

November 1, 2023

VIA REGULATIONS.GOV
Docket No. BOEM-2023-0046

Elizabeth Klein, Director of the Bureau of Ocean Energy Management
Department of the Interior
1849 C Street, N.W.
Washington, DC 20240

Re: Notice of intent to prepare a Gulf of Mexico Regional Outer Continental Shelf Oil and Gas Programmatic Environmental Impact Statement; 88 Fed. Reg. 67,803 (October 2, 2023); Docket No. BOEM-2023-0046

Dear Director Klein:

We, the signatories below, submit the following comments in response to the Bureau of Ocean Energy Management’s (“BOEM”) notice of intent to prepare a Gulf of Mexico Regional Outer Continental Shelf (“OCS”) Oil and Gas Programmatic Environmental Impact Statement (“PEIS”) to examine a proposed oil and gas lease sale within the Western, Central, and a portion of the Eastern Gulf of Mexico. BOEM plans to use the analysis to determine whether an oil and gas lease sale may be held and to inform its later decisions for site- and activity-specific approvals on a leased area. We oppose BOEM’s plan to expand offshore drilling in the United States, including all available planning areas in the Gulf of Mexico. The Biden administration has made national and international commitments to move away from fossil fuels and toward a renewable energy future. Additional oil and gas lease sales are not in line with national interests and are not “consistent with the need . . . to balance orderly energy resource development with the protection of the human, marine, and coastal environments.”¹

Through this letter, the signatories express deep concern about the unnecessary expansion of offshore drilling despite the detrimental impacts that offshore oil and gas activities pose to the environment, endangered species, and coastal communities. BOEM has an opportunity to halt the expansion of offshore drilling and protect marine habitats, biological diversity, the health and livelihoods of coastal communities, and coastal economies that depend on healthy marine ecosystems. If BOEM, nevertheless, insists on supporting the expansion of the oil and gas industry at the peril of human and environmental health, it must consider all direct, indirect, and cumulative impacts resulting from oil and gas activities in the Gulf of Mexico and should implement the highest degree of mitigation. BOEM must “take a hard look” at these issues in accordance with NEPA, and thoroughly investigate a lease sale’s potentially significant

¹ 43 U.S.C. § 1802(2).

environmental impacts.² NEPA requires BOEM to consider all foreseeable direct and indirect impacts.³

It is imperative that BOEM analyzes the interplay of past, present, and future impacts on the region, considers oil and gas impacts in conjunction with the impacts of other marine-based activities, and thoroughly analyzes the impacts of resulting greenhouse gas emissions. Furthermore, BOEM must propose additional alternatives that exclude biologically important areas, prioritize greenhouse gas emission reductions, and implement stipulations and mitigation measures.

I. BOEM MUST TAKE A HARD LOOK AT EACH OF A LEASE SALE'S ENVIRONMENTAL IMPACTS, INCLUDING, AND ESPECIALLY, GREENHOUSE GAS EMISSIONS

As discussed in detail below, an oil and gas lease sale would likely result in numerous significant environmental impacts. In short, a lease sale is likely to dangerously exacerbate the climate crisis, callously increase environmental threats to communities in the Gulf region, needlessly imperil sensitive habitat for protected species, and risk expensive and sometimes irreversible leaks.

A. BOEM Must Meaningfully Assess the Significance of Greenhouse Gas Emissions in the Context of Meeting U.S. Climate Commitments.

The vast majority of all CO² pollution—86 percent—in the U.S. and globally comes from oil, gas, and coal.⁴ The science is clear that limiting global temperature rise to 1.5°C under the Paris Agreement requires governments to immediately halt approval of all new fossil fuel production and infrastructure and rapidly phase out existing fossil fuel production and infrastructure in many developed fields and mines.⁵ In order to meaningfully evaluate the effects of holding a lease sale in the PEIS, BOEM must quantify the indirect effects of all lifecycle emissions that would result from the sale and evaluate those emissions in the context of climate

² *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989); 40 C.F.R. § 1502.1.

³ 42 U.S.C. § 4321 et seq.

⁴ USGCRP, *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II*, at 60 (2018); IPCC, *2021: Summary for Policymakers*, in *Climate Change 2021: The Physical Science Basis, Contribution of Working Group I to the Sixth Assessment Report*, at 5-19 [V. Masson-Delmotte et al. (eds.)] (“IPCC 2021”).

⁵ IPCC, *Summary for Policymakers 2018, Oil Change International, Drilling Toward Disaster: Why U.S. Oil and Gas Expansion Is Incompatible with Climate Limits* (2019), <http://priceofoil.org/drilling-towards-disaster>; Tong, Dan et al., *Committed emissions from existing energy infrastructure jeopardize 1.5°C climate target*, 572 *Nature* 373 (2019), <https://www.nature.com/articles/s41586-019-1364-3>; Stockholm Environment Institute (SEI), International Institute for Sustainable Development (IISD), Overseas Development Institute (ODI), E3G, & United Nations Environment Programme (UNEP), *The Production Gap: The discrepancy between countries' planned fossil fuel production and global production levels consistent with limiting warming to 1.5°C or 2°C* (2020), <http://productiongap.org/> (“The Production Gap 2020”); SEI, IISD, ODI, E3G, & UNEP, *The Production Gap: Governments' planned fossil fuel production remains dangerously out of sync with Paris Agreement limits* (2021), <http://productiongap.org/2021report/> (“The Production Gap 2021”); Teske, Sven & Sarah Niklas, *Fossil Fuel Exit Strategy: An orderly wind down of coal, oil and gas to meet the Paris Agreement* (June 2021), <https://fossilfuel treaty.org/exit-strategy>; Welsby, Dan et al., *Unextractable fossil fuels in a 1.5 °C world*, 597 *Nature* 230 (2021), <https://doi.org/10.1038/s41586-021-03821-8>; Trout, Kelly et al., *Existing fossil fuel extraction would warm the world beyond 1.5°C*, 17 *Environmental Research Letters* 064010 (2022).

goals and commitments and use a proper discount rate to calculate the social cost of emissions. Given the national need to address climate change and the nation’s commitments to reduce greenhouse gas emissions by 50 percent from 2005 levels by 2030 and to achieve net zero emissions by 2050, BOEM must conduct a meaningful analysis of greenhouse gas emissions and the climate emergency facing the nation.

The effects of a radically altered, destabilized climate are undeniably all around us. The report from the United Nations’ Intergovernmental Panel on Climate Change (“IPCC”), released last year, succinctly acknowledges the “[w]idespread, pervasive impacts to ecosystems, people, settlements, and infrastructure” from “increases in the frequency and intensity of climate and weather extremes, including hot extremes on land and in the ocean, heavy precipitation events, drought and fire weather.”⁶ That abstract summary, while dire, still does not fully capture the cascade of recent climate-influenced disasters: unprecedented heat waves,⁷ monstrous wildfires,⁸ and a combination of punishing droughts and torrential rains that have affected millions of lives here in the U.S. and abroad.⁹ In the United States, the health costs of air pollution from fossil fuel combustion and climate change are estimated to already exceed \$800 billion per year and will become much more expensive without rapid action to curb fossil fuel pollution.¹

The Gulf region is ground-zero for many of these impacts. For example, Texas’ record-breaking freeze in the winter of 2021 left millions of people without power and water, resulting in the deaths of dozens of people.¹⁰ The storm not only highlights the immense climate harms that communities in the Gulf region are already suffering, but the inexcusable failures of the

⁶ IPCC, 2022: *Summary for Policymakers*, in *Climate Change 2022: Impacts, Adaptation and Vulnerability*, at 9 (2022) [H.-O. Pörtner et al. (eds.)].

⁷ Brad Plumer and Elena Shao, *Heat Records are Broken Around the Globe as Earth Warms*, *Fast*, NEW YORK TIMES (July 6, 2023); Henry Fountain, *Why Europe Is Becoming a Heat Wave Hot Spot*, NEW YORK TIMES (July 18, 2022) <https://www.nytimes.com/2022/07/19/climate/europe-heat-wave-science.html>; Matthew Cappucci et al., *Historic, Unforgiving Western Heat Wave Is Peaking and Crushing Records*, WASHINGTON POST (Sept. 5, 2022), <https://www.washingtonpost.com/climate-environment/2022/09/06/western-heatwave-california-records-climate/>.

⁸ Winston Choi-Schagrin & Elena Shao, *Why Does the American West Have So Many Wildfires?*, NEW YORK TIMES (Aug. 1, 2022), <https://www.nytimes.com/2022/08/01/climate/wildfire-risk-california-west.html>; Manuel Ausloos & Stephane Mahe, *France Battles ‘Monster’ Wildfire As Heatwaves Scorch Europe*, REUTERS (Aug. 11, 2022), <https://www.reuters.com/world/europe/france-fighting-monster-wildfire-near-bordeaux-fnspf-2022-08-11/>.

⁹ Henry Fountain, *The Western Drought Is Bad. Here’s What You Should Know About It*, NEW YORK TIMES (Oct. 21, 2021), <https://www.nytimes.com/article/drought-california-western-united-states.html>; Amanda Holpuch, *3 Downpours in 8 Days: How Extreme Rain Soaked the Midwest*, NEW YORK TIMES (Aug. 5, 2022), <https://www.nytimes.com/2022/08/05/us/kentucky-missouri-illinois-rain-flooding.html>; Oliver Milman, *America’s summer of floods: climate crisis fueling barrage, scientists say*, THE GUARDIAN (Aug. 11, 2022) (“Some places have suffered a disconcerting whiplash between severe drought and severe flooding.”), <https://www.theguardian.com/us-news/2022/aug/11/america-summer-floods-rainfall-climate-crisis>. The sheer impossibility of tracking all climate-related extreme weather events as they happen speaks to the magnitude of the problem. See David Wallace-Wells, *China Is Writing the Story of the Climate Future*, NEW YORK TIMES (Sept. 14, 2022) (listing some of the events from 2022’s “summer of disasters”), <https://www.nytimes.com/2022/09/14/opinion/environment/china-climate-change-heat-drought.html>.

