibit 4; Simon Mui *et al.*, *GHG Emission Factors for High Carbon Intensity Crude Oils*. Natural Resources Defense Council, 2010. available at https://www.nrdc.org/sites/default/files/ene_10070101a.pdf (last viewed June 13, 2016) and attached as Exhibit 5. Even Enefit's promotional materials regarding emission factors – which are based on a number of optimistic or at least unchallenged assumptions – show that the CO₂ emissions of the Enefit 280 process will still be more substantial than current conventional fuel development or even tar sands. Indrek Aarna, & T. Lauringson, *Carbon intensity, water use and EROI of production of upgraded shale oil products using the Enefit280 technology*. October 2011. Presentation, Golden, CO, available at http://www.costar-mines.org/oss/31/F-pres-sm-sec/12-4_Aarna_Indrek.pdf (last viewed June 13, 2016) and attached as Exhibit 6.

It is likely that the Utah operation will, due to geology and design, not be *exactly* the same as Enefit's operations in Estonia. However, Enefit's Estonian operations are clearly models for what Enefit plans to construct in Utah. As such, the Estonian experience forecasts the potential impacts of the projects enabled by the Utility Corridor rights-of-way with regard to waste, water quality, air quality and climate in Utah and the greater Colorado River Basin.

III. BLM Must Reject the Right-of-Way Applications Because They Are Not in the Public Interest.

Title V of the Federal Land Policy and Management Act (FLPMA) grants BLM the authority, but not the obligation, to grant rights-of-way for a variety of uses across federal lands. 43 U.S.C. § 1761(a); *see also* 43 C.F.R. § 2802.10(a) (“In its *discretion*, BLM *may* grant rights-of-way on [its] lands” (emphasis added)). The Interior Department recognizes that “BLM has broad discretionary authority under Title V of FLPMA to approve *or disapprove* FLPMA ROW applications.” *Graham Pass, LLC*, 182 IBLA 79, 87 (Feb. 22, 2012) (emphasis added), citing *Union Telephone Company, Inc.*, 173 IBLA 313, 327 (2008), and *Tom Cox*, 142 IBLA 256, 257 (1998). Further, “a BLM decision, made in the exercise of its discretionary authority, will be overturned by the [IBLA] only when it is ... not supported on any rational basis.” *Id.*, citing *Wiley F. Beaux*, 171 IBLA 58, 66 (2007), *Echo Bay Resort*, 151 IBLA 277, 281 (1999), and *John Dittli*, 139 IBLA 68, 77 (1997).

BLM regulations identify a number of specific circumstances in which BLM may deny an application. These circumstances include:

- “if ... [t]he proposed use would not be in the public interest.” 43 C.F.R. § 2804.26(a)(2).
- if the applicant “do[es] not have or cannot demonstrate the technical or financial capability to construct the project or operate facilities within the right-of-way.” 43 C.F.R. § 2804.26(a)(5).
- if the applicant “do[es] not adequately comply with a deficiency notice ... or with any BLM requests for additional information needed to process the application.” 43 C.F.R. § 2804.26(a)(6).
- ...if “[i]ssuing the grant would be inconsistent with the Act, other laws, or these or other regulations.” § 2804.26(a)(4).

For each of these reasons, BLM must reject Enefit’s right-of-way applications.

1. Enefit’s Proposed Right-of-Way Are Not in the Public Interest.

The purpose of the rights-of-way is to service the South Project, a giant industrial facility for the mining, retorting, and upgrading of oil shale. “The Applicant’s purpose and need for the Utility Project is to supply natural gas, electrical power, water, and other needed infrastructure through one or more utility corridors to produce and deliver shale oil from oil shale mined under the South Project by uninterrupted operation of an economically viable mining, oil shale retorting, and upgrading facility.” Draft EIS at 1-7.

The extraction of oil shale in general, and subsidizing this project in particular, are not in the public interest. The South Project will be a significant new source of greenhouse gases, air pollution, and water depletion.

Granting the rights-of-way would amount to a public subsidy that increases the likelihood that an Estonian company will move forward with a project that poses serious threat to the American public and the environment. In particular:

- *The ROW for the new natural gas pipeline is a subsidy.* If Enefit cannot use public lands to construct a new pipeline, it may either: (1) seek space in an existing pipeline; or (2) truck natural gas to the South Project on a daily or weekly basis from a location outside the parcel. *See* Draft EIS at 2-40. Enefit likely would not be seeking its own pipeline if it believed existing pipelines had the capacity to move natural gas more cheaply. And while the Draft EIS did not disclose the impacts of a trucking alternative, alleging that the exact quality, quantity and rate of this potential delivery was unknown, trucking gas to the South Parcel would likely result in greater costs to Enefit. *Id.*

Enefit's description of other natural gas delivery alternatives makes clear that the company rejected such options as too costly to make the project viable. For example, Enefit notes that using the Summit existing pipeline would require "re-commissioning" the pipeline, which "could require additional compression and/or gas treatment to meet the pressure and quality demands of the [Enefit's] hydrogen plant, and it is unclear at this time where those facilities would need to be located." Email of R. Clerico, Enefit American to R. Rymerson, BLM (Mar. 22, 2015) re: Response to data gaps, at PDF page 3, attached as Exhibit 7. Re-commission would also require integrity tests, the potential replacement of parts of the pipeline, and disturbance of BLM land, all of which would involve costs to Enefit. *Id.* Further, Enefit admits that "[i]t is unclear if a Summit re-commissioned pipeline could support [the natural gas] demand rate" of the South Project at full build-out, rendering this alternative ineffective. *Id.*

Enefit rejects using two Mapco pipelines because the natural gas liquids (NGL) those pipelines carry is too expensive for Enefit's purposes. *Id.* (Enefit "has not considered NGL as a viable hydrogen source for the upgrader *due to economics*" (emphasis added)); *see also id.* ("the use of NGL as a hydrogen source is more than 400 percent more expensive than natural gas and therefore uneconomic"). Enefit also rejects a process to provide the needed natural gas on site through a device called a "POX unit" because "[i]t is also unlikely that deployment of a POX unit would be economical when compared to" building a new gas pipeline). *Id.* at PDF page 4. In short, not only is the proposed pipeline right-of-way a subsidy, it appears to be the only alternative under which the South Project is economically feasible.

- *The ROW for the water pipeline is a subsidy.* If Enefit cannot use the proposed route across public lands to construct a new water pipeline, it may seek to provide water to the South Project via: (1) use of existing groundwater rights; (2) acquisition of additional groundwater rights; (3) conversion of existing groundwater monitoring wells to supply wells; (4) diversion of water from the White River rather than the Green River; and/or (5) use of trucks to provide daily/weekly delivery of water. *Id.* at 2-40. The first two would require drilling wells, and the first three would require surmounting additional regulatory hurdles, and thus likely require additional expense. Diverting water from the White River would require Enefit to store the excess water in a reservoir or in storage tanks on

the company's property, and would also require Enefit to construct facilities on BLM land to withdraw the water from the river. *Id.* at 2–46. Trucking more than 10,000 acre-feet of water every year for 30 years would likely be orders of magnitude more expensive than a pipeline. All of these would add costs to the South Project. While Enefit currently has several groundwater monitoring wells on the South Project site, BLM concluded that converting the monitoring wells into supply wells would likely not be sufficient to meet the South Project's water demands. *Id.* at 2-40. And Enefit concluded “[s]hould groundwater wells prove insufficient to meet the facility[’s] demand, [Enefit] could be required to purchase and truck in water to supply the balance, which would *almost certainly be both technically and economically infeasible*. This would also be true if the [point of diversion for a pipeline] was shifted to the White River.” Email of R. Clerico re: Response to data gaps (Mar. 22, 2015) (Ex. 7), at PDF page 3 (emphasis added). In short, without the subsidy of a right-of-way for a water pipeline across public lands, Enefit admits it may not be able to build the South Project.

- *The ROW for the transmission line is a subsidy.* If Enefit cannot have access to new transmission across public lands, it will apparently need to generate electricity at the South Project site to: (1) address demand during construction and start-up (5 MW to be “[g]enerated onsite via several portable diesel fired generators”); and (2) provide electricity during project operation (125 to 200 MW “[g]enerated onsite via natural gas combustion”). Draft EIS at 2-41. Importing diesel fuel (by truck) and using on-site generators would add to construction costs. A projected increase in vehicle use to transport diesel fuel “will cause a related increase in local fuel supply requirements” adding to costs, an “increase in vehicle and roadway maintenance,” which would increase costs, and a “larger demand for workforce at the South Project,” which would increase labor costs. *Id.* at 4-42. Building an on-site natural gas power plant after full build out would clearly add to Enefit's operational costs. Further, without a transmission line, Enefit would be unable to export power from the South Project after “full build out.” *Id.* at 2-9 (during full operation, “the South Project would be capable of exporting between 50 and 100 MW” of power). The public land subsidy of a transmission right-of-way would thus likely enable Enefit to reap profits through the sale to the grid of electricity, profits that will be foregone without the transmission lines. *Id.* at 4-42 (“Absent the transmission line, the South Project would need to have higher base loads to consume the excess power, or may need to flare excess oil shale gases”).
- *The ROW for the pipeline for produced fuel is a subsidy.* If Enefit is not granted a right-of-way for a pipeline across public lands to deliver the upgraded synthetic crude oil produced by the South Project to market, the company would either: (1) “develop a new pipeline trans-loading terminal in the region” to which the product could be “trucked ... and off-loaded into an existing pipeline;” or (2) “[c]onvert an existing natural gas pipeline ... located within the South Project area to an oil liquids transport pipeline.” *Id.* at 2-41. Developing a new terminal would have financial costs, as would purchasing and maintaining a fleet trucks and employing drivers to move the fuel. BLM estimates that transporting the fuel via tanker truck would require that a loaded vehicle leave the South Project every 7.5 minutes for 30 years. *Id.* at 4-42 (projecting that it would take “a fleet of tanker trucks having either 172 barrel or 249 barrel capacity,” to ship out the 50,000

barrels of product per day). Enefit has not closely examined the prospect of using existing pipelines that traverse the South Project property, presumably because it is cheaper to build a new one that Enefit will control. *See id.* at 2-41 (BLM declines to address the existing pipeline alternative because the “technical feasibility and willingness of these facility owners” to convert the pipelines to be capable of transporting the synthetic crude oil “is unknown.”).

- *The ROW for Paving, widening, and realigning Dragon Road is a subsidy.* If Enefit is not granted a right-of-way to pave and widen Dragon Road, the route will be left as it is now: a narrow dirt road. Realignment will not be made to limit the maximum grade and to allow for speeds up to 45 miles per hour. *Id.* at 2-2, 2-16. The Dragon Road adjustments are predicted to cost \$43 million, including labor, materials, development engineering and equipment. *Id.* at 4-133. Absent paving, increased traffic may cause Dragon Road to “disintegrate and deteriorate,” requiring additional maintenance and increasing travel times, fuel costs, and inconvenience. *Id.* at 2-63. Absent paving, Enefit will be required to expend funds applying water to the road regularly to minimize fugitive dust. *Id.* at 2-26; 4-6. Absent paving, safe speeds on the road will be lower, increasing Enefit’s labor and fuel costs as transportation times to and from the South Project will take longer. The public land subsidy of a road right-of-way will thus make travel to and from the site faster and safer, and reduce maintenance costs, all of which would financially benefit Enefit.

In sum, each of the rights-of-way would subsidize Enefit’s project costs, and thus make the development of the South Project more likely. Absent BLM’s subsidizing Enefit’s operation, it is less likely that Enefit will choose to invest in what could become a money-losing operation. BLM’s repeated mantra that “the South Project will proceed to full buildout regardless of the BLM’s decision” on the rights-of-way, *see, e.g., id.* at 4-39, is therefore arbitrary and capricious and conflicts with the evidence before the agency.

Because the South Project will likely have significant, negative environmental impacts, it is contrary to the public interest for BLM to aid, abet, encourage and subsidize the environmental damage Enefit’s project would inflict.

a. *The South Project’s Climate Impacts Will Undermine the Public Interest.*

In September 2015, President Obama called climate change “a challenge that will define the contours of this century more dramatically than any other.” President Obama, Remarks by the President at the GLACIER Conference -- Anchorage, AK (Sept. 1, 2015), *available at* <https://www.whitehouse.gov/the-press-office/2015/09/01/remarks-president-glacier-conference-anchorage-ak> (last visited June 14, 2016). He has concluded that “climate change can no longer be denied – or ignored.” Barack Obama, President of the United States, Weekly Address (Apr. 18, 2015), attached as Exhibit 8, *available at* <https://www.whitehouse.gov/the-press-office/2015/04/17/weekly-address-climate-change-can-no-longer-be-ignored-0> (last viewed June 14, 2016). The President elaborated in unequivocal terms:

The science is stark. It is sharpening. It proves that this once-distant threat is now very much in the present. . . . But the point is that climate change is no

longer some far-off problem. It is happening here. It is happening now. Climate change is already disrupting our agriculture and ecosystems, our water and food supplies, our energy, our infrastructure, human health, human safety – now. Today. And climate change is a trend that affects all trends – economic trends, security trends. Everything will be impacted. And it becomes more dramatic with each passing year.

Id. This past November, the President recognized that this urgent problem demands strong action that leaves fossil fuels in the ground:

Because ultimately, if we're going to prevent large parts of this Earth from becoming not only inhospitable but uninhabitable in our lifetimes, we're going to have to keep some fossil fuels in the ground rather than burn them and release more dangerous pollution into the sky.

President Obama, Statement by the President on the Keystone XL Pipeline (Nov. 6, 2015), *available at* <https://www.whitehouse.gov/the-press-office/2015/11/06/statement-president-keystone-xl-pipeline> (last visited June 13, 2016).

The President has also recognized the need to transition away from – not toward fuels like oil shale:

Now we've got to accelerate the transition away from old, dirtier energy sources. Rather than subsidize the past, we should invest in the future... That's why I'm going to push to change the way we manage our oil and coal resources, so that they better reflect the costs they impose on taxpayers and our planet.

President Obama, Remarks of President Obama—State of the Union Address as Delivered (January 13, 2016), *available at* <https://www.whitehouse.gov/the-press-office/2016/01/12/remarks-president-barack-obama-%E2%80%93-prepared-delivery-state-union-address> (last visited June 13, 2016).

Similarly, U.S. Treasury Secretary Jack Lew noted earlier this month that continuing government subsidies for carbon-intensive projects cannot continue: “[S]upporting low-carbon investments alone is not sufficient [to combat climate change]. We also need to reduce financing for high-carbon projects ... and take advantage of increasingly cost-effective, low-carbon alternatives. It makes little sense to cut carbon emissions at home by greening our power sector only to subsidize the construction of high-emission facilities elsewhere in the world.” U.S. Department of State, S&ED Joint Session on Climate Change Remarks (June 6, 2016), *available at* <http://www.state.gov/secretary/remarks/2016/06/258093.htm> (last visited June 13, 2016) and attached as Exhibit 9.

Any BLM effort to promote or subsidize oil shale will undermine President Obama's calls for meaningful climate action and his Administration's ground-breaking initiatives to reduce carbon emissions. BLM has an obligation to be honest with the American people about the climate impacts of subsidizing oil shale and the extent to which promoting oil shale mining and processing undermines the President's climate objectives. This is particularly true because

unconventional oil shale is much more carbon-intensive – in other words, it results in more greenhouse gas (GHG) pollution per unit of fuel produced – than conventional oil production.

A plethora of recent studies have confirmed and deepened scientific knowledge about the nature and consequences of climate change. Further, recent studies demonstrate that the need to keep the vast majority of the world's known reserves of fossil fuels in the ground if the planet is to avoid warming so severe as to have significant damage consequences for all life, including human life. The proposed action – subsidizing the mining and production of oil shale for the next 30 years – would exacerbate the significant threat posed by climate change, feed our dependence on fossil fuels, and add to climate pollution for decades to come.

An increasing body of scientific literature indicates that to avoid the worst consequences of climate change, the vast majority of fossil fuel reserves must stay in the ground. As part of its consideration of a proposal that would enable Enefit to produce more than a half a billion barrels of fossil fuels, BLM must inform the public and decisionmakers of the dramatic reductions in GHGs that are required to avert global catastrophe.¹ Recent scholarship affirms the urgency of keeping fossil fuels in the ground in order to avert the worst harms from climate change. For example, a peer-reviewed article published in the prestigious research journal *Nature* concluded that if we are to keep climate change below dangerous levels, 80 percent of global coal reserves, half of all gas reserves, and a third of oil reserves must stay in the ground through 2050.

Christophe McGlade & Paul Ekins, *The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2°C*, NATURE Vol. 517, pp. 187-190 (Jan. 7, 2015), attached as Ex. 10, summary available at <http://www.nature.com/nature/journal/v517/n7533/full/nature14016.html> (last viewed June 13, 2016). For unconventional oil, closer to 90% of such fossil fuels must remain in the ground. *Id.* at 190.

In a historic moment capturing the growing national concern over climate change, 190 nations, including the United States, signed the Paris climate agreement, committing to attempt to limit global temperatures to 2°C above preindustrial temperatures, and to further pursue efforts to limit the increase to 1.5°C above preindustrial levels:

This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

(a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.

¹ The South Project is proposed to produce 50,000 barrels of shale oil per day, every day for 30 years. Draft EIS at 2-38. That is about 548 million barrels of fuel (50,000 barrels per day * 365.25 days per year * 30 years = 548.25 million barrels). The Draft EIS states, however, that the South Project property contains “approximately 1.2 billion barrels of shale oil.” *Id.* at 2-37. This discrepancy is not explained.

United Nations, Framework Convention on Climate Change, Paris Agreement, Article 2 ¶ 1(a) (Dec. 11, 2015), attached as Exhibit 11. To meet this threshold of safety, “deep reductions in global emissions will be required,” and “[d]eveloped country Parties shall continue taking the lead by undertaking economy-wide absolute emission reduction targets.” *Id.* at Article 4 ¶ 4. The Agreement aims for net zero emission by mid-century. *Id.* at Article 4 ¶ 1. The governments further agreed that global emissions need to peak as quickly as possible. *Id.* Once 55 countries ratify this agreement, it will become binding, and countries must submit their emissions targets every 5 years beginning in 2020. *Id.* at Article 21 ¶ 1; Article 4 ¶ 9.

BLM’s proposal to ease the way for the South Project and its hundreds of millions of tons of additional greenhouse gas emissions undermines America’s commitment to the Paris Agreement, in which nations agreed to make deep cuts in emissions and to aim for zero net-emissions by mid-century.

In order to have better than even odds of meeting this target “cumulative CO₂ emissions from all anthropogenic sources [must] stay between ... 0 and 1000 GtC.... An amount of 531 [446 to 616] GtC, was already emitted by 2011.” IPCC, Working Group I Contribution to the IPCC Fifth Assessment Report: Climate Change 2013: the Physical Science Basis: Summary for Policy Makers (2013) at 25, attached as Exhibit 12. This means that for the rest of the 21st Century all nations on the planet can only emit approximately 470 GtC. To meet this limit, “between two-thirds and four-fifths of the planet’s reserves of coal, oil, and gas” need to stay in the ground. Bill McKibben, *Global Warming’s Terrifying New Math*, Rolling Stone (Aug. 2, 2012), attached as Exhibit 13; Bill McKibben, *Obama and Climate Change: The Real Story* (Dec. 17, 2013), attached as Exhibit 14. If unabated, “[b]urning all fossil fuels would produce a different, virtually uninhabitable, planet.” Hansen, *et al.*, *Climate Sensitivity, Sea Level and Atmospheric Carbon Dioxide*, 371 Phil. Trans. R. Soc’y (2013), attached as Exhibit 15; *see also Global Carbon Project*, Global Carbon Budget 2014 (Sept. 14, 2014), attached as Exhibit 16.

A proposal to unlock between a half-billion and one billion barrels of “shale oil” product must be viewed in this context.

In addition, the public interest in preventing the worst damages from climate change weighs heavily against subsidizing oil shale development because synthetic oil processed from oil shale is much more damaging from a climate perspective than conventional oil. Studies have concluded that life-cycle CO₂ emissions from oil shale processing make it *among the dirtiest feedstocks on the planet* from a climate perspective, producing greenhouse gas emissions far higher than those from conventional oil. *See, e.g.*, A. Brandt, “Greenhouse gas emissions from liquid fuels produced from Estonian oil shale” (Jan. 2011) (estimating that CO₂ emissions from Estonian oil shale are 40% to 60% higher than for conventional oil), *available at* https://circabc.europa.eu/sd/d/9ab55170-dc88-4dcb-b2d6-e7e7ba59d8c3/Brandt_Estonian_Oil_Shale_Final.pdf (last viewed June 13, 2016), and attached as Exhibit 4; S. Mui *et al.*, “GHG Emission Factors for High Carbon Intensity Crude Oils” (2010) at page 2 (concluding that CO₂ emissions from ex situ oil shale could be between 47% and 73% more carbon intensive than conventional oil), *available at* https://www.nrdc.org/sites/default/files/ene_10070101a.pdf (last viewed June 13 2016), and attached as Exhibit 5. Last year, an International Energy Agency official stated bluntly:

Experience has shown that exploitation of oil shale, whether for oil production, power generation or industrial use, is *energy-intensive and CO2-intensive*.

In Estonia, one might argue its use is positive for energy security and economic development — but it is certainly not positive for the environment.

D. Crouch, “Estonia sees a bright future for oil shale,” *Financial Times* (June 15, 2015) (emphasis added), available at <http://www.ft.com/intl/cms/s/0/778da826-fd66-11e4-9e96-00144feabdc0.html#axzz4ApFl4sAk> (last viewed June 13, 2016) and attached as Exhibit 17.

Even Enefit’s own promotional materials regarding emission factors, based on non-peer-reviewed reports, state that life-cycle CO₂ emissions of the Enefit280 process – the very oil shale processing technology that the company intends to employ in Utah² – are as much as 40% more carbon intensive than emissions from conventional fuel development. I. Aarna *et al.*, Enefit, “Carbon intensity, water use and EROF” (Oct. 2011) at 8 (reporting results of a study of carbon intensity of the Enefit280 process), available at http://www.costar-mines.org/oss/31/F-pres-sm-sec/12-4_Aarna_Indrek.pdf (last viewed June 13, 2016), and attached as Exhibit 6. According to Enefit, oil shale produced from the Enefit280 process will result in even more CO₂ per unit of energy produced than tar sands, a notoriously carbon intensive fuel. *Id.* And Enefit’s self-serving, proprietary analysis likely under-estimates oil shale’s CO₂ intensity. For example, Enefit reduces its estimate of the carbon intensity of shale oil produced via the Enefit280 process due to an unexplained “power offset.” *Id.*

These outsized climate impacts will likely be worsened by additional mining and production of oil shale that will likely occur adjacent to, and with the aid of utilities accessing, the South Project property. Enefit owns, leases, or has preferential lease rights to an additional 19,000 acres of private, state, and federal land outside the South Project property. Draft EIS at 3-97. Most of these properties are crossed by or are in close proximity to the proposed rights-of-way; mining and/or processing on these additional properties could be served by the applicant’s

² Enefit promotes the South Project on its website as utilizing “proven” technology to produce liquid fuels. See “Enefit’s Utah Project,” available at <http://enefitutah.com/> (last viewed June 13, 2016), and attached as Exhibit 18. The most recent generation of Enefit’s production facilities that produces synthetic crude oil from oil shale in the company’s “Enefit280.” See Enefit Utah, “Next-Generation Enefit280 Plant is Nearing Peak Performance” (Dec. 22, 2014), available at <http://enefitutah.com/?s=next-generation> (last viewed June 13, 2016), and attached as Exhibit 19; Enefit, “Estonia shale oil industry,” available at <https://www.enefit.com/enefit280-building> (last viewed June 13, 2016), and attached as Exhibit 20. The production process is schematically described in Enefit’s promotional materials. See Enefit, Retorting Enefit280, available at <https://www.enefit.com/retorting-enefit280> (last viewed June 13, 2016), and attached as Exhibit 21. Enefit has specifically stated that it intends to use the Enefit280 process at its Utah operations:

Before this construction starts in Utah ... Enefit will have constructed a new generation Enefit280 plant in Estonia, scheduled to start up in 2012. *This is the same new generation Enefit technology that will be used in Utah.*

Letter of R.L. Hrenko, Enefit American Oil to K. Hoffman, BLM (July 19, 2012) at 5 (emphasis added), attached as Exhibit 22.

utilities. *See id.* at 2-3 (map displaying Enefit’s holdings). In addition, Enefit’s South Project, as subsidized by BLM, would set a precedent as the U.S.’s first commercial oil shale production facility. The proposed rights-of-way will thus open the door to a huge and multi-decade commitment to one of the world’s dirtiest liquid fuels, reversing progress on climate change, and undercutting the President’s commitments to achieving reductions in carbon emissions in both the short- and long-term.

