
From: Hayes, Miriam (Nicole) <mnhayes@blm.gov>
Sent: Wednesday, March 13, 2019 10:43 AM
To: coastalplainAR; Sean Cottle
Subject: Fwd: [EXTERNAL] FW: Public Comment of Patagonia Works on the Bureau of Land Management Alaska's Coastal Plain Oil And Gas Leasing Program Draft Environmental Impact Statement
Attachments: Public Comment of Patagonia Works on the Bureau of Land Management Alaska's Coastal Plain Oil and Gas Leasing Program DEIS.pdf
Follow Up Flag: Follow up
Flag Status: Completed

Nicole Hayes

Project Coordinator
Bureau of Land Management
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----- Forwarded message -----

From: Kennon Meyer <kennon@aqualawyers.com>
Date: Wed, Mar 13, 2019 at 9:32 AM
Subject: [EXTERNAL] FW: Public Comment of Patagonia Works on the Bureau of Land Management Alaska's Coastal Plain Oil And Gas Leasing Program Draft Environmental Impact Statement
To: mnhayes@blm.gov <mnhayes@blm.gov>
Cc: Tom Wilmoth <tom@aqualawyers.com>

Ms. Hayes,

Please see the e-mail below. I have e-mailed the attached comment to the e-mail address you provided.

Again, please provide immediate confirmation once this comment has been officially received.

Thanks for your help.



Kennon Meyer

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From: Kennon Meyer <kennon@aqualawyers.com>

Sent: Wednesday, March 13, 2019 12:26 PM

To: blm_ak_coastalplain_eis@blm.gov

Cc: Tom Wilmoth <tom@aqualawyers.com>

Subject: Public Comment of Patagonia Works on the Bureau of Land Management Alaska's Coastal Plain Oil And Gas Leasing Program Draft Environmental Impact Statement

Ms. Hayes,

After talking to you on the phone today, I again attempted to submit the attached comment via the BLM ePlanning website submission form. However, I still receive an error message that reads "The specified URL cannot be found." As such, per your instructions, I am e-mailing a copy of the comments to blm_ak_coastalplain_eis@blm.gov. Please see attached.

Please provide immediate confirmation that this comment has been received.

Thank you-



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Tom Wilmoth
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March 13, 2019

Via E-mail and U.S. Mail

Coastal Plain Oil and Gas Leasing Program EIS
222 West 7th Avenue, Stop #13
Anchorage, Alaska 99513

RE: Public Comment of Patagonia Works on the Bureau of Land Management Alaska's Coastal Plain Oil And Gas Leasing Program Draft Environmental Impact Statement

To Whom It May Concern:

This firm represents Patagonia Works, a certified B-corporation incorporated in the State of California. Attached please find Patagonia Works' comment in response to the Bureau of Land Management Alaska's Coastal Plain Oil And Gas Leasing Program Draft Environmental Impact Statement. I have attempted to submit the attached comment through the Bureau of Land Management's ePlanning webpage submission portal numerous times, however, each time the upload has failed and the website delivers an error message stating "The specified URL cannot be found." As such, I contacted Coastal Plain Project Manager Nicole Hayes who instructed me to submit the attached comment via e-mail to blm_ak_coastalplain_eis@blm.gov.

If you have any questions about this comment, please contact me using the contact information provided on this letterhead.

Sincerely,

/s/ Thomas R. Wilmoth

TRW:KM/sm
Enclosure

**PUBLIC COMMENTS OF PATAGONIA WORKS ON THE BUREAU OF LAND
MANAGEMENT ALASKA'S COASTAL PLAIN OIL AND GAS LEASING PROGRAM
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

DOCKET NO. DOI-BLM-AK-0000-2018-0002-EIS

MARCH 13, 2019

VIA ONLINE SUBMISSION TO:

**Bureau of Land Management
Coastal Plain Oil and Gas Leasing Program EIS
222 West 7th Avenue, Stop #13
Anchorage, Alaska 99513-7504**

I. Introduction

Patagonia Works (“Patagonia”) appreciates the opportunity to submit these comments on the Bureau of Land Management’s (“BLM”) Coastal Plain Oil and Gas Leasing Draft Environmental Impact Statement (December 20, 2018) (the “DEIS”). Patagonia is an outdoor apparel company with a 40-year history of environmental activism. Protecting and preserving the environment is a core business tenet as reflected in the Company’s mission statement: “We’re in business to save our home planet.” In 2012, Patagonia became a California benefit corporation, enshrining its blended goals of business and conservation into its Articles of Incorporation. Patagonia believes deeply in the urgent shared responsibility to protect the environment. The future of Patagonia’s business depends on the health of the wild places that its customers explore. There is, perhaps, no wilder place than the Arctic National Wildlife Refuge (“the Refuge”).

Patagonia has gone to great lengths to protect the project area. Since 2003, it has supported, through grants and other assistance, the Gwich’in Steering Committee, Alaska Wilderness League and Trustees for Alaska. Patagonia has also financially supported the missions of Sierra Club Alaska and the Alaskan grassroots partnership known as Resist Environmental Destruction on Indigenous Lands.

Patagonia strongly opposes oil and gas leasing and development in the Coastal Plain area of the Refuge due to impacts on wildlife, recreation, the climate, and the Gwich’in people. The DEIS fails to fully account for a number of crucial impacts that result from oil and gas leasing and drilling in the Refuge. All action alternatives will expedite climate change, increase levels of greenhouse gas (“GHG”) emissions, cause environmental harm to the United States, injure the ecosystems of the Refuge, displace and ultimately reduce populations of federally and internationally protected wildlife, jeopardize the Gwich’in way of life, and generally harm the global environment.

None of the action alternatives identified in the DEIS sufficiently protect the Coastal Plain’s resources, the indigenous people that rely on it, or the global climate. Each of the action alternatives will directly injure Patagonia, its associates, and its customers. Patagonia, therefore, urges the BLM to adopt the No Action alternative. If the BLM elects to proceed with any leasing, it must develop and select a new alternative that will better protect the ecological health of the Coastal Plain, the Refuge, and the environment as a whole.

While not directly expressed by the BLM, the project is clearly motivated by the Trump administration’s “energy dominance” agenda, which has been clearly set forth in Executive Order 13783.¹ As such, the DEIS serves private financial interests at the expense of global climate.²

¹ Executive Order 13783 of March 28, 2017, *Promoting Energy Independence and Economic Growth*, 82 Federal Register 16093 (March 31, 2017).

² This concern is underscored by the recent allegations made by the Public Employees for Environmental Responsibility (“PEER”) asserting that critical documents containing expert assessments of the environmental impacts of oil drilling in the Coastal Plain were withheld by the BLM and ignored in the DEIS. *See, Arctic Refuge Drilling Scientific Concerns Suppressed- Memos Outlining Major Environmental and Public Health Information Gaps Buried*, Public Employees for Environmental Responsibility (March 12, 2019), <https://www.peer.org/news/press-releases/arctic-refuge-drilling-scientific-concerns-suppressed.html>

Climate change is not a *potential* threat; it is a clear and present danger. Oil and gas development in the Coastal Plain will only exacerbate the harms climate change is currently causing. The DEIS must better address the impacts of the project on the global climate and the project should not proceed at the expense of future generations.

II. Procedural Deficiencies in the DEIS

The National Environmental Policy Act (“NEPA”) requires agencies to “[u]tilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man’s environment.”³ The DEIS must clearly present information and analyze the environmental consequences that form the scientific and analytic basis for consideration of reasonable alternatives.⁴ While the Council on Environmental Quality’s (“CEQ”) regulations provide that an EIS’ alternatives section “is the heart” of the EIS, it is “accurate scientific analysis, expert agency comments, and public scrutiny” that are essential to implementing NEPA.⁵

Further, in evaluating reasonably foreseeable adverse effects, the BLM is responsible for addressing incomplete and insufficient information.⁶ Courts have held that an agency violates NEPA when it fails to disclose incomplete information that is relevant to its analysis.⁷ Here, not only has the BLM failed to provide a sufficient “accurate scientific analysis”, it appears the BLM may have intentionally buried a number of expert assessments discussing the “unknowns” about impacts from oil and gas drilling in the Coastal Plain.⁸ The identification of “research gaps” by the U.S. Fish and Wildlife Service (“USFWS”) requires the BLM to acknowledge the same and attempt to quantify the significance of those unknowns.⁹

a. The BLM is Ignoring Some of the Most Important Scientific Data Available - Those Obtained from the Sole Exploratory Well in the Project Area

Appendix B of the DEIS containing the Reasonably Foreseeable Development Scenarios (the “RFD Scenario”) makes clear that there is one critically important data set that the BLM is ignoring. According to the BLM, a single oil and gas exploratory well was drilled within the

³ 42 U.S.C. § 4332(A).

⁴ 40 C.F.R. §§ 1502.14, 1502.16.

⁵ 40 C.F.R. §§ 1500.1(b), 1502.14.

⁶ 40 C.F.R. § 1502.22.

⁷ *N.C. Wildlife Fed’n v. N.C. Dep’t of Transp.*, 677 F.3d 596, 603 (4th Cir. May 3, 2012) (holding that “agencies violate NEPA when they fail to disclose that their analysis contains incomplete information”).