¹⁰ Shawn Mulcahy, *Many Texans have died because of the winter storm. Just how many won’t be known for weeks or months*, TEXAS TRIBUNE, Feb. 19, 2021, <https://www.texastribune.org/2021/02/19/texas-power-outage-winterstorm-deaths/>.

fossil fuel industry to prepare for the demands of a changing climate and the complete absence of accountability by regulatory agencies and industry officials.¹¹

In the United States, fossil fuel pollution and resulting climate harms are already causing hundreds of thousands of premature deaths each year, and this toll will escalate absent the rapid phase-out of fossil fuels. The fine particulate pollution from fossil fuel combustion alone causes an estimated one in ten deaths each year in the United States, totaling 355,000 premature deaths in 2018.¹² Compared to limiting temperature rise to 1.5°C, warming of 2°C will cause an estimated 153 million more premature deaths worldwide due to increased exposure to fine particulate matter and ozone.¹³ Another recent study estimated that every 4,434 metric tons of CO₂ added to the atmosphere in 2020—equivalent to the lifetime emissions of 3.5 average Americans—will cause one excess death globally through 2100.¹⁴ The implications of this finding are that failing to limit temperature rise to 1.5°C and instead allowing 2°C warming will cost 169 million additional lost lives.¹⁵

Virtually every country in the world has formally recognized the existential threat of climate change, having ratified the Paris Agreement and its commitment to holding the long-term global average temperature “to well below 2°C above pre-industrial levels” with “efforts to limit the temperature increase to 1.5°C.”¹⁶ The agreement includes the more ambitious target because 2°C of warming is no longer considered a safe guardrail for avoiding cataclysmic impacts.¹⁷ A 2018 IPCC report specifically details the ways in which consequences will be more widespread and more severe at 2°C compared to 1.5°C of warming, including increasingly lethal heat waves, more severe storms, and greater sea level rise.¹⁸ Regardless, meeting either temperature goal requires aggressively curtailing greenhouse gas emissions. Unless there are immediate and rapid

¹¹ See, e.g., James Osborne and Eric Dexheimer, *Texas grid fails to weatherize, repeats mistake feds cited 10 years ago*, HOUSTON CHRONICLE, Feb. 16, 2021, <https://www.houstonchronicle.com/business/energy/article/Texas-gridagain-faces-scrutiny-over-cold-15955392.php>.

¹² Karn Vohra et al., *Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from GEOS-Chem*, 195 Environmental Research 110754 (2021).

¹³ Drew Shindell et al., *Quantified, localized health benefits of accelerated carbon dioxide emissions reductions*, 8 Nature Climate Change 291 (2018).

¹⁴ R. Daniel Bressler, *The mortality cost of carbon*, 12 Nature Communications 4467 (2021).

¹⁵ The difference between the carbon budget needed to limit warming to 1.5°C versus 2°C is 750 Gt CO₂, based on the IPCC Sixth Assessment. See IPCC 2021, at Table SPM.2). With each 4,434 metric tons of CO₂ estimated to result in one death, the additional 750 Gt CO₂ emitted with 2°C versus 1.5°C of temperature rise equates to 169 million additional deaths.

¹⁶ See United Nations, Framework Convention on Climate Change, 21st Conference of the Parties, *Adoption of the Paris Agreement*, Art. 2.1(a) (Dec. 12, 2015). United Nations’ documentation indicates that only Eritrea, Iran, Libya, and Yemen have not ratified the agreement, *U.N. Treaty Collection*, U.N. TREATIES, https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtmsg_no=XXVII-7-d&chapter=27&clang=en. Although former President Trump briefly withdrew the U.S. from the Paris Agreement, one of President Biden’s first acts upon taking office was to rejoin and reaffirm the U.S.’s commitment. Veronica Stracqualursi & Drew Kann, *US officially rejoins the Paris climate accord*, CNN (Feb. 19, 2021), <https://www.cnn.com/2021/02/19/politics/us-rejoins-paris-agreement-biden-administration/index.html>.

¹⁷ C. F. Schleussner et al., *Differential climate impacts for policy-relevant limits to global warming: the case of 1.5°C and 2°C*, 7 Earth Syst. Dynam. 327, 343–45 (2016); see generally IPCC, 2018: Summary for Policymakers, *In Global Warming of 1.5°C*, An IPCC Special Report [V. Masson-Delmotte et al. (eds.)] (“1.5°C Report”).

¹⁸ 1.5°C Report, at 9.

reductions, limiting warming to 1.5°C or even 2°C will be beyond reach.¹⁹ At a minimum, stabilizing global surface temperatures will require reaching net zero carbon dioxide emissions.²⁰

The United States is committed nationally and globally to fighting climate change and moving away from fossil fuels. President Biden has expressed the view that climate change is a pervasive and “existential threat to human existence as we know it.”²¹ In his Executive Order on *Tackling the Climate Crisis at Home and Abroad*, President Biden asserted that “there is little time left to avoid setting the world on a dangerous, potentially catastrophic, climate trajectory.”²² He directed the Administration “to organize and deploy the full capacity of its agencies to combat the climate crisis to implement a Government-wide approach *that reduces climate pollution in every sector of the economy.*”²³ In a statement at COP26, President Biden stated that we are at an “inflection point” in the fight against climate change and that he hopes the United States will be “leading by the power of our example.”²⁴ And President Biden has recognized that climate change represents a “clear and present danger” to the United States.²⁵

In recognition of the climate emergency and need for just clean energy transition, the Biden administration has made a series of climate pledges that, while still inadequate to meet the Paris Agreement climate limit, put the U.S. on a pathway of decreasing greenhouse gas emissions and fossil fuel production. For example, President Biden rejoined the Paris Agreement, paused oil and gas leasing on federal lands and launched a review of the fossil fuel leasing and permitting program, pledged to reduce U.S. greenhouse gas emissions by 50-52 percent below 2005 levels by 2030, and pledged to reach a 100 percent carbon pollution-free power sector by 2035 and a net-zero economy by 2050.²⁶ Most recently, President Biden signed the Inflation Reduction Act (“IRA”) on August 16, 2022, marking a significant step towards reducing U.S. GHG emissions by up to 42% below 2005 levels by 2030.²⁷ In its Federal Register notice of intent to prepare an PEIS for the proposed lease sales, BOEM recognized that “[t]o meet these targets, the United States would have to drastically change the way it both consumes and supplies energy.”²⁸

In evaluating more leasing, BOEM must consider the nation’s energy needs in the context of climate change and the need to rapidly transition to clean, sustainable energy. Put succinctly,

¹⁹ *Id.* at 17; IPCC 2021 at 14.

²⁰ IPCC 2021, at 30.

²¹ Remarks by President Biden at the COP26 Leaders Statement, Glasgow, Scotland (Nov. 1, 2021), <https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/11/01/remarks-by-president-biden-at-the-cop26-leaders-statement/>.

²² White House, *Tackling the Climate Crisis at Home and Abroad*, Exec. Order No. 14,008, 86 Fed. Reg. 7619 (Jan. 27, 2021).

²³ *Id.* at 7622 (emphasis added).

²⁴ Remarks by President Biden at the COP26 Leaders Statement, Glasgow, Scotland (Nov. 1, 2021), <https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/11/01/remarks-by-president-biden-at-the-cop26-leaders-statement/>.

²⁵ White House, *Fact Sheet: President Biden’s Executive Actions on Climate to Address Extreme Heat and Boost Offshore Wind*, (July 20, 2022), <https://www.whitehouse.gov/briefing-room/statements-releases/2022/07/20/fact-sheet-president-bidens-executive-actions-on-climate-to-address-extreme-heat-and-boost-offshore-wind/>.

²⁶ 86 Fed. Reg. 7619; White House, *Fact Sheet: President Biden Renews U.S. Leadership on World Stage at U.N. Climate Conference* (November 1, 2021).

²⁷ See, e.g., J. Larsen et al., Rhodium Group, *A Turning Point for U.S. Climate Progress: Assessing the Climate and Clean Energy Provisions in the Inflation Reduction Act* (Aug. 12, 2022).

²⁸ 88 Fed. Reg. at 67,804.

the scientific community is resolute: fossil fuels are driving a global climate emergency that presents a “code red for humanity.”²⁹ The planet is “perilously close to tipping points that could lead to cascading and irreversible climate impacts,”³⁰ and climate change is already wreaking havoc on the social and environmental systems we all rely on for our basic needs.³¹ Scientific reports have made clear that “every tonne of [carbon dioxide] CO² emissions adds to global warming.”³² Accordingly, “[i]nvesting in new fossil fuel infrastructure is moral and economic madness.”³³ In fact, the lifecycle GHG emissions associated with *existing* fossil fuel infrastructure in the energy and industrial sectors is itself sufficient to push the planet beyond the 1.5°C warming threshold scientists cite as key to preventing catastrophic and irreversible warming,³⁴ and fossil fuel producers are planning to extract more than double the amount of oil, gas, and coal by 2030 than is consistent with limiting warming to 1.5°C.³⁵ Rather than increasing fossil fuel production and use, the world’s fossil fuel production must decrease **by roughly 6 percent per year** on average between 2020 and 2030.³⁶

As UN Secretary-General António Guterres stated upon the release of the Intergovernmental Panel on Climate Change’s IPCC 2022 report:

Climate scientists warn that we are already perilously close to tipping points that could lead to cascading and irreversible climate impacts. But, high-emitting Governments and corporations are not just turning a blind eye, they are adding fuel to the flames. They are choking our planet, based on their vested interests and historic investments in fossil fuels, when cheaper, renewable solutions provide green jobs, energy security and greater price stability.... Climate activists are sometimes depicted as dangerous radicals. But, the truly dangerous radicals are the countries that are increasing the

²⁹ United Nations Secretary-General, *Secretary-General’s statement on the IPCC Working Group I Report on the Physical Science Basis of the Sixth Assessment* (Aug. 9, 2021), <https://www.un.org/sg/en/content/secretary-generals-statement-the-ipcc-working-group-1-report-the-physical-science-basis-of-the-sixth-assessment> (attached); *see also* International Panel on Climate Change, *Sixth Assessment Report* (Aug. 9, 2021), <https://www.ipcc.ch/assessment-report/ar6/>.