Helping to lock in a dirty carbon future, as our communities, ecosystems, and the planet as a whole are threatened with suffering from centuries of damage due to climate change already locked-in, is the antithesis of the public interest. It is elevating the private interest of one company owned by the Estonian government above the interests of the American public. On this basis alone, the right-of-way applications must be rejected.

b. *The South Project’s Water Impacts Will Undermine the Public Interest.*

Water is a precious and over-allocated resource in the arid upper Colorado River basin. To turn rock into synthetic crude oil, the South Project will consume up to 15 cubic feet per second of the Green River – nearly 11,000 acre-feet per year. Draft EIS at 4-62. That’s over a hundred billion gallons of water over the 30-year life of the South Project.³ As discussed in more detail below, *any* water depletions from the basin, let alone the more than three billions gallons per year proposed by Enefit, will cause “jeopardy” to the endangered Colorado River fish under the Endangered Species Act. The Draft EIS admits that impacts of the rights-of-way and South Project may include “[w]ithdrawal of water from the Green River that reduces its flow and degrades the water quality of the stream down gradient from the point of the withdrawal.” Draft EIS at 4-110.

Moreover, the South Project’s likely impacts to water quality in the Colorado River Basin undermine the public interest. The product pipeline for Enefit’s synthetic crude product would cross the White River and Evacuation Creek. Any rupture would be catastrophic to the ecosystem, imperiled fish, and downstream communities. Additionally, leaching from the up to 750 million tons of oil shale waste – potentially a half billion cubic yards of material – created by Enefit’s project poses a threat to water quality of nearby surface and groundwater resources. Draft EIS at 2-37 (“The South Project will produce approximately 28 million tons of raw oil shale ore rock per year”); Bureau of Land Management, Final EIS, Proposed Land Use Plan Amendments for Allocation of Oil Shale and Tar Sands Resources (Nov. 2012), Appendix A, A-49 (“plant producing 50,000 bbl/day ... may need to dispose of as much as approximately 450 million ft³ of spent shale each year”).

It is not in the public interest to deplete the dwindling flow of the Upper Colorado and threaten those water resources with contamination in order to subsidize production of such a dirty, carbon intensive fossil fuel.

³ 10,867 acre-feet per year * 325,851 gallons per acre-foot * 30 years = 106.23 billion gallons.

c. *The South Project's Air Quality Impacts Will Undermine the Public Interest.*

Enefit's rights-of-way and the proposed South Project would have significant, negative impacts on air quality, given that Enefit intends to build a mining and processing complex that would produce nearly as much crude oil as is currently produced from every oil well in the Uinta Basin. *See below at IV (4)-(6) &(V)(1)-(2) see also Exhibit 23.* The Uinta Basin in winter has in recent years experienced ozone pollution worse than that in most major U.S. metropolitan areas, and far higher than is healthy to breathe on many days. Much of this air pollution would likely be transported by prevailing winds into Colorado.

The public interest in protecting human health thus strongly supports denying Enefit's applications, especially because Enefit has steadfastly refused to provide information to either BLM or the public concerning the likely nature and scale of the South Project's air pollution impacts. *See below at IV (4)-(6), see also Exhibit 23.*

d. *No Statutory or Policy Directive Supports the Right-of-Way Applications.*

The Draft EIS fails to directly address the public interest the rights-of-way will allegedly serve. In fact, the Draft fails to contain the phrase "public interest." While it does contain some claims that may relate to the public interest the rights-of-way will allegedly serve, none of these allegations have merit.

First, the Draft EIS addresses the purpose and need for the project, stating that the agency's consideration of the applications "is guided by the Energy Policy Act of 2005." Draft EIS at 1-2. But that law does not mandate the development of private land oil shale resources, nor does it require BLM to approve rights-of-way for such resources. Further, the Federal Land Policy and Management Act (FLPMA), also cited by BLM, merely provides BLM with "discretionary authority," not a duty, to grant rights-of-way. *Id.* Given the potential damage due to climate change, water depletion, and air pollution from the South Project, the public interest in multiple uses of BLM lands does not support rights-of-way approval. The most effective way for BLM to "minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment," *id.* (quoting FLPMA Title V), is to deny Enefit's application.

Second, the Draft EIS includes Enefit's "interests and objectives" in the applications. Draft EIS at 1-7 - 1-8. But Enefit's *private* interest in cheaply developing the South Project with the subsidy of federal land conflicts with the public interest, given the environmental damage that Enefit's project will cause. The Draft EIS parrots Enefit's application in alleging that the Energy Policy Act of 2005 supports approving the rights-of-way. *Id.* at 1-7. Nothing in that law mandates the approval of such rights-of-way; the language Enefit and BLM cites comes from what is the non-binding Congressional "declaration of policy." *See* 42 U.S.C. § 15927(b). And that policy urges that oil shale development "should be conducted in an environmentally sound manner," which the South Project cannot do given its climate, water and air impacts. 42 U.S.C. § 15927(b)(2). Congress also declared that oil shale development "should occur, with an emphasis on sustainability, to benefit the United States." 42 U.S.C. § 15927(b)(3). Again, subsidizing one of the most carbon-intensive methods for creating liquid fossil fuels, and consuming tens of thousands of acre feet per year of water in the arid West to do so while polluting the atmosphere is not "sustainable," nor does the huge carbon and environmental

footprint of the project “benefit the United States.” In fact, it benefits a foreign government at the expense of the American public, thereby undermining the legislation’s goals. And while Enefit cites Utah-specific policy supporting the development of oil shale, Draft EIS at 1-7 - 1-8, BLM must define the public interest more broadly. The subsidy of federal public lands for oil shale will damage the climate globally, will harm river flows in the Colorado River basin, which includes at least three other states downstream as well as Mexico, and will pollute the air, which will harm communities in Colorado as well as Utah. *See, e.g.*, letter of L. Schafer, Conservation Colorado *et al.* to E. McCullough, BLM (June 10, 2016), attached as Exhibit 24 (opposing rights-of-way due in part to potential air pollution impacts in Colorado due to the South Project).

In sum, the Energy Policy Act, FLPMA, and Utah’s policies cannot be used to avoid the fact that approving a subsidy of federal land to support significant climate and air pollution and river depletion is contrary to the public interest.

2. The Draft EIS Does Not Show That Enefit Has Demonstrated the Financial Capability to Construct the Right-of-Way Facilities.

BLM may deny an application if the applicant “do[es] not have or cannot demonstrate the technical or financial capability to construct the project or operate facilities within the right-of-way.” 43 C.F.R. § 2804.26(a)(5). The Draft EIS contains no evidence that Enefit has the financial capability to construct the right-of-way facilities.

Enefit’s application contains assertions related to financial capability, but most of these are mere puffery. *See* Enefit American, Preliminary Plan of Development And Right-of-Way Application To Support Enefit American Oil’s Utah Oil Shale South Project (Nov. 26, 2012) at 3 of 29 (“Enefit is well-qualified, both technically and financially, to execute the Project in a safe, responsible, and productive manner”); *id.* at 1 of 29 (discussing Enefit’s Estonian employees).

Recent news reports indicate that, to the contrary, Enefit may be incapable or unwilling to pay for the facilities. For example, on November 4, 2015, Estonian Public Broadcasting published the following article paraphrasing Hando Sutter, Eesti Energia’s CEO.

CEO of state-owned energy giant Eesti Energia, Hando Sutter, said the project in the US state of Utah *has been stopped and currently there is no business plan in place to continue*. The company purchased oil-shale-rock-rich land in Utah years ago, and has so far invested 51 million euros, plus pay annual upkeep of around 600,000 euros. The land has around 2.6 billion barrels of shale oil. Sutter said only a few Eesti Energia employees are located in the United States, and they are obtaining environmental licenses. He added that these permits could be used in the future. Sutter also said the other side of the project is the business plan and viability, which are calculated in Estonia, adding that *currently, there are no plans in place*.

J.M. Laats, “Utah project frozen, says Eesti Energia CEO,” Estonian Public Broadcasting (Nov. 4, 2015) (emphasis added), available at <http://news.err.ee/v/632891bc-26fd-45f2-b2ae-a90b79bd8d19> (last viewed June 13, 2016), and attached as Exhibit 25. Further, within a month this report, newspapers announced that Enefit’s Estonian parent was “preparing to write off large

investments made into projects in the United States,” including Utah projects. *See also* J.M. Laats, “Daily: Eesti Energia preparing to devalue Utah and Auvere investments,” Estonian Public Broadcasting (Nov. 25, 2015), available at <http://news.err.ee/v/30971640-67f8-4749-9cab-2287cd04c656>, last viewed June 13, 2016), and attached as Exhibit 26. Later media appear to confirm Enefit’s write-down of the South Project:

The lastingly low oil price is increasingly affecting state-owned Eesti Energia. Today the company announced a 65-million write-off as it reduced the value of two of its largest projects, and it might have to give up shale oil production.

The assets in question are the only recently completed Auvere power plant as well as the company’s Utah project, now worth €39.6m and €26m less respectively.

BNS, “Low oil price affects Eesti Energia,” (Jan. 19, 2016), available at <http://news.err.ee/v/7fd01ed9-b4b7-4c2f-bcff-0cbc6771097d> (last viewed June 13, 2016), and attached as Exhibit 27. *See also* Eesti Energia. 2015 Annual Report (Jan. 2016) at 27 (recognizing “impairment loss concerning assets related to ... Utah project” of 26 million euros), available at https://www.energia.ee/-/doc/10187/pdf/concern/2015_presentation_eng.pdf.

Given that Enefit is writing down as a loss a significant investment in the South Project, it is unclear whether Enefit has the intention or capital available to construct and maintain the rights-of-way. BLM therefore has a valid basis to, and should, reject the applications on the grounds that Enefit has failed to demonstrate that it has the financial capability to construct the project or operate facilities within the right-of-way.

3. Enefit Has Failed to Provide BLM with Necessary Information Needed to Disclose the Impacts of the Right-of-Way Applications.

BLM may deny a right-of-way application if the applicant “do[es] not adequately comply with a deficiency notice ... or with any BLM requests for additional information needed to process the application.” 43 C.F.R. § 2804.26(a)(6). The Draft EIS demonstrates that Enefit has chosen to withhold information critical to understanding the impacts of the proposed action and the evaluation of alternatives, and that in doing so Enefit has fundamentally undermined BLM’s ability to consider or disclose potentially significant impacts of the proposal. Based on Enefit’s withholding of, and failure to provide, information, BLM should deny the right-of-way applications.

First, Enefit has failed to disclose or provide any useful analysis concerning potentially significant impacts of the South Project – especially air and climate pollution impacts – although facilitating construction of the South Project is the very purpose of the rights-of-way. The Draft EIS states that it does not disclose information about the South Project’s air impacts because “[t]he availability of utilities to the Applicant could influence certain mining and mineral processing design considerations, which in turn may affect the nature and magnitude of air emissions associated with the Utility Project and South Project.” Draft EIS at 3-8. The Draft EIS fails to disclose such important information because, as BLM describes it, Enefit is simply “unwilling” to provide it:

The Applicant has provided BLM with all the information it has for the South Project mine plan and is *unwilling to expend further resources* to develop the mine plan and engineering specifications until it receives a decision on the utility corridor rights-of-way application due to the different design requirements between the Proposed Action and No Action Alternatives.

Id. at 2-37. Indeed, Enefit has told BLM point-blank: “while we understand the need for BLM to request information from us to define whether the South Project could continue in some form without the ROW grant, *we will not develop alternative South Project scenarios based on the BLM’s No Action alternative.*” Email of R. Clerico, Enefit to S. Howard, BLM (July 14, 2014) re: Enefit EIS connected action clarification, at page 1 (emphasis added), attached as Exhibit 28. Enefit alleges there are too many variables should the right-of-ways be denied, and that “[a]ny alternative South Project development scenario at this point would be far too speculative.” *Id.*

With this approach, Enefit has deliberately chosen to refuse BLM’s data requests, which will make BLM’s job of comparing alternatives impossible by refusing to disclose how the company will design its project if it receives the rights-of-way versus if it does not. Yet such a comparison of alternatives is the “heart” of the NEPA process. 40 C.F.R. § 1502.14. Enefit’s willful withholding of information rips the “heart” out of the federal law requirement by undercutting the comparison of alternatives simply because the company refuses to disclose its business plan if BLM doesn’t do what Enefit wants.

Enefit is gaming the system. By withholding information about how it might design the South Project until after its right-of-way applications are granted or rejected, Enefit prevents BLM from addressing the most contentious and potentially significant impacts of the Project: air and climate impacts.

Enefit’s failure to provide the requested and necessary information is particularly arbitrary because the company knows or has predicted what process it intends to use (the Enefit280 process), how much water, natural gas and electricity it needs, the amount of shale oil it intends to produce, how many workers it will employ, and numerous other variables. Enefit has experience with the Enefit280 process in Estonia. Enefit’s contention that it cannot provide even ballpark projections for climate or air pollution is thus not credible. The company’s “unwillingness” to model the potential impacts of competing alternatives should not give Enefit a free pass to fail to disclose those impacts, as the law requires.⁴

If Enefit wishes to obtain the rights-of-way at issue, the company must stop obstructing the NEPA process. Enefit’s decision to deny BLM requests for additional information necessary to understand the South Project’s impacts under the action and no action alternatives is ample reason for BLM to reject Enefit’s applications.

Enefit has also failed to provide additional information needed to process the applications by failing to answer basic questions about the availability and practicality of several alternatives that could reduce the use of publicly-owned lands for rights-of-way. For example, rather than using

⁴ As discussed below in section IV, BLM’s failure to obtain the information or to engage in reasonable forecasting about the impacts of the South Project also violates NEPA.

and degrading public lands to construct a new natural gas pipeline to the South Project, Enefit could use existing pipelines. The Draft EIS notes the presence of at least three gas pipelines that traverse the South Project parcel, but declines to investigate this alternative in detail, asserting that “the quality, quantity, and rate of delivery for those existing facilities *is unknown at this time*, therefore this option was dismissed from the assumptions under the No Action Alternative.” Draft EIS at 2-40 (emphasis added). Enefit, however, knows exactly what information is lacking as it explained in email correspondence with BLM. Over a year ago, Enefit stated that re-commissioning the Summit pipeline to meet Enefit’s needs “could require additional compression and/or gas treatment to meet the pressure and quality demands of the SMR-PSA hydrogen plant, and it is unclear at this time where those facilities would need to be located. The pipeline is also several decades old, and integrity tests would need to be conducted to determine if any sections require replacement as part of the re-commissioning process.” Email of R. Clerico re: Response to data gaps (Mar. 22, 2015) (Exhibit 7), at PDF page 3. However, rather than undertake or pay for the analysis and testing necessary to obtain the relevant data, Enefit has apparently chosen to do nothing.

The Draft EIS makes the similar excuses for failing to consider whether one of several existing natural gas pipelines could be converted to transport shale oil product to market, rather than scraping public lands for miles for a new pipeline. BLM acknowledges that the South Project parcel contains “existing natural gas pipeline[s] (owned by Summit MidStream or Mapco),” but declines to analyze using them because “the technical feasibility and willingness of these facility owners” to convert the pipelines to moving liquid fuels “is unknown.” *Id.* at 2-41. Again, it is unclear why Enefit (and BLM) have apparently failed to obtain the necessary data from the owners of existing pipelines, something that could help avoid damaging public lands. Enefit’s failure to obtain and provide this “additional information needed to process the application” is sufficient basis for BLM to reject Enefit’s applications.

4. Issuing the Rights-of-Way Would Be Inconsistent With Federal Regulations

BLM has the discretion to reject the right of way application if... “[i]ssuing the grant would be inconsistent with the Act, other laws, or these or other regulations.” 43 C.F.R. 2804.26(a)(4). As currently proposed, issuing the right-of-way for the utility corridor would enable Enefit to violate the federal regulations that bind its activities on its federal oil shale research, development (RD&D) lease tract and demonstration lease tract and accompanying preferential expansion area.

a. RD&D Activities Must Occur on the 160-Acre RD&D Tract

The oil shale commercial leasing regulations approved by the BLM in November 2008 establish the terms and conditions for converting an RD&D lease into a commercial lease. See 43 C.F.R. § 3926 (“Conversion of Preference Right for Research, Development, and Demonstration (R, D and D) Leases”). According to the leasing regulations, an RD&D lessee must, among meeting other requirements, document “that there have been commercial quantities of oil shale produced from the lease, including the narrative required by the R, D and D leases.” 43 C.F.R. § 3926.10 (a)(1). BLM can approve the conversion application only “if it determines that...there have been commercial quantities of shale oil produced from the lease.” 43 C.F.R. § 3926.10 (c)(1).

Within the commercial leasing regulations, “Commercial quantities” are defined as:

Production of shale quantities in accordance with the approved Plan of Development for the proposed project through the research, development, and demonstration activities conducted **on the research, development, and demonstration (R, D and D) lease**, based on, and at the conclusion of which, there is a reasonable expectation that the expanded operation would provide positive return after all costs of production have been met, including the amortized costs of the capital investment.

43 C.F.R. § 3900.2 (emphasis added). These requirements are reflected in Section 23 of the lease that Enefit signed with the BLM. Specifically, that section reads:

The Lessee shall have the exclusive right to acquire any or all portions of the preference lease area for inclusion in the commercial lease, up to a total of 5,120 contiguous acres, upon (1) documenting to the satisfaction of the authorized officer that it has **produced commercial quantities of shale oil from the lease**.

BLM RD&D lease form, attached as Exhibit 29 (emphasis added). And, under the terms of the RD&D lease:

“Commercial Quantities” means production of shale oil quantities in accordance with the approved Plan of Development for the proposed project **through the research, development and demonstration activities conducted on the lease**, that a reasonable expectation exists that the expanded operation would provide a positive return after all costs of production have been met, including the amortized costs of the capital investment.

BLM RD&D lease form, Section 1(b), Exhibit 29 (emphasis added).

Taken together, the operative requirement for converting an RD&D lease into a commercial lease is the production of commercial quantities from research done on the leasehold. The requirements codified in 43 C.F.R. § 3926, *et seq.*, are unconditional, and the BLM does not have the discretionary authority to allow an RD&D lessee to prove commercial viability in any location other than on its RD&D lease tract.

Indeed, BLM specifically addressed this exact point in the introductory language accompanying the commercial leasing regulations.

[s]everal comments expressed concern with the requirement under section 3926.10(b)(1) that an R, D and D lessee must document to the BLM’s satisfaction that it has produced commercial quantities of oil shale from the lease. A commenter stated that an R, D and D lessee should be allowed to obtain the preference lease area without being required to demonstrate that a profit had been made on the oil shale produced exclusively in the 160-acre R, D and D lease area. According to the commenter, if the goal of the R, D and D program is to demonstrate that commercial development of oil shale is feasible, it should not matter that the retort was actually located on nearby or adjacent lands. We disagree.

The quality of an oil shale deposit will vary with location and therefore we believe that the location could affect the feasibility of a commercial oil shale project. The requirement in Section 23 of the R, D and D leases to produce in commercial quantities on an R, D and D lease is a key component of the BLM's R, D and D program. As the intent of subpart 3926 is not to establish new or different application requirements for conversion than those listed in Section 23 of R, D and D leases, but rather to be consistent with those provisions in the regulations, we are not eliminating the requirement for an R, D and D lessee's to produce commercial quantities.

73 FR 69438-39, November 18, 2008 (emphasis added).

b. Enefit's Stated Plans to Conduct its RD&D Activities on the South Project Are Inconsistent with Federal Regulations

Enefit's stated plan to use its operations on the South Project to prove commercial viability and enable expansion onto its federal preferential lease area is inconsistent with and prohibited by the RD&D regulations. With the exception of taking a few core samples from its RD&D lease, the majority of the work Enefit has done and plans to do on its RD&D lease is and will be limited to collecting environmental data (*i.e.*, ambient air quality conditions, raptor surveys, sage grouse survey, etc.). The majority of its research will focus on its private property adjacent to the RD&D lease tract (the South Project). Enefit plans to use data gleaned from the South Project adjacent to the RD&D lease, in lieu of conducting actual work on the lease. July 19, 2012 Plan at 2 ("The RD&D Development Phase activities will be carried out on *both* the BLM RD&D lease property and [Enefit Oil Company]'s adjacent private Skyline property...").

Enefit's plans do not conform to BLM requirements that RD&D activities occur on the lease, and are not allowed under the conversion provisions of the leasing regulations. In sum, because issuing the utility corridor right-of-way would enable Enefit to undertake activities that are inconsistent with the commercial leasing regulations, BLM should reject the right-of-way application. *See* 43 C.F.R. 2804.26(a)(4).

IV. The Draft EIS Fails to Properly Disclose the Impacts of the South Project and Development of the RD&D Lease.

The purpose of the proposed rights-of-way is to facilitate development of a massive oil shale mining and retort operation on Enefit's private land at the South Project. Absent the South Project, Enefit has no need for the proposed rights-of-way. Despite the fact that the rights-of-way and Enefit's plans to develop the South Project are inextricably intertwined, the Draft EIS fails to contain an analysis of key impacts of the South Project, including the Project's climate and air pollution impacts. Similarly, because Enefit plans to conduct its RD&D activities on the South Project parcel, as discussed above, the impacts of Enefit's RD&D activities and expansion onto Enefit's preferential rights lease area are likewise intertwined with the rights-of-way. BLM and Enefit offer a number of excuses to avoid analyzing impacts from the South Project, but none of them hold water. The Draft EIS's failure to estimate the potential climate, air, and other impacts of the South Project, RD&D activities, and federal preferential right expansion as connected actions, indirect effects, or cumulative actions, violates NEPA. Any subsequently prepared NEPA document must correct these significant omissions.

1. NEPA Requires Disclosure of the Impacts of Connected Actions, of Indirect Impacts, and Cumulative Impacts.

CEQ regulations require agencies to include within the scope of their NEPA analyses both connected actions and “[i]mpacts, which may be: (1) Direct; (2) indirect; [or] (3) cumulative.” 40 C.F.R. § 1508.25(a), (c). “Actions are connected if they: (i) Automatically trigger other actions which may require environmental impact statements[;] (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously[; or] (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.” *Id.* § 1508.25(a)(1).

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. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Id. § 1508.8(b).

Indirect effects are those “which 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(b). Indirect effects “may include growth inducing effects,” such as the South Project’s development. *Id.*

Subsequent development — or induced growth — is a reasonably foreseeable effect of a federal action when the entire purpose of the federal action is to facilitate such development. *See, e.g., Sierra Club v. Marsh*, 769 F.2d 868, 878–80 (1st Cir. 1985); *City of Davis v. Coleman*, 521 F.2d 661, 674–77 (9th Cir. 1975). The *City of Davis v. Coleman* decision involved a claim that a federal agency funding a highway interchange failed to consider in its NEPA analysis the effects of industrial development the interchange would enable. 521 F.2d at 667. The court found that the interchange was “not being built to meet the existing demand for freeway access [as asserted by the project proponent] but to stimulate and service future industrial development in the . . . area.” *Id.* It noted that “the interchange is an indispensable prerequisite to rapid development of the Kidwell area.” *Id.* at 674. Not only could development not proceed without the interchange, but such development was the project’s “raison d’etre.” *Id.* at 674. Accordingly the court ordered the federal agency to prepare an EIS accounting for the effects of industrial development that the interchange would enable. *Id.* at 677.

Sierra Club v. United States (hereafter *Rocky Flats*) involved a factual situation nearly identical to the present one. In that case, a private corporation asked the Department of Energy (DOE) for an easement across federal land to its inholding so that it could develop and transport resources from that land. 255 F. Supp. 2d 1177 (D. Colo. 2002). DOE did not consider an inholding’s development in a NEPA analysis. *Id.* at 1183. The court explained, “But for the road [across DOE lands], the mining company could not access the mine site; absent the mine, there is no independent utility for the access road.” *Id.* at 1184. The court concluded that “the [e]asement is an integral part of the entire mining project” and that development was “reasonably foreseeable” because there were “firm plans” to develop a mine on the inholding. *Id.* at 1185.

The court thus held that development of the mine was an indirect effect that had to be considered in DOE's NEPA review of the easement. *Id.*

Enefit's requested rights-of-way are "an indispensable prerequisite" and "an integral part of the entire [development] project." The development is the easements' "raison d'être"; enabling the inholdings' development is the "announced goal and anticipated consequence" of the rights-of-way that Enefit has applied for. *Friends of the Earth, Inc. v. U.S. Army Corps of Eng'rs*, 109 F. Supp. 2d 30, 41 (D.D.C. 2000) ("Since the economic development of these areas is an announced goal and anticipated consequence of the [federally approved] projects, the Corps cannot claim that the prospect of secondary development is 'highly speculative.'"); *see also City of Davis*, 521 F. 2d at 677 ("The argument that the principle object of a federal project does not result from federal action contains its own refutation."); 44 Fed. Reg. 29,107, 29,110 (May 18, 1979) (stating Forest Service must consider "off-site consequences" in NEPA analysis of special use authorizations). The reason Enefit seeks the rights-of-way is to "produce and deliver shale oil from oil shale mined under the South Project." Draft EIS at 1-7. And development of the South Project is reasonably foreseeable if the subsidy of federal lands for the rights-of-way is provided.