⁸ *Arctic Refuge Drilling Scientific Concerns Suppressed- Memos Outlining Major Environmental and Public Health Information Gaps Buried*, Public Employees for Environmental Responsibility (March 12, 2019), <https://www.peer.org/news/press-releases/arctic-refuge-drilling-scientific-concerns-suppressed.html>

⁹ If indeed PEER’s allegations are true and the BLM has intentionally withheld numerous reports critical to the understanding of impacts of Coastal Plain drilling, the DEIS comment period should be extended. All other documents potentially being withheld by any federal agency pertaining to the impacts of oil and gas drilling in the Coastal Plain should be released for public inspection. The comment period should be extended sixty (60) days from the date of such full disclosure in order to engage the public to the fullest extent possible.

boundary of the Coastal Plain. This was the KIC#1 exploration well drilled in 1985/1986. Unfortunately, these data have been kept confidential by the data owners, Chevron, BP, and the Arctic Slope Regional Corporation.¹⁰

This well could potentially hold the key to some of the most valuable information in the project area. During exploration drilling, vital information and samples are collected about the rocks and fluids (water, gas and oil) encountered by the well in order to find out: (1) If there exists any hydrocarbons at that location; (2) how much oil or gas may be available at the present explored area; and (3) the depth at which the oil or gas exists and, thus, relevant information about the cost of extracting it.

CEQ regulations demand information of “high quality” and professional integrity.¹¹ The Interior Department’s obligations under authorities such as the Information Quality Act require Interior bureaus to use the best available data when preparing the DEIS.¹² By refusing to demand access to the exploration well data and to share that information with the public, the BLM is failing to meet the analytical rigor its mandates require. The BLM should require disclosure and analysis of this test well data before proceeding further with any leasing decision.

b. The BLM Misinterprets the Tax Act’s Surface Disturbance Limit

The Tax Cuts and Jobs Act of 2017 (“Tax Act”) authorized the oil and gas program in the Coastal Plain.¹³ The Tax Act clearly limits all surface disturbance to 2,000 acres. Yet, Section 1.9.1 of the DEIS makes clear that the BLM has no intention of abiding by the 2000-acre surface disturbance limit.¹⁴ The Tax Act language is not vague. It provides:

(3) SURFACE DEVELOPMENT. —In administering this section, the Secretary shall authorize up to 2,000 surface acres of Federal land on the Coastal Plain to be covered by production and support facilities (including airstrips and any area covered by gravel berms or piers for support of pipelines) during the term of the leases under the oil and gas program under this section.¹⁵

Yet, the BLM distorts the limitation in at least three fundamental ways.

First, the BLM adopts a “rolling” disturbance approach so that an unlimited number of acres could be disturbed over the life of the project, provided only 2000 acres are disturbed at any one time.¹⁶ This approach vitiates the entire purpose of the limit, which is to protect the Coastal Plain’s resources from overdevelopment.

The impact, for example, of roads on caribou may last well beyond the point of reclamation as animals learn to avoid areas that are historically occupied by vehicles. Similarly, polar bear dens

¹⁰ DEIS vol. 2 Appx B at B-6.

¹¹ 40 C.F.R. §§ 1500.1, 1502.24.

¹² Treasury and General Government Appropriations Act for Fiscal Year 2001, Pub. L. 106–554, § 515.

¹³ Public Law 115-97, 131 Stat. 2054, Section 20001.

¹⁴ DEIS vol. 1 at 1-5.

¹⁵ *Supra* note 13 at 20001(c)(3).

¹⁶ DEIS vol. 1 at 1-6.

that are abandoned because of human activity near well sites will not necessarily be reoccupied once sites are abandoned. In short, characterizing these surface disturbances as having “temporary” impact is misleading because the cumulative ongoing impacts could be long lasting. Under such circumstances, the “rolling” approach renders the limit meaningless.

Second, the BLM intentionally omits from the calculation disturbances that clearly should be included. The BLM omits ice roads apparently because the BLM believes they do not involve the placement of anything permanent on the ground. Wildlife attempting to cross roads are unconcerned about the material from which the road is constructed. Rather, they are impacted by the traffic and ancillary activity associated with the road itself. The omission of ice roads is nonsensical, especially since the BLM considers such roads likely to be most used roads in the project area.¹⁷ Ice roads are built with layers of freezing water pumped from ice-covered lakes or the ocean. Ice chips and snow are mixed with the water, creating a makeshift “asphalt.” Ice roads take longer to melt than the surrounding tundra, thus remaining in place season after season. They can also impact permafrost and, if the timing of their use is not strictly regulated, can be extremely damaging to vegetation.¹⁸

The BLM also omits from the calculation linear pipelines under the absurd theory that the pipelines themselves do not touch the ground and, therefore, are not a “surface disturbance.”¹⁹ The BLM instead intends to count only the piers that support the pipelines, apparently relying on the fact that piers alone are called out in the parenthetical reference within the operative language.²⁰ This radically misinterprets Congressional intent by turning an inclusive example into an exclusive listing. By our calculation, this gamesmanship alone allows the BLM to exclude from the limitation at least 240 acres of impacts (or roughly 12%) of the overall limit.

The BLM next omits gravel mines that will be used to supply material for development in the project area.²¹ Given the expected number of mines in the RFD Scenario, we calculate this as omitting about 320 acres (or roughly 16%).

These omissions do not comport with the BLM’s internal guidance on evaluating impacts in RFDs.²² More importantly, this fundamental misinterpretation infects the entire DEIS analysis because, “The BLM employs this interpretation of Section 20001(c)(3) of PL 115-97 as an assumption in each of the action alternatives analyzed in the EIS.”²³ By excluding such ice roads, pipelines, and gravel mines from the surface disturbance limit, the BLM is implicitly authorizing an unlimited amount of such facilities. This, in turn, means that the BLM has woefully understated the adverse impacts associated with the leasing program actually contemplated by Title II.

¹⁷ DEIS vol. 2 Appx B at B-13.

¹⁸ Kenneth M. Adam, and Hernandez Helios, “Snow and Ice Roads: Ability to Support Traffic and Effects on Vegetation”, *Arctic*, vol. 30, no. 1, 1977, pp. 13–27, JSTOR, www.jstor.org/stable/40508772.

¹⁹ DEIS vol. 2 Appx B at B-9.

²⁰ *Id.*

²¹ *Id.*

²² See BLM Manual, H – 1624-1 – Planning for Fluid Mineral Resources (February 20, 2018).

²³ DEIS vol. 1 at 1-6.

c. It Remains Unclear Whether the Oil and Gas Leasing Requirements Provided by Title II of the Tax Act Are Valid in the First Place

NEPA demands the United States “fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.”²⁴ The United States Supreme Court has held that “the thrust of [NEPA] is ... that environmental concerns be integrated into the very process of agency decision-making.”²⁵ The Tax Act purports to require competitive oil and gas programs in the Coastal Plain without any real regard to this mandate.²⁶

The mandatory sale of lands in the project area appears to stand in bold contrast to the goals of the Alaska National Interest Lands Conservation Act (“ANILCA”), implemented for the purpose of creating and sustaining national parklands throughout Alaska to preserve wildlife, wilderness, and recreational values.²⁷ Among other things, ANILCA established the following purposes for the Refuge: (1) to conserve fish and wildlife populations and habitats in their natural diversity; and (2) to fulfill the international treaty obligations of the United States with respect to fish, wildlife, and their habitats.²⁸ Section 1003 of ANILCA prohibits production of oil and gas in the Refuge, and no leasing or other development leading to production of oil and gas may take place unless authorized by a further Act of Congress.²⁹ The Tax Act may be such an Act, but, there is no indication in the Tax Act that it seeks to override the fundamental goals of other competing legal obligations, including ANILCA, the Endangered Species Act, NEPA, or international treaties and commitments. It is not presently clear how these can be reconciled with the Tax Act’s mandate to open the Coastal Plain lands to leasing.

Further, the Tax Act appears to be inconsistent with commitments made in the Agreement on the Conservation of Polar Bears. The 1973 Agreement requires the United States to take appropriate action to protect the ecosystem of which polar bears are a part, with special attention to habitat components such as denning and feeding sites and migration patterns, and to manage polar bear subpopulations in accordance with sound conservation practices based on the best available scientific data.³⁰ Moreover, the parties to the Agreement committed to additional research and consultation concerning the effect of their actions on polar bear populations, as well as furthering their protection.³¹ There is no indication that any such consultation has occurred.

Given the fast-tracking of this DEIS, Patagonia has been unable to fully evaluate the underlying legality of the Tax Act and its passage. However, we believe it is incumbent on the BLM, as part of the NEPA process, to fully explain how it intends to reconcile this seemingly incongruous sale with its competing and domestic duties to conserve the resources of the Coastal Plain.

²⁴ 42 U.S.C. § 4331(b)(1).

²⁵ *Andrus v. Sierra Club*, 442 U.S. 347, 99 S. Ct. 2335, 60 L. Ed. 2d 943 (1979).

²⁶ *Supra* note 13.

²⁷ Public Law 96-487, 94 Stat. 2371.

²⁸ 16 U.S.C. §§ 410hh *et seq.*

²⁹ *Supra* note 27 at Sec. 1003.

³⁰ Agreement on the Conservation of Polar Bears, Art. II (November 15, 1973).

³¹ *Id.* at Arts. VII and IX.

III. Substantive Deficiencies in the DEIS

We first address the BLM's failure to adequately consider the impacts of climate change. We then turn to address impacts on recreation, the Southern Beaufort Sea population of polar bears, and conclude by offering alternatives that should be analyzed in the final EIS.

a. The DEIS Fails to Adequately Assess Climate Change Impacts

The DEIS fails to make any significant analysis of how the utilization of the leases will contribute to climate change and then in turn analyze how those additions to climate change will impact the United States, including impacts beyond Alaska. Analyzing the impact of climate change on arctic drilling practices is only meaningful if it is paralleled by an analysis of how the drilling will itself increase the effects of climate change. The DEIS states, "Climate change can be driven by natural forces...or by human activity, such as land use changes or GHG emissions."³² As such, the impacts of human activity must also be taken into consideration.