³⁰ United Nations Secretary-General, *Secretary-General Warns of Climate Emergency, Calling Intergovernmental Panel’s Report ‘a File of Shame’, While Saying Leaders ‘Are Lying’, Fuelling Flames* (April 4, 2022), <https://press.un.org/en/2022/sgsm21228.doc.htm>.

³¹ NOAA, National Centers for Environmental Information, *2021 U.S. Billion-dollar Weather and Climate Disasters in Historical Context – Hazard and Socioeconomic Risk Mapping* (April 2022), <https://www.ncei.noaa.gov/monitoring-content/billions/docs/billions-risk-mapping-2021-ams-forum.pdf> (reporting that in 2021 alone in the U.S., there were 20 weather and climate disaster events with losses exceeding \$1 billion each and 724 deaths).

³² IPCC 2021, at SPM-37.

³³ United Nations Secretary-General, *Secretary-General Warns of Climate Emergency, Calling Intergovernmental Panel’s Report ‘a File of Shame’, While Saying Leaders ‘Are Lying’, Fuelling Flames* (April 4, 2022), <https://press.un.org/en/2022/sgsm21228.doc.htm>.

³⁴ *See, e.g.,* Dan Tong et al., *Committed emissions from existing energy infrastructure jeopardize 1.5°C climate target*, 572 *Nature* 373 (2019); Alexander Pfeiffer et al., *Committed emissions from existing and planned power plants and asset stranding required to meet the Paris Agreement*, 13 *Environ. Res. Lett.* 1 (2018).

³⁵ The Production Gap 2020; The Production Gap 2021.

³⁶ *Id.*

production of fossil fuels. **Investing in new fossil fuels infrastructure is moral and economic madness....**³⁷

The climate emergency is here, and it is killing people, causing ecosystem collapse, costing the U.S. economy billions in damages every year, and creating escalating suffering across the nation and around the world.³⁸ The climate crisis also breeds glaring injustice, with Black, Latino, Indigenous, Asian American and Pacific Islanders, and other communities of color and low-wealth communities experiencing the gravest harms.³⁹ Without deep and rapid reductions in fossil fuel production and emissions, global temperature rise will exceed 1.5°C and result in catastrophic damages in the U.S. and around the world.⁴⁰

The U.S. and other wealthy, high-emitting producer nations with the greatest capacity to achieve a just transition must make more rapid cuts. A recent Tyndall Center study concluded that an equitable phase-out requires the U.S. to end all oil and gas production by 2031 to preserve a 67 percent chance of limiting temperature rise to 1.5°C.⁴¹ For a lower 50 percent chance, the U.S. must reduce oil and gas production 74 percent by 2030 and end production by 2034.⁴² In other words, there is no room in the global carbon budget for any new fossil fuel production and infrastructure of any kind anywhere in the world, right now. All such fossil fuel project approvals are inconsistent with meeting the Paris climate targets and inconsistent with maintaining a livable planet.

The United States has a moral responsibility to lead the world in a rapid managed decline of fossil fuel production and use—including an end to fossil fuel imports and exports—based on its role as the historic, dominant driver of the climate crisis and its capacity for a just transition to

³⁷ United Nations Secretary-General, *António Guterres (UN Secretary-General) to the press conference launch of IPCC report* (February 28, 2022) (emphasis added), <https://media.un.org/en/asset/k1x/k1xcijxjhp>.

³⁸ IPCC, *Climate Change 2022, Impacts, Adaptation and Vulnerability* (2022), <https://www.ipcc.ch/report/ar6/wg2/>; IPCC, *AR6 Synthesis Report, Climate Change* (2023), https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf; NOAA, National Centers for Environmental Information, *Billion-Dollar Weather and Climate Disasters*, <https://www.ncdc.noaa.gov/billions/> (reporting that in 2021 alone in the U.S., there were 20 weather and climate disaster events with losses exceeding \$1 billion each and 688 deaths).

³⁹ Donaghy, Tim & Charlie Jiang for Greenpeace, Gulf Coast Center for Law & Policy, Red, Black & Green Movement, and Movement for Black Lives, *Fossil Fuel Racism: How Phasing Out Oil, Gas, and Coal Can Protect Communities* (2021), <https://www.greenpeace.org/usa/wp-content/uploads/2021/04/Fossil-Fuel-Racism.pdf>; U.S. Environmental Protection Agency, *Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts*, EPA 430-R-21-003 (2021), www.epa.gov/cira/social-vulnerability-report.

⁴⁰ IPCC, *Summary for Policymakers*, 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 global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (2018) [Masson-Delmotte, V. et al. (eds.)], <https://www.ipcc.ch/sr15/>; IPCC, *2022: Climate Change 2022: Mitigation of Climate Change, Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla et al. (eds.)], Cambridge University Press, Cambridge, UK and New York, NY, USA; doi: 10.1017/9781009157926.

⁴¹ Calverley and Anderson, *Phaseout Pathways for Fossil Fuel Production Within Paris-compliant Carbon Budgets* (2022), [https://www.research.manchester.ac.uk/portal/en/publications/phaseout-pathways-for-fossil-fuel-production-within-paris-compliant-carbon-budgets\(c7235a8e-e3b1-4f44-99de-c27958c03758\).html](https://www.research.manchester.ac.uk/portal/en/publications/phaseout-pathways-for-fossil-fuel-production-within-paris-compliant-carbon-budgets(c7235a8e-e3b1-4f44-99de-c27958c03758).html) (“Tyndall Report”).

⁴² *Id.* at 6.

clean energy.⁴³ Thus, while any new fossil fuel production or infrastructure project is inconsistent with meeting the Paris climate targets, continued approvals in the United States are particularly egregious.

Moreover, climate change is likely to undermine the country's national security interests. A plethora of recent reports issued by the Department of Homeland Security, the Department of Defense, the National Security Council, and the National Intelligence Director all highlight the threat that climate change poses to national security.⁴⁴ According to these expert agencies, climate change increases geopolitical tension as countries argue over who should be doing more, and how quickly, and compete in the ensuing energy transition, instigates cross-border geopolitical flash points as countries strain to manage the physical effects of climate change, and destabilizes local governments as regions suffer from heightened resource scarcity, storms, droughts, and floods.⁴⁵ As Lloyd Austin III, the acting United States Secretary of Defense, recently stated, “[n]o country can find lasting security without tackling the climate crisis.”⁴⁶

And there is evidence that the U.S. climate budget is already full.⁴⁷ For example, a 2020 report concluded:

- “Federal crude oil already leased will continue producing for 34 years beyond the 1.5°C threshold and 19 years beyond the 2°C;” and
- “Federal natural gas already leased will continue producing 23 years beyond the 1.5°C threshold and 8 years beyond the 2°C.”⁴⁸

⁴³ Muttitt, Greg & Sivan Kartha, *Equity, climate justice and fossil fuel extraction: principles for a managed phase out*, 20 Climate Policy 1024 (2020).

⁴⁴ See, e.g., National Intelligence Council, *National Intelligence Estimate: Climate Change and International Responses Increasing Challenges to US National Security Through 2040* (Oct. 2021), https://www.dni.gov/files/ODNI/documents/assessments/NIE_Climate_Change_and_National_Security.pdf; U.S. Government Accountability Office, *Climate Change Risks to National Security* (Sept. 2022), <https://www.gao.gov/assets/gao-22-105830.pdf>; U.S. Department of Defense, *Climate Adaptation Plan 2022 Progress Report* (2022), <https://media.defense.gov/2022/Oct/06/2003092213/-1/-1/0/2022-DOD-CAP-PROGRESS-REPORT.PDF>.

⁴⁵ See, e.g., National Intelligence Council, *National Intelligence Estimate: Climate Change and International Responses Increasing Challenges to US National Security Through 2040* (Oct. 2021), https://www.dni.gov/files/ODNI/documents/assessments/NIE_Climate_Change_and_National_Security.pdf. President Biden's executive order on the Climate Emergency similarly points out the imperative to address climate change to avoid destabilizing global communities. 86 Fed. Reg. 7619.

⁴⁶ U.S. Department of Defense, *Climate Adaptation Plan 2022 Progress Report* (2022), <https://media.defense.gov/2022/Oct/06/2003092213/-1/-1/0/2022-DOD-CAP-PROGRESS-REPORT.PDF>.

⁴⁷ E.g., Oil Change International, *The Sky's Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production* (September 2016), <http://priceofoil.org/2016/09/22/the-skys-limit-report/>; Oil Change International, *The Sky's Limit California: Why the Paris Climate Goals Demand That California Lead in a Managed Decline of Oil Extraction* (2018), <http://priceofoil.org/ca-skys-limit>; Sven Teske & Sarah Niklas, *Fossil Fuel Exit Strategy: An orderly wind down of coal, oil and gas to meet the Paris Agreement* (June 2021), <https://fossilfuel treaty.org/exit-strategy>; Ecoshift Consulting et al., *The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels*, Prepared for Center for Biological Diversity & Friends of the Earth (2015) (“EcoShift Consulting”); Van den Berg et al., *Implications of various effort-sharing approaches for national carbon budgets and emission pathways*, 162 Climatic Change 1805–1822 (2020); Dustin Mulvaney et al., *Over-Leased: How Production Horizons of Already Leased Federal Fossil Fuels Outlast Global Carbon Budgets 5*, Prepared for Center of Biological Diversity & Friends of the Earth (2016).

⁴⁸ Ecoshift Consulting.