Most circuits apply an "independent utility" test to determine whether two actions are connected and so must be analyzed together in a single EIS. *See, e.g., Del. Riverkeeper Network v. FERC*, 753 F.3d 1304, 1316–17 (D.C. Cir. 2014); *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1087 (9th Cir. 2011). Under that test, the court asks "whether 'each of two projects would have taken place with or without the other.'" *N. Plains Res. Council*, 668 F.3d at 1087 (quoting *Wetlands Action Network v. U.S. Army Corps of Eng'rs*, 222 F.3d 1105, 1118 (9th Cir. 2000)). "If the answer is yes, then the projects have 'independent utility' and do not require the same EIS." *Id.* at 1087–88.

The court in *Alpine Lakes Protection Society v. U.S. Forest Service* applied the independent utility test to facts paralleling those here, holding that development on an inholding was a connected action to the easement requested to access the parcel. 838 F. Supp. 478, 482–83 (W.D. Wash. 1993). That case involved a challenge to a National Forest Service special use permit to allow a timber company "to build, maintain, and use a 0.23 mile road [across National Forest lands] for access to its property for a 5-year period to conduct timber management activities." *Id.* at 480. The Forest Service did not consider the company's timber management in its NEPA analysis. *Id.* The court stated, "there is no dispute that the sole purpose of the . . . access road is to facilitate [the] timber management activities." *Id.* at 482. It then held: "Because it depends solely on [the company's] logging activities for its justification and is an 'interdependent part' of [the company's] timber management activities, the . . . access road and the timber management activities are connected actions" that must be considered in a NEPA review of the easement. *Id.* (citing 40 C.F.R. § 1508.25(a)(1)(iii)).

This situation here is nearly identical: Enefit's requested easements and the South Project's development do not each serve an "independent utility": each action would not take place without the other. Granting the rights-of-way cannot be justified unless the South Project is to be developed. Further, as described above, the South Project is unlikely to be developed unless the rights-of-way are granted.

It does not matter that the construction and development on the inholdings are not themselves federal projects. *See, e.g., Port of Astoria v. Hodel*, 595 F.2d 467, 477 (9th Cir. 1979); *Alpine Lakes*, 838 F. Supp. at 482. The South Project’s development is a connected action to granting the rights-of-way. *See, e.g., Rocky Flats*, 255 F. Supp. 2d at 1184–85 (holding private mine was connected action to federal easement where easement was intended to allow transport of mined sand and gravel across federal land); *Alpine Lakes*, 838 F. Supp. at 482 (holding timber management on private inholdings was connected action to Forest Service easement where “the sole purpose of the . . . access road [was] to facilitate . . . timber management activities” on the inholdings). The BLM therefore must analyze and disclose the effects of the development as a connected action its EIS.

Further, agencies must analyze and disclose the reasonably foreseeable environmental effects from induced development if that development is a connected action to or indirect effect of the federal action. *See* 40 C.F.R. § 1508.8(b) (“Indirect effects may include . . . effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.”); *TOMAC v. Norton*, 240 F. Supp. 2d 45, 51–52 (D.D.C. 2003) (holding EA’s discussion of induced growth inadequate because it “provides little discussion of the impact of secondary growth on public services . . . or on endangered species, wetlands, air quality, or other natural resources”), *aff’d*, 433 F.3d 852 (D.C. Cir. 2006). It is not adequate to simply disclose that such development is likely without addressing the development’s environmental effects. *See Davis v. Mineta*, 302 F.3d 1104, 1123 (10th Cir. 2002) (concluding adequate consideration of induced growth required “discussion or comparison of the local effects” of such growth; table outlining growth was insufficient).

A possible environmental effect of development must be analyzed “when the nature of the effect is reasonably foreseeable [even if] its extent is not.” *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549 (8th Cir. 2003). Development plans do not need to be particularly detailed for the nature of the development’s effects to be reasonably foreseeable. *City of Davis*, 521 F.2d at 676 (“We reject [the] position that the uncertainty of development in the [project] area makes the ‘secondary’ environmental effects of the interchange too speculative for evaluation. . . . And regardless of its nature or extent, this development will have significant environmental consequences for the surrounding area, including Davis.”). When “the development potential which the [federal action] will create comprehends a range of possibilities,” the agency must “evaluate the possibilities in light of current and contemplated plans and . . . produce an informed estimate of the environmental consequences”; it must “explor[e] in the EIS . . . alternative scenarios based on . . . external contingencies.” *Id.*

Enefit’s development plans for the South Project are “far from speculative.” Although there may be some uncertainty as to the precise engineering and design of the project, the nature and parameters of the development’s effects are known or knowable. As the Ninth Circuit explained in *City of Davis*, “this is precisely the kind of situation Congress had in mind when it enacted NEPA: substantial questions have been raised about the environmental consequences of federal action, and the responsible agencies should not be allowed to proceed with the proposed action in ignorance of what those consequences will be.” *Id.* at 675–76. BLM must analyze and disclose all reasonably foreseeable environmental effects possible under the range of development possibilities on the table.

2. NEPA Requires Agencies to Make Reasonable Projections of Proposed Actions.

Whether BLM considers the South Project to be a connected action or an indirect effect of the rights-of-way, or whether it considers the Project as a cumulative action, it must disclose the South Project's impacts because NEPA *requires* making projections about outcomes, even where there is some uncertainty about those impacts. "Reasonable forecasting and speculation is ... implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as 'crystal ball inquiry.'" *Scientists' Inst. for Pub. Info., Inc. v. Atomic Energy Comm'n*, 481 F.2d 1079, 1092 (D.C. Cir. 1973); *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1079 (9th Cir. 2011) ("reasonable forecasting [and] speculation [are] implicit in NEPA") (quotations and citation omitted). "If it is reasonably possible to analyze the environmental consequences in an [EIS], the agency is required to perform that analysis." *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1072 (9th Cir. 2002) (finding both EIS and later EA inadequate under NEPA). As the Ninth Circuit stated, "[t]he government's inability to fully ascertain the *precise extent* of the effects of mineral leasing in a national forest is not, however, a justification for failing to estimate what those effects might be before irrevocably committing to the activity." *Conner v. Burford*, 848 F.2d 1441, 1450 (9th Cir. 1988) (emphasis added).

Federal courts have set aside Interior Department agency NEPA documents where the agency failed to disclose, in a quantitative manner, climate pollution impacts of decisions that, like the one at issue here, enable the production of fossil fuels. *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp.3d 1174, 1196 (D. Colo. 2014) (finding BLM and Forest Service "decision to forgo calculating the reasonably foreseeable GHG emissions associated with the [Colorado Roadless Rule] was arbitrary in light of the agencies' apparent ability to perform such calculations and their decision to include a detailed economic analysis of the benefits associated with the rule"); *WildEarth Guardians v. United States Office of Surface Mining, Reclamation and Enforcement*, 104 F.Supp.3d 1208 (D. Colo. 2015) (setting aside environmental assessment where the agency failed to address the impacts of coal combustion because "[a]gencies need not have perfect foresight when considering indirect effects which by definition are later in time or farther removed in distance than direct ones.").

3. NEPA Requires Agencies to Disclose Important Information that May Be Difficult to Obtain.

NEPA further requires that where agencies identify that information "is incomplete or unavailable ..., the agency shall always make clear that such information is lacking." 40 C.F.R. § 1502.22. Agencies "shall" nonetheless obtain information relevant to adverse impacts where it "is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant." 40 C.F.R. § 1502.22(a). As such, NEPA mandates that agencies perform the research necessary to understand the difference in impact among alternatives. *Save Our Ecosystems v. Clark*, 747 F.2d 1240, 1244 n.5, 1249 (9th Cir. 1984) ("Section 1502.22 clearly contemplates original research if necessary;" "[a]s long as the information is ... 'significant,' or 'essential,' it must be provided when the costs are not exorbitant"); *Montgomery v. Ellis*, 364 F.Supp. 517, 528 (N.D. Ala. 1973) ("NEPA requires each agency to undertake the research needed adequately to expose environmental harms and, hence, to appraise available

alternatives.”). If the costs of obtaining the missing information are “exorbitant,” agencies have a duty to evaluate the potential, reasonably foreseeable impacts in the absence of relevant information, using a four-step process. 40 C.F.R. § 1502.22(b).

Courts have set aside NEPA analysis where agencies failed to disclose that information was unavailable or failed to obtain the necessary information. *See, e.g., Lands Council v. Powell*, 395 F.3d 1019, 1031-32 (9th Cir. 2005) (agency failure to disclose relevant shortcomings in model used for analysis violated NEPA); *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549-50 (8th Cir. 2003) (pursuant to 40 C.F.R. § 1502.22, agency was required to evaluate potential air quality impacts associated with increased availability and utilization of coal).

4. The Draft EIS Fails to Disclose the South Project’s Climate and Air Pollution Impacts.

The Draft EIS fails to quantify, and fails to provide more than the most vague qualitative statements, concerning South Project’s climate and air impacts.

The Draft EIS’s “analysis” of the climate impacts of the South Project provides the public with no useful information about the scale and nature of greenhouse gas (GHG) emissions. The Draft EIS states that “the South Project would have substantial GHG emissions that *may be* higher than the 25,000 MT CO₂eq per year.” Draft EIS at 4-39 (emphasis added). “The GHG emissions at the South Project *may be* reduced by implementation of mitigation measures,” or, apparently, may not be reduced. *Id.* (emphasis added). Mitigation measures that require “less use of vehicles” are, unsurprisingly, “expected to have lower GHG emission levels.” *Id.* The Draft EIS makes broad, bland statements that some types of processes involved in oil shale processing and mining will produce more climate emissions than others. *Id.* at 4-40 (“Based on the Applicant’s information provided describing the South Project, fuel combustion and oil shale mining operations would constitute the primary GHG emissions sources.”). The Draft EIS also divulges that fuel combustion will result in climate pollution. *Id.* at 4-41 (“During operation of the South Project fuel combustion for the shale retort operation and other fuel-burning equipment also would result in formation and release of GHGs”). The Draft EIS reveals that GHG emissions would be reduced when the South Project is closed. *Id.* at 4-44 (“The operation of the South Project facilities under the Proposed Action ... would result in increased GHG emissions throughout the operating life of the facility However, these emissions would cease when the oil shale resource is depleted.”). The Draft EIS provides quantitative estimates of GHG emissions from truck trips necessary to haul shale oil product to pipelines should the right-of-way not be built, *id.* at 4-43, but provides no other quantitative (or qualitative) analysis. In sum, the Draft EIS discloses that the South Project mining and processing of oil shale will cause climate pollution, but almost nothing else.

The Draft EIS’s treatment of the air quality impacts of oil shale mining and processing at the South Project is equally devoid of detail. The document explains that it provides only “[a] general description of the *types* of emissions sources that are expected to be present at the South Project,” as opposed to any projections of quantities of emissions. *Id.* at 4-49; *see also id.* (“the general nature of the anticipated air emissions sources that might result from the development of oil shale resources planned for the South Project can be identified”). The Draft EIS explains that

certain types of processes will cause air pollution, but explains only what types of pollutants may result. *Id.* at 4-50 (“Electrical generation equipment ... will have air emissions due to fuel combustion,” and identifying several chemicals (NOX, CO, VOC, SO2 and PM) as pollutants). The Draft EIS admits that ozone pollution is a significant problem in the region, but concludes, equivocally, that “the operation of the South Project *may* have *some* contributory effect on the current winter ozone episodes.” *Id.* at 4-52 (emphasis added). The Draft EIS alleges that as part of EPA permitting, modeling must demonstrate that “the air emission controls included in the South Project facilities are sufficient to avoid adverse air quality impacts.” *Id.* at 4-51. As with climate pollution, the Draft EIS divulges that air pollution will diminish when the South Project is closed. *Id.* at 4-54 (“operation of the South Project facilities under the Proposed Action ... would result in increased pollutant emissions throughout the operating life of the facility. However, these emissions would cease when the oil shale resource is depleted.”). The Draft EIS provides quantitative estimates of air pollution from truck trips necessary to haul shale oil product to pipelines should the right-of-way not be built, *id.* at 4-54, but provides almost no other quantitative (or qualitative) analysis. In sum, the Draft EIS discloses that the South Project mining and processing of oil shale will cause air pollution, but little else.

The Draft EIS contains data that does indicate that air pollution from the South Project is likely to be massive. In addressing ozone impacts, the Draft EIS states:

Overall the South Project contributes 50,000 barrels of [synthetic crude oil] per day in a region that now produces over 20 million barrels of conventionally extracted oil per year.

Draft EIS at 4-52. This comparison – 50,000 barrels per day to 20 million per year – may be intended to make the output of the South Project look small. However, 50,000 barrels per day is 18.3 million barrels per year, meaning that the South Project *will nearly double the amount of oil produced from the Uinta Basin*. This is significant because BLM uses air pollution from oil and gas operations as a proxy for the likely air pollution impacts of oil shale mining and processing. See Draft EIS at 4-52 (“Based on typical oil and gas mining and refining operations conducted in Wyoming and Utah, the general nature of the anticipated air emissions sources that might result from the development of oil shale resources planned for the South Project can be identified.”).

In any subsequently prepared NEPA document, BLM must disclose the fact that the South Project would nearly double the region’s oil production, and could result in a similar increase in the region’s air pollution from fossil fuel production.

5. The Draft EIS Provides Numerous Excuses for Its Failure to Disclose the South Project’s Climate and Air Pollution Impacts.

The Draft EIS provides at least five justifications for providing only vague qualitative discussion of the climate change and air pollution impacts likely to result from the construction and operation of the South Project.

First, as noted above, the Draft EIS asserts that the specific design of the South Project may differ depending on whether the right-of-way applications are granted or not, and that BLM cannot disclose certain impacts of the South Project because Enfit is “*unwilling to expend*

further resources to develop the mine plan and engineering specifications until it receives a decision” on the rights-of-way. Draft EIS at 2-37 (emphasis added). The Draft EIS specifically relies on this excuse, among others, to avoid even estimating potential climate and air pollution impacts:

It is not known what quantity of GHG [greenhouse gas] emissions would result from the South Project because it has not yet been fully designed and engineered. This information is unknown, and cannot be obtained, due to the fact that design and engineering of the South Project will change based on whether or not the BLM allows the Applicant to build one or more of the proposed utilities.

Draft EIS at 4-39. *See also id.* (“Engineering information for these sources has not been developed to allow credible estimates for South Project GHG emissions.... While it is appropriate to identify the nature of the future GHG sources, there is insufficient engineering data for the South Project at this time to quantify the GHG emissions”). The Draft EIS makes nearly identical statements concerning BLM’s failure to disclose air quality emissions data. *Id.* at 4-48 – 4-49.

Second, the Draft EIS alleges that it need not disclose the South Project’s pollution impacts because those impacts are unimportant to the analysis, concluding that under 40 C.F.R. § 1502.22, the disclosure of such impacts is not “essential to a reasoned choice among alternatives.”

BLM believes this unknown information is not essential to a reasoned choice between alternatives because the South Project will proceed to full buildout regardless of the BLM’s decision, and the BLM qualitatively knows that emissions under the No Action alternative from the South Project are generally going to be higher than under the Proposed Action alternative due to the need for the Applicant to generate their own electricity and utilize trucks to deliver water and product to and from the South Project.

Id. at 4-39 (addressing climate emissions). *See also id.* at 4-48 – 4-49 (making identical statement concerning air emissions).

Third, the Draft EIS apparently intends to assert that the cost of obtaining the information is “exorbitant” under 40 C.F.R. § 1502.22 when it states that “obtaining the unknown emissions quantifications from the South Project would be cost prohibitive because it would require the Applicant to design and engineer the entire South Project twice – once for the No Action and once for the Proposed Action alternatives.” Draft EIS at 4-39 (addressing climate emissions); *id.* at 4-49 (making identical assertions concerning air emissions).

Fourth, the Draft EIS alleges that there is no need for BLM to provide the information now because a permitting process by another agency later will be “functionally equivalent” to a NEPA analysis.

BLM anticipates that [the missing climate pollution] information will be generated by the Applicant and disclosed to the public by EPA after the South

Project is fully designed and engineered because the South Project *will be subject to the EPA's new source permitting process*, which is required by the Clean Air Act and is *functionally equivalent* to NEPA.

Draft EIS at 4-39 (emphasis added); *id.* at 4-49 (same for air pollution). Although BLM states unequivocally that “the South Project will be subject to the EPA’s new source permitting process,” the Draft EIS contradicts that statement with respect to climate pollution: “[W]ithout facility design information and corresponding emissions estimates it is *not known with certainty* that the major source/PSD permitting process will apply to South Project emissions of GHGs or other regulated air pollutants. Therefore, it cannot be guaranteed at this time that BACT will be required.” *Id.* at 4-39 – 4-40 (emphasis added). The Draft EIS similarly hedges with respect to air quality impacts, stating that the South Project “is *expected* to constitute a major source of air emissions,” which would require a Clean Air Act PSD permit. *Id.* at 4-49.

Finally, BLM argues that “as a connected action on private land, the South Project is not subject to BLM licensing and specific review under the NEPA process.” *Id.* at 4-39.

6. The Draft EIS’s Rationales for Failing to Disclose the Climate and Air Pollution Impacts of the South Project All Lack Merit.

As discussed in detail below, none of the rationales for failing to disclose the climate and air pollution impacts of the South Project has merit.

a. *BLM Can and Must Make Reasonable Forecasts Concerning the Climate and Air Pollution Impacts of the South Project.*

BLM can – and must – project climate and air quality impacts from South Project development and operation. First, monitoring data surely exists for air pollution from Enefit’s shale oil plant in Estonia that uses the Enefit280 process. Carbon pollution is regulated and monitored under the European Union’s Emissions Trading System (ETS). See http://ec.europa.eu/clima/policies/ets/auctioning/index_en.htm (last viewed June 13, 2016). The air and climate pollution impacts of that Estonian Enefit280 facility would provide useful data for the public and decisionmakers to understand the potential nature and scope of the South Project’s emissions, even if there are differences between the nature of oil shale in Utah and that in Europe, and potential differences in project design. Further, BLM and other agencies routinely model air impacts in NEPA documents based on less than perfect information for a variety of proposed agency actions, including for oil and gas leasing as well as coal leasing. Failing to compile and disclose such data, and to use it to make reasonable projections, violates NEPA.

Further, failing to disclose such emissions in this EIS would contradict a commitment made by BLM in its 2012 programmatic EIS evaluating the impact of identifying federal lands open to oil shale and tar sands leasing. That EIS states:

To estimate total potential air pollutant emissions, emission factors for a specific activity must be identified and then multiplied by activity levels and engineering control efficiencies. The emission factors from proposed project activities *would*

be estimated in future NEPA analyses by using appropriate equipment manufacturer's specifications, testing information, EPA AP-42 emission factor references (EPA 1995), and other relevant references.

Bureau of Land Management, Final EIS, Proposed Land Use Plan Amendments for Allocation of Oil Shale and Tar Sands Resources (Nov. 2012) at 4-61 (emphasis added). Enefit undoubtedly has emissions factors and other relevant references to provide quantitative estimates of air and climate pollution from its Enefit280 process, whatever the precise design and engineering of the South Project may be.

Second, BLM's allegation that it is "unwilling" to provide any quantitative estimates for air or climate emissions stands in stark contrast to the agency's willingness and ability to quantify the impacts of the South Project for numerous resources even without detailed design and engineering specifications. BLM's ability to estimate such impacts while refusing to make even basic projections about air and climate pollution impacts is arbitrary and capricious.

For example, in assessing impacts to surface water, the Draft EIS notes that Enefit is still in a preliminary engineering design process for the South Project, and as such water supply amounts may vary. Draft EIS at 2-39. Yet the Draft EIS nonetheless provides detailed predictions for the South Project's water consumption, predicting water use for the South Project down to the one-hundredth of an acre foot for several different parts of project operations. *See id.* at 2-39 and 4-69 (estimating precisely the South Project's water consumption for the first four years of operation, as well as the following 30 years of operation, of the South Project for: (1) mining; (2) retorting and upgrading; (3) utility and power generation; and (4) "other uses"). While BLM qualifies its forecasts as "preliminary estimates," *id.* at 4-68, it nonetheless provides them as part of its obligation to take a hard look at the impacts of surface water.

The Draft EIS also makes projections quantifying the volume of the production of shale oil (50,000 barrels per day) and the amount of raw shale necessary to produce that volume of oil from the South Project (28.5 million tons per year). Draft EIS at 2-38; *see also id.* at 4-153 (estimating raw shale at 28 million tons per year). The Draft EIS also modeled the exact emissions of five air pollutants down to the one-tenth, and in some cases, down to the one-hundredth, of a ton that would result from trucking the South Project's shale oil product from that site to a pipeline under the "no action" alternative. *See id.* at 4-54, Table 4-7.

The Draft EIS also makes quantitative forecasts and projections concerning the number, and impacts, of workers required to build and operate the South Project. The Draft EIS estimates, with precision, the numbers of those likely to be directly employed by project construction (2,525) and operation (1,730). *Id.* at 4-134, Table 4-30. BLM also precisely estimates the impact of those employees on the local housing market. *Id.* at 4-136 – 4-137 (estimating that South Project employees will absorb 1.5% to 3.2% of the housing vacancy in the local area). The Draft EIS also contains specific numerical estimates for South Project's impact on the annual earnings the employees would receive (\$100 million), for the number of additional students in the school system (485), for the additional number of government employees required due to the increased demand for government-provided services, such as police, fire, medical services and schools (30 during the construction phase, and 64 during South Project operations),

and for the increase in local government expenditures (1.2% during construction and 2.6% during South Project operations). *Id.* at 4-135 – 4-136.

The details that the Draft EIS was able to provide concerning the South Project’s impacts to water, production, employment, housing and government services demonstrate that BLM and Enefit can and did make reasonable quantitative predictions, even if the company has not completed all South Project engineering and design. Federal courts have struck down EISs where BLM failed to address climate impacts while disclosing the economic benefits of decisions regarding coal. *High Country Conservation Advocates*, 52 F.Supp.3d at 1196. In any subsequently prepared NEPA document, BLM must disclose quantitative forecasts for climate pollution from the South Project.

Finally, that Enefit is “unwilling” to provide additional information is irrelevant to BLM’s NEPA obligations. As noted above, federal courts require an EIS in this situation to “explor[e] . . . alternative scenarios based on . . . external contingencies.” *City of Davis*, 521 F.2d at 676. BLM must discharge its duty to undertake the necessary analysis of the potential for air and climate emissions under all alternatives.

b. *Disclosure of Climate and Air Pollution from the South Project Is “Essential to a Reasoned Choice Among Alternatives.”*

The Draft EIS’s contention that air and climate pollution data are “not essential to a reasoned choice between alternatives because the South Project will proceed to full buildout regardless of the BLM’s decision,” Draft EIS at 4-39, is unsupported and incorrect. Further, because BLM can provide quantitative data, as discussed above, BLM cannot decline to provide that data by availing itself of the provisions of 40 C.F.R. § 1502.22.

As noted above, BLM is wrong because it *cannot* be certain that the South Project will be built without the considerable subsidies provided by the public lands rights-of-way. *See supra* at III(1). By lowering Enefit’s costs, the rights-of-way make the South Project more likely; without the rights-of-way, Enefit’s costs will rise, making it less likely constructing the South Project will be financially feasible.

The future of human and other life on the planet is being and will continue to be impacted for centuries by decisions – like this one – that we make today. Understanding the nature and scope of those impacts, and trade-offs among alternatives, is critical to public debate and agency decisionmaking. Failing to attempt to quantify these potential impacts – especially while minutely detailing impacts like the number of government employees, a number which would be similar under both alternatives – is contrary to NEPA’s mandate to take a “hard look” at potential impacts.

c. *The Cost of Obtaining Climate and Air Pollution Estimates Is Not Exorbitant.*

BLM apparently intends to excuse its failure to forecast climate and air pollution from the South Project on the grounds that the cost of obtaining such information is “exorbitant” as used in 40 C.F.R § 1502.22. But BLM’s allegation that “obtaining the unknown emissions quantifications from the South Project would be cost prohibitive because it would require the Applicant to

design and engineer the entire South Project twice – once for the No Action and once for the Proposed Action alternatives,” Draft EIS at 4-39, finds no support in the EIS. BLM does not explain what “cost prohibitive” means, who defined it, or whether it means the same thing as “exorbitant?” The mere fact that Enefit may prefer to spend no funds to design and engineer a project assuming the “no action” alternative is adopted is not a valid basis for ignoring NEPA’s hard look requirement, particularly given that the consideration of alternatives is the heart of the NEPA process.

And, as described above, BLM and Enefit could use data from Enefit’s Estonian plant to make reasonable projections to inform the public and other decisionmakers of likely impacts. The complete absence of any attempt to quantify these impacts is arbitrary.

d. *BLM Cannot Rely on a Different Agency’s Subsequent Non-NEPA Review to Substitute for BLM’s Analysis Now.*

The Draft EIS’s suggestion that BLM need not attempt to forecast quantitatively climate and air pollution impacts from the South Project because a permitting process by another agency later will be “functionally equivalent” to a NEPA analysis lacks any legal or factual support.

The Draft EIS contradicts its own conclusion that EPA will undertake such an analysis when it admits that it is “*not known with certainty* that the major source/PSD permitting process will apply to South Project emissions of GHGs or other regulated air pollutants.” Draft EIS at 4-39 – 4-40 (emphasis added).