Even though Alternative D reserves portions of the Coastal Plain to protect biological and ecological resources, these reservations still fail to consider how the activities associated with the oil and gas leases will contribute to climate change.³³ Alternatives B and C, on the other hand, both offer the entire program area for lease sale with only bare minimum consideration of biological and ecological resources. Because the most protective alternative, Alternative D, does an insufficient job of considering environmental impact for the reasons set forth below, Alternatives B and C are also entirely inadequate, as they provide even less consideration and protection against environmental hazards.

i. Climate Change Is The Most Significant Environmental Impact of Our Time

An EIS must contain a full and fair discussion of significant environmental impacts, and the impacts must be discussed in proportion to their significance.³⁴ Climate change is the most significant environmental impact of our time. Nevertheless, the DEIS effectively buries its head in the sand, continually referring to the impacts of climate change as "potential."³⁵

The BLM's treatment of climate change as a "potential" environmental impact makes the passing references to the issue completely disproportionate to the significance of the impact. Climate change is real, it is here, and we are seeing its impacts with our own eyes. Human influence on climate has been the dominant cause of observed warming since the mid-20th century, while global average surface temperature warmed by 0.85°C between 1880 and 2012, as reported in the Intergovernmental Panel on Climate Change ("IPCC") Fifth Assessment Report.³⁶ According to

³² DEIS vol. 1 at 3-2.

³³ DEIS vol. 1 at 2-2.

³⁴ 40 C.F.R. §§ 1502.1 and 1502.2(b); 42 U.S.C. §§ 4332(C)(i) and (ii).

³⁵ DEIS vol. 1 at 3-5.

³⁶ M. R. Allen, O. P. Dube, W. Solecki, F. Aragón-Durand, W. Cramer, S. Humphreys, M. Kainuma, J. Kala, N. Mahowald, Y. Mulugetta, R. Perez, M. Wairiu, K. Zickfeld, 2018, *Framing and Context. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the*

the IPCC, “Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.”³⁷ According to the Fourth National Climate Assessment published by the U.S. Global Change Research Program, “More frequent and intense extreme weather and climate-related events, as well as changes in average climate conditions, are expected to continue to damage infrastructure, ecosystems, and social systems that provide essential benefits to communities.”³⁸

Climate change is upon us. We can see it and experience it in the world around us on a daily basis. A cloud of smog above the Los Angeles sky line, rising sea levels, increased prices at the grocery store due to a struggling global agricultural supply, dying coral reefs, historic highs in forest fire rates in the western United States, super storms ripping across the globe. The global population can no longer afford to treat climate change like a potential future threat. Rather, we must recognize the harm that has already been done to our planet and combat future harms, which involve drastic and immediate action.

Observations from around the world are increasingly showing the widespread effects of increasing GHG concentrations on Earth’s climate.³⁹ Years of scientific research, carefully collected data, and environmental observations have accumulated to resoundingly confirm that climate change is the most significant environmental impact of our time.

Given the extensive scientific data about the immediate and growing impacts of climate change, any EIS must carefully and thoroughly consider all aspects of climate change impacts. The DEIS does not meet the mark, offering only a myopic and ambiguous analysis (for all alternatives) of how climate change may “potentially” impact potential development in the Coastal Plain. The DEIS completely ignores how the activities resulting from oil and gas leasing would contribute to overall warming of the earth. As discussed below, the DEIS must consider how drilling and the associated human activities in the arctic region will increase GHG emissions and further fuel climate change.

global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)].

³⁷ IPCC, 2014: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

³⁸ USGCRP, 2018: *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II: Report-in-Brief* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 186 pp.

³⁹ *Id.*

ii. **Human Activities, Including Drilling for Oil and Gas, Contribute to Climate Change**

According to NASA, 97% or more of actively publishing climate scientists agree that climate-warming trends over the past century are extremely likely due to human activities.⁴⁰ Science confirms that a dominant cause of climate change is GHG emissions produced by human activities, including carbon dioxide and methane. Studies show that roughly half of the cumulative anthropogenic carbon dioxide emissions between 1750 and 2011 have occurred in the last 40 years.⁴¹ GHG from human activities are the most significant driver of observed climate change since the mid-20th century.⁴²

More specific to this arctic region, human activities have contributed to observed arctic surface temperature warming, sea ice loss, glacier mass loss, and Northern Hemisphere snow extent decline.⁴³ Studies show a strong anthropogenic contribution to arctic and Alaskan surface temperature warming over the past 50 years.⁴⁴ As such, it is critically important to analyze how oil and gas leasing will contribute to such emissions.

The DEIS fails to engage a complete analysis of future emissions. The DEIS examines the total potential GHG emissions from construction, drilling, production, processing, and transportation of post-lease oil and gas activities.⁴⁵ According to the BLM's calculations, the production of anywhere from 1,500 to 10,000 million barrels of oil would result in an average annual GHG emission of 56,739 to 378,261 metric tons of carbon dioxide equivalents.⁴⁶ While this prediction is helpful in assessing the overall impact of the arctic oil and gas leasing, the DEIS then fails to provide a meaningful analysis of how these increased emissions will escalate and perpetuate climate change, particularly in the lower United States. 378,261 metric tons of carbon dioxide is the equivalent of driving an average passenger vehicle approximately 936,289,604 miles, which is enough to travel around the circumference of the earth approximately 37,600 times.⁴⁷ While such information is quantitatively valuable, the BLM's anemic attempt to examine the qualitative environmental *consequences* of increased GHG emissions (e.g., increased surface temperatures, expedited sea ice reductions), lays bare the inadequacies of the range of alternatives. Indeed, no attempt is made to distinguish between the alternatives in this regard, as

⁴⁰ *Scientific consensus: Earth's climate is warming*, NASA Global Climate Change, <https://climate.nasa.gov/scientific-consensus/>

⁴¹ *Supra* note 37.

⁴² IPCC, 2013: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

⁴³ USGCRP, 2017: *Climate Science Special Report: Fourth National Climate Assessment, Volume I* [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 470 pp., doi: 10.7930/J0J964J6.

⁴⁴ *Id.*

⁴⁵ DEIS vol. 1 at 3-6.

⁴⁶ DEIS vol. 1 at 3-7.

⁴⁷ *Greenhouse Gas Emissions from a Typical Passenger Vehicle*, Green Vehicle Guide, Environmental Protection Agency, <https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle>

the BLM simply provides a rote list of possible effects common to all alternatives, thus rendering impossible a meaningful comparative analysis.⁴⁸

“The opening of Arctic lands and seas to transportation and oil development is occurring against a backdrop of sea-ice loss, dwindling resources elsewhere in the world, and competing geopolitical interests.”⁴⁹ Not only is the development occurring against a backdrop of these massive environmental problems, it’s also contributing itself to these increasingly prevalent disasters.⁵⁰

iii. Climate Change is Already Occurring at Accelerated Rates in the Arctic

Not only is climate change occurring rapidly throughout the entire globe, studies show that the impacts of climate change are disproportionately felt in the arctic northern latitudes. Specifically, Alaska is undergoing rapid changes.⁵¹ Substantial atmospheric warming has occurred at more northern latitudes over the last half-century.⁵² “Fire patterns are changing, permafrost is thawing, and Arctic summers are now warmer than at any other time in the last 400 years. Most climate models predict that high latitudes will experience a much larger rise in temperature than the rest of the globe over the coming century.”⁵³

Arctic surface and atmospheric temperatures have demonstrated substantial increases.⁵⁴ “Multiple observation sources, including land-based surface stations since at least 1950 and available meteorological reanalysis datasets, provide evidence that arctic near-surface air temperatures have increased more than twice as fast as the global average.”⁵⁵ According to the observed records, the arctic region shows a remarkable recent rapid temperature trend in comparison with other regions.⁵⁶

The BLM has recognized arctic warming in northern Alaska through the National Petroleum Reserve-Alaska (“NPR-A”) Climate Change analysis calculated on behalf of the agency. Both summer and winter temperatures are expected to increase across the NPR-A throughout the century, with the greatest increases in winter.⁵⁷ Summer temperatures are projected

⁴⁸ DEIS vol. 1 at 3-7 and 3-8.

⁴⁹ Donald A. Walker et al., *Cumulative Effects of Arctic Oil Development – Planning and Designing for Sustainability*, https://www.geobotany.uaf.edu/library/pubs/ArcSEES_NSF_proposal_Final.pdf

⁵⁰ *Id.*

⁵¹ Scenarios Network for Alaska and Arctic Planning (SNAP), *NPR-A Climate Change Analysis: An Assessment of Climate Change Variables in the National Petroleum Reserve in Alaska*, Report for US Department of the Interior and Bureau of Land Management, by Scenarios Network for Alaska & Arctic Planning and University of Alaska Fairbanks (2011).

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *Supra* note 43.

⁵⁵ *Id.*

⁵⁶ Jin-Soo Kim, J.-S Kug, Su-Jong Jeong, Deborah N. Huntzinger, Anna Michalak, Christopher Schwalm, Yaxing Wei, and Kevin Schaefer, “Reduced North American terrestrial primary productivity linked to anomalous Arctic warming”, *Nature Geoscience* (2017), 10. 10.1038/ngeo2986.

⁵⁷ *Supra* note 51.

to rise across the NPR-A by approximately 3°F by the 2040s, and by approximately 5-6°F by the 2090s.⁵⁸ However, the DEIS fails to fully analyze increased temperatures in the arctic by considering them in any of the alternatives.