Conversely, keeping fossil fuels in the ground by ending new offshore lease sales will help to reduce greenhouse gas emissions. A 2016 report found that for each unit of oil that is not extracted from federal lands, net global consumption of oil falls by 0.44 units by 2030.⁴⁹ Accordingly, the report estimates that ending new offshore and onshore oil leasing would lead to a net reduction of global CO² emissions from oil of 31 megatons (M³) CO² in the year 2030.⁵⁰ Of this total, 85% (or 26 Mt CO² in 2030) can be attributed to federal offshore oil leases not renewed or issued.⁵¹ And the reduction in greenhouse gas emissions would only increase in the years after 2030.⁵²

Here, just the oil and gas production from one lease sale will result in lifecycle, domestic GHG emissions of about 300 million tons, approximately equivalent to 60,562,819 gasoline-powered passenger cars driven for one year.⁵³ We do not have the luxury to continue investing in new fossil fuel resources when existing infrastructure is already likely to emit far more greenhouse gases than the planet can safely absorb. A lease sale, by contributing so much to climate change, would not be consistent with “national needs” or with the “need . . . to balance . . . the protection of the human, marine, and coastal environments.”⁵⁴ BOEM therefore cannot sanction more leasing of our public waters.

Regardless, BOEM must still undertake a meaningful analysis of greenhouse gas emissions from the sale and compare those that would result from canceling the sale. The Council on Environmental Quality (“CEQ”), the federal agency responsible for guiding other agencies in implementing NEPA, recently issued updated Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, finding that “[c]limate change analysis is a critical component of environmental reviews and integral to Federal agencies managing and addressing climate change.”⁵⁵ Like all information in a PEIS, a GHG analysis must “provide a full and fair discussion of significant environmental impacts.”⁵⁶

The new guidance directs agencies like BOEM to conduct *lifecycle* GHG analyses for proposed projects:

Federal agencies must disclose and consider the reasonably foreseeable effects of their proposed actions, including the extent to which a proposed action and its reasonable alternatives (including the no action alternative) would result in reasonably foreseeable GHG emissions that contribute to climate change . . . [And] NEPA requires more than a statement that emissions from a proposed Federal action or its alternatives represent only a small fraction of

⁴⁹ Peter Erickson & Michael Lazarus, *How Would Phasing Out U.S. Federal Leases For Fossil Fuel Extraction Affect CO₂ Emissions and 2°C Goals?*, Stockholm Environment Institute, Working Paper No. 2016-02, at 24 (2016).

⁵⁰ *Id.* at 25.

⁵¹ *Id.* at 26.

⁵² *Id.* at 32.

⁵³ BOEM’s GHG analysis for a similar lease sale this year (Lease Sale 259) estimated lifecycle emissions from that sale to be approximately 300 million tons. BOEM, Gulf of Mexico Oil and Gas Lease Sales 259 and 261 Final Environmental Impact Statement, at Table 4-1 (Jan. 2023); EPA, Greenhouse Gas Equivalencies Calculator, <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results> (accessed Oct. 29, 2023).

⁵⁴ 43 U.S.C. §§ 1332(3); 1802(2).

⁵⁵ 88 Fed. Reg. 1196, 1198 (Jan. 9, 2023) (“CEQ GHG Guidance”).

⁵⁶ 40 C.F.R. § 1502.1.

global or domestic emissions. Such a statement merely notes the nature of the climate change challenge, and is not a useful basis for deciding whether or to what extent to consider climate change effects under NEPA. . . . [Rather], when considering GHG emissions and their significance, agencies should use appropriate tools and methodologies to quantify GHG emissions, compare GHG emission quantities across alternative scenarios (including the no action alternative), and place emissions in relevant context, including how they relate to climate action commitments and goals.⁵⁷

The guidance goes further, stating that “agencies generally should quantify all *reasonably foreseeable* emissions associated with a proposed action,” including any “indirect effects.”⁵⁸ According to CEQ, “[i]ndirect effects generally include reasonably foreseeable emissions related to a proposed action that are upstream or downstream of the activity resulting from the proposed action. For example, where the proposed action involves fossil fuel extraction, direct emissions typically include GHGs emitted during the process of exploring for and extracting the fossil fuel. The reasonably foreseeable indirect effects of such an action likely would include effects associated with the processing, refining, transporting, and end-use of the fossil fuel being extracted, including combustion of the resource to produce energy.”⁵⁹

The 2023 GHG Guidance similarly directs that GHG emissions be placed “in the context of relevant climate action goals and commitments.”⁶⁰ “[A]gencies should explain how the proposed action and alternatives would help meet or detract from achieving relevant climate action goals and commitments, including Federal goals, international agreements . . . or others as appropriate.”⁶¹ Without this context, reporting out raw numbers of GHGs gives the public and decisionmakers little useful information.⁶²

BOEM has stated that it will be conducting a new greenhouse gas (“GHG”) analysis for the PEIS which will consider GHG emissions and social costs of those emissions.⁶³ BOEM has also stated that it will quantify full lifecycle emissions from a lease sale, including upstream, mid-stream, and downstream emissions, as well as some emissions from foreign oil market changes due to changes in global oil prices.⁶⁴ We strongly support BOEM’s commitment to quantify full lifecycle emissions from a sale. However, BOEM does not currently plan to quantify the emissions from substitutes for oil.⁶⁵ And BOEM is still planning to use *MarketSim* for its analysis—an economic model that has historically produced inaccurate estimates. BOEM must both fully quantify lifecycle emissions from a sale and evaluate those emissions in the context of current climate action goals and commitments, including multiple net-zero pathways.

⁵⁷ CEQ GHG Guidance at 1201.

⁵⁸ *Id.* at 1204 (emphasis added).

⁵⁹ *Id.*

⁶⁰ *Id.* at 1200–01, 1203 (“[P]lacing those emissions in appropriate context are important components of analyzing a proposed action’s reasonably foreseeable climate change effects.”).

⁶¹ *Id.* at 1203.

⁶² *Id.* at 1201–02.

⁶³ <https://www.boem.gov/environment/environmental-assessment/gulf-mexico-regional-ocs-oil-and-gas-programmatic>.

⁶⁴ *Id.*

⁶⁵ *Id.*

Moreover, BOEM needs to fully quantify emissions from substitutes and use a proper discount rate to quantify social costs of those emissions.

We support BOEM’s commitment to engage in a full accounting not just of a sale’s direct, upstream GHG emissions (i.e. those associated with exploration and production), but also the mid- and downstream GHG emissions associated with the sale (i.e. those associated with the transportation, refining, and ultimate combustion of the oil and gas being processed). Its PEIS must consider and disclose the total greenhouse emissions associated with a lease sale, and whether, when considered alongside reasonably anticipated emissions from existing leases, an additional lease sale will significantly exacerbate the climate crisis.

A meaningful analysis of an offshore lease sale’s GHG emissions would require BOEM to assess how adding these emissions to other contributors of GHGs in the coming years affects the country’s ability to meet emissions targets. Given the minimal room left in the carbon budget, if any, the additional GHG emissions from a lease sale are likely to be significant. BOEM must also assess the degree to which additional emissions resulting from a lease sale—including foreign oil consumption GHG emissions—will make it harder to meet the carbon budget when added to the emissions from fossil fuels produced on already leased federal lands and waters.⁶⁶

In conducting its analysis, BOEM must acknowledge that there is enough oil and gas *already* in production to overshoot Paris climate targets, and that existing leases and permits will have to be curtailed to satisfy these goals even before new ones are issued. The authorization of new emissions from holding a lease sale means that even more emissions would have to be removed elsewhere. BOEM should be cautious not to portray a lease sale’s emissions as only a small percentage of total national or global emissions. NEPA requires agencies to analyze the environmental impacts “*and the significance of those impacts.*”⁶⁷ As the Tenth Circuit recently noted in a similar situation, “[s]imply stating what percentage the emissions will make up of regional, national, and global emissions does not meaningfully inform the public or decisionmakers about the impact of the emissions. . . . [A]ll agency actions causing an increase in GHG emissions will appear *de minimis* when compared to the regional, national, and global numbers.”⁶⁸

In calculating the social cost of emissions, BOEM must use an updated discount rate. In analyzing social costs of emissions associated with its Final Five-Year Program, BOEM relied on valuations produced by the Interagency Working Group on the Social Cost of Greenhouse Gases (“Working Group”) and applied a single discount rate of 3 percent, thereby undervaluing the external costs of the program and improperly implying certainty in BOEM’s discounted

⁶⁶ See *350 Montana v. Haaland*, 50 F.4th 1254 (9th Cir. 2022). BOEM cannot use metrics that reduce a project’s emissions to insignificance only because their relative contribution to the greater whole appears comparatively small nor can it exclude downstream foreign consumption associated with leasing while drawing a comparison with nationwide greenhouse gas emissions in the U.S. *Id.*

⁶⁷ 40 C.F.R. § 1502.16 (emphasis added); CEQ GHG Guidance at 1201 (“NEPA requires more than a statement that emissions from a proposed Federal action or its alternatives represent only a small fraction of global or domestic emissions.”).

⁶⁸ *Diné Citizens Against Ruining Our Environment v. Haaland*, 59 F.4th 1016, 1043–44 (10th Cir. 2023); see also *350 Montana*, 50 F.4th at 1265–70 (rejecting similar “opaque comparison”; agency “did not cite any scientific evidence supporting the characterization of the project’s emissions as ‘minor’ compared to global emissions”).

estimates. The Working Group’s values are widely agreed to underestimate the full costs of greenhouse gas emissions.⁶⁹

In comments to BOEM on the Final Five-Year Program, the Institute for Policy Integrity (“IPI”) explained why BOEM was wrong to employ a single point conservative climate damage valuation when calculating the social costs of upstream GHG emissions and why a higher valuation is proper.⁷⁰ BOEM appropriately used the work of the Working Group on the Social Cost of Greenhouse Gases.⁷¹ However, BOEM chose to use a single point climate damage estimate toward the low end of the Working Group’s range, which the Working Group characterized as conservative underestimates.⁷² One reason the values are underestimates is related to the use of a higher discount rate.⁷³ The other is that the models used to produce the values do not include all recognized impacts of climate change.⁷⁴ The Working Group accordingly provided a range of values and explained the inherent uncertainty.⁷⁵ BOEM’s use of a single damage estimate at a 3 percent discount rate wrongly conveyed certainty and precision.