Further, we are unaware of any caselaw concluding that a federal agency may avoid making reasonable projections about a federal action’s air and climate indirect or cumulative impacts because EPA may later issue a permit. To the contrary, federal appeals courts have repeatedly stated that “[a] non-NEPA document . . . cannot satisfy a federal agency’s obligations under NEPA.” *Klamath-Siskiyou Wildlands Center v. BLM*, 387 F.3d 989, 998 (9th Cir. 2004); *see also South Fork Band Council v. Dept. of Interior*, 588 F.3d 718, 726 (9th Cir. 2009). And when a court was recently asked to conclude that an agency within the Interior Department need not address air quality impacts of a coal mining decision in a NEPA analysis because Clean Air Act permitting would ensure no violations of that law’s standards, the court flatly rejected that argument:

The question posed by the plaintiff is not whether the increased mining will result in a release of particulate matter and ozone precursors in excess of the NAAQS, but whether the increased emissions will have a significant impact on the environment. One can imagine a situation, for example, where the particulate and ozone emissions from each coal mine in a geographic area complied with Clean Air Act standards but, collectively, they significantly impacted the environment. It is the duty of [the federal Office of Surface Mining, or OSM] to determine whether a mining plan modification would contribute to such an effect, *whether or not the mine is otherwise in compliance with the Clean Air Act’s emissions standards*. During oral argument, even OSM’s counsel acknowledged that he does not read the Clean Air Act exemption to mean that OSM cannot or need not assess the impacts of mining activities on air quality.

WildEarth Guardians, 104 F.Supp.3d at 1227-28. If BLM is aware of any legal support for its novel position, we request that the agency disclose it in any subsequently prepared NEPA document.

The requirement that BLM disclose and quantify the climate and air quality impacts in the Enefit rights-of-way EIS is further supported by NEPA's mandate that agencies must apply NEPA "early in the process." 40 C.F.R. § 1501.2 ("Agencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts."). Declining to disclose the South Project's air and climate impacts until after BLM has approved subsidies for the project contradicts the letter and spirit of NEPA.

In any event, the statement that EPA's new source review is the "functional equivalent" of NEPA is false. New source review does not mandate the consideration of all reasonable alternatives; does not require the consideration of mitigation measures; and does not address scores of other NEPA mandates. NEPA is primarily a disclosure statute; new source review primarily ensures that a new source will not cause violations of ambient air quality standards. As the *WildEarth Guardians* court explained, NEPA requires far more than a conclusion that a given project will not violate the law.

- e. *The Fact That the South Project Is Not Subject to BLM Licensing Does Not Eliminate BLM's Duty to Disclose Climate and Air Pollution Impacts.*

BLM's argument that "as a connected action on private land, the South Project is not subject to BLM licensing and specific review under the NEPA process," Draft EIS at 4-39, is also incorrect. The South Project is, as BLM admits, a "connected action." Draft EIS at 2-37. As such, NEPA requires that BLM disclose the South Project's climate and air quality impacts as indirect, or at a minimum, cumulative effects. *See supra* at IV.

Even if BLM was correct that the South Project will be built without the subsidy of BLM's rights-of-way, an assumption we dispute, BLM guidance still requires disclosure of climate and air pollution impacts from the South Project. *See* Draft EIS at 1-5 – 1-6. That guidance states:

If the connected non-Federal action cannot be prevented by BLM decision-making, but its effects can be modified by BLM-decision-making, then the changes in the effects of the connected non-Federal action must be analyzed as indirect effects of the BLM proposed action.

BLM, National Environmental Policy Act Handbook H-1790-1 (Jan. 2008) at 47, available at http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_handbook.Par.24487.File.dat/h1790-1-2008-1.pdf (last viewed June 13, 2016). Here, BLM has admitted that the South Project will involve "different design requirements" if the rights-of-way are not approved. Draft EIS at 2-37. It seems likely that a different project design could result in different climate and air emissions. Therefore, BLM's own guidance requires the agency to disclose air and climate impacts in any subsequently prepared NEPA document.

f. *BLM Failed to Comply with NEPA Regulations Concerning Incomplete or Unavailable Information.*

BLM failed to comply with NEPA regulations concerning incomplete or unavailable information when addressing air and climate pollution impacts. NEPA requires that if the “incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.” 40 C.F.R. § 1502.22(a).

As demonstrated above in Section (IV)(6)(a)(b) &(c), BLM is able to forecast air and climate pollution impacts using publically available data, and this information is essential to a reasoned choice among alternatives. The underlying problem is not the availability of the data but rather Enefit’s unwillingness to provide the relevant data to BLM. Moreover, BLM has not shown that the costs of obtaining this information would be “exorbitant.”

However, even if the costs of obtaining this information were “exorbitant,” an assumption we doubt, the Draft EIS fails to include the information required by NEPA in such situations. 40 C.F.R. § 1502.22(b)(1). Specifically, the Draft EIS fails to include “(3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency’s evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.” *Id.*

It is relevant that in BLM’s other analyses of oil shale impacts, most notably the 2012 OSTS PEIS, numerous test studies, relevant data, and international examples to forecast impacts were referenced as required by NEPA. There is ample data – ranging from Estonian oil shale studies, to the Alberta oil sands, to studies in the Colorado River Basin itself – that would meet the criteria of “existing credible scientific evidence” relevant to evaluating air and climate impacts of the South Project. Even if BLM proves that the cost of obtaining this information is exorbitant, it still must make forecasts based on available and relevant data in subsequently prepared NEPA documents.

7. BLM Must Either Foreclose Enefit’s RD&D Activities and Expansion on its Preferential Lease Right or Analyze the Reasonably Foreseeable Impacts of Those Activities

As discussed above, Enefit states that it plans to carry out its RD&D activities on the South Project parcel. Upon demonstrating commercial viability, Enefit then plans to expand its oil shale mine onto the adjacent 4,960-acre preferential lease right that accompanies its 160-acre RD&D lease. Enefit’s application indicates that its mining activities on the preferential right expansion area would impact the full 4,960 acres that make up the preferential right area and result in production of 528.3 million barrels of oil. Enefit Application at 6.

For the same reasons that activities carried out on the South Project are connected actions to and

cumulative impacts of the right-of-way utility corridor, Enefit's RD&D activities and expansion onto its preferential right are also connected actions and cumulative impacts of the rights-of-way utility corridor. Indeed, BLM has previously described the utility pipelines at issue in the rights-of-way applications as "necessary" for development activities on the 160 acre RD&D lease. Environmental Assessment and Biological Assessment for the Oil Shale Research, Development, and Demonstration Project, White River Mine, Uintah County, Utah (EA #UT-080-2006-280) at 5 attached as Exhibit 30. This same characterization extends to the preferential lease right area both due to geography (the preferential right is adjacent to the RD&D lease) and regulatory framework (expansion is dependent on successful RD&D). As such, the utility corridor is also necessary to activities on the preferential lease right area.

However, BLM failed to provide analysis of impacts of both the RD&D activities and expansion onto preferential right lease area in the DEIS. BLM explains that the RD&D project "was not included in the quantitative analysis because there are no currently proposed projects on this lease. This project is only discussed qualitatively." Draft EIS at 4-153.

Enefit cannot have it both ways. The only way this rationale can be supported is if BLM cancels Enefit's RD&D lease. At the end of 2016, Enefit can and likely will apply to extend its RD&D lease term. BLM may grant a five-year extension if Enefit can demonstrate "that a process leading to production in commercial quantities is being diligently pursued, consistent with the schedule specified in the approved plan of development." Oil Shale, RD&D Round 1 Lease Form, Section 4. The comments made by BLM in the DEIS indicate a lack of diligent pursuit of a process leading to production in commercial quantities. If that is the case, then BLM should decline to grant a five-year extension of Enefit's RD&D lease at the end of 2016.

If, on the other hand, BLM plans to grant an extension of the RD&D lease term through 2021 and preserve Enefit's ability to expand oil shale operations onto federal land because Enefit is diligently pursuing a process leading to production on the RD&D lease and preference area, then it is incumbent on BLM to also analyze the impacts of Enefit developing the full 5,120 acres in the DEIS. Enefit cannot have it both ways – its current attempts to avoid analysis are another example of the company's attempts to game the RD&D program and the federal environmental review process.

V. The Draft EIS Fails to Take a Hard Look at Numerous Impacts of the Proposed Action.

1. The BLM Failed to Take A Hard Look at Climate Impacts

a. BLM's "Analysis" of Climate Impacts Is Arbitrary and Capricious.

As discussed above, the Draft EIS fails to address the climate impacts of the South Project. *See infra* at IV (4)-(6). What analysis the Draft EIS does contain, however, is flawed and fails to take the hard look that NEPA requires.

For example, the Draft EIS estimates greenhouse gas emissions for construction of the utilities permitted by the rights-of-way under the proposed action, and the purported additional emissions if Enefit builds the South Project without the rights-of-way. Draft EIS at 4-38, 4-43. In both

instances, the Draft EIS assumes that the global warming potential of methane is 25 times that of CO₂. *Id.* This assumption is outdated and incorrect.

BLM should use multipliers that reflect the latest science concerning the short- and long-term impacts of methane pollution. In 2014, the IPCC – the world’s leading scientific organization addressing climate change – calculated the global warming potential of one ton of methane as 34 times that of one ton of CO₂ on a 100-year time scale (up from 25 in IPCC’s Fourth Assessment Report (“AR4”) from 2007) and 86 times that of one ton of CO₂ on a 20-year time scale (up from 72 in AR4). IPCC, *Climate Change 2013: The Physical Science Basis*, Ch. 8- Anthropogenic and Natural Radiative Forcing (2013), at 714, available at http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter08_FINAL.pdf (last viewed June 13, 2016). The methane multipliers include climate-carbon feedbacks in response to methane emissions. *Id.* Because methane remains in the atmosphere for an average of 8 to 12 years, the 20-year figure is the most relevant, and BLM should apply this multiplier in any subsequently prepared NEPA document.

In addition, the Draft EIS makes several assertions that demonstrate a lack of understanding of the nature of climate change. The EIS alleges: “There are no irreversible commitments of air quality resources for the Utility Project construction, primarily because GHG emissions are limited in magnitude and duration.” Draft EIS at 4-43. That document also states: “The short-term GHG emissions expected to occur as a result of construction of the Utility Project are not expected to result in adverse impacts on the long-term productivity of public land resources in the area.” *Id.* at 4-44. These statements misconstrue entirely the nature of climate change and CO₂ emissions. Each pound of carbon dioxide added to the atmosphere makes climate change worse, regardless of the “duration” of those emissions. Carbon dioxide can persist in the atmosphere for as long as two centuries, heating the climate for that period and beyond. Intergovernmental Panel on Climate Change, Working Group 1: *The Scientific Basis* (stating that carbon dioxide has an atmospheric lifetime of 5 to 200 years), available at <https://www.ipcc.ch/ipccreports/tar/wg1/016.htm> (last viewed June 13, 2016). The impacts of climate change – loss of polar ice caps, changes to habitat, species extinctions, increased human disease and death, warming atmosphere and oceans, sea level rise – are all potentially irreversible on a human time-scale. Further, climate change is already impacting BLM lands in the American West, Utah, and the Uinta Basin, and will do so indefinitely into the future. BLM’s attempt to ignore or downplay these impacts is contrary to the facts. Any subsequently prepared NEPA document must rectify these errors.

Related statements in the Draft EIS, implying that the impacts of greenhouse gas emissions will end when emissions end, also lack support. *See* Draft EIS at 4-44. (“The operation of the South Project facilities under the Proposed Action or No Action Alternative would result in increased GHG emissions throughout the operating life of the facility (projected to be 30 years). However, these emissions would cease when the oil shale resource is depleted.”). Again, the impacts of climate pollution will likely last for centuries beyond the end of emissions. Any implication to the contrary ignores the scientific basis underpinning climate change, so these statements must be removed from the EIS.

The Draft EIS's discussion of cumulative climate change impacts is also inaccurate. The EIS states:

The Utility Project would not contribute to cumulative effects for GHG emissions, as it is of relatively short duration, and limited GHG emissions. Future changes in climate would not affect the operation or purpose of the completed utility corridors. The existence of the utility corridors would not affect other projects in the region, or promote GHG emissions other than the South Project operation. Therefore, operation of the Utility Project would not affect or promote the growth in cumulative GHG emissions elsewhere in the Uinta Basin.

Draft EIS at 4-155. Every sentence in this paragraph is either false or misleading. As noted, each pound of additional CO₂ adds to the impacts of climate change; the Draft EIS's statement to the contrary is false. And even if "[f]uture changes in climate would not affect the operation ... of the utility corridors," this statement is misleading because worsening climate change could increase damage caused by utility corridor and the South Project. For example, worsening climate change caused by the proposed action, when added to other sources of climate pollution, may cause reduced snowpack in the Rockies, and reduced flow in the White and Green Rivers, thus increasing the potential for the proposed action, and other cumulative actions, to harm endangered Colorado River fish. Hotter temperatures may make restoration of plant life in the utility corridors and reclamation of the strip-mined landscape at the South Project more difficult, and so worsen or prolong impacts to sage grouse and other wildlife. Climate change may also magnify the energy demand of the South Project and communities that house construction and other workers as hotter summers will require more demand for air conditioning. Any subsequently prepared NEPA document must address these types of potential cumulative impacts.

The Draft EIS's statement that "[t]he existence of the utility corridors would not affect other projects in the region, or promote GHG emissions other than the South Project operation," *id.*, is irrelevant and misses the point. GHG emissions from actions other than the utility corridor and South Project operation will, cumulatively with other proposed actions, worsen climate change even more than the proposed action alone. Therefore, the Draft EIS is incorrect in alleging that "operation of the Utility Project would not affect or promote the growth in cumulative GHG emissions elsewhere in the Uinta Basin." By adding carbon to the atmosphere, the utility project will clearly be promoting the growth of GHG emissions, which, cumulatively with other projects in the area, will make climate change worse.

b. *The Draft EIS Fails to Disclose the Climate Pollution Impacts of Combustion of Shale Oil Produced by the South Project.*

As discussed in section IV above, the Draft EIS fails to forecast, project, or in any way estimate the foreseeable climate pollution from the construction and operation of the South Project. Just as important, the Draft EIS also fails to address another key and long-term impact of the rights-of-way: the climate pollution that will result from the *combustion* of the 550 million barrels of fuel that will be produced by the South Project, as made possible by the rights-of-way.

[E]missions from activities that have a reasonably close causal relationship to the Federal action, such as those that may occur as a predicate for the agency action (often referred to as upstream emissions) and as a consequence of the agency action (often referred to as *downstream emissions*) should be accounted for in the NEPA analysis.

....

For example, a particular NEPA analysis for a *proposed open pit mine* could include the reasonably foreseeable effects of various components of the mining process, such as clearing land for the extraction, building access roads, transporting the extracted resource, refining or processing the resource, and *using the resource*.

Council on Environmental Quality, Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews, 79 Fed. Reg. 77,802, 77,826 (Dec. 24, 2014) (emphasis added). CEQ's guidance is consistent with federal court decisions mandating that federal agencies address downstream combustion impacts of decisions that facilitate increased fossil fuel mining. *See High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp.3d 1174, 1196-98 (D. Colo. 2014); *Mid States Coalition for Progress v. Surface Transportation Board*, 345 F.3d 520, 549 (8th Cir. 2003).

The foreseeable impacts of the South Project include combustion of the South Project's fossil fuel product, and these impacts are likely to be massive. EPA estimates that combustion of one barrel of shale oil will release 0.43 tons of carbon. *See* EPA, GHG Equivalencies Calculator - Calculations and References, available at <https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references> (last viewed June 13, 2016). Thus, combustion of the 550 million barrels of shale oil the South Project proposes to produce will release approximately 240 million tons of CO₂ into the atmosphere, about the same as running a large coal-fired power plant for 30 years.

BLM cannot fail to disclose the combustion impacts because they are remote or speculative. The purpose of the rights-of-way is to facilitate the mining, processing, sale and use of the shale oil Enefit seeks to produce. Even if BLM incorrectly assumes that the South Project would be constructed without the rights-of-way, the agency must still disclose the foreseeable impacts of the combustion of the South Project's produced fuel as an indirect or foreseeable cumulative impact of the proposed action.

BLM may argue that there will be no GHG impacts from burning Enefit's product because the same amount of oil will be consumed whether Enefit produces the oil or not. Any such argument would be arbitrary and capricious for two reasons. First, nearly doubling the amount of crude oil from the Uinta Basin will induce more consumption because it will increase supply, which will incrementally lower price, and thus induce more combustion of oil. The combustion of more oil will add to global climate pollution. This is the very dynamic that *High Country* court noted in its decision. *See High Country Conservation Advocates*, 52 F.Supp.3d at 1197-98.

Second, even if Enefit's production induced no additional oil consumption at all, and merely *replaced* other crude oil that otherwise would have been consumed, that consumption will result in more GHGs because shale oil is more carbon intensive than conventional oil or even tar sands, according to Enefit's own studies. Thus, even in the unlikely event that Enefit's production merely replaced other oil production, Enefit's product would still result in increased climate pollution because oil shale fuel is more carbon intensive.

c. *The Draft EIS Fails to Disclose the Impacts of Climate Pollution on the Environment.*

The Draft EIS contains some attempt to quantify climate emissions from utility project construction, Draft EIS at 4 –38, although, as noted above, it fails to project climate impacts from South Project construction and operation or from the end use of the shale oil produced there. Even if BLM quantifies the *amount* of additional emissions that result from the alternatives, as it must, that would not, by itself, disclose the *impacts* of those emissions on the environment.

The Draft EIS dismisses any attempt to characterize the impacts of additional climate emissions, stating that “there is no reliable way to quantify whether or to what extent local GHG emissions can contribute to the larger phenomenon,” Draft EIS at 4-41, and stating that “carbon costs” are “not quantifiable.” *See id.* at 4-43 (making similar statement), 4-155 (“The added “carbon cost” of these additional inputs represent a greater adverse effect than that of the Proposed Action, even though the *actual magnitude of the effect is not quantifiable.*” (emphasis added)), 4-156 (“While gradually increasing GHG emissions across a particular large region or sector could in theory be connected to incremental climate effects, there is no established methodology to do so.”). These statements are incorrect. There is at least one robust, peer-reviewed methodology that BLM regularly has employed to quantify and characterize the environmental and financial impacts of adding a ton of carbon to the atmosphere: the federal interagency social cost of carbon protocol.

The social cost of carbon protocol for assessing climate impacts is a method for estimating the damages associated with a small increase in CO₂ emissions, conventionally one metric ton, in a given year and represents the value of damages avoided for a small emission reduction (*i.e.* the benefit of a CO₂ reduction). U.S. Environmental Protection Agency (“EPA”), “Fact Sheet: Social Cost of Carbon” (Nov. 2013) at 1, attached as Exhibit 31 available at <http://www.epa.gov/climatechange/Downloads/EPAactivities/scc-fact-sheet.pdf> (last viewed June 14, 2016). It is intended to include changes in net agricultural productivity, human health, property damages, and the value of ecosystem services, all of which climate change can degrade. *See* Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (Feb. 2010), attached as Exhibit 32, available at <https://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-RIA.pdf> (last viewed June 13, 2016); *see also* Cass R. Sunstein, The Real World of Cost-Benefit Analysis: Thirty-Six Questions (and Almost as Many Answers), 114 Colum. L. Rev. 167, 171-73 (Jan. 2014) (describing origins of interagency agreement on the social cost of carbon). As such, the social cost of carbon includes not only socioeconomic harm but also harm to the

environment. The protocol was developed by a working group consisting of a dozen federal agencies, including the U.S. Department of Agriculture, with the primary aim of implementing Executive Order 12866, which requires that the costs and benefits of proposed regulations be taken into account.

The Interagency Working Group's protocol was published in 2010. Interagency Working Group on Social Cost of Carbon (Feb. 2010) (Exhibit 32 at 1. It was then revised and updated in 2013. Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (May 2013), attached as Exhibit 33, available at https://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf (last viewed June 13, 2016). The social cost of carbon protocol includes a range of values for the cost of each additional ton of carbon, based on varying discount rates. In this way, the protocol addresses uncertainty by providing a range of values to assess the cost of carbon. Interagency Working Group (2010) (Exhibit 32) at 1 ("The main objective of this process was to develop a range of SCC [social cost of carbon] values using a defensible set of input assumptions grounded in the existing scientific and economic literatures. In this way, key uncertainties and model differences transparently and consistently inform the range of SCC estimates").

Depending on the discount rate and the year during which the carbon emissions are produced, the Interagency Working Group estimates the cost of carbon emissions, and therefore the benefits of reducing carbon emissions, to range from \$11 to \$220 per metric ton of carbon dioxide. In July 2014, the U.S. Government Accountability Office ("GAO") confirmed that the Interagency Working Group's estimates were based on sound procedures and methodology. General Accounting Office, "Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates," GAO-14-663 (July 2014), attached as Exhibit 34, available at <http://www.gao.gov/assets/670/665016.pdf> (last viewed June 13, 2016).

The social cost of carbon has been recommended or utilized in the NEPA process to evaluate the impacts of project-level decisions. For example, the EPA recommended that an EIS prepared by the U.S. Department of State for the proposed Keystone XL oil pipeline include "an estimate of the 'social cost of carbon' associated with potential increases of GHG emissions." EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011) attached as Exhibit 35. In addition, BLM has utilized the social cost of carbon protocol. In environmental assessments for oil and gas leasing in Montana, the agency estimated "the annual SCC [social cost of carbon] associated with potential development on lease sale parcels." BLM, "Environmental Assessment for October 21, 2014 Oil and Gas lease Sale," DOI-BLM-MT-0010-2014-0011-EA (May 19, 2014) at 76, excerpts attached as Exhibit 36, available at [http://www.blm.gov/style/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/lease_sale_s/2014/oct_21_2014/july23posting.Par.25990.File.dat/MCFO%20EA%20October%202014%20Sale_Post%20with%20Sale%20\(1\).pdf](http://www.blm.gov/style/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/lease_sale_s/2014/oct_21_2014/july23posting.Par.25990.File.dat/MCFO%20EA%20October%202014%20Sale_Post%20with%20Sale%20(1).pdf) (last viewed June 13, 2016). In conducting its analysis, the BLM used a "3 percent average discount rate and year 2020 values," presuming social costs of carbon to be \$46 per metric ton. *Id.* Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be "\$38,499 (in 2011 dollars)." *Id.* In Idaho, BLM also utilized the social cost of carbon protocol to analyze and assess the costs of oil and gas leasing. Using a 3% average discount rate and year 2020 values, the agency estimated the cost of carbon

to be \$51 per ton of annual CO₂e increase. BLM, “Little Willow Creek Protective Oil and Gas Leasing,” EA No. DOI-BLM-ID-B010-2014-0036-EA (February 10, 2015) at 81, excerpts attached as Exhibit 37 available at https://www.blm.gov/epl-front-office/projects/nepa/39064/55133/59825/DOI-BLM-ID-B010-2014-0036-EA_UPDATED_02272015.pdf (last viewed June 13, 2016). Based on this estimate, the agency estimated the total carbon cost of developing 25 wells on five lease parcels to be \$3.7 million annually. *Id.* at 83. (This is not to endorse as complete either the Little Willow EA analysis or the Montana lease sale analysis.)

The social cost of carbon is a simple tool that is easy for federal agencies to use and easy for the public to understand. Putting a dollar figure on each ton of CO₂ emitted as a result of a federal project places climate impacts in a context that both decision makers and the public can readily comprehend. It is backed by years of peer-reviewed scientific and economic research, it is designed to be updated to reflect the most current information, and it has already been used by federal agencies in both rulemaking decisions and project-level reviews under NEPA. Therefore, BLM should use the social cost of carbon to disclose the impacts of Enefit’s rights-of-way applications. Additional information supporting the utility and necessity of using the social cost of carbon in NEPA analysis, *see* letter of Center for Biological Diversity *et al.* to Council on Environmental Quality (Mar. 25, 2015) at 4-10, attached as Exhibit 38; N. Shoaff & M. Salmon, Sierra Club, “Incorporating the Social Cost of Carbon into National Environmental Policy Act Reviews for Federal Coal Leasing Decisions,” (April 2015), attached as Exhibit 39.

It is important to note that the social cost of carbon protocol presents a *conservative* estimate of damages associated with the environmental impacts climate change. As the EPA has explained, the protocol “does not currently include all important [climate change] damages.” EPA, “Fact Sheet: Social Cost of Carbon” (Exhibit 31).

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

Id. Scientific reviews have similarly concluded that the interagency social cost of carbon estimates do not account for, or poorly quantify, certain impacts, suggesting that the estimated values are conservative and should be viewed as a lower bound. *See* Peter Howard, *et al.*, Environmental Defense Fund, Institute For Policy Integrity, Natural Resources Defense Council, OMITTED DAMAGES: WHAT’S MISSING FROM THE SOCIAL COST OF CARBON, (March 13, 2014) (explaining, for example, that damages such as “increases in forced migration, social and political conflict, and violence; weather variability and extreme weather events; and declining growth rates” are either missing or poorly quantified in SCC models), attached as Exhibit 40; Frank Ackerman & Elizabeth A. Stanton, CLIMATE RISKS AND CARBON PRICES: REVISING THE SOCIAL COST OF CARBON (2010), attached as Exhibit 41 (concluding that the 2010 Interagency social cost of carbon “omits many of the biggest risks associated with climate change, and downplays the impact of current emissions on future generations,” and suggesting that the social cost of carbon should be almost \$900 per ton of carbon); Frances C. Moore and Delavane B.