The DEIS states,

Temperature records [at the Utqiagvik weather station] show an increase in annual average temperature of 6.3°F from 1949 to 2016; a 5.9°F increase has occurred since the PDO shift in 1977. Conversely, the 18 other primary reporting stations distributed throughout Alaska show an average of less than 1.0°F warming since 1977 (ACRC 2018); thus, it is likely that a reduction in ice cover along the north coast of Alaska has had a disproportionate effect on temperature trends since 1977 along the northern coast, compared with the rest of Alaska.⁵⁹

However, for many regions, an increase in global mean temperature by 1.5°C or 2°C implies substantial increases in the occurrence and/or intensity of some extreme events.⁶⁰ The DEIS' limited discussion of temperature variations in the affected environment omits critical analysis. Without a proper consideration of the scientifically proven increasing temperatures in the area, the DEIS fails to adequately consider climate change related temperature increases both in the region and throughout the United States. Overall, the NPR-A is expected to become much warmer in the middle and latter portion of this century, with a longer growing season, shorter and less severe winters, and a deeper active layer in soils.⁶¹ These extreme changes warrant a more thorough examination in the DEIS, including whether the same trends are expected for the Coastal Plain based on area-specific information.

In the same section, the DEIS provides, “This assessment deals primarily with climate, defined as longer-term (30 years or more) variations in meteorological conditions. Any potential effects of post-lease oil and gas activities on meteorological conditions would be on a very small scale (microscale) and would cover very small portions of the program area...”⁶² This statement stands in bold contrast to an entire field of scientific research and literature that suggests that the impact of oil and gas activities have a much larger scale impact on the climate.

The DEIS offers, “during unstable conditions, upward and downward movement in the atmosphere is enhanced, and dispersion of pollutants in the atmosphere increases.”⁶³ However, the DEIS does not explore the potential or guard against a potential extension of these “unstable

⁵⁸ *Id.*

⁵⁹ DEIS vol. 1 at 3-4.

⁶⁰ *Supra* note 36, citing E.M. Fischer and R. Knutti, “Anthropogenic contribution to global occurrence of heavy-precipitation and high-temperature extremes”, *Nature Climate Change*, 5(6), 560–564 (2015), doi:10.1038/nclimate2617; A. Karmalkar and R.S. Bradley, “Consequences of Global Warming of 1.5°C and 2°C for Regional Temperature and Precipitation Changes in the Contiguous United States”, *PLOS ONE*, 12(1) (2017), e0168697, doi:10.1371/journal.pone.0168697; A. Chevuturi, N.P. Klingaman, A.G. Turner, and S. Hannah, “Projected Changes in the Asian-Australian Monsoon Region in 1.5°C and 2.0°C Global-Warming Scenarios”, *Earth’s Future*, 6(3), 339–358 (2018), doi:10.1002/2017ef000734.

⁶¹ *Supra* note 51.

⁶² DEIS vol. 1 at 3-5.

⁶³ DEIS vol. 1 at 3-4.

conditions.” More frequent and intense extreme weather and climate-related events in addition to changes in average climate conditions are expected to continue.⁶⁴ More extreme and unpredictable weather conditions creating instability in conditions will then in turn lead to an increased dispersion of pollutants in the atmosphere. This self-perpetuation cycle is only made worse by the proposed alternatives that do little in the way of addressing a solution to minimizing unstable conditions.

Finally, the increased temperatures throughout the Arctic are expedited by the GHG emissions released during the thawing of permafrost. The DEIS identifies that both climate change and potential impacts of the oil and gas lease drilling in the area could lead to a thawing of permafrost.⁶⁵ Indeed, throughout Alaska, there is evidence that warming is causing a reduction in permafrost. “Rising Alaskan permafrost temperatures are causing permafrost to thaw and become more discontinuous.”⁶⁶ This thawing process then in turn releases additional carbon dioxide and methane, resulting in an amplifying feedback and additional warming.⁶⁷ As such, this creates another way by which the oil and gas leases will result in the release of additional GHG emissions into the environment.⁶⁸ The DEIS fails entirely to address this foreseeable death spiral.

The DEIS points out, “Permafrost is not likely to disappear in the program area during the life of any oil and gas development in the program area; however, if temperatures continue to warm in the area, the warm season active zone (thawed soil zone) would go deeper, making equipment movement more difficult in warm months, possibly increasing road maintenance frequency and costs.”⁶⁹ While permafrost may not entirely disappear, it’s thawing alone will create an additional environmental consequence that the BLM has not considered in calculating their alternatives. The DEIS must meaningfully evaluate and propose active mitigation for the environmental impact of thawing permafrost accelerated by activities associated with oil and gas drilling in the Arctic.

iv. Rising Temperatures in the Arctic Will in Turn Cause Rising Temperatures and Accelerated Climate Change for the Continental United States

While the warming temperatures in the Alaska Arctic are concerning in and of themselves, they also drive a clear and present danger for the remainder of the United States. Studies show that the profound warming effect and environmental changes in the arctic causes more extreme weather

⁶⁴ *Supra* note 38.

⁶⁵ DEIS vol. 1 at 3-35; 3-43; 3-45 (“Degradation of permafrost can be affected by ice content, soil or vegetation removal, and ground disturbances, with ice-rich and thaw-unstable soils and hillsides being the most sensitive to thawing (ADNR 2018a).”); 3-46 (“These future actions, including vehicular travel on snow and ice-covered tundra, change and disturb the insulating surface vegetation layer and increase the active layer thickness, thawing the permafrost, and developing thermokarst structures.”).

⁶⁶ *Supra* note 43.

⁶⁷ *Id.*

⁶⁸ *Id.* at 314. “Though the total contribution of these carbon stores to global methane emission is uncertain, Alaska’s permafrost contains rich and vulnerable organic carbon soils. Thus, warming Alaska permafrost is a concern for the global carbon cycle as it provides a possibility for a significant and potentially uncontrollable release of carbon, complicating the ability to limit global temperature increases.”

⁶⁹ DEIS vol. 1 at 3-9.

events across the Northern Hemisphere mid-latitudes, including the continental United States.⁷⁰ “Atmospheric circulation patterns connect the climates of the arctic and the contiguous United States.”⁷¹

The recent warm temperatures in the arctic in conjunction with field emerging science together demonstrate that the midlatitude circulation has influenced observed arctic temperatures and sea ice.⁷² Multiple observational studies suggest that the simultaneous temperature changes in the arctic and Northern Hemisphere large-scale circulation over the past 20 years did not occur by chance, but were caused by arctic amplification.⁷³⁷⁴⁷⁵ “The rapidly warming Arctic is shrinking the temperature difference between that region and the lower latitudes, which in turn weakens the jet stream. As a result, rather than a fast-moving flow of air, the jet stream increasingly is taking a slow, meandering path across the Northern Hemisphere.”⁷⁶ This problematic connection is never discussed within the DEIS. Research shows that significant temperature and precipitation anomalies over North America are indeed observed in association with arctic temperature variation.⁷⁷

To appreciate the most recent (and most obvious) impact of the relationship of arctic warming on the lower states, one need look no further than the impact of the January 2019 polar vortex and its descent on the American Midwest.⁷⁸ The polar vortex is an area of low pressure and extremely cold air that swirls over the arctic. Disturbances in the jet-stream and the intrusion of warmer air can disturb this polar vortex sending arctic air south into middle latitudes.⁷⁹ Masses of extremely cold air have plunged towards the interior of North America and at least 90 million Americans have experienced temperatures at or below zero (-18C). This extreme weather phenomenon, directly tied to the warming arctic, has so far contributed to over 20 deaths in the affected area.⁸⁰

⁷⁰ Cohen, J., J.A. Screen, J.C. Furtado, M. Barlow, D. Whittleston, D. Coumou, J. Francis, K. Dethloff, D. Entekhabi, J. Overland, and J. Jones, “Recent Arctic amplification and extreme mid-latitude weather”, *Nature Geoscience*, 7, 627-637 (2014).

⁷¹ *Supra* note 42.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ E.A. Barnes and J.A. Screen, “The impact of Arctic warming on the midlatitude jet-stream: Can it? Has it? Will it?” *Wiley Interdisciplinary Reviews: Climate Change*, 6, 277-286 (2015).

⁷⁵ RE Moritz, CM Bitz, and EJ Steig, “Dynamics of recent climate change in the Arctic”, *Science*, 297, 1497–1502 (2002): “The pattern of recent surface warming observed in the Arctic exhibits both polar amplification and a strong relation with trends in the Arctic Oscillation mode of atmospheric circulation.”

⁷⁶ Dana Nuccitelli, *The many ways climate change worsens California wildfires*, Yale Climate Change Connections, <https://www.yaleclimateconnections.org/2018/11/the-many-ways-climate-change-worsens-california-wildfires/>

⁷⁷ *Supra* note 56.

⁷⁸ *Arctic Weather Plunges into North America*, NASA Earth Observatory (January 29, 2019), <https://earthobservatory.nasa.gov/images/144489/arctic-weather-plunges-into-north-america>

⁷⁹ *The science behind the polar vortex*, National Ocean and Atmospheric Administration, <https://www.noaa.gov/multimedia/infographic/science-behind-polar-vortex>

⁸⁰ *Polar vortex death toll rises to 21 as US cold snap continues*, BBC News (February 1, 2019), <https://www.bbc.com/news/world-us-canada-47088684>

These arctic feedbacks in the continental United States are disproportionately felt by coastal states like California where Patagonia is headquartered. As stated by the U.S. Global Change Research Program Climate Science Special Report, “Reanalysis data suggest a relationship between arctic amplification and observed changes in persistent circulation phenomena like blocking and planetary wave amplitude. The recent multiyear California drought serves as an example of an event caused by persistent circulation phenomena.”⁸¹ Indeed, the impacts of decreased arctic sea ice may also contribute to dry western U.S. winters. Climate change also contributes to a shortening of California’s rainy season, which also further extends fire season.⁸² Droughts will necessarily lead to drier land and an accumulation of dead plant life which then provide tinder for blazing wildfires.