The IPI explained that BOEM should conduct additional analysis, including a sensitivity analysis that uses lower discount rates.⁷⁶ It is critical that BOEM employ that type of more accurate carbon damage valuation to calculate not only the social cost of upstream GHG emissions, but also the social costs of mid-stream and downstream emissions.

In its Final Five-year Program, BOEM stated that it will continue to use the “official discount rate of 3% until such time as” the Working Group’s efforts to update the discount rate are finalized.⁷⁷ While the Working Group has been in the process of updating its estimates and discount rates, the EPA, a member of the Working Group, has published a new report that updated those rates, which it included as supplementary material for the November 2022 update to the proposed standards of performance and emissions guidelines for existing sources of oil and natural gas.⁷⁸ The report presents updated methodologies recommended by the National Academies of Science, Engineering, and Medicine, including a change of the central discount

⁶⁹ INTERAGENCY WORKING GRP. ON THE SOCIAL COST OF GREENHOUSE GASES, TECHNICAL SUPPORT DOCUMENT: SOCIAL COST OF CARBON, METHANE, AND NITROUS OXIDE – INTERIM ESTIMATES UNDER EXECUTIVE ORDER 13,990 at 4 (2021) (acknowledging that current social cost valuations “likely underestimate societal damages from [greenhouse gas] emissions”).

⁷⁰ P. Howard et al., Institute for Policy Integrity, New York University School of Law, *The Real Costs of Offshore Oil and Gas Leasing: A Review of BOEM’s Economic Analysis for Its Proposed Five-Year Program*, section II.C (2022), https://policyintegrity.org/files/publications/The_True_Costs_of_Offshore_Leasing.pdf (“IPI Report”); E. Niemi, Natural Resource Economics, *Deficiencies in BOEM’s Assessment of Economic Impacts of 2023-2028 National Outer Continental Shelf Oil and Gas Leasing Program*, section II.A (2022) (“Niemi Report”); L. Zachary, *Review of an Industry Report on the Impacts of a Delay in Federal Offshore Oil and Gas Leasing*, at 8-10 (June 29, 2022) (“Zachary Report”).

⁷¹ BOEM, *Draft Economic Analysis Methodology for the 2023–2028 National Outer Continental Shelf Oil And Gas Leasing Program*, at 1-20 (2022).

⁷² See IPI Report section I.C.

⁷³ *Id.*; Niemi Report section II.A.

⁷⁴ IPI Report section I.C.

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ BOEM, 2024-2029 National OCS Oil and Gas Leasing Proposed Final Program at 5-15, n.29 (Sept. 2023).

⁷⁸ EPA Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances (Sept. 2022), https://www.epa.gov/system/files/documents/2022-11/epa_scghg_report_draft_0.pdf (“EPA Report”).

rate from 3 percent to 2 percent and the use of “dynamic discounting.”⁷⁹ Resources for the Future, an expert environmental economics and policy organization, recently reported that the EPA’s proposed update represents “the best available science” and determined that “the EPA’s updated approach to discounting is supported by peer-reviewed economic evidence.”⁸⁰ And the IPI and others have supported EPA’s draft valuations in comments.⁸¹ While EPA’s draft valuations remain underestimates,⁸² they more fully account for the costs of climate change by incorporating the latest available research on climate science, damages, and discount rates. Those estimates were subject to public comment and peer review and are now being finalized.

Unsurprisingly, given the developing state of the science and economics around climate change, EPA’s draft valuations find that the incremental cost of greenhouse gas emissions is substantially higher than the Working Group projected. Using these valuations would provide a more complete picture of the climate damages from a lease sale. While BOEM should apply EPA’s draft values in sensitivity analysis if it finalizes this decision before EPA finalizes that update, it should consider applying EPA’s finalized valuations in its primary analysis if they are available before BOEM completes this PEIS.

BOEM also needs to improve its substitution analysis. Overall, BOEM should consider replacing *MarketSim* with the National Energy Modeling System (NEMS).⁸³ Many of the *MarketSim* inputs are actually derived from NEMS, but NEMS is a more sophisticated, realistic, and rigorous model.⁸⁴ For example, its parameters are dynamic, not static like *MarketSim*, and it models other regions of the world in relatively more detail.⁸⁵

B. BOEM Must Analyze the Impacts on Communities in the Gulf Region.

In light of BOEM’s continued expansion of oil and gas activities in the Gulf of Mexico, despite the known threats to communities in the region, BOEM must fully analyze the impacts on Gulf communities and must account for the decades-long treatment of the Gulf region as a sacrifice zone while “other areas of the United States receive a relatively large portion of the economic benefits.”⁸⁶ Importantly, within the Gulf Coast, the effects of oil and gas industrialization are not evenly distributed, with environmental justice communities in Louisiana and Texas bearing the brunt of the harm.⁸⁷

On January 27, 2021, President Biden issued an executive order on *Tackling the Climate Crisis at Home and Abroad*, which directs federal agencies to develop “programs, policies, and activities to address the disproportionately high and adverse human health, environmental,

⁷⁹ *Id.* at 1-2.

⁸⁰ Prest, B., et al., *Updated Estimates of the Social Cost of Greenhouse Gases for Usage in Regulatory Analysis*, Resources for the Future (Feb. 2023), https://media.rff.org/documents/EPA_SCC_Report_Comments.pdf.

⁸¹ Comments on the EPA External Review Draft of Report on the Social Cost of Greenhouse Gases (Feb. 13, 2023).

⁸² EPA Report at 4 (“[B]ecause of data and modeling limitations . . . estimates of the SC-GHG are a partial accounting of climate change impacts and, as such, lead to underestimates of the marginal benefits of abatement.”); *id.* at 72.

⁸³ IPI Report at 5-6.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ BOEM, *2023–2028 National Outer Continental Shelf Oil and Gas Leasing Proposed Program*, at 8-3 (2022).

⁸⁷ Exec. Order No. 12,898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, § 1-103, 59 Fed. Reg. 7,629 (Feb. 16, 1994).

climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.”⁸⁸ CEQ likewise has issued guidance on incorporating environmental justice considerations into the NEPA process.⁸⁹ Not only does the guidance direct agencies, like BOEM, to evaluate proposed projects’ potentially disproportionate impacts on environmental justice communities, but it also directs agencies to involve such communities in the NEPA process, stating that “[e]arly and meaningful public participation in the federal agency decision making process is a paramount goal of NEPA,” and that agencies must “make diligent efforts to involve the public throughout the NEPA process.”⁹⁰ BOEM must therefore evaluate whether a lease sale, both considered in isolation and in conjunction with other existing and proposed or approved projects, will have disproportionate impacts on nearby environmental justice communities.

BOEM’s analysis must also look beyond the offshore drilling and exploration stages. The Gulf Coast is a petrochemical hub, and the impacts of offshore oil and gas expansion on frontline communities extend through the entire stream of commerce, including pipelines, refineries, and petrochemical plants that degrade the environment.⁹¹ In other words, the impacts of offshore oil and gas activities do not stop at the ocean’s edge. Nearly half of the country’s petroleum refining capacity and over half of its natural gas processing capacity can be found along the Gulf Coast.⁹² Most of the U.S.’s basic chemical production naturally takes place there as well, making use of the raw materials, such as ethylene, propylene, and benzene, that are developed by the area’s refiners and processors.⁹³ Of the “top 10 production complexes in the world, 5 are located in Texas and 1 is located in Louisiana.”⁹⁴

In Louisiana, for instance, an approximately 85-mile stretch along the Mississippi River, from Baton Rouge to New Orleans, has long been known as “Cancer Alley.” The area contains more than 200 industrial facilities that release significant amounts of harmful air pollution⁹⁵ and is marked by low levels of income and high levels of poverty.⁹⁶ These communities are often overwhelmingly Black: 79 census tracts in Jefferson, St. John the Baptist, East Baton Rouge, and

⁸⁸ 86 Fed. Reg. 7619.

⁸⁹ CEQ, *Environmental Justice Guidance Under the National Environmental Policy Act* (Dec. 10, 1997), http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-EJGuidance.pdf.

⁹⁰ *Id.* at 12.

⁹¹ See *Gulf of Mexico Fact Sheet*, U.S. ENERGY INFORMATION ADMINISTRATION, https://www.eia.gov/special/gulf_of_mexico/ (over 47% of U.S. petroleum refining capacity and 51% of U.S. natural gas processing plant capacity is located along the Gulf Coast).

⁹² *Id.*

⁹³ *How a Petrochemical is Produced*, AMERICAN FUEL AND PETROCHEMICAL MANU., <https://www.afpm.org/industries/operations/how-petrochemical-produced>.

⁹⁴ BOEM, *Gulf of Mexico OCS Oil and Gas Lease Sales: 2017–2022, Final Multisale Environmental Impact Statement*, at 3-92 (Mar. 2017).

⁹⁵ Kimberly Terrell & Gianna St. Julian, *Air Pollution is Linked to Higher Cancer Rates Among Black or Impoverished Communities in Louisiana*, *Environ. Res. Lett.* 17, at 1 (Jan. 13, 2022), <https://doi.org/10.1088/1748-9326/ac4360>.

⁹⁶ Wesley James et al., *Uneven Magnitude of Disparities in Cancer Risks from Air Toxics*, 9 *Int. J. Environ. Res. Public Health* 4365, 4366 (Dec. 3, 2012).