Diaz, Temperature impacts on economic growth warrant stringent mitigation policy, NATURE CLIMATE CHANGE (Jan. 12, 2015), attached as Exhibit 42 (identifying a central value of \$220 for one ton of additional CO_{2e}).

Despite uncertainty and likely underestimation of carbon costs, nevertheless, “the SCC is a useful measure to assess the benefits of CO₂ reductions,” and thus a useful measure to assess the costs of CO₂ increases. EPA, Fact Sheet: Social Cost of Carbon (Exhibit 31).

A 2014 White House report warned that delaying carbon reductions would yield significant economic costs, underscoring the fact that the impacts of climate change, as reflected by an assessment of social cost of carbon, should be a significant consideration in agency decisionmaking. Executive Office of the President of the United States, Council of Economic Advisers, “The Cost of Delaying Action to Stem Climate Change” (July 2014), attached as Exhibit 43 available at https://www.whitehouse.gov/sites/default/files/docs/the_cost_of_delaying_action_to_stem_climate_change.pdf (last viewed June 13, 2016). As the report states:

[D]elaying action to limit the effects of climate change is costly. Because CO₂ accumulates in the atmosphere, delaying action increases CO₂ concentrations. Thus, if a policy delay leads to higher ultimate CO₂ concentrations, that delay produces persistent economic damages that arise from higher temperatures and higher CO₂ concentrations. Alternatively, if a delayed policy still aims to hit a given climate target, such as limiting CO₂ concentration to given level, then that delay means that the policy, when implemented, must be more stringent and thus more costly in subsequent years. In either case, delay is costly.

Id. at 1. The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA, specifically supported in federal case law, and by Executive Order 13514.

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

More recently, the *High Country* court reach the same conclusion for a federal coal lease approved by BLM. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F.Supp.3d 1174, 1182 (D. Colo. 2014), citing 40 C.F.R. § 1502.23. However, when an agency prepares a cost-benefit analysis, “it cannot be misleading.” *Id.* (citations omitted). In that case, the NEPA analysis included a quantification of benefits of the project. However, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis. *Id.* at 1190-91. The agencies then relied on the stated benefits of the project to justify project approval. This, the court explained, was arbitrary and capricious. *Id.* at 1191. Such approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. *Id.* at 1191-92.

Here, BLM quantifies numerous economic impacts of the proposal, including numbers of jobs, tax revenues and earnings. Draft EIS at 4-134 – 4-135. It also states that the “South Project is ... expected to have significant positive economic benefits in the study area,” *id.* at 4-135, without assessing or characterizing the likely significant and greater costs imposed by climate change. This is the approach found arbitrary and capricious and a violation of NEPA by the *High Country* court.

For all of these reasons, BLM must include the social cost of carbon in any subsequently prepared NEPA document as a way of disclosing the scope and nature of climate pollution impacts – including but not limited to the increase in climate pollution from combustion of shale oil from the South Project – on the human environment.⁵

BLM should also use the EPA-developed “social cost of methane” to evaluate the climate impacts of the methane emissions from the utility project and the South Project. In 2012, EPA economists Alex L. Marten and Stephen C. Newbold published a peer-reviewed analysis estimating the social of cost of methane. *See* Marten, A.L., and Newbold, S.C., Estimating the social cost of non-CO₂ GHG emissions: Methane and nitrous oxide, 51 Energy Policy 957 (2012) at 18, attached as Exhibit 44, available online as EPA Working Paper No. 11-10 at [http://yosemite.epa.gov/ee/epa/eed.nsf/ec2c5e0aaed27ec385256b330056025c/f7c9fc6133698cc38525782b00556de1/\\$FILE/2011-01v2.pdf](http://yosemite.epa.gov/ee/epa/eed.nsf/ec2c5e0aaed27ec385256b330056025c/f7c9fc6133698cc38525782b00556de1/$FILE/2011-01v2.pdf) (last viewed May 22, 2015). The study authors largely followed the methodology used by the Interagency Working Group to estimate the social cost of carbon, and their results should serve as a starting point for any climate impact analysis involving methane emissions. Like the social cost of carbon, the social cost of methane estimates the global economic cost of adding one additional ton of methane to the atmosphere (the social cost of carbon does the same thing, but for carbon dioxide). In August 2015, EPA

⁵ Draft guidance from the Council on Environmental Quality fails to properly address the social cost of carbon. *See* letter of Center for Biological Diversity (Mar. 25, 2015) (Exhibit 38) at 4-10. However, even CEQ’s draft guidance recognizes that where an agency chooses to disclose the economic and financial benefits of an action – as BLM does here, the social cost of carbon represents an appropriate tool to disclose the costs of the agency’s action, including the social cost of carbon. *See* Council on Environmental Quality, Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews, 79 Fed. Reg. 77,802, 77,827 (Dec. 24, 2014).

used the Marten *et al.* social cost of methane estimate in the Regulatory Impact Analysis for the proposed New Source Performance Standard for methane from oil and gas production. U.S. Environmental Protection Agency, Regulatory Impact Analysis of the Proposed Emission Standards for New and Modified Sources in the Oil and Natural Gas Sector, 4 –12 to 4 –17 (August 2015), attached as Exhibit 45 available at http://www3.epa.gov/airquality/oilandgas/pdfs/og_prop_ria_081815.pdf (last viewed June 13 2016). This study estimates that methane emissions in 2015 result in global economic damages that range from \$490 to \$3,000/ton, depending on the discount rate used. *Id.* at 4 – 14. EPA explained why using Marten *et al.* (2014) is a sound, justifiable methodology. Following the Marten protocol, EPA disclosed the social cost estimates under four different discount rates, just as the Interagency Working Group (“IWG”) does for the social cost of carbon. *Id.*

BLM has also applied EPA’s social cost of methane and described why it is the preferred method to disclose the benefits of reducing methane emissions. On January 22, 2016, BLM published a proposed rule to reduce waste of natural gas from venting, flaring, and leaks during oil and natural gas production. BLM used EPA’s social cost of methane metric to evaluate the costs and benefits of the proposed rule, relied on the metric throughout its analysis, and explicitly concluded that the benefits of the proposed natural gas rule outweighed the costs based on the monetized benefits of methane reduction as calculated via the social cost of methane. Bureau of Land Management, Proposed Rule, 43 CFR Parts 3160 and 3170, Waste Prevention, Production Subject to Royalties, and Resource Conservation (Jan. 22, 2016) (proposed methane rule) at 35-36, 223, 230-31 (estimating the monetized benefits of the rule in terms of methane emissions reduced, based on the social cost of methane, and displaying those benefits as a range of millions of dollars), attached as Exhibit 46; Bureau of Land Management, Regulatory Impact Analysis for: Revisions to 43 C.F.R. 3100 (Onshore Oil and Gas Leasing) and 43 C.F.R. 3600 (Onshore Oil and Gas Operations) (RIA) (Jan. 14, 2016) at 5, 7, 32-36 (specifically citing and using the Marten *et al.* 2014 social cost of methane figures), 130 and 149, attached as Exhibit 47

The Regulatory Impact Analysis (“RIA”) for the rule explains BLM’s use of the metric, stating:

[BLM] estimated the social cost of methane using the values presented by Marten *et al.* (2014) and used by the EPA in its analysis of its Subpart OOOOa proposed regulation . . . and its proposed rule New Source Standards of Performance for Municipal Solid Waste Landfills. . . . [BLM] calculated the global social benefits of methane emissions reductions expected from the proposed NSPS [New Source Performance Standards] using estimates of the social cost of methane (SC-CH₄), a metric that estimates the monetary value of impacts associated with marginal changes in methane emissions in a given year. It includes a wide range of anticipated climate impacts, such as net changes in agricultural productivity and human health, property damage from increased flood risk, and changes in energy system costs, such as reduced costs for heating and increased costs for air conditioning.

RIA (Ex. 47) at 32-33. BLM also discussed an alternative approach to evaluating the social cost of methane—a process that involves using the global warming potential (GWP) to convert emissions to CO₂ equivalents. *Id.* at 35-36. The agency ultimately rejected the GWP approach

in favor of the social cost of methane metric, stating “[t]he GWP is not ideally suited ... to approximate the social cost of non-CO2 GHGs because it ignores important nonlinear relationships beyond radiative forcing in the chain between emissions and damages.” *Id.* at 36.

It would be arbitrary and capricious for BLM to fail to disclose the social cost of methane resulting from construction and operation of the utility project and construction and operation of the South Project, while at the same time using the social cost of methane to justify its natural gas waste rulemaking.

d. *BLM Must Disclose the Proposal’s Conflict with National Greenhouse Gas Emission Reduction Targets and Climate Policy.*

BLM must analyze whether the proposed rights-of-way and construction and operation of the South Project would conflict with national policies and goals, including efforts to meet federal greenhouse gas emission reduction targets. As explained by the Council on Environmental Quality in its 2014 Draft Climate Guidance, federal agencies evaluating the climate impacts of their decisions should “incorporate by reference applicable agency emissions targets such as applicable Federal, state, tribal, or local goals for GHG emission reductions to provide a frame of reference and make it clear whether the emissions being discussed are consistent with such goals.” Council on Environmental Quality, Revised Draft Guidance on the Consideration of Greenhouse Gas Emissions, 79 Fed. Reg. at 77,826. This Guidance, while in draft form, does not set out any new legal obligations under NEPA, but rather explains and clarifies those obligations that already exist under the statute, regulations, and the case law interpreting the two; as such it is helpful to guide BLM’s analysis. *Id.*; see also 40 C.F.R. § 1508.27(b)(10) (identifying “[w]hether the action threatens a violation of Federal, State or local law or requirements imposed for the protection of the environment” as one measure of the “intensity” of an action for purposes of NEPA review).

In particular, BLM must address whether the proposed rights-of-way, and the connected action of the construction and operation of the South Project, conflict with national goals and policies, including the Paris agreement, discussed above, by unlocking more half a billion barrels of particularly carbon-intensive shale oil for combustion. BLM’s approval may conflict with other policies and rules, by, for example, undermining progress in reducing carbon emissions by the Clean Power Plan, which calls for reducing power sector emissions to 30 percent below 2005 levels by 2030. And, in November 2014 the President announced a joint U.S.-China agreement aimed at reducing climate pollution that calls for even more aggressively cutting net greenhouse gas emissions to 26-28 percent below 2005 levels by 2025. White House Fact Sheet, U.S.-China Joint Announcement on Climate Change and Clean Energy Cooperation (November 11, 2014), available online at <https://www.whitehouse.gov/the-press-office/2014/11/11/us-china-joint-announcement-climate-change> (last viewed June 13, 2016). The huge amount of carbon that Enefit will release the South Project, precipitated by BLM’s proposed subsidy of public lands, will make it more difficult for the United States to achieve that goal, a conflict that BLM must address.

2. BLM Failed to Take A Hard Look at Air Quality Impacts

BLM's failure to take a hard look at the air quality impacts from the Utility Corridor project has serious implications. The commenting parties commissioned an expert analysis of the air quality analysis in the DEIS, which is included as Exhibit 23 and has been sent to BLM separately with full exhibits. A summary of concerns from the expert analysis is included below.

The qualitative air analysis included in the DEIS does not represent an adequate assessment of the environmental and public health impacts resulting from an increase in air pollution in an area already impacted by the adverse effects of increasing development and does not fully account for the indirect, future impacts from Enefit's commercial oil shale mining, retorting, and upgrading operation. The lack of quantitative analysis of the utility corridor project and of the South Project development undercuts the BLM's ability to assess the proposed action's significant air quality impacts.

Moreover, BLM's analysis in the ROW DEIS fails to ensure compliance with the National Ambient Air Quality Standards (NAAQS). The BLM's analysis also does not ensure that the project will prevent significant deterioration of air quality. In short, the DEIS does not satisfy the BLM's obligations under NEPA and FLPMA to disclose whether the proposed development will cause Clean Air Act (CAA) violations, to consider alternatives that better mitigate air pollution under NEPA, to adopt mitigation under FLPMA, to prevent CAA violations, and to prevent unnecessary or undue degradation of public lands and the environment. *See* 43 U.S.C. § 1732(b).

These failures threaten both public and environmental health in a region that can little afford further impacts. Ozone concentrations in Uinta Basin have exceeded the NAAQS in recent years, particulate matter concentrations near resource development continue to be a concern and visibility impairment is an issue at Class I areas nearby. Essentially, there is no room for growth in emissions that contribute to these harmful levels of ozone pollution in the area—namely, NO_x and VOC emissions. The same is true for PM_{2.5}. The Utility Corridor and South Project will add to these emissions, but BLM cannot allow further development that would contribute to exceedances of the NAAQS because FLPMA prohibits it.

This is particularly true in light of BLM's prior analysis of potential air quality impacts from an above-ground oil shale strip mine and retort facility at the scale Enefit is proposing. In 2012, BLM estimated that a 50,000 barrel per day oil shale facility would result in 1,243 tons of NO_x, 347 tons of SO_x, 346 tons of PM₁₀, and 244 tons of VOCs over the course of Enefit's Phase 3. *See* Exhibit 23 at 26-27.

To put this in perspective, these estimated emissions from a 50,000 bbl/day production phase are roughly equivalent to: (1) NO_x emissions from all on-road diesel light duty vehicles in the state of Utah; (2) PM₁₀ emissions from all petroleum refineries in the state of Utah; (3) SO₂ emissions from all oil and gas production in the state of Utah; and (4) VOC emissions from all commercial and institutional fuel oil combustion sources in the state of Utah. These emissions certainly have the potential to cause significant impacts to air quality – including to the already unhealthy levels of ozone and fine particles in the Uinta Basin and to the impaired visibility in nearby Class I areas – and must be considered in BLM's cumulative impact assessment for the ROW DEIS. Emissions of this magnitude have the potential to significantly exacerbate the existing air quality problems in the impacted area and do not conform with BLM's obligation under FLPMA.

BLM could use data from its 2012 OSTIS PEIS to disclose to the public the general nature of the predicted air quality impacts of the South Project, even absent specific design features. The agency must include this data in any subsequently prepared NEPA document. BLM must also use this data to assess the Project's impact on PSD increments, as part of meeting FLPMA's mandate that requires BLM to require compliance with the CAA.

3. BLM Failed to Take a Hard Look at Impacts from Solid and Hazardous Waste

BLM has failed to provide an adequate analysis of the potential effects of the solid and hazardous waste impacts of Enefit's oil shale mining operation. In 2007, BLM estimated that a facility of the size Enefit proposes, with the expressed goal of a 50,000 bbl/d, would produce upwards of 23 million tons of spent shale waste each year. BLM. Draft: OSTIS PEIS. 4.9.1.1.2 4, p. 119. Notably, the Enefit right-of-way draft EIS fails to contain any such estimate.

As noted above, after oil shale is retorted, the residual char, or spent shale, is chemically altered for the worse and preventing leaching into nearby waterbodies may be impossible. See II (2) *supra*. Notably, toxic levels of PAHs were found in Green River Basin spent shale that was produced in the early 1980's. International Agency for Research on Cancer, 35, *Polynuclear Aromatic Compounds, Part 4, Bitumens, Coal-Tars and Derived Products, Shale-Oils and Soots*, Evaluation of Carcinogenic Risks of Chemicals to Humans, 1985) last updated April 20, 1998. 1985, available at <http://monographs.iarc.fr/ENG/Monographs/vol35/volume35.pdf> (last viewed June 13, 2016) and attached as Exhibit 48.

In prior PEIS review of oil shale impacts, the BLM expressed that there was a significant degree of uncertainty regarding the agency's wherewithal to properly manage and contain spent shale given the number of unknown issues:

Regardless of the disposal option selected, a number of issues need to be addressed, including the structural integrity of emplaced spent shale, an increase in volume (and decrease in density) over raw shale during the retorting process (this has become known as "the popcorn effect"), and the character of leachates from spent shale. Limited research has been conducted on each of these issues

BLM. Draft: OSTIS PEIS. A-4, P. A-49. 2007. (*emphasis added*).

The BLM has raised concerns about mobilization of contaminants in shale waste:

Field data evaluating the leachate character of spent shale have been collected by the EPA and others. Although the data are limited, there appears to be a clear indication that subjecting oil shale to retorting conditions can result in the mobilization of various ionic constituents contained in the mineral portion of the oil shale.

Id. These concerns are supported by past experience with oil shale waste in the Colorado River Basin. The abandoned Anvil Points retorting facility near Rifle, Colorado presents

a case in point. The experimental retort facility processed shale from 1947 to 1984. During its run, Anvil Points created 61 tons of spent shale. R.B. Meade, *A No Action Alternative That Worked*, in *Tailings and Mine Waste '02: Proceedings of the Ninth International Conference on Tailings and Mine Waste 427-431, 428* (CRC Press, Fort Collins Co. 2002). This modest amount of spent shale would be dwarfed by what has been proposed by Enefit.

It has been decades since the Anvil Points facility was abandoned, but those 60 tons have been leaching a number of critical inorganic elements into the region's surface water. *Id.* Foremost in the Anvil Points' leachate is the presence of arsenic - created during the retorting process - that continues to discharge at quantities exceeding Colorado Water Quality Standards. BLM, *Hazardous Materials Management/Abandoned Mine Land Management Applicable or Relevant and Appropriate Requirements*. TR-1703-1/TR-3720-1, 23 (2007). The mere existence of 60 tons of spent shale waste has become a significant environmental and financial liability for the state of Colorado and the federal government. Nearly \$65 million dollars have been allocated to remediate the spent shale waste pile and the surrounding site. "Club 20: Details sought on surplus cleanup funds," *The Daily Sentinel* (Grand Junction, CO; September 6, 2008) available at <http://www.gjsentinel.com/news/articles/club-20-details-sought-on-surplus-cleanup-funds>.

Despite the existence of reasonably foreseeable and significant adverse impacts from Enefit's oil shale operation, BLM fails to provide a meaningful analysis of oil shale waste impacts. BLM vaguely states that "[s]pent shale piles and mine tailings ... might be sources of contamination for salts, metals, and hydrocarbons for both surface and groundwater." Draft EIS at 4-68; *id.* at 4-70, 4-72, and 4-94 (making similar statements). BLM also declines to disclose any information about the public health or other impacts of spent shale, alleging that such data is "unknown, and cannot be obtained, due to the fact that design and engineering of the South Project will change based on whether or not the BLM allows the Applicant to build one or more of the proposed utilities. BLM believes this unknown information is not essential to a reasoned choice between alternatives." *Id.* at 4-138.

As discussed above, BLM's positions and lack of analysis violate NEPA's hard look requirement and are unacceptable for the purpose of the DEIS. BLM must require Enefit to provide information about its waste product and also must refer to available and relevant data on oil shale waste impacts from Anvil Point, Estonia, or EU studies.

4. BLM Failed to Take a Hard Look at Impacts of Ruptures of Pipelines Carrying Synthetic Crude Oil Derived From Oil Shale

One of the greatest environmental concerns associated with Enefit's project is the risk that Enefit will spill synthetic crude oil derived from oil shale into the White River and Evacuation Creek. There is an associated concern that BLM and state agencies will fail to respond quickly and thoroughly to such a disaster. This concern is compounded by the apparent lack of information about the chemical characteristics of Enefit's synthetic crude oil (SCO) products, the experience of American communities with other unconventional oil spills, and the oil industry's history of major spill disasters. Given that Enefit's product pipeline will cross the White River once and cross Evacuation Creek multiple times, analysis of a rupture is a critical component of the DEIS.

There have been a number of recent pipeline spills that have devastated rivers and waterways in America. These ruptures include Enbridge's Line 6b rupture into the Kalamazoo River; Exxon's Silvertip Pipeline and Bridger's Poplar Pipeline ruptures into the Yellowstone River; and Exxon's Pegasus Pipeline rupture into the wetlands within the town of Mayflower, Arkansas. Each of these spills occurred within the last five years and demonstrates that the potential of a spill into the Upper Colorado River Basin waterways is a reasonably foreseeable occurrence.

Each of these spills has had devastating impacts on public health within communities nearby and environmental implications downstream of the spill location. In the case of the Kalamazoo and Mayflower ruptures, the spills shed light on the serious complications and long-term damage inherent in spills of unconventional oil into waterways.

Tar sands oil is the main source of the unconventional fuel that is currently transported via pipeline in the United States. Unlike conventional crude, tar sands oil is derived from sand that is impregnated with viscous, extra-heavy oil known as bitumen. Bitumen is the valuable component of tar sands because it can be refined into liquid fuels. Tar sands is a solid mass that cannot be pumped out of the ground under normal conditions. And, because it is so viscous and heavy, tar sands oil must be diluted with lighter hydrocarbons before it can be pumped through a pipeline (this is the derivation of term diluted bitumen). About Tar Sands, Oil Shale & Tar Sands Programmatic EIS, <http://ostseis.anl.gov/guide/tarsands/index.cfm>.

The synthetic crude oil derived from oil shale is also an unconventional fuel. In describing different unconventional fuels, the Carnegie Institute states, "...coal-like oils include semisolid extra-heavy oils such as bitumen in tar and oil sands, kerogen in oil shale, and liquid oils derived from coal itself." Deborah Gordon, *Understanding Unconventional Oils*, Carnegie Endowment for International Peace, 2012, 6. Like bitumen from tar sands, kerogen derived from oil shale must undergo an upgrading process.

The process that transforms unconventional oil into synthetic crude renders spills of unconventional oil particularly threatening to communities, wildlife, and natural resources. These risks differ substantially from the risks associated with the spills of conventional crude oil. Swift, Anthony *et al.*, *Tar Sands Pipeline Safety Risks*, Natural Resources Defense Council, Feb. 2011, attached as Exhibit 49.

Thus far, America's experience with unconventional oil spills has been limited to bitumen from tar sands oils. In examining the risks of cleaning up tar sand oil spills, the State Department has found that bitumen has a propensity to sink in water, attach itself to the bottom of waterbodies, and persist in the affected environment, polluting affected areas indefinitely. For example, the State Department has noted that:

A notable difference between dilbit and other forms of crude is its capacity to precipitate out in water. After a period of several days in water, the diluent in dilbit will eventually volatilize into air or dissolve into water, leaving the heavy bitumen behind to sink or become suspended. This could occur with dilbit more so than with other forms of crude due to the higher percentage of heavy compounds present.

US State Department, *Final Supplemental Environmental Impact Statement for Keystone XL Project*, 3.13-10 2014, citing, (H. Tsaprailis, *Properties of Dilbit and Conventional Crude Oils*, Alberta Innovates, 2013.)

Not only does tar sands oil sink to the bottom of waterbodies, it also does not biodegrade readily. Again the State Department noted that:

Dilbit...is largely comprised of branched hydrocarbon chains and heavy hydrocarbons, which are less readily biodegradable [than conventional crude]. A biodegradation study conducted by the USEPA in response to the 2010 Enbridge dilbit spill in the Kalamazoo River in Michigan concluded that only 25 percent of the residual hydrocarbons impacting the river could be reasonably removed by natural attenuation.

US State Department, *Final Supplemental Environmental Impact Statement for Keystone XL Project*, 3.13-10 2014 citing 2013. US EPA, *Response to Comments regarding Proposed Order to Enbridge Energy, Limited Partnership [pertaining to Proposed Order AR 1152 regarding July 27, 2010 oil release to the Kalamazoo River]*, March 14, 2013.

Due to the lack of synthetic crude being produced from oil shale in the United States, there is little information about the behavior of oil shale SCO in the event of a spill. However, the kerogen derived from oil shale in the Green River Formation requires upgrading like the bitumen from the Alberta tar sands. The risks of oil shale derived SCO spilling into rivers may be similar to those of diluted bitumen. These impacts must be fully understood before the oil shale industry is allowed to transport its product across the rivers of the Colorado River Basin.

However, BLM entirely fails to provide a meaningful analysis, or make reasonable forecasts and projections, of the potential risks of spills of SCO derived from Enefit's oil shale operations. Instead, the BLM notes that "[t]he chemical composition of the SCO product is not known by the BLM at this time." Draft EIS at 4-66. BLM's explanation is not acceptable and inadequate. BLM must require Enefit to provide a detailed analysis of the chemical composition of its SCO product. This information should be obtainable from a number of sources, including but not limited to Enefit's oil shale operations in Estonia and Enefit's ongoing tests of Utah oil shale samples at its facilities in Germany.

This information is particularly critical given BLM's estimate of the likely volume of a potential spill from Enefit's operation. BLM forecasts that, if properly managed, a spill would have the potential to release between 33,000 and 83,000 gallons of petroleum product into the White River or Evacuation Creek. Draft EIS at 4-66. However, BLM concedes that "[t]he potential volume of oil that could be released before shutoff occurs is not known." *Id.* If shut-off did not occur or unexpected circumstances occurred, this volume could be significantly greater.