In 2016 alone, more than 67,000 wildfires burned over 5.5 million acres in the U.S., an area equivalent to the size of New Jersey.⁸³ “If global warming continues on pace, the models predict that by 2050 the wildfire season in the western U.S. will be about three weeks longer, twice as smoky, and will burn more area.”⁸⁴

Most recently, the Camp Fire that raged in November 2018 is California’s most destructive fire on record.⁸⁵ The Hill and Woolsey Fire, occurring in Ventura County during the same time as the Camp Fire, occurred a mere 20 miles east of Ventura. These fires occurred less than one year after the Thomas Fire, which was California’s largest at the time (supplanted only seven months later by the Mendocino Complex Fire), and resulted in damage to Patagonia’s headquarters and many of its employees being evacuated from their homes. As such, the increased temperatures occurring in the arctic are creating large, widespread, detrimental impacts to California that are directly impacting Patagonia and its employees. These impacts are completely ignored by the DEIS.

In addition to the increased risk of wildfires, coastal states like California will experience the effects of sea level rise, increased coastal flooding, and ultimately coastal erosion. Approximately 85% of California’s population live and work in coastal counties, which includes Ventura, California.⁸⁶ “In the next several decades, warming produced by climate model simulations indicates that sea level rise could substantially exceed the rate experienced during modern human development along the California coast and estuaries.”⁸⁷ As such, the Ventura River Estuary located adjacent to Ventura possess an increasingly imminent threat to the entire community, including the Patagonia Works headquarters.

⁸¹ *Supra* note 43.

⁸² *Supra* note 76.

⁸³ Leah Burrows, *From sea to rising sea: Climate change in America*, Harvard John A. Paulson School of Engineering and Applied Sciences, <https://www.seas.harvard.edu/content/from-sea-to-rising-sea-climate-change-in-america>

⁸⁴ *Id.*

⁸⁵ *The 20 Most Destructive California Wildfires*, California Department of Forestry and Fire Protection, http://www.fire.ca.gov/communications/downloads/fact_sheets/Top20_Destruction.pdf

⁸⁶ *Climate Change Impacts in California*, State of California Department of Justice Xavier Becerra Attorney General, <https://oag.ca.gov/environment/impact>

⁸⁷ D.R. Cayan, P.D. Bromirski, K. Hayhoe et al., *Climatic Change* (2008) 87(Suppl 1): 57. <https://doi.org/10.1007/s10584-007-9376-7>

According to the National Ocean Service, sea level can rise by two different mechanisms with respect to climate change.⁸⁸ “First, as the oceans warm due to an increasing global temperature, seawater expands—taking up more space in the ocean basin and causing a rise in water level. The second mechanism is the melting of ice over land, which then adds water to the ocean.”⁸⁹ “The sea level along California’s coasts has risen nearly 8 inches in the past century and is projected to rise by as much as 20 to 55 inches by the end of the century.”⁹⁰ Studies conducted by the U.S. Geological Survey (“USGS”) show that with sea-level rise ranging from about 1.5 feet to 6.6 feet by 2100, bluff tops along nearly 300 miles of Southern California coasts could lose an average of 62 to 135 feet by 2100, and much more in some areas.⁹¹ Patagonia’s headquarters in Ventura is located less than half a mile from the coast, directly in harm’s way.

Not only is Patagonia’s brick and mortar home at risk due to climate change, the foundation of its business is too. For example, a recent study assessed the potential climate change impacts to recreational freshwater fishing across the coterminous U.S. The study found that higher air temperatures and, to a lesser extent, changes in streamflow, will alter fish habitat, resulting in a decline in more desirable recreational fish species (*i.e.*, cold-water species like trout) and a shift toward less desirable warm-water fisheries.⁹² A significant portion of Patagonia customers utilize Patagonia products for outdoor activities such as fishing. A decline in more desirable recreational fish species as a result of climate change will directly harm Patagonia through both its customer base and its organizational conservation mission.

The BLM has completely failed to consider how a warming effect in the arctic resulting from increased oil and gas drilling would have a significant environmental impact on the continental United States. For these reasons, the DEIS has inadequately assessed the environmental consequences of the exasperated climate change oil and gas leasing in the Arctic Coastal Plain would produce.

v. **The BLM Has Not Performed an Adequate Analysis of the Cumulative Environmental Consequences of the Project on the National Economy**

The havoc that climate change wreaks on the United States does not stop at environmental consequences. In addition to the storms, heat waves, floods, and volatile temperatures that are becoming more and more frequent, the United States will also face significant economic risks from

⁸⁸ *How is sea level rise related to climate change?*, National Ocean Service, <https://oceanservice.noaa.gov/facts/sealevelclimate.html>

⁸⁹ *Id.*

⁹⁰ *Supra* note 86.

⁹¹ *Sea Level Rise Could Double Erosion Rates of Southern California Coastal Cliffs*, United States Geological Survey (July 9, 2018), <https://www.usgs.gov/news/sea-level-rise-could-double-erosion-rates-southern-california-coastal-cliffs>

⁹² Rhodium Group LLC, 2014: *American Climate Prospectus: Economic Risks in the United States, Prepared as input to the Risky Business Project Rhodium Group*, New York, NY, 201 pp. http://www.impactlab.org/wp-content/uploads/2017/10/AmericanClimateProspectus_v1.2.pdf citing D. Lane, R. Jones, D. Mills, C. Wobus, R.C. Ready, R.W. Buddemeier, and H. Hosterman, “Climate change impacts on freshwater fish, coral reefs, and related ecosystem services in the United States”, *Climatic Change*, 15 (2014). doi:10.1007/s10584-014-1107-2

climate change.⁹³ “The signature effects of human-induced climate change—rising seas, increased damage from storm surge, more frequent bouts of extreme heat—all have specific, measurable impacts on our nation’s current assets and ongoing economic activity.”⁹⁴ Scientists are discovering the ways that climate change currently and in the future will lead to higher health and energy costs and in addition to the damage that will result to property and agriculture.

The Fourth National Climate Assessment provides a detailed picture of how communities across the country will feel the economic burden of climate change impacts. The report finds that without substantial and sustained global mitigation and regional adaptation efforts, climate change is expected to cause growing losses to American infrastructure and property and impede the rate of economic growth over this century.⁹⁵ Patagonia’s businesses – including its apparel, food, and other businesses – require a thriving market of consumers. Patagonia will sustain substantial economic harm as a result of the climate change impacts shrinking GDP. Specifically, the report finds that industries that depend on natural resources and favorable climate conditions are vulnerable to the growing impacts of climate change.⁹⁶ As a company focused primarily on providing clothing and gear for outdoor activities such as climbing, skiing, fishing, surfing, hiking, and biking, this will directly harm Patagonia’s ability to conduct its business.

Coastal states will disproportionately feel the economic impacts of climate change, where damage to coastal property and infrastructure from rising sea levels will become more prevalent. Studies show that if we continue on our current climate change path, by 2050, between \$66 billion and \$106 billion worth of existing coastal property will likely be below sea level nationwide.⁹⁷ Patagonia headquarters is located less than half a mile from the ocean coast, making it highly vulnerable to extreme economic losses as a result of rising sea levels. Moreover, the coastal property on which Patagonia customers rely for surfing, fishing, and hiking will be significantly deteriorated.

Patagonia also is subject to indirect economic harm as a result of climate change. The recent bankruptcy of Pacific Gas & Electric (“PG&E”) has been deemed the first climate bankruptcy.⁹⁸ The bankruptcy shows how the public ultimately pays for a warming world. According to many energy experts, the bankruptcy will cost the ratepayers, as PG&E is granted permission to charge customers more to recoup some of its debt.

Unfortunately, PG&E is not the only California utility imposing undue burdens onto the public as a result of climate change related harms. Southern California Edison has confirmed that its electrical equipment likely sparked one of the starting points of the Thomas fire that consumed

⁹³ *Risky Business: The Economic Risks of Climate Change in the United States* (June 2014), <https://riskybusiness.org/report/national/>

⁹⁴ *Id.*

⁹⁵ *Supra* note 38.

⁹⁶ *Id.*

⁹⁷ *From Risk to Return: Investing in a Clean Energy Economy*, Risky Business, <https://riskybusiness.org/site/assets/uploads/sites/5/2016/10/RBP-FromRiskToReturn-WEB.pdf>

⁹⁸ Sharon Zhang, *When Climate Change Hurts Companies Like PG&E, Consumers End Up Paying The Price*, Pacific Standard (January 31, 2019), <https://psmag.com/environment/when-the-climate-changes-the-public-pays-the-price>

Ventura and Santa Barbara counties.⁹⁹ As a result, Southern California Edison has been faced with numerous lawsuits in connection with the fire. In December 2018, a group of 170 homeowners and businesses impacted by the fires filed a mass lawsuit alleging that the utility ignited the fire.¹⁰⁰ Again, as Southern California Edison faces liability for the fire damage, regulators will have little choice but to approve rate increases, strapping the public with unnecessarily inflated electricity rates.

