July 9, 2022

To: Bureau of Ocean Energy Management

Subject: Proposed Program for the 2023-2028 National Outer Continental Shelf Oil and Gas Leasing Program (National OCS Program) (BOEM_FRDOC_0001-0592)

I respectfully submit the following comments on the Proposed Program for the 2023-2028 National Outer Continental Shelf Oil and Gas Leasing Program (National OCS Program). The Proposed Program includes no more than ten potential lease sales in the Gulf of Mexico (GOM) and an option for one potential lease sale in the northern portion of the Cook Inlet of Alaska. Due to the ongoing grave and growing climate crisis, no lease sales should be permitted anywhere on United States lands or waters.

The science is clear. There is no ambiguity. The world's climate is changing. Human activities, particularly the burning of fossil fuels, are the predominant driver of ongoing warming and a range of related adverse consequences. Less than one year ago, in August 2021, the Intergovernmental Panel on Climate Change (IPCC) summarized the science as it stands today. In its Sixth Assessment Report, the IPCC explained:

It is unequivocal that human influence has warmed the atmosphere, ocean and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred... Each of the last four decades has been successively warmer than any decade that preceded it since 1850. Global surface temperature in the first two decades of the 21st century (2001–2020) was 0.99 [0.84 to 1.10] °C higher than 1850–1900… Human influence has warmed the climate at a rate that is unprecedented in at least the last 2000 years.[1]

Climate change is leading to a growing incidence of extreme outcomes. The IPCC continued:

It is virtually certain that hot extremes (including heatwaves) have become more frequent and more intense across most land regions since the 1950s, while cold extremes (including cold waves) have become less frequent and less severe, with high confidence that human-induced climate change is the main driver of these changes. Some recent hot extremes observed over the past decade would have been extremely unlikely to occur without human influence on the climate system. Marine heatwaves have approximately doubled in frequency since the 1980s (high confidence), and human influence has very likely contributed to most of them since at least 2006... The frequency and intensity of heavy precipitation events have increased since the 1950s over most land area for which observational data are sufficient for trend analysis (high confidence), and human-induced climate change is likely the main driver... Human influence has likely increased the chance of compound extreme events since the 1950s. This includes increases in the frequency of concurrent heatwaves and droughts on the global scale (high confidence)...[2]

The United States has experienced extreme weather in recent years. Four examples include:

- ***Summer 2019:*** Anchorage saw its warmest June, warmest July, and warmest August on record. On July 4, Anchorage recorded its first ever 90° temperature. On 8 days, the temperature reached 80° or above (old record: 4 days, 2015). The average summer temperature was 62.8°. The prior record of 60.8° was set in 2016.

- ***Summer 2020:*** Phoenix recorded its hottest summer on record. July (mean temperature: 98.9°) was Phoenix's hottest month on record by 0.6°. August surpassed that mark with a 99.1° mean temperature. Select summer heat records included: high temperatures of 110° or above: 48 days (old record: 31 days, 2007 and 2011); high temperatures of 115° or above: 13 days (old record: 7 days, 1974); low temperatures of 90° or above: 28 days (old record: 15 days, 2003 and 2013). For the year, Phoenix set records for most 100° high temperatures (145 days); 110° high temperatures (53 days); 115° high temperatures (14 days); and, 90° low temperatures (28 days). The summer mean temperature of 96.7° easily surpassed the earlier record of 95.1°, which was set in 2013 and tied in 2015.

- ***Summer 2021:*** A historic heatwave demolished longstanding records in the Pacific Northwest. June 26-28 saw the highest temperatures in the region. At Portland, high temperatures were 108°, 112°, and 116° respectively. At Seattle, high temperatures were 102°, 104°, and 108° respectively. An attribution study following the extreme heatwave concluded that the magnitude of the heat "was virtually impossible without human-caused climate change."[3]

- ***Late Spring-Early Summer 2022:*** As of this writing, Galveston has seen its warmest April, warmest May, and warmest June on record. May had a mean temperature of 83.0° (old record: 80.4°, 2018). June had a mean temperature of 87.5° (old record: 86.2°, 2011). Only August 2011, 2019, and 2020 were warmer. During the 61 days in May-June, 29 record high maximum temperatures were tied or broken and 33 record high minimum temperatures were tied or broken. The 86° low temperature on June 21st was the earliest such temperature on record (old record: August 8, 2019).

Climate change is producing aridification in the Southwestern United States. Aridification is the process that leads to a hotter and drier climate. As part of that process, the region is experiencing a historic drought that began in 1999[4]. Aridification leads to "progressively lower river flows, drier landscapes, higher forest mortality, and more severe and widespread wildfires."[5] Recently, Nevada's Lake Mead has reached its lowest levels on record.[6] Utah's Great Salt Lake has reached record lows twice this year.[7] As aridification advances, the need for tough trade-offs from water rationing will likely become increasingly frequent. Longer-term, a chronic water shortage will lead to the need to rethink agricultural and other economic activity in this region. Such a shortage could drive a population movement out of the Southwest.