Even without information about the SCO make-up, BLM is able to state that "spills occurring in proximity to streams would potentially result in lethal levels of toxic substances affecting Colorado River Fish and other aquatic organisms." Draft EIS 4-66. These impacts to the imperiled fish and their critical habitat must also be assessed in BLM's consultation with the

U.S. Fish and Wildlife Service, and disclosed and analyzed in the EIS, as noted below. Aside from a prediction of lethal impacts to fish, the Draft EIS contains almost no information regarding potential impacts to public health, recreational resources, land resources, or other resources that would be impacted by a pipeline rupture. Based on the American experience with tar sand oil spills, it is likely that the generalized impacts discussed in the Draft EIS are understatements of impacts, and that any spill would have long-lasting impacts on the survival of the Colorado River fish species, downstream water quality in the Colorado River Basin, and the future of the regional recreational river industry. BLM's failure to adequately analyze the impacts of product spill from Enefit's South Project must be remedied and addressed in future NEPA documents.

5. The BLM Failed to Take A Hard Look At Groundwater Impacts

The analysis on the potential effects on ground water of Enefit's proposal in the DEIS is completely inadequate. Despite acknowledging that Enefit installed seventeen monitoring wells in and around the South Project, no specific information related to those wells is contained within the Draft EIS. Nor does the Draft EIS consider the implications of the South Project on ground water in the area of the mine. It is insufficient for the DEIS to focus its evaluation of potential impacts exclusively on the right-of-way, and to provide no detailed ground water resource information and little to no analysis on possible impacts of either the right-of-way or the project. The Draft EIS must provide detailed information regarding ground water present at the mine site and must evaluate the cumulative impacts of Enefit's operations on those ground water resources. Such an analysis requires quantifying all accumulations of ground water within all of Enefit's active or potential lease areas and performing baseline analysis of that ground water.

Regarding the ground water analysis performed on the seventeen wells, BLM should have required Enefit to provide a detailed breakout of all seventeen wells, including the depth to aquifer encountered, the extent of that aquifer and the specific water quality test results related to each aquifer. Instead, the DEIS fails to provide the necessary information and erroneously applies the water quality standards for surface water rather than ground water.

Utah Administrative Code R317-6-3.1 classifies ground water into the following classes: Class IA – Pristine Ground Water; Class IB – Irreplaceable Ground Water; Class IC – Ecologically Important Ground Water; Class II – Drinking Water Quality Ground Water; Class III – Limited Use Ground Water; and, Class IV – Saline Ground Water. R317-2-6 classifies surface waters into various classes, depending on their usage. These consist of: Class 1 – protection for use as a raw water source for domestic water systems; Class 2 – protection for recreational use and aesthetics; Class 3 – protection for use by aquatic wildlife; Class 4 – protection for agricultural uses; and, Class 5 – protection for Great Salt Lake. Within these classes, a number of subclasses exist that apply to specific uses of surface waters.

In the DEIS, the surface water classifications were mistakenly used to quantify the quality of the ground water, and the DEIS contains no information related to the specific quality or classification of the water found in Enefit's monitoring wells. For instance, the DEIS states that “[t]otal phosphorous exceeded the Class 2B Recreation Standard in 11 of the 15 groundwater monitoring wells sampled[.]” Draft EIS 3-25. However, given that short of spelunking

recreating underground is very challenging, the surface water standards simply do not apply to ground water. The remainder of the ground water quality results inappropriately apply the surface water classifications to the ground water samples. Clearly this is unacceptable.

The ground water quality standards are outlined in R317-6-2, and provide for a milligram per liter standard for each of the contaminants of concern. For instance, arsenic (a contaminant noted by the DEIS as being present in the ground water samples) has a standard of .05 milligram per liter. R317-6-2.1. These standards are applied differently depending on the class of ground water present. Ground water classifications are first broken out based on the level of total dissolved solids (TDS) present in the ground water, and then the contaminant standard is applied differently within each Class. *See* R317-6-3. For instance, Class IA ground water must have TDS levels less than 500 mg/l, and may not have any contaminant concentrations that exceed the ground water quality standards. R317-6-3.2. In order for the DEIS to provide the necessary baseline information regarding ground water in the area of the mine, it must first determine the TDS levels present in the various samples, classify those samples into the ground water classes based on those TDS levels, test for the contaminant of concern outlined in R317-6-2.1, determine if the concentrations present exceed those standards, and if any do exceed the standard determine if such an exceedance is acceptable based on the applicable ground water class.

Beyond the obvious error of applying the incorrect water quality standard to the samples derived from the monitoring wells, the DEIS must go further and contain actual baseline analysis, including conducting a thorough seep and spring survey of the area. This baseline analysis must take into account the ephemeral nature of groundwater recharge in that area, and therefore must be conducted at different times of the year. The DEIS contains no such documentation.

Because, given the nature of the waste stream, there is a significant potential for Enefit's operations to discharge pollutants into area ground water resources, such a baseline analysis is critical. Although Enefit's mine sites are within Indian Country and fall largely within EPA's jurisdiction, the Clean Water Act does not apply to ground water and therefore the company will be required to obtain a Ground Water Discharge Permit from Utah DWQ. *See* Utah Admin. Code R317-6-6.1 ("No person may construct, install, or operate any new facility or modify an existing or new facility...which discharges or would probably result in a discharge of pollutants that may move directly or indirectly into ground water, including, but not limited to land application of wastes; waste storage pits; waste storage piles; landfills and dumps; large feedlots; mining, milling and metallurgical operations, including heap leach facilities; and pits, ponds, and lagoons whether lined or not, without a ground water discharge permit[.]").

Under Utah law, a discharge into ground water "means the addition of any pollutant to any waters of the state," Utah Code Ann. § 19-5-102(7), and pollution is defined as "any man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of any waters of the state[.]" Utah Code Ann. § 19-5-102(13). The State of Utah has made it clear that "all" waters of the state, including "all" accumulations of ground water, must be protected from contamination. The Utah Water Quality Act defines waters of the state as:

All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and **all other bodies or accumulations of water, surface**

and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion of this state.

Utah Code Ann. § 19-5-102(23)(a) (emphasis added).

While Enefit attempted to sidestep this issue in its right-of-way application by stating that the “requirement [for a groundwater discharge permit is] dependent upon site design” and that any anticipated application or review for such a permit has yet to be determined, ROW application at 27, this position is unacceptable for the purposes of the DEIS. The DEIS must contain the required detailed information in order to determine both the baseline quality of the ground water in the area of the mine, and the potential for discharge from Enefit’s facility. The DEIS does neither.

Given that the DEIS contains almost no information regarding potential impacts to ground water resources in the area of Enefit’s proposed mining operation, that the information that *is* provided consists of nothing more than generalized statements regarding ground water in the area of the mine, and that even something as basic as applying the correct ground water classification standards was done erroneously, the ground water resource portion of the DEIS is clearly deficient and must be revised.

6. The BLM failed to take a hard look at impacts to Colorado River fish from water depletions (40 C.F.R. § 1508.27(b)(9)), and whether the action threatens a violation of federal environmental laws (40 C.F.R. § 1508.27(b)(10))

The EIS for the five ROWs must assess the significance factors at 40 C.F.R. § 1508.27(b), including impacts to threatened and endangered species and designated critical habitat, 40 C.F.R. § 1508.27(b)(9), and potential violations of the Endangered Species Act, 40 C.F.R. § 1508.27(b)(10). Any subsequently prepared NEPA document must be more robust and take a “hard look” at impacts to endangered fish and compliance with the ESA.

a. Endangered Species Act Section 7’s procedural duty to re-consult on RD&D Lease

In 2011, Enefit acquired the 160-acre RD&D lease that BLM originally issued to Oil Shale Exploration Company (OSEC) on June 21, 2007. BLM had consulted formally with FWS on that agency action because water depletions associated with activities on the lease site were likely to adversely affect the Colorado pike minnow, bonytail chub, humpback chub and razorback sucker (the four endangered Colorado River fish), as well as their critical habitat. FWS concluded that consultation process with a biological opinion (dated December 22, 2006)) that reviewed impacts to the four endangered Colorado River fish and determined that such impacts would cause jeopardy to the fish and adversely modify their critical habitat.

On July 19, 2012, Enefit submitted a development plan for the RDD lease. The plan explains that the company will conduct development activities on its adjacent private land, known as the South Project, to satisfy the criteria (a showing of commercial viability, 43 C.F.R. § 3926.10) for expanding the RD&D lease to BLM’s over 4960-acre, preferential lease site. The plan states

specifically that “The RD&D Development Phase activities will be carried out on *both* the BLM RD&D lease property and [Enefit Oil Company]’s adjacent private Skyline property...” July 19, 2012 Plan at 2 (emphasis added). As discussed above, we do not believe this is legally permissible: BLM regulations provide that converting a RD&D lease to a commercial lease (*see* 43 C.F.R. § 3926.10) requires that the demonstration of commercial viability must occur on the 160-acre RD&D lease.

In any case, Enefit’s decision to expand the area upon which it will conduct RD&D activities requires BLM and FWS to re-initiate consultation. *See* 50 C.F.R. § 402.16. Enefit has changed the scope of the agency action upon which BLM and FWS consulted and the resulting impacts to the four endangered Colorado River fish. Either a change in the scope of activities or a change in the effects triggers the reconsultation duty. *Id.* § 402.16(b) (“If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered”); *Id.* § 402.16(c) (“If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion”). The scope of the 2006 consultation covered activities occurring on 160 acres of the RDD lease. Now, Enefit is changing the scope of the RD&D activities and consequently the effects by not limiting those research activities to the 160 acres associated with the RD&D lease. BLM and FWS must therefore reconsult to address the activities occurring at Enefit’s South Project site.

Underscoring the connection between the RD&D lease, upon which BLM and FWS consulted, and the South Project is further realized by the five rights-of-way. FWS’s 2006 biological opinion states that Enefit (OSEC at the time) “will also require rights-of-way for power, a natural gas pipeline, water lines, and existing roadways outside of the 160-acres lease area.” Exhibit 30. During that consultation process, BLM referred to these utility pipelines as necessary for development activities on the 160-acre RDD lease. Exhibit 30 at 5 (describing construction of natural gas pipeline and power line). These are the same rights-of-way that will serve Enefit’s South Project and that are currently the subject of this BLM NEPA process. BLM and FWS must reconsult to address impacts to the endangered fish and their critical habitat from the ROWs and South Project.

b. Endangered Species Act Section 7’s procedural duty to consult on the ROWs

Section 7(a)(2) prohibits federal agencies from undertaking actions that (1) are “likely to jeopardize the continued existence” of any listed species or (2) “result in the destruction or adverse modification of” critical habitat. 16 U.S.C. § 1536(a)(2). “Jeopardy” results when it is reasonable to expect that the action would “reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” 50 C.F.R. § 402.02. “Adverse modification” is defined as “a direct or indirect alteration that appreciably diminishes the value of critical habitat for ... the survival [or] recovery of a listed species.” *Id.*

To ensure compliance with these prohibitions, the ESA includes a “consultation” process with FWS. This process must occur when a federal agency, like BLM, proposes an “agency action” that “may affect” a listed species or its designated critical habitat. 16 U.S.C. § 1536(a)(2); 50

C.F.R. § 402.14(a); *Rio Grande Silvery Minnow v. Bureau of Reclamation*, 601 F.3d 1096, 1105 (10th Cir. 2010). Consultation must occur “at the earliest possible time.” 50 C.F.R. § 402.14(a); *Colo. Env'tl. Coal. v. Dept. of Defense*, 819 F.Supp.2d 1193, 1222 (D. Colo. 2011).

FWS and BLM must use the best scientific and commercial data available throughout the ESA consultation process. 16 U.S.C. § 1536(a)(2). The type of consultation will vary depending on the degree of anticipated effects. Informal consultation is sufficient if FWS concurs in writing that the proposed action “may affect,” but “is not likely to adversely affect” the species or its critical habitat. 50 C.F.R. §§ 402.13, 402.14(b). “Formal” consultation occurs when the proposed action is “likely to adversely affect” a species or its critical habitat. *Id.* Formal consultation is completed when FWS issues a “biological opinion” that determines whether the agency’s action will jeopardize the species or adversely modify its critical habitat. 16 U.S.C. § 1536(b)(3)(A). FWS must also issue an “incidental take statement” to the federal action agency if FWS concludes that the action will neither jeopardize the species nor destroy or adversely modify critical habitat, but “may” incidentally “take” a listed species. 16 U.S.C. § 1536(b)(4)(A); 50 C.F.R. §§ 402.14(g)(7); 402.14(i)(1).

The meaning of “agency action” is broadly construed under ESA section 7(a)(2). *NRDC v. Houston*, 146 F.3d 1118, 1125 (9th Cir. 1998). An agency action is “any action authorized, funded, or carried out” by a federal agency. 16 U.S.C. § 1536(a)(2). The phrase is further defined in ESA regulations as “all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies.” 50 C.F.R. § 402.02. These include: “(d) actions directly or indirectly causing modifications to the land, water or air.” *Id.* ESA consultation applies “to all actions in which there is discretionary involvement or control.” 50 C.F.R. § 402.03; *NRDC v. Jewell*, 749 F.3d 776, 784 (9th Cir. 2014) (*en banc*) (“Whether an agency must consult does not turn on the degree of discretion that the agency exercises regarding the action in question, but on whether the agency has any discretion to act in a manner beneficial to a protected species or its habitat.”).

Just as the five ROWs are major federal action subject to NEPA, they are also “agency actions” that require ESA consultation. They give permission to Enefit to use BLM lands for the company’s water supply lines, natural gas lines, buried pipelines to transport produced oil shale product, upgraded roads and powerlines. Each permitted use will provide services for Enefit to develop oil shale deposits on both private lands (South Project) and BLM’s RD&D and preferential lease site. Under the authority of FLPMA, 43 U.S.C. § 1761(a), BLM retains complete discretion over whether the ROWs should issue and, if so, what conditions can be imposed to address adverse effects caused by, for example, the water pipeline. *Id.* § 1761(b) (requiring applicant to submit information related to use of right-of-way so BLM can decide whether to issue ROW and what terms and conditions are necessary); see *Backcountry Against Dumps v. Jewell*, _ F.3d _, 2016 WL 3165630 (9th Cir. June 7, 2016) (describing conditions imposed on right-of-way to protect birds from wind turbines). The ROWs are thus agency actions within the meaning of the ESA section 7(a)(2), 16 U.S.C. § 1536(a)(2).

The ESA’s “may affect” threshold is low. *Colo. Env'tl. Coal. v. Dept. of Defense*, 819 F.Supp.2d 1193, 1221-22 (D. Colo. 2011) (“This ‘may affect’ standard triggering the consultation requirement is low.”); see also *Wilderness Soc’y v. Wisely*, 524 F.Supp.2d 1285, 1298 (D. Colo.

2007) (determining consultation necessary when “adverse effects are possible”). FWS explained that under the “may affect” standard, “[a]ny possible effect, whether beneficial, benign, adverse, or of an undetermined character, triggers formal consultation.” 51 Fed. Reg. 19,926, 19,949 (June 3, 1986). FWS’s Consultation Handbook similarly provides the ‘may affect’ standard is satisfied “when a proposed action may pose *any* effects on listed species or designated critical habitat.” ESA Consultation Handbook at xvi (emphasis added).⁶ Courts have held that “[a]ctions that have any chance of affecting listed species or critical habitat—even if it is later determined that the actions are ‘not likely’ to do so—require at least some consultation under the ESA.” *Karuk Tribe of Cal. v. U.S. Forest Serv.*, 681 F.3d 1006, 1027 (9th Cir. 2012) (reasoning “may affect” threshold “must be set sufficiently low to allow Federal agencies to satisfy their duty to insure that their actions do not jeopardize listed species or adversely modify critical habitat.”).

The ROWs and the oil shale development activities these BLM actions facilitate “may affect” the four endangered Colorado River fish and their critical habitat in both the Green River and White River (DEIS at ES-27, 3-69), and thus require formal ESA consultation. BLM is legally required under the ESA to consider the impacts on endangered fish from the South Project and Enefit’s RD&D/Preferential Right leases. In deciding whether to consult with FWS (as well as the scope of consultation), agencies must consider the (1) action area, (2) the environmental baseline, and (3) the effects of the action. *See* 50 C.F.R. §§ 402.02; 402.14(h)(2). The “action area” includes “all areas to be affected directly or indirectly by the Federal action, and not merely the immediate area involved in the action.” 50 C.F.R. § 402.02. The “environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area.” *Id.* The “effects of the action” include the direct, indirect, and cumulative effects to a species from the proposed agency action, as well as interrelated and interdependent action.” *Id.* Indirect impacts are those that are caused by the proposed action, but are later in time and reasonably certain to occur. *Id.* Cumulative effects include “those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation.” *Id.* Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. *Id.* Interdependent actions are those that have no independent utility apart from the action under consideration. *Id.*

The 9,000-acre South Project and the 5,120-acre RD&D/Preferential Rights lease areas and the lands and waters impacted by oil shale development there are part of the “action area” for the ROWs. Developing oil shale on these private and public lands are also part of the “effects of the [ROW]” as defined under the ESA. Both of Enefit’s oil shale developments are indirect effects. ROW Application (11-26-12) at 23. The South Project is a connected action, indirect impact, and/or cumulative impact of the ROW. The ROWs are interrelated actions with both the South Project and the RD&D/Preferential rights leases. The ROWs are also interdependent on these oil shale projects. The company’s ROW application, dated November 26, 2012, states “Enefit requires a right-of-way grant from [BLM] in order to construct, own, and operate a utility

⁶ Available at: www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf.

corridor [or corridors]” to its South Project site. ROW Application (11-26-12) at 1. The purpose of the ROW, according to Enefit, “is to supply natural gas, power, water, and other needed infrastructure through one or more utility corridors in order to produce and deliver shale oil from oil shale mined under Enefit’s South Project by uninterrupted operation of an economically viable mining oil shale retorting and upgrading industry.” *Id.* at 2; *id.* at 3 (contending granting right-of-ways will “enable[e] development of Enefit’s South Project”); *id.* (“[A] ROW from BLM VFO is anticipated to be required for a utility corridor(s) to support the South Project. Natural gas, power and water are required to be brought to the private property, and upgraded product is required to be distributed from the private property.”)

Oil shale development at the South Project site and Enefit’s RD&D and Preferential right leases will result in water depletions from the White or Green Rivers, which are part of the Colorado River Basin. One of the rights-of way is to convey water taken from the Green or White Rivers to the site of the South Project and Enefit’s RD&D and Preferential right leases. In the Draft EIS, Enefit contends it has a water right that totals 15 cfr, or 10,886 acre feet per year from either the Green or White River. Draft EIS at 4-111. Regardless of exactly where Enefit diverts water, it will be taken from the Colorado River system and impact habitat, including critical habitat, of the four endangered Colorado River fish. Draft EIS 4-110. Specifically, according the Draft EIS, “[w]ithdrawal of water from the Green River that reduces its flow and degrades the water quality of the stream down gradient from the point of the withdrawal. *Id.*

Any water depletions from the basin, according to BLM and FWS, will cause “jeopardy” to the endangered Colorado River fish and therefore easily trip the “may affect” threshold that requires ESA consultation. Notably, BLM and FWS made these findings in the context of consulting on land management plans for energy development and RD&D leases for oil shale. *See* FWS, Biological Opinion for BLM’s Price and Vernal 2008 RMP Revisions. In fact, BLM determined that issuing the Enefit RD&D lease required formal consultation due to impacts to the Colorado River fish. The agency explained:

The surface water or ground water withdrawals associated with Phase 3 of the [RD&D lease] will result in very slight reduction (less than 0.3%) of total flow volume in the White River. However any reduction of flow is considered a depletion of water from the Colorado River Basin...and is automatically deemed by the USFWS to ‘likely jeopardize the continued existence of [the four endangered fish].’ Therefore, all proposed activities on BLM-managed lands that result in water depletion trigger formal Endangered Species Act Section 7 consultation with USFWS.

Exhibit 30 at 5. Moreover, “Phase 3 of the Proposed Action will use an average of 220,000 gallons of water per day for 2 years.” *Id.*

The NEPA process that accompanied BLM’s 2013 oil shale and tar sands amendments to resource management plan in Utah, Colorado and Wyoming details the impacts to Colorado River fish from the water depletions associated with oil shale development. As part of that process, the U.S. Government Accountability Office (GAO) reported that “water is needed for five distinct groups of activities that occur during the life cycle of oil shale development: (1) extraction and retorting; (2) upgrading of oil shale, (3) reclamation, (4) power generation, and (5)

population growth associated with oil shale development.” Gov’t Accountability Office, Energy Development and Water Use (2011) at 7, attached as Exhibit 50. Enefit’s ROW Application states: “Water will be needed for various South Project processes, including dust suppression, sanitary use, mining activities, product upgrading and spent shale/ash handling.” ROW Application at 13. BLM’s EIS for the 2012 amendments to several resource management plans that designated lands available for developing oil shale and tar sands disclosed:

in addition to water that may or may not be needed to produce the oil shale, water uses could include water for mining and drilling operations, cooling of equipment, transport of ore and processed shale, dust control for roads and mines, crushers, overburden and source rock piles, cooling of spent shale exiting the retort, fire control for the site and industrial area, irrigation for revegetation and sanitary and potable uses.

BLM Protest Resolution for 2013 RMP Amendments for Oil Shale and Tar Sands at 116; 2012 DEIS at 4-31 – 4-42. The EIS went on to report:

On the basis of proximity of populations and critical habitat to potential lease areas, the greatest potential for direct impacts on endangered fishes is related to development in Utah, where the Green River and White River flow through oil shale areas. If these areas are available for leasing, there is a relatively high probability that these species would be directly or indirectly affected by oil shale development.

2012 DEIS at 4-126 – 4-127. As summed up by BLM in the 2012 EIS, *in situ* production requires 1-3 barrels of water per oil barrel, and underground mining and surface retorting require “2.6 to 4” barrels for one barrel of oil. 2012 DEIS at 4-9, 4-10.

The Draft EIS states that the “use of the Applicant’s existing water right is not anticipated to significantly reduce flows in the Green River or have effects on Colorado River Fish or habitat.” DEIS 4-111. BLM does not provide support or context for this assertion. Nor could it. At least for the endangered fish and their critical habitat within the Green and White Rivers, as stated above, “any water depletions” will jeopardize the continued existence endangered fish. Indeed, elsewhere in the Draft EIS, BLM concedes that “[i]t is anticipated that water depletions within the Colorado River system, including the Green and White Rivers, would affect Colorado fish and their habitat.” *Id.* at 4-173; *see also id.* at 4-173 – 4-174 (noting reducing water quantity can have impacts on spawning, nursery, rearing, feeding, and food supply). Moreover, the duty to consult under the ESA is triggered if action “may affect,” a far lower threshold than employed in the Draft EIS. And even if BLM properly characterizes the removal of 15 cfs from either river due to the South Project as insignificant standing alone, a characterization we dispute, the ESA requires the agency to evaluate to the environmental baseline as well as the cumulative effects associated with water withdrawals on the fish. *See* 50 C.F.R. §§ 402.14(h)(2), 402.02. So too does NEPA. 40 C.F.R. § 1508.7; 1508.27(b).

In contrast to BLM’s failure to consult on the ROWs and related oil shale development activities, it is notable that BLM consulted on the 2006 RD&D lease now held by Enefit and which is located on public lands adjacent to the South Project. When assessing the RD&D lease, BLM concluded that water depletions caused by lease issuance was “likely to adversely affect” the

four endangered fish and accordingly formally consulted with FWS on lease issuance. Exhibit 30 at 5. BLM determined that oil shale development on the RD&D lease will require 220,000 gallons per day of water on average. *Id.* The relative size of the projects leaves no doubt that ESA formal consultation due to water depletions must occur for the ROWs as well. Impacts of oil shale development taking place on only 160 acres and producing 17.7 million barrels of oil shale satisfy, according to BLM and FWS, the ESA’s “may affect” standard. Far more water is needed to develop the Enefit’s private land and its BLM-leased parcels, as more acres will be developed and more oil produced at both the South Project site (13,441 acres and 1.2 billion barrels (Enefit Application at 6) and the preferential lease area (4,960 acres and 528.3 million barrels (*Id.*)). BLM has sufficient information about water needs for both of Enefit’s oil shale projects that will use the ROWs, and this information demonstrates the ROWs “may affect” the Colorado River fish and their critical habitat.

In sum, BLM is required to consult with the FWS over the ROWs and impacts to endangered fish and their critical habitat. Of note, Enefit anticipated ESA consultation on the ROWs. *See* ROW Application (11-26-12) at 25. BLM’s failure to formally consult violates the ESA, as well as the authority in FLPMA to grant ROWs. BLM’s reasons, if any, for not consulting must be included in the EIS for the ROWs. *See* 40 C.F.R. § 1508.27(b)(10).