A study conducted by Risky Business concludes, “Our assessment finds that, if we act now, the U.S. can still avoid most of the worst impacts and significantly reduce the odds of costly climate outcomes—but only if we start changing our business and public policy practices today.”¹⁰¹ Adding a substantial amount of oil and gas leasing to the Coastal Plain which, as demonstrated above, will surely accelerate climate change, stands in direct opposition to this warning. The United States, and the BLM in particular, should be responding to these risks through climate preparedness and mitigation rather than contributing to the problems. The DEIS proposed alternatives fail to plan and account for climate change volatility and disruption and as such must be reassessed completely by the BLM.

b. Other Failures to Fully Address Impacts in DEIS

i. The DEIS Fails to Properly Address the Impacts from Action Alternatives on Polar Bears and to Adequately Mitigate the Impacts it Assumes

The project area supports the Southern Beaufort Sea (“SBS”) subpopulation of polar bear. This subpopulation historically spent the entire year on the sea ice, with the exception of a relatively small proportion of adult females that would come ashore during autumn and enter maternity dens. However, over the last two decades, there has been a marked decline in summer sea ice extent, coupled with a lengthening of the melt season, leading to an increased use of terrestrial habitat, including the Coastal Plain.¹⁰² As a result, the majority of the Coastal Plain is designated as critical habitat for the species.¹⁰³ In addition to using land as refugia during the open-water season, SBS polar bears have increasingly used land for maternal denning. It is expected that the use of land by polar bears as summer refugia and for denning in winter will likely continue to increase with additional loss of sea ice.¹⁰⁴

⁹⁹ Hailey Branson-Potts, *Southern California Edison says its equipment helped spark massive Thomas fire that killed 2*, Los Angeles Times (October 30, 2018), <https://www.latimes.com/local/lanow/la-me-ln-thomas-fire-socal-edison-20181030-story.html>

¹⁰⁰ Shahan Ahmed, *170 Homeowners and Business File Lawsuit Against SoCal Edison Related to Woolsey Fire*, NBC Los Angeles (December 18, 2018), <https://www.nbcalosangeles.com/news/local/Homeowners-and-Business-File-Lawsuit-SoCal-Edison-for-Woolsey-Fire-503077031.html>

¹⁰¹ *Supra* note 93 at 40.

¹⁰² *Summary of Wildlife-Related Research on the Coastal Plain of the Arctic National Wildlife Refuge, Alaska, 2002–17*, U.S. Geological Survey, Open File Report 2018–1003.

¹⁰³ 75 Fed. Reg. 76086 (December 7, 2010).

¹⁰⁴ *Id.*

The polar bear was listed as threatened under the Endangered Species Act (“ESA”) in 2008 due to declining habitat – particularly sea ice – related to climate change.¹⁰⁵ The arctic is warming twice as fast as the rest of the planet. Sea ice has receded to such a degree that the SBS subpopulation must spend more and more time on shore. Due to the level of GHGs already in the atmosphere plus continued emissions, polar bear sea ice habitat, and thus polar bears, will likely be gone from much of their present-day range by 2050. Thereafter, polar bears will likely be further reduced in abundance and distribution, with changes occurring on a shorter timeframe and to a greater extent if GHG emissions continue to rise at current rates throughout the 21st century.¹⁰⁶

Today the USFWS lists among its top conservation priorities the reduction of GHG emissions.¹⁰⁷ According to the conservation management plan (“CMP”), “the best prognosis for polar bears entails immediate and aggressive mitigation of [GHG] emissions so as to stop sea ice loss, combined with optimal polar bear management practices...” The CMP “provides a framework for USFWS and its partners to accomplish the latter goal of optimizing polar bear management practices, while governments, industries and citizens throughout the world aspire to accomplish the former goal of stopping sea ice loss by addressing global warming as soon as possible.”¹⁰⁸ None of the alternatives (including the No Action alternative) is sufficiently protective of this subpopulation, which currently numbers just 900 animals, because none of the alternatives meaningfully constrains GHG emissions.

The increased use of terrestrial habitats in the project area, due to loss of sea ice, make this an especially important area worthy of extraordinary protection. Oil and gas development specifically are among the threats to polar bears explicitly recognized in the Polar Bear CMP.¹⁰⁹ This is, in part, due to compromising potential denning sites.¹¹⁰ Coincident with these threats, polar bears in the area are using onshore dens with greater frequency than ever.¹¹¹ The *minimum* range of these animals is 2,805 square miles.¹¹² Yet, even the most aggressive mitigation alternative in the DEIS (e.g., NSO within one mile of dens) fails to establish buffers that are adequate to ensure against den abandonment. The one-mile buffer is particularly absurd given the coastline, and 20 miles inland, has been designated as critical habitat under the ESA.¹¹³

¹⁰⁵ *Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Polar Bear (Ursus maritimus) Throughout Its Range*, 73 Federal Register 28211 (May 15, 2008).

¹⁰⁶ *Polar Bear (Ursus maritimus) Conservation Management Plan Final*, U.S. Fish and Wildlife, Region 7, Anchorage, Alaska, U.S. Fish and Wildlife, 104 pp (2016).

¹⁰⁷ *Id.* at 13.

¹⁰⁸ *Polar Bear Conservation Management Plan Questions and Answers*, U.S. Fish and Wildlife, https://www.fws.gov/alaska/PDFs/Polar_Bear_CMP_Q&A_070215_FINAL.pdf

¹⁰⁹ *Supra* note 106 at 13.

¹¹⁰ *Id.* at 32. Notably, the Polar Bear CMP was finalized in 2016, prior to enactment of the Tax Act. Because the USFWS assumed The Refuge was closed to oil and gas leasing, it explained that oil and gas development in the area was of little concern. Given the potential reopening of this previously protected area, the CMP will need to be revised, and BLM will need to ensure close consultation with the USFWS to re-evaluate the needs of polar bears given the advancement of development in the project area.

¹¹¹ DEIS vol. 1 at 3-128.

¹¹² DEIS vol. 1 at 3-125.

¹¹³ DEIS Map 3-24.

The DEIS minimizes the risk of oil spill as remote. However, oil spill data from across Alaska from 1995 to 2005 shows that North Slope oil fields averaged more than 400 oil spills per year. And, across Alaska, there were 16 major spills from 2002 to 2016 that released at least 10,000 gallons of oil each into the environment; five of those released more than 100,000 gallons each. Most recently, in April 2017, a BP well in nearby Prudhoe Bay gushed oil and gas for three days before an emergency response team managed to kill the well.¹¹⁴ This is particularly troubling because even minimal ingestion of oil by polar bears can be lethal.¹¹⁵

Section 7 of the ESA imposes an obligation on all agencies, including the BLM, to conserve polar bears.¹¹⁶ Numerous courts have made clear that the purpose of critical habitat extends beyond mere species survival, and that critical habitat must take into consideration the needs to recover species like the polar bear. It is only logical that action agencies like the BLM, who intend to act inside critical habitat areas, also avoid activities that inhibit species recovery. The BLM has failed to do so in this case.

Finally, we recognize the BLM is still consulting with the USFWS and National Marine Fisheries Service (“NMFS”) to identify ESA issues and to develop the draft biological assessment for polar bears and other protected species. Patagonia hereby requests access to all supporting documents related to that ongoing consultation, to the extent they have not already been publicly disclosed.

ii. **The DEIS Understates the Impact on Recreation Within the Coastal Plain**

The project area is utilized for recreational opportunities including polar bear viewing, camping, float trips, backpacking, fishing and trekking, among other things. Polar bear viewing in particular has increased in recent years, as bears increasingly become accessible due to their growing use of onshore denning areas. The DEIS falsely assumes that recreational usage of the project area will grow as a result of development, presumably because accessibility to these otherwise wild lands will increase.¹¹⁷ This is perhaps a low point even in this poorly drafted DEIS; people don’t travel thousands of miles to recreate in an oil field.

The project area contains some of the least inhabited lands in the United States and was first protected in 1960 to specifically preserve its recreational value. The people that seek the recreational experience in such lands do so for only one reason: the spiritual solitude that only the wildest places on earth can provide. The DEIS makes clear that the project area is so undeveloped that any development will degrade the experience being sought. Development of any kind will bring with it traffic, light, noise, trash, and pollution. These are the very things recreationalists in the area seek to escape. By failing to apprehend the allure of the project area, the BLM has vastly understated the impact on the recreational resource and, compounding this failure, is the BLM’s

¹¹⁴ Kelly et al, *Interior Department Is Cutting Corners and Ignoring Science in the Arctic National Wildlife Refuge*, Center for American Progress (Jan 10, 2019) available at <https://www.americanprogress.org/issues/green/news/2019/01/10/464819/interior-department-cutting-corners-ignoring-science-arctic-national-wildlife-refuge/>

¹¹⁵ DEIS vol. 1 at 3-128.

¹¹⁶ 16 U.S.C. § 1536.

¹¹⁷ DEIS vol.1 at 3-208.

failure to consider the negative economic impacts on the businesses supporting this world-class recreation. This is of particular concern to Patagonia because its customers are the ones engaged in recreation at such challenging landscapes.

iii. The DEIS Fails to Properly Consider the Impact on the Gwich'in People

The action alternatives contained in the DEIS are simply incompatible with protecting the subsistence needs of the Gwich'in people and the fragile environment of the Coastal Plain on which they rely. The Coastal Plain is a sacred landscape to the Gwich'in, who are culturally and spiritually connected to the Porcupine Caribou Herd (the "Herd") and depend on the Herd for sustenance. Hundreds of thousands of caribou migrate to the Coastal Plain every year to calve and rear newborns on the nutrient-rich grounds. Despite acknowledging that oil and gas activities may impact caribou, the BLM does not address the far-reaching effects of development on the herd and incorrectly concludes that subsistence resources for the Gwich'in will not be impacted.