Orleans Parishes are made up of at least 90% Black residents.⁹⁷ Locals have long experienced health problems including high rates of cancer, respiratory illnesses, and rashes.⁹⁸

Similarly, air quality statistics and health metrics for southeastern Texas reveal an alarming number of problems. A study by the Environmental Integrity Project of benzene emissions from refineries discovered that the three highest annual averages in 2021 were all from facilities in Texas.⁹⁹ Jefferson County has some of the largest oil refineries in the nation as well as petrochemical plants, including the petroleum coke facility, which is the source of virtually all sulfur dioxide emissions in the county.¹⁰⁰ Within a three-mile radius of the plant, 98% of the residents are people of color and 62% are lower income.¹⁰¹ According to the Texas Cancer Registry, Black residents of Jefferson County also have cancer rates that are 15% higher than for the average Texan.¹⁰² Even as early as 1981, the magazine *Texas Monthly* labeled the area around Port Arthur and its neighboring cities as the state's "Cancer Belt."¹⁰³ Accidents also pose significant risks to Gulf Coast residents. Texas had six major chemical disasters in 2019 alone, prompting the head of the responsible agency to admit that it had "been lagging around the idea of accountability."¹⁰⁴

A PEIS must include not only the direct effects of a proposed action but indirect and cumulative effects as well. Indirect effects are those "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."¹⁰⁵ Cumulative impacts "result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."¹⁰⁶ Consequently, the pollution emitted by onshore infrastructure must be captured in any assessment of proposed leasing, as both an indirect and a cumulative

⁹⁷ *Id.*

⁹⁸ See Merrill C. Singer, *Down Cancer Alley: The Lived Experience of Health and Environmental Suffering in Louisiana's Chemical Corridor*, 25 *Medical Anthropology Quarterly* 141, 146–147 (June 2011).

⁹⁹ *Nearly Half of U.S. Refineries Releasing Benzene at Levels That Could Pose a Long-Term Health Threat*, Press Release, Environmental Integrity Project (May 12, 2022), <https://environmentalintegrity.org/news/nearly-half-of-u-s-refineries-releasing-benzene-at-levels-that-could-pose-a-long-term-health-threat/>.

¹⁰⁰ *Environmental Groups Demand EPA Investigate Texas Industrial Plant for Pollution-Driven Civil Rights Violations*, Press Release, Environmental Integrity Project (Aug. 18, 2021), <https://environmentalintegrity.org/news/groups-demand-epa-investigate-texas-industrial-plant-for-civil-rights-violations/>. Sulfur dioxide is associated with lung disease and is a primary ingredient in microscopic soot particles that can trigger asthma and heart attacks.

¹⁰¹ *Environmental Groups Demand EPA Investigate Texas Industrial Plant for Pollution-Driven Civil Rights Violations*, Press Release, Environmental Integrity Project (Aug. 18, 2021), <https://environmentalintegrity.org/news/groups-demand-epa-investigate-texas-industrial-plant-for-civil-rights-violations/>. Sulfur dioxide is associated with lung disease and is a primary ingredient in microscopic soot particles that can trigger asthma and heart attacks.

¹⁰² NAACP & CATF, *Fumes Across the Fence-Line*, at 23 (Nov. 2017), https://www.catf.us/wp-content/uploads/2017/11/CATF_Pub_FumesAcrossTheFenceLine.pdf.

¹⁰³ Harry Hurt III, *The Cancer Belt*, *TEXAS MONTHLY* (May 1981), <https://www.texasmonthly.com/news-politics/the-cancer-belt/>.

¹⁰⁴ Amal Ahmed, *When Will "Tough-on-Crime" Texas Enforce Clean Air Laws?*, ONE BREATH PARTNERSHIP (Mar. 16, 2022), <https://onebreathhou.org/newsroom/2022/03/texas-tceq-illegal-air-pollution-environmental-law-enforcement/>.

40 C.F.R. §1508.1(g)(2). ¹⁰⁶ *Id.* §1508.1(g)(3).

¹⁰⁶ *Id.* §1508.1(g)(3).

effect. Refining, processing, and consumption are certainly “reasonably foreseeable” results of offshore leasing that are “sufficiently likely” such that “a person of ordinary prudence would take [them] into account in reaching a decision.”¹⁰⁷ The entire purpose of leasing is the exploitation of offshore oil and gas resources, which—as noted—are for the most part destined for users along the Gulf Coast.

BOEM must consider these impacts even if they are not in the agency’s control. CEQ has long-standing guidance that directly addresses this scenario:

For example, data may suggest there are disproportionately high and adverse human health or environmental effects on a minority population, low-income population, or Indian tribe from the agency action. Agencies should consider these multiple, or cumulative effects, *even if certain effects are not within the control or subject to the discretion of the agency proposing the action.*¹⁰⁸

Moreover, courts have made clear that an agency must include effects that extend beyond its direct control. The key question is not “What activities does the agency regulate?” but instead “What factors can the agency consider when regulating in its proper sphere?”¹⁰⁹ Here, multiple sections of OCSLA call for BOEM to consider the environment (including the marine, coastal, and human environments) when conducting leasing.¹¹⁰

The federal government has committed to environmental justice, including addressing disproportionate health, environmental, and economic impacts. In 2021, President Biden named Cancer Alley one of the country’s “hard hit” communities of color, and the Environmental Protection Agency announced that it would investigate a complaint alleging environmentally based civil rights violations in St. John the Baptist parish.¹¹¹ President Biden signed the Executive Order on *Tackling the Climate Crisis at Home and Abroad*, recognizing the disparate impacts of environmental degradation and with the mission to deliver environmental justice through a series of initiatives.¹¹² BOEM must act consistent with the Biden Administration’s pledges and ensure its PEIS includes a comprehensive analysis that accounts for cumulative impacts on Gulf communities, including historical human health risks and environmental harm, climate change, impacts on local economies, and the effects on spiritual and cultural practices.

¹⁰⁷ *Sierra Club v. FERC*, 827 F.3d 36, 47 (D.C. Cir. 2016) (cleaned up).

¹⁰⁸ CEQ, *Environmental Justice, Guidance Under the National Environmental Policy Act* at 9 (Dec. 10, 1997) (emphasis added), https://www.epa.gov/sites/default/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf.

¹⁰⁹ *Sierra Club v. FERC*, 867 F.3d 1357, 1373 (D.C. Cir. 2017).

¹¹⁰ For example, OCSLA directs the Secretary of the Interior to manage the OCS “in a manner which considers economic, social, and environmental values” of OCS resources and the “potential impact of oil and gas exploration on . . . the marine, coastal, and human environments.” 43 U.S.C. § 1344(a)(1).

¹¹¹ White House, *Remarks by President Biden Before Signing Executive Actions on Tackling Climate Change, Creating Jobs, and Restoring Scientific Integrity*, (Jan. 27, 2021), <https://www.whitehouse.gov/briefing-room/speeches-remarks/2021/01/27/remarks-by-president-biden-before-signing-executive-actions-on-tackling-climate-change-creating-jobs-and-restoring-scientific-integrity/>; Victoria St. Martin, *EPA Opens Civil Rights Investigation Into Louisiana’s ‘Cancer Alley’*, INSIDE CLIMATE NEWS (Apr. 25, 2022), <https://insideclimatenews.org/news/25042022/epa-louisiana-cancer-alley/>.

¹¹² 86 Fed. Reg. 7619 (Feb. 1, 2021); *see also* Exec. Order No. 12,898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, § 1-103, 59 Fed. Reg. 7629 (Feb. 16, 1994).

C. **BOEM Must Take a Hard Look at the Impacts of a Lease Sale on the Rice’s Whale.**

Rice’s whale (*Balaenoptera ricei*), also known as the Gulf of Mexico whale, is the only baleen whale species whose entire known range is limited to waters off the United States. It is also generally recognized by the National Marine Fisheries Service (“NMFS”) and others to be one of the most endangered marine mammals in existence.¹¹³ Approximately 50 individuals remain, according to NMFS’ best estimates, and the species can only afford to lose one animal about every fifteen years as a result of human impacts if it is to achieve its optimum sustainable population consistent with federal law.¹¹⁴ The whale is listed as endangered under the Endangered Species Act (ESA) and as “critically endangered”—the most severe rating short of extinction—on the International Union for Conservation of Nature (IUCN) Red List.¹¹⁵ NMFS has stated that “the loss of even a single reproductive female could lead this species to extinction,” and that the “[r]ecovery of the species depends on the protection of each remaining whale.”¹¹⁶

As detailed below, Rice’s whale habitat extends across the areas under consideration for oil and gas leasing. OCS oil and gas activities in the GOM pose a serious threat to the continued survival and recovery of the Rice’s whale. BOEM must take a hard look at the impacts of a lease sale on Rice’s whales across the full range of their habitat.

1. **The best available science demonstrates Rice’s whale habitat extends across the Western, Central, and Eastern Planning Areas.**

The best available scientific information shows that Rice’s whale habitat extends from an area in the upper depths of the De Soto Canyon in the eastern Gulf, along the continental shelf break between the 100 meter (m) and 400m isobaths through waters off Louisiana and Texas in the central and western Gulf. A recently completed five-year study of the whales’ habitat, led by NOAA and funded through the RESTORE Act, characterized the whale’s habitat using multiple

¹¹³ E.g., NMFS, “Rice’s whale”, <https://www.fisheries.noaa.gov/species/rices-whale> (“With likely fewer than 100 individuals remaining, Rice’s whales are one of the most endangered whales in the world. Recovery of the species depends upon the protection of each remaining whale.”).