7. BLM failed to take a hard look at impacts to waters of the U.S. and related wetlands (40 C.F.R. § 1508.27(b)(3)), and whether the action threatens a violation of a federal environmental law, including the permitting requirements under the Clean Water Act and consultation duty under the Endangered Species Act (40 C.F.R. § 1508.27(b)(10))

The Draft EIS reveals that the construction along the rights-of way will involve the discharge of fill material into waters of the U.S. DEIS 4-112. Though not clear, this may be due to building pipelines spanning the White River and burying pipelines under the River. *Id.* The Draft EIS acknowledges that permits under the Clean Water Act will be required, suggesting that a general permit may be necessary. Draft EIS at 1-16, 3-18, App. H 5-6; *White River Technical Pre-feasibility Study*, at 4-19 and ES-11. Regardless of whether an individual or general permit is necessary, the EIS fails to fully analyze the impacts to waters of the U.S., including wetland resources, or disclose that the requirement to obtain a CWA 404 permit will itself likely trigger the duty to consult under the ESA and comply with the ESA’s substantive prohibitions against jeopardizing listed species and adversely modifying designated critical habitat, including the Colorado River fish

8. BLM Failed to Take a Hard Look at Impacts to Imperiled Plant Species

In the DEIS, BLM failed to take a hard look at impacts that Enefit’s oil shale strip mine will have on the imperiled Graham’s beardtongue (*Penstemon grahamii*) and White River beardtongue (*P. scariosus var. albifluvis*), and did not comply with its duty to prevent unnecessary and undue degradation with regard to those resources. *See* 43 U.S.C. § 1732(b). Instead of protecting these imperiled plants and preserving ecosystem integrity using best available science, BLM defers to

an inadequate conservation agreement that fails to protect the beardtongue species and allows oil shale strip mining to occur at the likely expense of the species' survival.

The Fish and Wildlife Service has previously provided data that indicate that Enefit's project in combination with other oil shale projects will lead to the likely extinction of the beardtongue species. FWS has determined that the beardtongues would be vulnerable to extinction if just 21% and 26% of known Graham's and White River beardtongue populations, respectively, were destroyed. 78 Fed. Reg. 47,590, 47,600 (Aug. 6, 2013). Enefit's oil shale operations will occur on state and private lands that are home to approximately 15% and 24% of the known Graham's and White River beardtongue populations, respectively. 79 Fed. Reg. 46,042, 46,076 (Aug. 6, 2014). Moreover, FWS has also concluded that foreseeable oil shale development, including the Enefit Project, threatens the beardtongues, despite conservation measures that protect the plants by 300 feet. Specifically, FWS found that "the[] indirect effects are likely to impact 40 and 56 percent of all known plants of Graham's and White River beardtongues, respectively. Neither species is likely to be able to sustain this amount of impact and still be able to persist into the future." 78 Fed. Reg. at 47,599.

BLM has ignored this information despite its duty to take a hard look at impacts to sensitive species and to prevent unnecessary and undue degradation on public lands, and has instead relied on an inadequate conservation agreement. However, BLM ignores the fact that the conservation agreement does not impose any limits whatsoever on Enefit's development of the South Project: the agreement's "conservation areas"—where mitigation measures apply—were drawn to avoid any overlap with the areas that Enefit plans to develop in the South Project area. *See* Farouche Declaration, attached as Exhibit 51 (showing that all habitat within the development area were designated as private non-conservation areas with no protections). BLM must analyze how destruction of Graham's and White River beardtongue plants and habitat in the project area will affect the species.

Even for those areas outside of the South Project development area, the conservation agreement's mitigation measures do not provide adequate protections to the beardtongues. First, Enefit's development timeframe of at least 30 years far exceeds the conservation agreement's 15-year term. Second, the conservation agreement limits new surface disturbance, such as that from drilling pads or roads, to 5% of remaining undisturbed land area per landowner per unit in Graham's beardtongue conservation areas and 2.5% of remaining undisturbed land area per landowner per unit in White River beardtongue conservation areas, and prohibits ground-disturbing activities within 300 feet of beardtongue plants in conservation areas. However, both the best available science and FWS's conclusions its listing proposal demonstrate that these mitigation measures will not adequately protect the beardtongues. *See* 78 Fed. Reg. at 47,599 (FWS concluding that 300-foot buffers are not sufficient to protect the species). In short, the conservation will not protect the beardtongue species and BLM should not defer to this agreement as adequate protection for the imperiled species.

BLM's analysis of the impacts to the imperiled beardtongue in the DEIS are also unexplained and unsupported. For example, BLM makes the unsupported conclusions that the Enefit project will result in 1% cumulative disturbance to the beardtongue species, ES-21; and that no direct impacts to either species are anticipated as a result of the Utility Project, DEIS 2-35. Yet, at the

same time, BLM notes that 118 Graham's penstemon and 256 White River beardtongue species occur on the South Project and suitable habitat overlaps significantly with the Utility Project area. DEIS 3-39, 3-40. BLM also fails to explain how it identified suitable habitat.

BLM provides no support for its claim that ground disturbing activities will not occur within 300 feet of the identified Graham's and White River beardtongue plants in the South Project area. *See* DEIS 3-40, 4-82 to -83. BLM fails to even identify the location of ground disturbance. BLM also fails to analyze the indirect impacts of mining activities.

BLM also fails to analyze the impacts of the project on beardtongue habitat that FWS identified as "essential" to the conservation of the species in its critical habitat proposal. 78 Fed. Reg. at 47,832. Although FWS identified more than 75,846 acres of proposed critical habitat for the beardtongues, the conservation agreement applies mitigation measures to only 44,373 acres of beardtongue habitat—less than 60% of the total acreage. *See* 78 Fed. Reg. at 47,832, 47,832, 47,838–39. The excluded acreage includes proposed critical habitat for both species within the South Project area. *See* Map A-5b. BLM must address what destruction and fragmentation of this habitat will mean for the beardtongues. For example, FWS recognizes that protection of the native plant communities identified in the critical habitat proposal is necessary to support pollinators that are crucial to the beardtongues successful reproduction. The DEIS ignores the important role of pollinators and fails to discuss the impacts of the project on their essential habitats. *See* DEIS at 4-80.

In light of the ample information available through FWS records that specifically detail Enefit's impacts on the beardtongue species and BLM's own data on species occurring on the area impacted by the Utility Corridor, BLM's analysis of impacts to the beardtongue species is arbitrary and capricious as well as a violation of NEPA and FLPMA's mandates.

9. The BLM Failed to Disclose Impacts to, or Ensure RMP Compliance Concerning, Sage-Grouse

The proposed rights-of-way would involve construction in a sage-grouse general habitat management area (GHMA), as defined in the Utah Greater Sage-Grouse Approved Resource Management Plan Amendment (Sage-Grouse RMP). Disturbed areas would include sagebrush ecosystems. *See* Draft EIS at 2-23 (identifying area requiring reseeding as "semi-desert big sagebrush" community).

The sage-grouse population that would be affected by the Utility Project is the Deadman's Bench sage-grouse population, which occupies 134,650 acres. Draft EIS at 3-57 to 3-58. This area provides winter habitat, as well as nesting and brood rearing habitat for sage-grouse. *Id.* Some grouse use this area year round. *Id.* There are no known leks within the construction footprint but there is an unconfirmed lek location; the nearest known lek is about 5 miles north of the project area. *Id.* The Draft EIS states that there are 611.4 acres of sage-grouse habitat along the utility rights-of-ways, including occupied, winter, and brood habitat. *Id.* There are 34,347 acres of occupied and winter habitat in this GHMA area. *Id.* at 2-58, 4-97. BLM estimates there would be 446 acres of cumulative disturbance in the Cumulative Impact Assessment Area, or 4

percent of the sage-grouse habitat; there would be 10,880 acres of estimated cumulative development in the project area. *Id.* at 4-168 – 4-169.

Overall, BLM predicts that there will be no “appreciable long-term negative changes to greater sage-grouse within the Utility Project area” as a result of this development, but that there could be temporary reductions in local populations and habitat. *Id.* at 4-98. The Draft EIS recognizes the Utility Project will cause short-term direct, and long-term indirect impacts to sage-grouse, but it asserts that specified mitigation measures would avoid direct impacts and reduce indirect impacts. *Id.* at 2-59 and 4-97.

The Draft EIS’s analysis, however, fails to account for cumulative impacts, and fails to comply with Sage-Grouse RMP provisions meant to ensure the persistence of Utah sage-grouse.

The relevant mitigation measures that will apply to sage-grouse in this area as specified in the Sage-Grouse RMP include:

MA-SSS-5: In GHMA, apply the following management to meet the objective of a net conservation gain for discretionary actions that can result in habitat loss and degradation:

A- Existing Management. Implement GRSG [greater sage-grouse] management actions included in the existing RMPs and project-specific mitigation measures associated with existing decisions.

B- Net Conservation Gain. In all GRSG habitat, in undertaking BLM management actions, and, consistent with valid existing rights and applicable law, in authorizing third-party actions that result in habitat loss and degradation, the BLM will require and ensure mitigation that provides *a net conservation gain* to the species, *including accounting for any uncertainty associated with the effectiveness of such mitigation*. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. Exceptions to net conservation gain for GRSG may be made for vegetation treatments to benefit Utah prairie dog.

Mitigation will be conducted according to the mitigation framework contained in Appendix F.

Sage-Grouse RMP at 2-12 (emphasis added). The RMP also provides a table of habitat objectives related to mitigation. *Id.* at 2-4 to 2-5. These include a number of detailed specifications related to cover and food, such as providing 10-25 percent shrub cover. Further, the Record of Decision makes clear that “[a]ny compensatory mitigation will be durable, timely, and in addition to that which would have resulted without the compensatory mitigation.” DOI, Record of Decision and Approved Resource Management Plan Amendments for the Great Basin Region, Including the Greater Sage-Grouse Sub-Regions of ... Utah (Sept. 2015) at 1-25.

In addition, Objective SSS-3 of the Sage-Grouse RMP provides: “In all GRSG habitat, where sagebrush is the current or potential dominant vegetation type or is a primary species within the

various states of the ecological site description, maintain or restore vegetation to provide habitat for lekking, nesting, brood rearing, and winter habitats.” Sage-Grouse RMP at 2-3.

The Enefit Draft EIS correctly notes that: “MA-SSS- 5 applies to the Utility Project because project activities would result in habitat loss and degradation to sage-grouse GHMA.” Draft EIS at 4-97.

To address the Sage-Grouse RMP’s provisions, the Draft EIS identifies mitigation measures required for the Utility Project:

4. After considering the management outlined in the Utah Greater Sage Grouse EIS, the BLM has determined the following mitigation measures *may* be applicable to the Proposed Action to achieve net conservation gain for the species:
 - a. No construction will be allowed within occupied greater sage grouse habitats during the corresponding seasonal use periods:
 - In breeding and nesting habitat from February 15 to June 15
 - In brood rearing habitat from April 15 to July 15
 - In winter habitat from November 15 to March 15
 - b. *Exceptions* to the seasonal restrictions could be granted by the Authorized Officer under the following conditions:
 - If the project plan and NEPA document demonstrate the project would not impair the function of seasonal habitat, life-history, or behavioral needs of greater sage-grouse;
 - If the potential short-term impacts from the action are off-set by long term improvement to the quantity or quality of habitat (e.g., seedlings, juniper reduction).
 - c. Additionally, the Authorized Officer *may modify this seasonal restriction* under the following conditions:
 - If portions of the area do not include habitat (lacking the principle habitat components of greater sage-grouse habitat) or are outside the current defined area, as determined by the BLM in discussion with the State of Utah, and the indirect impacts would be mitigated;
 - If documented local variations (e.g., higher/lower elevations) or annual climactic fluctuations (e.g., early/late spring, long and/or heavy winter) reflect a need to change the given dates in order to better protect when greater sage-grouse use a given area, and the proposed activity will not take place beyond the season being excepted.

As compensatory mitigation, the proponent would contribute a monetary amount *to be determined* in coordination between the proponent, the BLM, and the UDWR for disturbance to GHMA habitat. The provided funds would be useable only for mitigation projects to benefit greater sage-grouse. The mitigation projects *would be carried out by UDWR* who would account for use of the funds.

Draft EIS at 4-25 to 4-26 (Table 4-1) (emphasis added).

As indicated above, the Draft EIS notes that brood-rearing and wintering habitat in the Utility Project area will sustain some short-term direct and long-term indirect impacts, but claims that mitigation measures “would help avoid direct impacts and lessen indirect impacts.” Draft EIS at 2-59 and 4-97. Although the Draft EIS admits the project will result in habitat loss and degradation, *id.*, the document claims a net conservation benefit will result to the sage-grouse due to minimizing impacts through Applicant Committed Environmental Protection Measures (ACEPM) and due to BLM-specified compensatory mitigation. *Id.* See also *id.* at 2-34 (ACEPM are included in Table 4-1); 2-37 (for sage-grouse, applicant “would comply with mitigation measures identified in Table 4-1”). As a result, the Draft EIS alleges that there will be “no appreciable long-term negative changes to greater sage-grouse within the Utility Project area.” *Id.* at 4-98. Implementation of ACEPMs and mitigation measures described in Table 4-1, the Draft EIS asserts, would reduce affects to sage-grouse and result in a net conservation gain. *Id.* at 4-169.

Despite the Draft EIS’s characterizations, the mitigation measures the Draft EIS identifies fail to meet the requirements of MA-SSS-5 in the Sage-Grouse RMP. The proposed action thus violates the RMP. Further, the Draft EIS violates NEPA for failing to take the “hard look” at impacts to sage-grouse.

First, while BLM takes the view that the mitigation measures specified in the Draft EIS will provide a net conservation gain, the measures identified in the EIS fail to ensure that result. The Draft EIS, at Table 4-1, states: “the following mitigation measures *may* be applicable to the Proposed Action to achieve net conservation gain for the species.” Draft EIS at 4-25 (emphasis added). Thus, the specified mitigation is not mandatory by its very terms. It may or may not be applied, and so it cannot be sure to result in a conservation gain.

Second, BLM’s specified mitigation allows for both exceptions and modifications that weaken the mitigation. For example, one reason an exception can be applied is if, “the project would not impair the function of seasonal habitat, life-history, or behavioral needs of greater sage-grouse.” *Id.* Meeting this standard would likely require a formal biological opinion from a biologist. Yet the Draft EIS fails to provide for this level of analysis before this form of exception can be applied. BLM permits exceptions and modifications to mitigation measures but is silent on any details about how, when, or if they can be applied.

Third, BLM’s mitigation plan also allows for compensatory mitigation: a “monetary amount to be determined” for disturbance to GHMA habitat. *Id.* at 4-26. But the “amount determined” could be zero, and no timeline or any other specification for where, when and how the State of Utah should spend the funds, if any are allocated, is provided. No commitments are made, as the Utah Sage-Grouse RMP mandates, that compensatory mitigation be “durable” and “timely.” Further, the State of Utah has sued the Department of the Interior challenging the legality of the Sage-Grouse RMP’s “net conservation gain” requirement, indicating that the State is unlikely to agree with BLM on *any* amount for compensatory mitigation, or to implement any such measures. See Complaint, Gary R. Herbert v. Jewell (D. Utah Feb. 4, 2016), 2:016-cv-0101-DAK, at 29, 45, attached as Exhibit 52. In short, the Draft EIS does not ensure that any compensatory mitigation will ever occur, in violation of the RMP.

Fourth, the MA-SSS-5 mitigation specified in the Sage-Grouse RMP states that under the net conservation gain provision, such mitigation will include “accounting for any uncertainty associated with the effectiveness of such mitigation.” The Draft EIS does not reflect any effort or commitment to take account of any uncertainty, which must be great in any wildlands habitat management and mitigation project. In fact, BLM ignores any uncertainty and essentially states the mitigation it plans will be uniformly and invariably effective. For example, the agency alleges that “[n]et conservation gain *would result* from implementation of minimization of impacts through ACEPM and through compensatory mitigation described in the BLM Utah Greater Sage Grouse Approved Resource Management Plan. For these reasons, implementation of the Utility Project is not expected to produce any appreciable long-term negative changes to greater sage-grouse within the Utility Project study area.” Draft EIS 4-97 to 4-98 (emphasis added). And, “[w]ith best management practices and applicant committed mitigation, impacts *would* be minor. *Id.* at 2-59 (emphasis added). Under the terms of MA-SSS-5, BLM should have put in place measures to account for and to address uncertainty (such as adaptive management provisions), or at least have discussed such measures. BLM’s failure to do so violates the RMP.

Fifth, the Deadman Bench sage-grouse population area traversed by the proposed rights-of-way is already significantly impacted by oil and gas development. Oil and gas wells now occupy more than one well location per section (640 acres) on 45 percent of the sage-grouse habitat in the Utility Project area. Draft EIS at 3-58. In the Cumulative Impact Assessment Area, past oil and gas exploration has disturbed 19,738 acres. *Id.* at ES-21. This level of existing development raises the question as to whether sage-grouse can tolerate *any* additional development in this area if the local population is to remain viable. BLM apparently failed to consider this existing oil and gas development issue when it concluded that its mitigation measures would be sufficient. The Draft EIS’s cumulative impacts analysis states: “Greater sage-grouse populations require large patches of continuous sagebrush habitat. Land clearing activities associated with any development could disturb existing sage-grouse habitat and may cause sage-grouse to displace to habitats that may not consist of adequate vegetative cover, which would indirectly increase the potential for predation.” *Id.* at 4-168. The Enefit Draft EIS fails to address these concerns in the context of cumulative impacts, thereby failing to take the hard look NEPA requires.

The only substantive mitigation measures that the Draft EIS analyzes are timing limitations that would prohibit construction during certain time periods in order to protect breeding and nesting habitat, brood rearing habitat, and winter habitat. The document fails to consider or analyze density limitations (such as no more than one new development per square mile), no surface occupancy requirements, or any other mitigation measures in order to comply with the Sage-Grouse RMP’s MA-SSS-5 and the net conservation gain requirement.

The vague, unenforceable mitigation measures in the Enefit Draft EIS violate NEPA one other way. NEPA requires that BLM discuss mitigation measures in an EIS. 40 C.F.R. §§ 1502.14, 1502.16. Simply identifying mitigation measures, without analyzing the effectiveness of the measures, violates NEPA. Agencies must “analyze the mitigation measures in detail [and] explain how effective the measures would be A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.” *Nw. Indian Cemetery Protective Ass’n v. Peterson*, 764 F.2d 581, 588 (9th Cir. 1985), *rev’d on other grounds*, 485

U.S. 439 (1988). NEPA also directs that the “possibility of mitigation” should not be relied upon as a means to avoid further environmental analysis. Council on Environmental Quality, *Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations*, available at <http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm>; *Davis v. Mineta*, 302 F.3d at 1125. Rather than evaluate in any meaningful way the effectiveness of any individual mitigation measure, the Draft EIS glibly, and in one sentence, asserts without support that the measures will succeed. See Draft EIS at 4-97 (“Net conservation gain *would result* from implementation of minimization of impacts through ACEPM and through compensatory mitigation described in the BLM Utah Greater Sage Grouse Approved Resource Management Plan.” (emphasis added)). Given that the Draft EIS fails to identify the nature and timing of, and the funds (if any) to be provided for, compensatory mitigation, the agency’s definitive statement that net conservation gains “would result” from such nowhere-described measures is arbitrary and capricious.

The Draft EIS also contains potentially contradictory information and omissions concerning the impacts of rights-of-way construction and operation. In one place, BLM asserts that “the Utility Project could affect 611.4 acres (1.8 percent) of the 34,347 acres of occupied, brood, and winter habitat of the greater sage-grouse.” Draft EIS at 4-97. But the EIS also alleges that “the implementation of the Proposed Action of approving the Utility Project would be anticipated to incrementally affect 446 acres” Draft EIS at 4-168; see also *id.* at 4-169 (table using 446 acres). Any subsequently prepared NEPA document must rectify these contradictory numbers or explain why they differ. In addition, while the Draft EIS discloses (in a contradictory manner) the acreage impacted, the document provides no description of how those numbers were arrived at, whether they address only habitat directly disturbed by habitat destruction and removal, or whether they include habitat rendered un-useable due to, for example, the presence of large power lines and towers, structures that sage-grouse are known to avoid. Power lines can have long-term indirect effects by decreasing lek recruitment. Braun, C.E. 1998, Sage-grouse declines in western North America: what are the problems?, Proceedings of the Western Association of State Fish and Wildlife Agencies 78:139-15; Schroeder, M.A., 2010; Greater sage-grouse and power lines: reasons for concern, Washington Department of Fish and Wildlife, unpublished report, Bridgeport, WA. Power lines can also increase predation, facilitate the invasion of nonnative invasive annual plants that degrade habitat, cause behavioral avoidance, and act as a potential barrier to movement. See, e.g., Washington Wildlife Habitat Connectivity Working Group (WHCWG), 2010, Washington Connected Landscapes Project: Statewide Analysis, Washington Departments of Fish and Wildlife, and Transportation, Olympia, WA; Connelly, J.W., S.T. Knick, M.A. Schroeder, S.J. Stiver, 2004, Conservation Assessment of greater sage-grouse and sagebrush habitats, Western Association of Fish and Wildlife Agencies, Unpublished Report. Cheyenne, Wyoming. The indirect influence, or ecological footprint, of a power line extends out further than the physical footprint of the infrastructure. Knick, S. T., S. E. Hanser, and K. L. Preston, 2013, Modeling ecological minimum requirements for distribution of greater sage-grouse leks: implications for population connectivity across their western range, U.S.A. Ecology and Evolution 3:1539-1551. Any subsequently prepared NEPA document must disclose BLM’s methodology and results in greater detail, even if the action will comply with the Utah Sage-Grouse RMP, because NEPA requires the agency to disclose environmental effects, not just those that may violate the law.

For all of these reasons the Enefit Draft EIS fails to meet the “hard look” requirements of NEPA and should be revised to ensure compliance with the Utah Sage-Grouse RMP. In making this revision, BLM should fully reconsider adopting the no action alternative as the best means available to ensure protection of the Greater sage-grouse.

10. The BLM Failed to Meet its Obligations under the National Historic Preservation Act.

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies, prior to approving any “undertaking,” such as approval of this Project, to “take into account the effect of the undertaking on any district, site, building, structure or object that is included in or eligible for inclusion in the National Register.” 16 U.S.C. § 470(f). Section 106 applies to properties already listed in the National Register, as well as those properties that may be eligible for listing. *See Te-Moak Tribe of Western Shoshone*, 608 F.3d 592, 611 (9th Cir. 2010); *Pueblo of Sandia v. United States*, 50 F.3d 856, 859 (10th Cir. 1995). Section 106 provides a mechanism by which governmental agencies may play an important role in “preserving, restoring, and maintaining the historic and cultural foundations of the nation.” 16 U.S.C. § 470.

If an undertaking is the type that “may affect” an eligible site, the agency must make a reasonable and good faith effort to seek information from consulting parties, other members of the public, and Native American tribes to identify historic properties in the area of potential effect. *See* 36 CFR § 800.4(d)(2); *Pueblo of Sandia*, 50 F.3d at 859-863 (agency failed to make reasonable and good faith effort to identify historic properties). Like NEPA, NHPA obligations should be commenced “as early as possible in the NEPA process” and be performed “in such a way that they can meet the purposes and requirements of both statutes in a timely and efficient manner.” 36 C.F.R. 800.8(a)(1).

The NHPA requires that consultation with Indian tribes “recognize the government-to-government relationship between the Federal Government and Indian tribes.” 36 CFR § 800.2(c)(2)(ii)(C). *See* Presidential Executive Memorandum entitled “Government-to-Government Relations with Native American Tribal Governments” (April 29, 1994), 59 Fed. Reg. 22951, and Presidential Executive Order 13007, “Indian Sacred Sites” (May 24, 1996), 61 Fed. Reg. 26771. *See also Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 805 (9th Cir. 1999); *Pit River Tribe v. U.S. Forest Service*, 469 F.3d 768, 787 (9th Cir. 2006).

Based on the information in the DEIS, BLM has not met its NHPA obligations. A total of 13 sites would potentially be subject to direct impacts associated with the construction of the Utility Project, including two that are eligible for listing on the National Register. DEIS at 3-81. An additional 76 sites would be impacted by the South Project. *Id.* Despite the historic occupation of the area by indigenous tribes, the DEIS fails to identify any tribal cultural resources that would be affected – instead describing historic mining sites and one prehistoric site. While the lack of tribal cultural resources could potentially be an accurate description, it seems highly unlikely that there are no culturally important sites to tribal nations in Utah. Additionally, it is incumbent on BLM to work with tribal nations through the Section 106 process to identify the affiliation of the sites that will be impacted by the utility corridor. BLM’s vague note that the site has “unknown cultural affiliation” does not satisfy this obligation. DEIS 4-116. Indeed, there is no specific

information in the DEIS that BLM has satisfied its consultation obligations to Native American Tribes with cultural and historic ties to the impacted area.

Similarly flawed is BLM's treatment of mitigation measures. Under NHPA regulations, at the DEIS stage, the agency should have consulted with relevant parties, developed alternatives and proposed measures that might avoid, minimize or mitigate any adverse effects of the undertaking on historic properties, and described these measures in the DEIS. 36 C.F.R. 800.8(c)(1) (iii) & (iv). BLM must also submit the DEIS to the Advisory Council on Historic Preservation to relevant SHPO and THPOs. *Id.* at (c) (2)(1).