Climate change is also deadly. In the United States, heat now causes more deaths than any other form of weather.[8] Research has estimated that projected yearly excess deaths from climate change would be relatively stable at approximately 100,000 per year when warming is held below 2°C.[9] However, the projected yearly excess deaths increase at an accelerating rate as warming increases to about 4.6 million at 4.1°C.[10]

Despite all the net adverse consequences of climate change—for the United States and globally—and the clear responsibility of fossil fuel burning for anthropogenic climate change, advocates of expanded oil and gas exploitation will very likely justify their case with two major arguments. They will assert that expanded exploitation is necessary to ensure a stable energy market with sufficient flexibility to accommodate a growing population and economy. They will suggest that the dramatic recent increase in oil and gas prices on account of Russia's invasion of Ukraine make the rapid introduction of new supplies necessary.

Both lines of argument fit the classic dictionary definition of shortsighted[11] prescriptions. The first line of argument conflates oil and gas with energy supply. An aggressive scaling up of renewable energy sources could readily meet the medium- and longer-term supply needs of a growing economy and population without the climate-destructive greenhouse gas pollution. There is no compelling reason that fossil fuels should be indistinguishable from energy supply.

The second line of argument also fails. First, assuming the leased areas have discovered oil and gas reserves, it would take 6-12 months for production to commence.[12] The second and more devastating counterargument is that policy would essentially be making a structural long-term commitment to expanded fossil fuel production and greenhouse gas pollution to try to address a short-term, temporary dislocation in the oil and gas market. There is virtually no probability that once the investments have been made and oil and gas production expanded, such production would immediately cease once prices come down and stabilize at lower levels. The profit motive would assure the opposite outcome. In short, policymakers would commit to a near-permanent increase in global temperatures (and related consequences) all to try to resolve a short-term, temporary issue. The mismatch between short-term challenges and long-term consequences could not be starker.

The second line of argument also falls for ethical reasons. Aging policymakers, who have limited life exposure to the consequences of their choice, would be imposing more severe climate change on younger people and future generations whose lifetime exposure is much greater. This would be an incredibly selfish decision from which younger people and future generations would have no recourse. It is also a somewhat cowardly decision, as the responsible policymakers will have left the scene long before future generations suffer through the most devastating consequences of the departed leaders' terrible choice.

The decision to expand fossil fuel production despite full knowledge of climate change, its causes, and its consequences, would be nothing less than a catastrophic failure of leadership. It would be a product of shortsightedness, absence of ethical regard for the lives and wellbeing of younger people and future generations who would suffer irreparable harm, and a lack of confidence in American innovation to liberate the nation from an unsustainable and destructive energy status quo.

Today, in response to oil and gas prices having risen to their highest level in just over a decade[13] in response to temporary factors (the sharp post-COVID economic rebound and disruptions related to the Russian invasion of Ukraine), there has been an all-out scramble to secure new oil and gas supplies. This proposed lease is one element of that rush. That there was no comparable urgency to scale up renewable energy investments and infrastructure and slash the burning of fossil fuels following publication of the IPCC's Sixth Assessment Report says much about current United States and international priorities. Despite the gravity and urgency of climate change, there remains a deep-seated inability or unwillingness to break from the a harmful fossil fuel-centered status quo. Those priorities are badly misplaced.

In the end, if the proposed leases are approved, future generations will forever be astonished how the leaders of one of the most advanced, prosperous, and powerful nations in human history, embraced enhanced climate change. They will be haunted by questions about how any rational and ethical leaders—particularly those who possessed knowledge of the gravity and urgency of climate change and who understood its causes—still chose to impose a hotter and more unstable climate on future generations.

What kind of leaders and what kind of country would purposely doom posterity to tragic centuries of lost dreams and ever-present climate catastrophes all to mitigate a modest and temporary challenge arising from energy sources that need to be phased out? Is this the legacy this Administration seeks? Is this the tomorrow it desires? Most importantly, is this the future it will choose?

The United States can still avoid choosing more global warming, more extreme weather, and more climate-related fatalities. This proposed leasing program should be withdrawn. No additional oil and gas leases should be offered in the future. Instead, the United States should increase its efforts to decarbonize and accelerate its transition to renewable energy. It should pursue a better future for its youth and forthcoming generations while it still enjoys the luxury of choosing such a future.

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Endnotes:

[1] IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp.4-6.
[2] Ibid., pp.8-9.
[3] https://www.worldweatherattribution.org/western-north-american-extreme-heat-virtually-impossible-without-human-caused-climate-change/
[4] Jonathan T. Overpeck and Bradley Udall, "Climate change and the aridification of North America," *PNAS*, May 19, 2020, p.11856.
[5] Ibid., p.11857.
[66] https://www.nbcnews.com/science/environment/lake-mead-nearing-dead-pool-status-engineer-was-named-horrified-rcna35030
[7] Claire Hardwick, "Water levels at Utah's Great Salt Lake drop to record low for second time in a year," *USA Today*, July 7, 2022.
[8] https://www.weather.gov/hazstat/
[9] Bressler, R.D. The mortality cost of carbon. *Nat Commun* **12,** 4467 (2021), p.6
[10]Ibid., pp.4-5.
[11] Shortsighted: lacking foresight (https://www.merriam-webster.com/dictionary/shortsighted)
[12] https://www.cnbc.com/2022/04/15/biden-administration-to-resume-leasing-for-oil-and-gas-drilling-on-federal-lands.html
[13] https://www.eia.gov/finance/markets/crudeoil/spot_prices.php and https://www.eia.gov/dnav/ng/hist/rngwhhdm.htm