¹¹⁴ S.A. Hayes, E. Josephson, K. Maze-Foley, P.E. Rosel, & J. Turek, eds., *U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments 2020*, at 160-67 (2021) (NOAA Tech. Memo. NMFS-NE-271). (“Under the Marine Mammal Protection Act, annual sustainable loss of marine mammals, known as Potential Biological Removal (PBR), is quantified as the product of the species’ minimum population size, one-half of its maximum net productivity rate, and a recovery factor. 16 U.S.C. § 1362(20). According to NMFS’ most recent Stock Assessment Report for the Gulf of Mexico whale (2020), p. 162, the minimum population size for the species is 34, the maximum productivity rate is 0.04 (the default value for cetaceans), and the recovery factor is 0.1 because the stock is listed as endangered. We therefore calculate PBR for Rice’s whale as 0.068, or about one whale lost to human impacts every fifteen years. (In our view, PBR should not be rounded up to 0.1, as is done in the Stock Assessment Reports.”)

¹¹⁵ 50 C.F.R. § 224.101(h) (ESA listing); P. Rosel, P. Corkeron, & M. Soldevilla, *Balaenoptera ricei*, in IUCN, *The IUCN Red List of Threatened Species*, <https://www.iucnredlist.org/species/215823373/208496244>.

¹¹⁶ Comments of A.J. Strelcheck, NMFS Regional Administrator for the Southeast Regional Office, to Tershara Matthews, Chief of Emerging Programs, BOEM, at 6 (Feb. 9, 2022) (scoping comments on Draft Environmental Assessment for commercial leasing wind power development on the Outer Continental Shelf in the Gulf of Mexico); NMFS, “Rice’s whale,” <https://www.fisheries.noaa.gov/species/rices-whale>.

lines of research.¹¹⁷ One component of this study used passive acoustics at multiple survey sites along the shelf break and found vocalizations demonstrating a persistent occurrence of Rice’s whale in the western Gulf throughout the year.¹¹⁸ Another component of the RESTORE Act study found that the whale’s primary prey favors the same shelf-break habitat throughout the northern Gulf of Mexico where the whales have been shown to persistently occur.¹¹⁹ Rice’s whales, like other baleen whales, are subject to high energetic demands to sustain their large body size, reproduction and nursing, and long-distance movements across the Gulf of Mexico. Their foraging lunge rate, which is low compared to the lunge rates of other deep-diving rorquals (i.e., large whales in the *Balaenopteridae* family), suggests that their energy budget would not be optimized to meet those high demands if prey were limited.¹²⁰ Availability of and access to preferred prey species are therefore essential for the health, fitness, and recovery potential of the species.

This evidence is further complemented by newly available and forthcoming habitat suitability analyses from NOAA, both of which delineate the same shelf-break waters across the northern Gulf as highly suitable habitat for the whale. The first NOAA analysis identified extended habitat in the northwestern Gulf based on three largely independent lines of information: sightings data from the government’s large-vessel surveys, acoustic data from NMFS’ multi-year monitoring effort (described above), and a habitat suitability model rooted in salient oceanographic features, including water depth, bottom temperature, and primary productivity.¹²¹ The second NOAA analysis developed a model of Rice’s whale distribution based on bathymetric and oceanographic features and predicted suitable habitat for the whale throughout the Gulf in areas between 100 and 400 meters depth.¹²² This study is currently under review for publication and is summarized in the report supporting NMFS’s designation of critical habitat for the whale.¹²³ In addition, NMFS’s spatial estimates of Rice’s whale distribution and density across the Gulf, which were based on the agency’s sightings information, indicate that

¹¹⁷ NOAA RESTORE Science Program, “Trophic Interactions and Habitat Requirements of Gulf of Mexico Rice’s Whales,” <https://restoreactscienceprogram.noaa.gov/projects/rices-whales>; NOAA Fisheries, “Trophic Interactions and Habitat Requirements of Gulf of Mexico Rice’s Whales,” <https://www.fisheries.noaa.gov/southeast/endangered-species-conservation/trophic-interactions-and-habitat-requirements-gulf-mexico>.

¹¹⁸ M.S. Soldevilla, A.J. Debich, L.P. Garrison, J.A. Hildebrand, and S.M. Wiggins, *Rice’s Whales in the Northwestern Gulf of Mexico: Call Variation and Occurrence Beyond the Known Core Habitat*, 48 *Endangered Species Research* 155-74 (2022).

¹¹⁹ J.J. Kiszka, M. Caputo, J. Vollenweider, M.R. Heithaus, L.A. Dias, and L.P. Garrison, *Critically Endangered Rice’s Whale (*Balaenoptera ricei*) Selectively Feed on High-Quality Prey in the Gulf of Mexico*, 13 *Scientific Reports* (2023).

¹²⁰ A.C.M. Kok, M.J. Hildebrand, M. MacArdle et al., *Kinematics and Energetics of Foraging Behavior in Rice’s Whales of the Gulf of Mexico*, 13 *Sci. Rep.* 8996 (2023).

¹²¹ N.A. Farmer, J.R. Powell, J.A. Morris, Jr. et al., *Modeling Protected Species Distributions and Habitats to Inform Siting and Management of Pioneering Ocean Industries: A Case Study for Gulf of Mexico Aquaculture*, 17(9): e0267333 *PLoS ONE* (2022). The suitability model took account of the sightings, but not the acoustic data. Although this paper was not undertaken as part of the five-year study, it made use of some of the data acquired during the study.

¹²² NOAA Fisheries, *Endangered Species Act Rice’s Whale Critical Habitat Report: Proposed Information Basis and Impact Considerations of Critical Habitat Designation*, at 9-10 (2023), <https://www.fisheries.noaa.gov/s3/2023-07/Critical-Habitat-Report-508-Final.pdf> (summarizing L.P. Garrison, A. Martinez, M.S. Soldevilla, et al., *The Habitat of the Critically Endangered Rice’s Whale, *Balaenoptera ricei*, in the Gulf of Mexico*, *Endangered Species Research* (in review)).

¹²³ *Id.*

about 94 percent of the population is contained within the 100m and 400m isobaths, with nearly half the population (about 48 percent) occurring outside the DeSoto Canyon area in the eastern Gulf, albeit at somewhat lower densities.¹²⁴

Based on the scientific evidence described above, NMFS recently proposed designated critical habitat for Rice’s whale consisting of waters from the 100m isobath to the 400m isobath in the Gulf of Mexico, identifying this area as “essential” to the species’ conservation.¹²⁵ BOEM also recognized the importance of the same area in its identification of proposed wind lease areas in the Gulf in 2022, considering the area “unsuitable” for offshore wind development and completely excluding it from leasing.¹²⁶ This decision followed a recommendation from NMFS that no offshore wind leasing or development occur “within the boundaries of the currently known distribution of Rice’s whales in the western and central GOM.”¹²⁷

2. BOEM must take a hard look at the impacts of noise, oil spills, and increased vessel traffic from a lease sale on Rice’s whale.

The Rice’s whale faces myriad threats to its survival and recovery. These threats include oil spills and oil spill response, anthropogenic noise, vessel collisions, curtailment of habitat due to oil and gas development, ingestion of marine debris, and potential fisheries interactions, as well as the deleterious genetic effects associated with limited abundance.¹²⁸ A number of these threats—including those at issue for a lease sale—were separately deemed by NMFS’s most recent species Status Review, prepared in 2016, as “likely to eliminate or seriously degrade” the population.¹²⁹ The review unanimously concluded that the whales “are at high risk of extinction as a result of their small population size and the suite of anthropogenic threats posed primarily by energy exploration, development and production, and vessel collisions.”¹³⁰ Similarly, NMFS’s

¹²⁴ J. Litz, L. A. Dias, G. Rappucci, A. Martinez, M. Soldevilla, L. Garrison, & K. Mullin, *NOAA SEFSC Cetacean and Sea Turtle Spatial Density Models for the Gulf of Mexico: Additional Information and Data Dictionary* (2022). The percentages cited here were calculated by Dr. Ben Best, a spatial modeler, from the density shapefiles provided by Litz et al.

¹²⁵ *Proposed Rule, Designation of Critical Habitat for the Rice's Whale*, 88 Fed. Reg. 47,453, 47,461 (July 24, 2023).

¹²⁶ Memorandum from Michael Celata, Regional Director for BOEM Gulf of Mexico Regional Office, to Amanda Lefton, BOEM Director, at 12-13, 34 (July 20, 2022) (request for concurrence on Preliminary Wind Energy Areas for the Gulf of Mexico), <https://www.boem.gov/draft-area-id-memo-gom-508>.

¹²⁷ Comments of Andy Strelcheck, NMFS Regional Administrator for the Southeast Regional Office, to Tershara Matthews, Chief of Emerging Programs, BOEM, at 6 (Feb. 9, 2022) (scoping comments on Draft Environmental Assessment for commercial leasing wind power development on the Outer Continental Shelf in the Gulf of Mexico).

¹²⁸ P.E. Rosel, L.A. Wilcox, T.K. Yamada & K.D. Mullin, *A New Species of Baleen Whale (Balaenoptera) From the Gulf of Mexico, with a Review of Its Geographic Distribution*, 37 *Marine Mammal Sci.* 577 (2021); Patricia E. Rosel et al., *Status Review of Bryde’s Whales (Balaenoptera Edeni) in the Gulf of Mexico Under the Endangered Species Act* (2016) (NOAA Tech. Memo. NMFS-SEFSC-692), <https://repository.library.noaa.gov/view/noaa/14180>; M.S. Soldevilla et al., *Spatial Distribution and Dive Behavior of Gulf of Mexico Bryde’s Whales: Potential Risk of Vessel Strikes and Fisheries Interactions*, 32 *Endangered Species Research* 533 (2017), <https://www.fisheries.noaa.gov/resource/peer-reviewed-research/spatial-distribution-and-dive-behavior-gulf-mexico-brydes-whales>.

¹²⁹ Patricia E. Rosel et al., *Status Review of Bryde’s Whales (Balaenoptera Edeni) in the Gulf of Mexico Under the Endangered Species Act* (2016) (NOAA Tech. Memo. NMFS-SEFSC-692), <https://repository.library.noaa.gov/view/noaa/14180>.

¹³⁰ *Id.* at iv.