BLM's approach to timing of preparing mitigation measures fundamentally conflicts with its regulatory obligations. BLM states that "[p]ursuant to the requirements of Section 106 of the NHPA, the Applicant would work in consultation with the BLM Vernal Field Office to determine appropriate mitigation activities to document this site prior to construction and monitor the area during construction." DEIS at 4-116. However, as discussed above, the NHPA mandates that mitigation measures must be subject to public comment in the DEIS rather than being designed and implemented subsequent to a final decision. BLM's current approach violates NHPA regulations and NEPA and must be remedied.

11. The BLM Fails to Properly Disclose the Cumulative Impacts of the Proposed Action Together with Other Foreseeable Actions.

A cumulative impact is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7. In taking a hard look at direct, indirect, and cumulative impacts, BLM must analyze all impacts that are "reasonably foreseeable." *Id.* § 1508.8. Further, "the purpose of an [EIS] is to evaluate the possibilities in light of current and contemplated plans and to produce an informed estimate of the environmental consequences." *See Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1072 (9th Cir. 2002).

NEPA requires BLM to take a hard look at the cumulative impacts on the *affected geographic area*, not just the immediate planning area. *See Grand Canyon Trust v. Federal Aviation Administration*, 290 F.3d 399, 342 (D.C. Cir. 2002); *see also NRDC v. Hodel*, 865 F.2d 288, 297-99 (D.C. Cir. 1988) (holding that agency violated NEPA when it considered only the effects within the planning area, rather than the interregional effect). BLM's cumulative impacts analysis "must be more than perfunctory; it must provide a 'useful analysis of the cumulative impacts of past, present, and future projects.'" *Ocean Advoc. v. U.S. Army Corps of Engrs.*, 402 F.3d 846, 868 (9th Cir. 2005). The agency must, therefore, "give a realistic evaluation of the total impacts [of the action] and cannot isolate the proposed project, viewing it in a vacuum." *Grand Canyon Trust*, 290 F.3d at 342.

Numerous proposed and reasonably foreseeable actions are planned within the Uinta Basin near the site of the proposed utility project and the South Project, and are likely to interact

cumulatively with the proposal. However, the Draft EIS provides nothing beyond vague generalities concerning the potential for cumulative impacts, and fails to identify or disclose the potential for cumulative and synergistic effects with these other proposals. As a result, the Draft EIS violates NEPA.

For example, the Draft EIS identifies several large oil and gas development proposals within the Uinta Basin, including Questar's 1,368-well Deadman Gulch oil and gas project, the 3,675-well Greater Natural Buttes project, the 264-well North Chapita Wells natural gas project, and the 627-well Chapita Wells-Stagecoach Area natural gas development. *See* Draft EIS at 4-151. These projects, involving more than 5,900 oil or gas wells, will likely cause significant air pollution and emit hundreds of thousands if not millions of tons of climate pollution in the coming decades, at the same time that the South Project will be releasing quantities of air and climate emissions. Yet, despite the likelihood for cumulative and synergistic impacts of these projects' air and climate emissions with those of the proposed action and the South Project, the Draft EIS contains no attempt to quantify any air and climate emissions from any source. *See* Draft EIS at 4-155 – 4-156. For example, the Draft EIS addresses the cumulative air impacts by making the vaguest qualitative statements and deferring any disclosure of cumulative impacts until after the NEPA process is over.

The South Project facility, which includes operation of non-road vehicles and other fuel-burning equipment, will likely contribute to the overall observed air quality trends in Uinta Basin wintertime ozone. This potential can be evaluated by inclusion of these emissions, once they are defined, in the ARMS photochemical model.

Draft EIS at 4-156. Rather than take a hard look at the cumulative impacts of the proposed action together with reasonably foreseeable actions, the Draft EIS turns a blind eye, violating NEPA.

Further this analysis fails to address the cumulative impacts of the proposed action and the South Project together with the newly-proposed, nearly 4,000-well Crescent Point oil and gas project. *See* BLM, Bureau of Land Management Seeks Public Input on the Crescent Point Energy Utah Federal-Tribal Well Development Project (Apr. 7, 2016), available at http://www.blm.gov/ut/st/en/info/newsroom/2016/April/bureau_of_land_management.html (last viewed June 13, 2016). In all, nearly 10,000 oil or gas wells are proposed within the Uinta Basin from the five projects mentioned above, a figure that does not include already approved and ongoing projects which will likely result in even thousands of more wells.

The BLM must also analyze reasonably foreseeable unconventional oil development in the Uinta Basin as cumulative impacts. This includes the RD&D leases of both Enenefit's and American Shale Oil and the associated preferential expansion areas; the full list of projects described in the Draft EIS at 4-153; and oil shale and tar sand projects that BLM failed to consider such as US Oil Sands' operations at PR Spring and the proposed Asphalt Ridge Tar Sand lease whose application is currently pending before BLM. *See* BLM, *Asphalt Ridge Tar Sand Leasing Environmental Assessment* DOI-BLM-UT-G010-2010-0199-EA (May 2013).

The analysis of cumulative impacts to surface water is similarly devoid of analysis or detail. As noted above, the South Project could remove as much as a hundred billion gallons of water from the Green or White rivers over 30 years. Yet the Draft EIS fails to identify any specific projects that may also remove water from those rivers, let alone attempt to disclose or analyze the total proposed water depletions likely to result from such projects, or to discuss in anything but the most nebulous terms the impacts those withdrawals are likely to have on river flows or aquatic life. *See, e.g.*, Draft EIS at 4-160 (“Impaired waters in the [cumulative impact analysis area] CIAA are susceptible to past and other present projects and [reasonably foreseeable future actions] (including the South Project). Protective measures mandated through the NPDES would largely mitigate any adverse impacts on impaired waters from those projects”); *id.* at 4-174 (“Depletion from other energy and mining development projects, ranching, commercial, and residential water use *has the potential* to substantially reduce flow in the Upper Colorado River Basin. In addition to reducing the quantity of water with sufficient quality in a specific location, water depletions *can* also reduce a river’s ability to create and maintain the physical habitat for fish.” (emphasis added)). Again, the Draft EIS’s failure to disclose the scale or nature of the impacts of the proposed action, together with those past, present, and reasonably foreseeable actions violates NEPA. Any subsequently prepared NEPA document must identify and disclose in detail the potential for cumulative impacts, and address the serious deficiencies with regard to reasonably foreseeable impacts.

12. The BLM Failed to Properly Analyze Mitigation Measures, or Consider Terms and Conditions to Protect the Environment.

a. *NEPA Requires Agencies to Consider Mitigation Measures.*

NEPA’s statutory language implicitly charges agencies with mitigating the adverse environmental impacts of their actions. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 351-52 (1989); *Holy Cross Wilderness Fund v. Madigan*, 960 F.2d 1515, 1522 (10th Cir. 1992). Mitigation measures are required by NEPA’s implementing regulations. 40 C.F.R. §§ 1502.14(f), 1502.16(h).

The CEQ has stated: “All relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperation agencies” Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations, 46 Fed. Reg. 18026, 18031 (March 23, 1981). According to the CEQ, “[a]ny such measures that are adopted must be explained and committed in the ROD.” Forty Questions, 46 Fed. Reg. at 18036.

The Tenth Circuit has held that an agency’s analysis of mitigation measures “must be ‘reasonably complete’ in order to ‘properly evaluate the severity of the adverse effects’ of a proposed project prior to making a final decision.” *Colo. Env’tl Coalition v. Dombeck*, 185 F.3d 1162, 1173 (10th Cir. 1999) (quoting *Robertson*, 490 U.S. at 352). Mitigation “must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.” *City of Carmel-by-the-Sea v. U.S. Dep’t of Transp.*, 123 F.3d 1142, 1154 (9th Cir. 1997) (quoting *Robertson*, 490 U.S. at 353).

“[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the ‘action-forcing’ function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.” *Robertson*, 490 U.S. at 353. A “perfunctory description,” of mitigation, without “supporting analytical data” analyzing their efficacy, is inadequate to satisfy NEPA’s requirement that an agency take a “hard look” at possible mitigating measures. *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir. 1998). An agency’s “broad generalizations and vague references to mitigation measures ... do not constitute the detail as to mitigation measures that would be undertaken, and their effectiveness, that the Forest Service is required to provide.” *Id.* at 1380-81. *See also Northwest Indian Cemetery Protective Association v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986), *rev’d on other grounds*, 485 U.S. 439 (1988) (“A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.”); *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1151 (9th Cir. 1998) (“Without analytical data to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a ‘mere listing’ of good management practices.”). Moreover, in its final decision documents, an agency must “[s]tate whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not.” 40 C.F.R. § 1505.2(c).

The CEQ also recognizes that the consideration of mitigation measures and reasonable alternatives is closely related. For example, CEQ’s guidance on mitigation and monitoring states that “agencies may commit to mitigation measures considered as alternatives in an EA or EIS so as to achieve an environmentally preferable outcome.” Council on Environmental Quality, *Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact* (Jan. 14, 2011) at 1; *see also id.* at 6-7 (“When a Federal agency identifies a mitigation alternative in an EA or an EIS, it may commit to implement that mitigation to achieve an environmentally-preferable outcome.”).

b. *FLPMA Requires BLM to Impose Terms and Conditions to Protect the Environment.*

FLPMA Title V mandates BLM will place terms and conditions into the right-of-way to protect the environment and public lands. The law states:

Each right-of-way shall contain--

- (a) terms and conditions which will ...
 - (ii) minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment ... and
- (b) such terms and conditions as the Secretary concerned deems necessary to
 - (i) protect Federal property and economic interests; ...
 - (iii) protect lives and property; ...
 - and (vi) otherwise protect the public interest in the lands traversed by the right-of-way or adjacent thereto.

43 U.S.C. § 1765.

c. *The Draft EIS Fails to Adequately Analyze Mitigation Measures*

The Draft EIS contains a table identifying potential mitigation measures as well as “applicant committed environmental protection measures.” Draft EIS 4-5 – 4-35. The table is little more than the type of “mere listing” of mitigation measures that courts have found insufficient to meet NEPA’s dictates. While the table does classify the mitigation by *type* of mitigation strategy (avoidance, minimization, rectification, “reduce/eliminate over[]time,” and compensation), the table fails to address the effectiveness of the mitigation. *Id.* Any subsequently prepared NEPA document must disclose whether the proposed action includes the mitigation measures as mandatory or not, and how effective the measures will be to limit damage.

The Draft EIS defines “applicant committed measures” as follows: “In order to avoid, minimize, and mitigate impacts to the human and natural environment, the Applicant has identified several actions that would be undertaken for the Utility Project.” *Id.* at 2-38.

BLM does not state that its rights-of-way will require any of the Enefit “committed measures” as enforceable conditions, or whether they are merely proposals that Enefit has said the company will undertake if BLM grants the proposed right-of-way applications, but that BLM cannot enforce. If the latter, BLM must disclose that the likelihood that these measures will be effective is low.

In addition, some of Enefit’s “committed measures” involve actions pertaining to the South Project. For example, the Draft EIS identifies a measure that would involve “[c]apture for beneficial use and/or destruction of [methane] released during oil shale extraction - to the extent that underground mining is conducted during operation of the South Project.” Draft EIS at 4-5. *See also id.* at 4-16 (mitigation measure re: special status plants and conservation agreement addressing South Project impacts). BLM does not explain how it will enforce this measure, or even how the measure would work. Elsewhere, for a single mitigation measure concerning weeds, BLM states:

Although this mitigation measure, if implemented would reduce impacts resulting from the South Project, implementation and enforcement of this measure on the South Project area is outside the authority of the BLM. The South Project, which contains private minerals and private surface, is subject to permitting through the State of Utah and other Federal Agencies. BLM has no jurisdiction over the South Project, so it is unknown if any of those agencies will incorporate this measure into their permit as a condition of approval.

Draft EIS at 4-35. It is unclear why BLM makes this statement with regard to a single mitigation measure concerning the South Project, while not addressing enforceability with respect to multiple other measures Enefit has voluntarily “committed” to regarding the company’s operations. Any subsequently prepared NEPA document must address this apparent contradiction. In any event, BLM has authority to adopt terms and conditions in rights-of-way to protect public lands and the environment, regardless of its “jurisdiction” over the South Parcel. BLM can enforce these provisions through suspension or termination of the rights-of-way. 43 U.S.C. § 1766 (failure to comply with terms or conditions of right-of-way is grounds for BLM to suspend or terminate the permit).

Further, some of the mitigation measures are too vague to be meaningful. For example, one greenhouse gas mitigation measure would require “[d]ecreases in vehicle idling times during on-site activities.” Draft EIS at 4-5. The Draft EIS does not explain what mechanism would be used to “decrease” idling times; how much time the “decrease” would be; how any decrease would be monitored or enforced; etc. The measure is so vague that neither the decisionmaker nor the public can determine whether or how it would be effective. Other measures are similarly ill-defined. *See, e.g.*, Draft EIS at 4-6 (“Vehicle speeds on unpaved roadways would be reduced as appropriate,” begging the questions: reduced from what to what? When and how much would be “appropriate?”); *id.* at 4-7 (“When feasible, working in areas with wet soils during the winter when the ground is frozen, or potentially in late summer when soils are drier would be the best practice,” begging the questions: who gets to decide what is “feasible?” Why “potentially” in late summer? If it “would be the best practice,” is it required?). Any subsequently prepared NEPA document must disclose how ineffective such vague measures are likely to be, or identify more enforceable measures.

d. *The Draft EIS Must Consider Terms and Conditions to Mitigate the Impacts of the Utility Project and the South Project.*

BLM must further consider and adopt at least two terms and conditions to limit the impact of construction and operation of the utility corridor, as well as the South Project, which the rights-of-way will subsidize.

First, BLM must consider, as a term or condition of the rights-of-way, that Enefit offset the reasonably foreseeable carbon emissions that will result from construction and operations of the rights-of-way and from construction and operation of the South Project, which the rights-of-way are meant to serve and will subsidize. Such a term or condition is *required* by FLPMA because it will help to “minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment” that otherwise would occur due to the projects’ climate pollution, and because it will also help “protect Federal property and economic interests,” “protect lives and property” and “otherwise protect the public interest” in the public lands in and around the rights-of-way from the action’s and connected action’s climate pollution’s impacts. *See* 43 U.S.C. § 1765.

Carbon offsets are a tested, feasible, and practical alternative to allowing Enefit to produce massive amounts of climate pollution in the construction and operation of both the utility project and the South Project which the utilities will subsidize or make possible.

EPA has repeatedly urged land management agencies to assess carbon offsets in EAs and EISs as a way to reduce climate change impacts of agency actions. For example, EPA has specifically noted that offsets are a reasonable alternative to lessen the impacts of coal mine methane emissions from methane drainage wells (MDWs). In a 2007 letter concerning a proposal to permit MDWs at the West Elk Mine, EPA specifically rejected the Forest Service’s assertion that a carbon offset alternative was not reasonable: “[I]t is reasonable to consider offset mitigation for the release of methane, as appropriate. Acquiring offsets to counter the greenhouse gas impacts of a particular project is something that *thousands of organizations, including private corporations, are doing today.*” Letter of L. Svoboda, EPA to C. Richmond, Forest Service

(Aug. 7, 2007) at 7 (emphasis added), attached as Exhibit 53. EPA specifically recommended that the Forest Service’s Lease Modifications EIS “acknowledge that revenues for carbon credits are available via several existing markets.” Letter of S. Bohan EPA to S. Hazelhurst, GMUG NF (July 11, 2012) at 5 (identifying four U.S. carbon exchanges creating a market for carbon credits), attached as Exhibit 54. Similarly, EPA has recommended that a Forest Service NEPA analysis of a forest health project “discuss reasonable alternatives and/or potential means to mitigate *or offset* the GHG emissions from the action.” Letter of L. Svoboda, EPA, to T. Malecek, USFS, at 8 (Oct. 27, 2010), attached as Exhibit 55. Numerous state agencies already use offsets to control GHG emissions. *See, e.g.*, Settlement Agreement, ConocoPhillips and California (Sept. 10, 2007) (California agency requiring offsets as a condition of approving a project), attached as Exhibit 56; Minn. Stat. § 216H.03 subd. 4(b) (Minnesota law requiring offsets for certain new coal-fired power plants); Me. Rev. Stat. Ann. tit. 38, § 580-B(4)(c) (Maine law establishing greenhouse gas initiative that includes the use of carbon offsets).

As EPA noted, many entities exist that permit agencies and polluters to purchase carbon offsets that are third-party verified. For example, the Carbon Fund and the Climate Action Reserve both allow entities to purchase carbon “credits.” In 2009, the total U.S. carbon offset market was worth \$74 million, with 19.4 million metric tons of CO_{2e} in traded volume. Point Carbon Research, *US Offset Markets in 2010: The Road Not Yet Taken 1* (2010), attached as Exhibit 57.

Second, BLM should adopt a term or condition requiring that Enefit protect all proposed critical habitat for the Graham’s and White River beardtongue within the rights-of-way and within the South Project. This is habitat that FWS recognized was “essential” to the conservation of these species. 78 Fed. Reg. 47,832 (Aug. 6, 2013). BLM should also protect any plants that have been discovered since FWS proposed critical habitat with a 500-meter buffer for White River beardtongue and a 70-meter buffer for Graham’s beardtongue, which are the buffers that FWS used to determine critical habitat. *Id.* As discussed above, BLM must provide protections beyond those included in the conservation agreement for the beardtongues because the conservation agreement does not provide adequate protection from oil shale development, including this project, and the conservation agreement represents only the minimum amount of protection that FWS thinks is needed to keep these species off the endangered species list. BLM is not limited to do the minimum required by the inadequate conservation agreement, which is currently being challenged in federal court.

VI. BLM Must Prepare a Revised Draft EIS to Address the Draft EIS’s Inadequacies.

Although an EIS is prepared in two phases (*i.e.*, a draft and final phase), the draft EIS must fulfill and satisfy, to the fullest extent possible, the requirements established for an FEIS. 40 C.F.R. § 1502.9(a). NEPA regulations mandate that “[i]f a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion.” *Id.*

The Draft EIS’s failure to address, among other things, the potentially significant air quality and climate change impacts of the proposed action effectively undercuts “the twin goals of environmental statements: informed decisionmaking and full disclosure” by depriving the public and decisionmakers of the chance to understand those impacts, and to review and comment on an analysis of those impacts. *State of California v. Bergland*, 483 F. Supp. 465, 495 (E.D. Cal.

1980), judgment aff'd in part, rev'd in part *sub nom. State of California v. Block*, 690 F.2d 753 (9th Cir. 1982).

We therefore respectfully request that BLM prepare a revised draft EIS that addresses the inadequacies identified in this letter.

Sincerely,

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List of Exhibits

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Exhibit 2	Natalya Irha & Erik Teinemaa. <i>Behavior of Three- to Four-Ring PAHs in the Presence of Oil Shale Ash and Aluminosilicate Matter</i> , 22 Polycyclic Aromatic Compounds, 663 – 671, (2002).
Exhibit 3	Anne Karhu, <i>Environmental Hazard of the Waste streams of Estonian Oil Shale Industry: An Ecotoxicological Review</i> , 23 Oil Shale 53-93 (2006)
Exhibit 4	Adam Brandt, <i>Greenhouse gas emissions from liquid fuels produced from Estonian oil shale</i> . Prepared for European Commission - Joint Research Center, 2010
Exhibit 5	Simon Mui et al., GHG Emission Factors for High Carbon Intensity Crude Oils. Natural Resources Defense Council, 2010.
Exhibit 6	Indrek Aarna, & T. Lauringson, <i>Carbon intensity, water use and EROI of production of upgraded shale oil products using the Enefit280 technology</i> . October 2011. Presentation, Golden, CO
Exhibit 7	Email of R. Clerico, Enefit American to R. Rymerson, BLM (Mar. 22, 2015) re: Response to data gaps
Exhibit 8	Barack Obama, President of the United States, Weekly Address (Apr. 18, 2015)
Exhibit 9	U.S. Department of State, S&ED Joint Session on Climate Change Remarks (June 6, 2016).
Exhibit 10	Christophe McGlade & Paul Ekins, <i>The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2°C</i> , NATURE Vol. 517, pp. 187-190 (Jan. 7, 2015)
Exhibit 11	United Nations, Framework Convention on Climate Change, Paris Agreement, Article 2 ¶ 1(a) (Dec. 11, 2015)
Exhibit 12	IPCC, Working Group I Contribution to the IPCC Fifth Assessment Report: Climate Change 2013: the Physical Science Basis: Summary for Policy Makers (2013)
Exhibit 13	Bill McKibben, <i>Global Warming's Terrifying New Math</i> , Rolling Stone (Aug. 2, 2012)
Exhibit 14	Bill McKibben, <i>Obama and Climate Change: The Real Story</i> (Dec. 17, 2013)
Exhibit 15	Hansen, <i>et al.</i> , <i>Climate Sensitivity, Sea Level and Atmospheric Carbon Dioxide</i> , 371 Phil. Trans. R. Soc'y (2013),
Exhibit 16	<u>Global Carbon Project</u> , Global Carbon Budget 2014 (Sept. 14, 2014).
Exhibit 17	D. Crouch, "Estonia sees a bright future for oil shale," Financial Times (June 15, 2015)

Exhibit 18	“Enefit’s Utah Project,” available at http://enefitutah.com/
Exhibit 19	Enefit Utah, “Next-Generation Enefit280 Plant is Nearing Peak Performance”
Exhibit 20	Enefit, “Estonia shale oil industry.”
Exhibit 21	Enefit, Retorting Enefit280.
Exhibit 22	Letter of R.L. Hrenko, Enefit American Oil to K. Hoffman, BLM (July 19, 2012)
Exhibit 23	Megan Williams, Expert Opinion on Air Quality Impacts of Enefit’s Oil Shale Project, June 2016.
Exhibit 24	L. Schafer, Conservation Colorado <i>et al.</i> to E. McCullough, BLM (June 10, 2016)
Exhibit 25	J.M. Laats, “Utah project frozen, says Eesti Energia CEO,” Estonian Public Broadcasting (Nov. 4, 2015)
Exhibit 26	J.M. Laats, “Daily: Eesti Energia preparing to devalue Utah and Auvere investments,” Estonian Public Broadcasting (Nov. 25, 2015),
Exhibit 27	BNS, “Low oil price affects Eesti Energia,” (Jan. 19, 2016),
Exhibit 28	Email of R. Clerico, Enefit to S. Howard, BLM (July 14, 2014)
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Exhibit 30	Environmental Assessment and Biological Assessment for the Oil Shale Research, Development, and Demonstration Project, White River Mine, Uintah County, Utah (EA #UT-080-2006-280).
Exhibit 31	U.S. Environmental Protection Agency (“EPA”), “Fact Sheet: Social Cost of Carbon” (Nov. 2013)
Exhibit 32	Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 Feb. 2010)
Exhibit 33	Interagency Working Group on Social Cost of Carbon, “Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866” (May 2013),
Exhibit 34	General Accounting Office, “Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates,” GAO-14-663 (July 2014),
Exhibit 35	EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011)
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Exhibit 38	letter of Center for Biological Diversity <i>et al.</i> to Council on Environmental Quality (Mar. 25, 2015)
Exhibit 39	N. Shoaff & M. Salmon, Sierra Club, “Incorporating the Social Cost of Carbon into National Environmental Policy Act Reviews for Federal Coal Leasing Decisions,
Exhibit 40	Peter Howard, <i>et al.</i> , Environmental Defense Fund, Institute For Policy Integrity, Natural Resources Defense Council, OMITTED DAMAGES: WHAT’S MISSING FROM THE SOCIAL COST OF CARBON, (March 13, 2014)

Exhibit 41	Frank Ackerman & Elizabeth A. Stanton, CLIMATE RISKS AND CARBON PRICES: REVISING THE SOCIAL COST OF CARBON (2010),
Exhibit 42	Frances C. Moore and Delavane B. Diaz, Temperature impacts on economic growth warrant stringent mitigation policy, NATURE CLIMATE CHANGE (Jan. 12, 2015)
Exhibit 43	Executive Office of the President of the United States, Council of Economic Advisers, “The Cost of Delaying Action to Stem Climate Change” (July 2014)
Exhibit 44	Marten, A.L., and Newbold, S.C., Estimating the social cost of non-CO ₂ GHG emissions: Methane and nitrous oxide, 51 Energy Policy 957 (2012)
Exhibit 45	U.S. Environmental Protection Agency, Regulatory Impact Analysis of the Proposed Emission Standards for New and Modified Sources in the Oil and Natural Gas Sector, 4 –12 to 4 –17 (August 2015)
Exhibit 46	Bureau of Land Management, Proposed Rule, 43 CFR Parts 3160 and 3170, Waste Prevention, Production Subject to Royalties, and Resource Conservation (Jan. 22, 2016)
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Exhibit 48	International Agency for Research on Cancer, 35, <i>Polynuclear Aromatic Compounds, Part 4, Bitumens, Coal-Tars and Derived Products, Shale-Oils and Soots</i> , Evaluation of Carcinogenic Risks of Chemicals to Humans, 1985)last updated April 20, 1998
Exhibit 49	Swift, Anthony <i>et al.</i> , <i>Tar Sands Pipeline Safety Risks</i> , Natural Resources Defense Council, Feb. 2011
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