The leasing process to date has cast aside the traditional values and human rights of the Gwich'in. Patagonia recently documented the plight of the Gwich'in in a film entitled simply *The Refuge*.¹¹⁸ The film tells the story of those on the front lines protecting the Gwich'in way of life. The Refuge has been viewed by over 135,000 people and counting. Among the most important elements of the Gwich'in story is the special relationship they have to the Herd.

People followed caribou across the now-submerged Bering Land Bridge perhaps some 15,000 years ago.¹¹⁹ These first Alaskans relied on caribou for food, clothing, and tools, and the species has played a prominent role in Alaska Native culture for thousands of years. The Gwich'in in Alaska and Canada continue to harvest caribou during their migrations by anticipating and intercepting their movements at strategic locations using knowledge that has been passed down through generations.

The Herd, which contains about 218,000 animals, migrates between summer and winter ranges that are about 400 miles apart.¹²⁰ But, biologists have discovered, by using satellites to track caribou, that the herds actually travel much farther than the straight-line distance between summer and winter ranges would indicate. They meander over a wide area, adding many miles to their journeys. Porcupine Caribou herd animals, for example, have been observed to travel over 3,000 miles per year. Annual variability in calving area indicates that the Herd needs a large region from which the best conditions for calving can be selected in a given year, including from the Coastal Plain.¹²¹ Therefore, it is important to protect areas adjacent to and even miles away from migration routes from surface disturbance.

¹¹⁸ Available at <https://www.patagonia.com/the-refuge.html>

¹¹⁹ Kyle Joly, et al., *History, Purpose, and Status of Caribou Movements in Northwest Alaska*, Series: Alaska Park Science - Volume 17, Issue 1, Migration: On the Move in Alaska.

¹²⁰ *Frequently Asked Questions about Caribou*, U.S. Fish and Wildlife Service Arctic National Wildlife Refuge Alaska, available at <https://www.fws.gov/refuge/arctic/carcon.html>

¹²¹ *Supra* note 102.

“Encroachment of humans on the vast ranges used by migratory animals is one of the primary reasons for their endangerment.”¹²² As the USFWS has explained, “caribou are reluctant to cross roads, berms, pipelines and other related obstacles.”¹²³ This has been well documented for decades.¹²⁴ For the reasons discussed above, caribou need to move freely over vast areas to forage, avoid predators, escape from harassing insects, and reach favorable summer and winter ranges. But structures such as pipelines and roads “may deflect caribou movements, and reduce their chances for survival.”¹²⁵

Calving areas and much of the Herd’s summer range are on the Coastal Plain. Protecting calving and post-calving grounds is essential for caribou survival. Each spring, pregnant female caribou begin long migrations toward their traditional calving grounds. Soon after they arrive on the calving grounds, the calves are born. Preferred calving and post-calving grounds also have an abundance of highly nutritious new plant growth which enables the mother caribou to produce rich milk for their calves. This is very important as it allows the calves to grow rapidly so that they can escape from predators and harassing insects, and keep up with the herd as it migrates to the winter range. With respect to oil and gas development, the FWS specifically has explained, “caribou are most sensitive at calving time, and studies have shown that caribou may be displaced from their traditional calving grounds when oil development occurs there.”

In Canada’s Northwest Territories, for example, researchers found that caribou spent less time than expected in areas as far as 14 kilometers away from diamond mines. To the west of the Arctic Refuge, in the heart of the North Slope oil fields, researchers with the USGS found that, in the 1980s and 1990s, the Central Arctic caribou herd shifted calving areas away from well concentrations. And in long-term studies of the Herd, researchers found that even decades after oil development in the Canadian portion of its range, caribou were still avoiding areas within 6 kilometers of roads and wells.¹²⁶

A 2002 USGS modeling study estimated that if drilling on the Coastal Plain were as extensive as on the North Slope, the survival rate of caribou calves would drop by as much as 8%, depending on where most calving occurred, in part because of greater exposure to predators and lower-quality forage. Such mortality could ultimately cause herd numbers to fluctuate more dramatically, and make it harder to recover from declines, the study concluded.¹²⁷

Despite the enormous threats posed by development in the Herd’s range, potential plans to offset development impacts on the Herd are incomplete and unsupported. A report commissioned by the Yukon, Northwest Territories and federal governments explains “BLM’s ... proposed mitigation, monitoring and adaptive management does not have enough information to be

¹²² *Supra* note 119.

¹²³ *Id.*

¹²⁴ See, e.g., R.T. Shideler, et al., *Impacts Of Human Developments And Land Use On Caribou: A Literature Review, Volume II. Impacts of Oil and Gas Development on the Central Arctic Herd*, Technical Report No. 86-3 (January 1986).

¹²⁵ *Supra* note 120.

¹²⁶ Warren Cornwall, *Drilling in Arctic refuge could put North America’s largest caribou herd at risk*, Science Magazine (November 21, 2017), https://www.sciencemag.org/news/2017/11/drilling-arctic-refuge-could-put-north-america-s-largest-caribou-herd-risk?r3f_986=https://www.google.com/

¹²⁷ *Id.*

confident that there is no short or long term risk to the Porcupine caribou herd, harvest availability or its habitat[.]” Moreover, “The stipulations and required operating conditions are inconsistent in their level of detail and lack contingencies which causes uncertainties in how risk will be mitigated.” The report further notes that if leases are to be awarded, under an average climate, development in the Coastal Plain poses a “19% higher risk of a herd decline with 1002 development after 10 years,” if taken at its current population.

According to the report, not having access to the Coastal Plain, which acts as a shield against harsh winters, would reduce calf survival rates by 9%. Despite this, there is “almost no information on monitoring and adaptive management” and it is unknown “whether, for example, continuing drilling while (temporarily) shutting down construction is effective mitigation[.]” Nor is there a contingency plan for snap shifts in the caribou’s migratory patterns.

The action alternatives and mitigation discussion in the DEIS display a callous indifference to the Gwich’in reliance on caribou. It also violates the 1987 treaty the United States signed with Canada expressly to conserve the Porcupine caribou.¹²⁸ The Treaty specifically recognizes, among other things, “the importance of conserving the habitat of the Porcupine Caribou Herd, including such areas as calving, post-calving, migration, wintering and insect relief habitat” and ostensibly establishes “co-operative bilateral mechanisms to co-ordinate their activities for the long-term conservation of the Porcupine Caribou Herd and its habitat[.]”

In this context, the term conservation is defined to “ensure the long-term productivity and usefulness of the Porcupine Caribou Herd.” The Treaty instructs the parties to “take appropriate action to conserve the Porcupine Caribou Herd and its habitat.” It further explains that activities having a potential significant impact on the Herd or its habitat may require mitigation and mandates that the Parties “avoid or minimize activities that would significantly disrupt migration or other important behavior patterns of the Porcupine Caribou Herd or that would otherwise lessen the ability of users of Porcupine Caribou to use the Herd.”

In short, the Treaty is specifically designed to protect the Herd and the Gwich’in. Yet, according to our treaty partner, the BLM is about to act in a manner that fails on both counts.

In addition to adverse impacts to the sacred Herd, the Gwich’in are particularly vulnerable to climate change. Indigenous peoples are among the first to face the direct consequences of climate change, due to their dependence upon, and close relationship with, the environment and its resources. Climate change exacerbates the difficulties already faced by indigenous communities including political and economic marginalization, loss of land and resources, discrimination and unemployment. Climate change poses threats and dangers to the survival of indigenous communities worldwide, even though indigenous peoples contribute the least to greenhouse emissions. Finally, indigenous peoples who choose or are forced to migrate away from their traditional lands often face double discrimination as both migrants and as indigenous peoples.

¹²⁸ Agreement Between the Government of Canada and the Government of the United States of America on the Conservation of the Porcupine Caribou Herd, E100687 - CTS 1987 No. 31.

The Gwich'in have observed that the fish on which they rely are moving toward the Yukon, approximately 120 miles south.¹²⁹ Warm summer weather and more frequent rains create excessive erosion and exacerbate permafrost melt, which adversely affects fish and animals that forage near rivers. Levels of subsistence activity in this community are decreasing. Many believe that climate changes are playing a key role in the ability to access traditional food sources. They believe, too, that there are fewer animals and that the food now available is of poorer quality than in the past.¹³⁰ These observations, along with rapid and unpredictable changes in the daily weather are creating significant anxiety among the population. Their very way of life is at stake, and the action alternatives contained in the DEIS have place them in the crosshairs.

c. The Purpose and Need Statement Does Not Comply with NEPA

Under NEPA, an EIS must “specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.”¹³¹ A suitable purpose and need statement is critically important to the adequacy of the DEIS, as it is the foundation on which the analysis stands. The statement will fail if it unreasonably narrows the agency’s consideration of alternatives so that the outcome is preordained.¹³² Additionally, the BLM NEPA Handbook provides that the purpose and need statement shall “as a whole describe the problem or opportunity to which the BLM is responding and what the BLM hopes to accomplish by the action.”¹³³

Because project alternatives derive from the stated purpose and need, the goal of a project necessarily dictates the range of reasonable alternatives.¹³⁴ The scope of alternatives analysis depends on the underlying purpose and need specified by the agency. While agencies have discretion when defining the purpose and need of a project, their discretion is not unlimited and an agency cannot define its objectives in unreasonably narrow terms, such that the outcome is preordained.¹³⁵

The purpose and need statement provided in the DEIS discusses the BLM’s obligation under Title II of the Tax Act to establish a competitive oil and gas program and to hold multiple lease sales in the Coastal Plain area within the Refuge. As explained above, a fundamental feature of the Title II is the surface disturbance limitation contained in Section 20001(c). As further explained above, the BLM is horribly misinterpreting that limitation. As such, the purpose and need of the project has been irreparably distorted.

¹²⁹ Matt Gilbert, *Gwich'in Elders and Youth Speak on Climate Change in Arctic Village, Alaska*, Cultural Survival (April 5, 2012), <https://www.culturalsurvival.org/news/gwichin-elders-and-youth-speak-climate-change-arctic-village-alaska>

¹³⁰ Steven C. Dinero, “Indigenous perspectives of climate change and its effects upon subsistence activities in the Arctic: The case of the Nets’aii Gwich’in”, *GeoJournal* 78(1), February 2011.

¹³¹ 40 C.F.R. §1502.13.

¹³² *Alaska Survival v. Surface Transp. Bd.*, 705 F.3d 1073 (9th Cir. Jan. 23, 2013); *Protect Our Cmty. Found. v. Jewell*, 825 F.3d 571 (9th Cir. June 7, 2016).

¹³³ BLM National Environmental Policy Act Handbook H-1790-1 at 35.

¹³⁴ *City of Carmel-by-the-Sea v. United States DOT*, 123 F.3d 1142 (9th Cir. Nov. 13, 1995).

¹³⁵ *Id.*

d. The Alternatives Presented Are Flawed and Incomplete

i. The No Action Alternative Underestimates Ongoing International Efforts to Mitigate Climate Change and, Thus, Understates the Impact of the Action Alternatives

The BLM's No Action alternative is misguided. The DEIS explains: "Under this alternative, current management actions would be maintained, and resource trends are expected to continue, as described in the Arctic National Wildlife Refuge Revised Comprehensive Conservation Plan[.]"¹³⁶ Accordingly, nowhere in the DEIS does the No Action alternative address ongoing efforts to reduce GHG emissions or otherwise slow climate change. A "No Action" alternative cannot assume the world will entirely ignore the pressing issues presented by climate change.

Most developed countries are working hard to address climate change. Mitigation efforts involve attempts to slow the process of global climate change, usually by lowering the level of GHGs in the atmosphere. Planting trees that absorb carbon dioxide from the air and store it is an example of one such strategy. Other examples of ongoing mitigation include reducing energy demand by increasing energy efficiency, phasing out fossil fuels by switching to low-carbon energy sources, and removing carbon dioxide from Earth's atmosphere. These efforts are occurring at a global level. Most countries are parties to the United Nations Framework Convention on Climate Change ("UNFCCC").¹³⁷ The ultimate objective of the UNFCCC is to stabilize atmospheric concentrations of GHGs at a level that would prevent dangerous human interference of the climate system.

That said, Patagonia is painfully aware of the Interior Department's quiet attempt to rescind many meaningful climate related policies.¹³⁸ Among the policies erased by Secretarial Order No. 3360 was the climate change chapter of the Department's manual. This chapter stated a policy to "adapt to the challenges posed by climate change to its mission, programs, operations, and personnel" and explained that the Department would "use the best available science to increase understanding of climate change impacts, inform decision-making, and coordinate an appropriate response to impacts on land, water, wildlife, cultural and tribal resources, and other assets."¹³⁹

However, the BLM, along with the rest of the world, retains an ongoing obligation as it relates to climate change. NEPA still requires an analysis of climate change impacts and ways to mitigate them. Likewise, Section 7 of the ESA requires the BLM to assist in the conservation of threatened species such as the polar bear.¹⁴⁰ There also are at least four potential non-statutory sources of the federal government's affirmative duty to mitigate GHG emissions and associated

¹³⁶ DEIS vol. 1 at ES-2.

¹³⁷ United Nations Climate Change, <https://unfccc.int/> (last visited March 12, 2019).

¹³⁸ Secretarial Order No. 3360, *Rescinding Authorities Inconsistent with Secretary's Order 3349*, "American Energy Independence" (December 22, 2017).

¹³⁹ The new order also rescinded BLM's 2016 mitigation manual and mitigation handbook. These are built on the principles of the Interior Department's mitigation policy and were much more detailed and specific to the kinds of projects BLM authorizes. The Handbook both describes how to assess the impacts projects will have on natural resources and outlines how to devise mitigation projects to offset those impacts.

¹⁴⁰ 16 U.S.C. § 1536.

climate impacts: the principles of international law and the requirements set forth under the UNFCCC; the public trust doctrine; the federal common law of public nuisance; and private nuisance under state common law.

The point of this comment is not to articulate each basis for action, but merely to note the absurdity of assuming that literally no action will be taken in regard to climate change by any actors in the program area. By failing to articulate any scenario in which the current climate situation might be *improved* under ongoing commitments, the No Action alternative establishes a baseline that artificially inflates its impacts and more closely resembles the action alternatives. In other words, the impact delta between no-action and action alternatives is smaller than it would be if the BLM actually articulated its compliance duties. This understates the overall impact of the action alternatives.

ii. The Final EIS Must Include Additional Alternatives That Are More Protective

NEPA requires that an EIS identify the full scope of direct, indirect, and cumulative impacts of a proposed action and determine whether there are less environmentally damaging ways to achieve the project purpose. For the reasons set forth below, the DEIS fails to satisfy these fundamental requirements. In addition to specifying the underlying purpose and need to which the agency is responding, an agency preparing an EIS must rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.¹⁴¹ However, the alternatives proposed by the BLM fall short of this standard and as such must be reevaluated entirely. By failing to meaningfully evaluate the alternative's impacts on polar bears, the Refuge recreation, and national climate change, the DEIS fails to provide a meaningful range of alternatives.

When preparing an EIS, federal agencies must consider all reasonable alternatives to the proposed action.¹⁴² The analysis of alternatives is characterized as the heart of the environmental impact statement.¹⁴³ Documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail.¹⁴⁴ The CEQ regulations direct that an EIS “rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives that were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.”¹⁴⁵ This requires a “thorough consideration of all appropriate methods of accomplishing the aim of the action” and an “intense consideration of other more ecologically sound courses of action.”¹⁴⁶

¹⁴¹ 40 C.F.R. §§ 1502.13, 1502.14; *Hammond v. Norton*, 370 F. Supp. 2d 226 (DDC May 13, 2005).

¹⁴² 42 U.S.C. § 4332(C)(iii).

¹⁴³ *Wyoming v. USDA*, 661 F.3d 1209 (10th Cir. Oct. 21, 2011).

¹⁴⁴ 40 C.F.R. § 1500.1.

¹⁴⁵ 40 C.F.R. § 1502.14(a); BLM National Environmental Policy Act Handbook H-1790-1 at 94.

¹⁴⁶ *Environmental Defense Fund, Inc. v. Corps of Engineers of U.S. Army*, 492 F.2d 1123, 1135 (5th Cir. April 19, 1974).

While Patagonia opposes any action alternative, if the lease sale must be pursued, it is incumbent on the BLM to evaluate these additional alternatives and mitigation measures in the Final EIS.

e. **Temporal and Spatial Limits, Including Deferred Development Until Climate Change Has Been Arrested**

There are multiple stages in the exploration and production “lifecycle”. The exploration phase consists of locating oil and gas reserves using primary technologies particularly seismic surveys and drilling wells. This phase alone may take decades. After a company is successful with its exploration drilling and make an oil or gas discovery, then the appraisal phase of the lifecycle is next. The main purpose of this phase is to reduce the uncertainty or possibility of losses about the size of the oil or gas field and its properties. The development stage occurs after successful appraisal and before full-scale production. Production in the oil and gas industry is the phase in which hydrocarbons are extracted from an oil or gas field and can last up to 40 years, depending on the size of the oil or gas field and how expensive it is to keep the wells and production facilities running. Finally, reclamation will involve removing the production facilities and attempting to restore oil and gas sites that are no longer profitable. Given this, there are multiple opportunities to regulate the pace of development.

Regulation in this manner could be effective in light of international climate commitments. For example, the Paris Agreement represents a landmark agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future.¹⁴⁷ The Agreement is an ambitious effort to combat climate change that charts a course in the global climate effort. Key aspects of the Agreement include the goal of limiting global temperature increase to well below 2°C, while pursuing efforts to limit the increase to 1.5°C (Art. 2). To achieve this temperature goal, parties aim to reach global peaking of GHGs as soon as possible (Art. 4) so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of GHGs in the second half of the century. It further establishes mitigation goals (Art. 4) and encourages Parties to conserve and enhance, as appropriate, sinks and reservoirs of GHGs (Art. 5) among other things.

Rather than assuming that development will proceed at the pace dictated solely by the market and the operators, the BLM should evaluate the impacts of alternatives that defer the development and production phases until such time as global GHGs have leveled through efforts like the Paris Agreement.

IV. **Conclusion**

Patagonia strongly opposes the alternatives set forth in the DEIS due to their fundamental failure to consider their impact on the environment. Patagonia urges the BLM to further develop a more comprehensive and satisfactory range of alternatives that will protect the ecological health of the Refuge and, thus, in turn, the environmental health of the continental United States,

¹⁴⁷ Although the United States has unfortunately withdrawn from the Paris Agreement, it should be acknowledged that such actions have gone against the direction of our long-term global partners. It is perfectly reasonable to expect that the United States will once again lead the way on such issues once the Trump Administration has vacated the White House.

particularly coastal states like the State of California. The BLM should seriously consider initiating additional studies on the environmental impact of oil and gas drilling in the Arctic and the long-term implications of the increased environmental decay. Patagonia urges the BLM to fully address the abundance of legal, scientific, and factual deficiencies discussed throughout this comment.