2020 Biological Opinion concluded that future oil and gas activities in the Gulf of Mexico would jeopardize the continued existence of the species.¹³¹

BOEM must take a hard look at the impacts of a lease sale on Rice's whale, including impacts from noise, oil spills, and increased vessel traffic.¹³² The Rice's whale is particularly vulnerable to acoustic disturbance from seismic testing commonly used in oil and gas exploration. In baleen whales, the airgun arrays used in high-energy seismic exploration have repeatedly been shown to disrupt whale vocalizations over large areas of the ocean (greater than 10,000 square kilometers in some cases) and across a wide range of important behavioral contexts: foraging, breeding, and migrating.¹³³ Under NMFS's current standard, disruption amounting to take begins, for Rice's whale, at 140 dB re 1 μ Pa (RMS); and while that threshold is plainly not conservative given a scientific record showing impacts to baleen whales at much lower exposure levels, the standard is such that Rice's whales may be taken at distances of more than 30 kilometers, based on BOEM's 2017 modeling.¹³⁴ During its 2020 Endangered Species Act consultation over Gulf oil and gas activities,¹³⁵ NMFS estimated that the whales would experience behavioral disruption or temporary hearing loss approximately 450 times each year and that about twelve Rice's whales would suffer permanent hearing damage annually.¹³⁶ The new information concerning the whales' habitat use in the central and western Gulf means that at least part of the population regularly occurs within the same Planning Areas exposed where leasing may occur.

Furthermore, seismic surveys have repeatedly been demonstrated to elevate background levels of noise over even larger areas, masking conspecific calls and other biologically important signals and thereby compromising the ability of marine wildlife to communicate, feed, find

¹³¹ NMFS, *Biological Opinion on Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico*, at 554 (2020), <https://repository.library.noaa.gov/view/noaa/23738>.

¹³² The following discussion on particular threats from offshore oil and gas development focuses on seismic survey noise, oil spills, and vessel collisions and vessel noise. It should be noted that other industry activities, such as infrastructure placement, can also affect the species and its habitat and thus require analysis.

¹³³ E.g., M. Castellote, C.W. Clark, and M.O. Lammers, *Acoustic and Behavioural Changes by Fin Whales (Balaenoptera Physalus) in Response to Shipping and Airgun Noise*, 147 *Biological Conservation* 115 (2012), <https://www.sciencedirect.com/science/article/abs/pii/S0006320711004848>; S. Cerchio, S. Strindberg, T. Collins, C. Bennett, and H. Rosenbaum, *Seismic Surveys Negatively Affect Humpback Whale Singing Activity off Northern Angola*, 9(3): e86464 *PLoS ONE* (2014), <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0086464>; S.B. Blackwell, C.S. Nations, T.L. McDonald, A.M. Thode, D. Mathias, K.H. Kim, C.R. Greene, Jr., and A. M. Macrander, *Effects of Airgun Sounds on Bowhead Whale Calling Rates: Evidence for Two Behavioral Thresholds*, 10(6): e0125720 *PLoS ONE* (2015), <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0125720&type=printable>.

¹³⁴ See BOEM, *Gulf of Mexico OCS Proposed Geological and Geophysical Activities: Western, Central, and Eastern Planning Areas Final Programmatic Environmental Impact Statement at D-220 to D-226* (2017) (BOEM 2017-051), https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Assessment/NEPA/BOEM-EIS-2017-051_v2.pdf.

¹³⁵ Pursuant to a settlement agreement, BOEM will reinitiate ESA consultation on federally regulated oil and gas program activities in the Gulf of Mexico and provide its consultation package to NMFS in September, 2023. *Sierra Club v. NMFS*, No. 8:20-cv-03060-DLB (D. Md. July 21, 2023).

¹³⁶ NMFS, *Biological Opinion on Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico* at 551 (2020), <https://repository.library.noaa.gov/view/noaa/23738>. This estimation was made before BOEM withdrew from its proposed action an area that includes virtually the whole of the De Soto Canyon, along with nearly all of the northeastern Gulf.

mates, and engage in other vital behavior.¹³⁷ The intermittency of airgun pulses hardly mitigates this effect since their acoustic energy spreads over time and sounds virtually continuous at tens of kilometers and further distances from the array.¹³⁸ Unfortunately, the Rice's whale is particularly vulnerable to masking effects since its call repertoire coincides with the low frequencies occupied by seismic survey noise.¹³⁹ And they may regularly be exposed: in the Gulf of Mexico, seismic surveys occur frequently and at all stages of oil and gas development.¹⁴⁰ A three-year study of the Gulf region, undertaken by Cornell, showed that industry airguns "dominated the noise environment and chronically elevated noise levels across several paramount marine habitats."¹⁴¹ Noise from single surveys was found to propagate over spatial scales of several hundred kilometers, "exposing a wide range of species and habitats to chronically elevated noise levels."¹⁴²

As numerous commentators have observed, impacts from acoustic masking and chronic stress, experienced repeatedly and at the geographic scale of populations, can accumulate to impacts on vital rates and to population-level harms.¹⁴³ NMFS drew this very conclusion in its Biological Opinion:

Based on the available data, we expect all [Rice's whales] will experience chronic exposure to sounds associated with seismic activity. Such exposure is expected to result in chronic stress in some individuals, which may have impacts on health and ultimately fitness. Chronic exposure to seismic sound is also expected to interfere with [Rice's whale] communication and mask important

¹³⁷ E.g., M. Guerra, A.M. Thode, S.B. Blackwell, and A.M. Macrander, *Quantifying Seismic Survey Reverberation off the Alaskan North Slope*, 130 J. Acoustical Soc'y of America 3046 (2011); S.L. Nieuwkerk, D.K. Mellinger, S.E. Moore, K. Klinck, R.P. Dziak, and J. Goslin, *Sounds from Airguns and Fin Whales Recorded in the Mid-Atlantic Ocean, 1999-2009*, 131 J. Acoustical Soc'y of America 1102 (2012); B.J. Estabrook, D.W. Ponirakis, C.W. Clark, and A.N. Rice, *Widespread Spatial and Temporal Extent of Anthropogenic Noise Across the Northeastern Gulf of Mexico Shelf Ecosystem*, 30 Endangered Species Res. 267 (2016).

¹³⁸ This property of seismic noise derives from basic physics (reverberation and multi-path propagation) and has been demonstrated repeatedly and in a range of environments, including the Gulf of Mexico. *Id.*

¹³⁹ See M.S. Soldevilla, K. Ternus, A. Cook, J.A. Hildebrand, K.E. Frasier, A. Martinez, and L.P. Garrison, *Acoustic Localization, Validation, and Characterization of Rice's Whale Calls*, 151 J. Acoustical Soc'y of America 4264 (2022) (describing low-frequency call repertoire of the Gulf of Mexico whale).

¹⁴⁰ The sheer intensity of activity is a hallmark of seismic surveys, particularly in the Gulf of Mexico. Some individual seismic surveys in the Gulf of Mexico persist for months at a time, operating day and night, and the frequency of activity makes seismic noise a chronic stressor in many parts of the Gulf. B.J. Estabrook, D.W. Ponirakis, C.W. Clark, and A.N. Rice, *Widespread Spatial and Temporal Extent of Anthropogenic Noise Across the Northeastern Gulf of Mexico Shelf Ecosystem*, 30 Endangered Species Res. 279 (2016). By contrast, the noise produced by offshore wind farm construction would occur far less frequently and over a much shorter span of time, in addition to having a substantially lower effective source level.

¹⁴¹ *Id.* at 267.

¹⁴² *Id.* at 279.

¹⁴³ E.g., C.W. Clark & G.C. Gagnon, *Considering the Temporal and Spatial Scales of Noise Exposures from Seismic Surveys on Baleen Whales* (2006) (IWC Sci. Comm. Doc. IWC/SC/58/E9); E.C.M. Parsons, S.J. Dolman, M. Jasny, N.A. Rose, M.P. Simmonds, and A.J. Wright, *A Critique of the UK's JNCC Seismic Survey Guidelines for Minimising Acoustic Disturbance to Marine Mammals: Best Practice?*, 58 Marine Pollution Bulletin 643 (2009); D.P. Nowacek, C.W. Clark, D. Mann, P.J. Miller, H.C. Rosenbaum, J.S. Golden, M. Jasny, J. Kraska, and B.L. Southall, *Marine Seismic Surveys and Ocean Noise: Time for Coordinated and Prudent Planning*, 13(7) *Frontiers in Ecology & Environment* 378 (2015).

biological cues, which is expected to negatively affect the fitness of individual [Rice's whales] by interfering with individuals' abilities to find mates and disrupting mother-calf communication.... Given [the whales'] precarious status, any effects that are expected to reduce the fitness of individuals or result in mortality are of great concern.¹⁴⁴

Oil spills also represent a significant threat to the Rice's whale population, as demonstrated by the fallout from the BP *Deepwater Horizon* disaster.¹⁴⁵ In the Final Programmatic Damage Assessment and Restoration Plan published by the *Deepwater Horizon* Trustees, NMFS estimated that Gulf of Mexico whales were the most impacted shelf/oceanic species, with 17% (95%CI=7-24%) expected excess mortality, 22% (95%CI=10-31%) excess failed pregnancies, and 18% (95%CI=7-28%) adverse health effects.¹⁴⁶ The one individual sampled during a post-spill biopsy study showed levels of nickel and chromium—two genotoxic metals found in Macondo oil—consistent with those seen in Gulf sperm whales, some of which were sampled closer to the spill site; these levels were two to five times higher than the global mean for sperm whales.¹⁴⁷ Baleen whale calves appear particularly vulnerable to contaminant effects given efficient transplacental and lactational transfer from their mothers.¹⁴⁸ Considering the population's small abundance, these lingering effects of the *Deepwater Horizon* are already driving the whales to the brink of extinction, as defined by the conventional metrics employed by NMFS in its species Status Review, apart from any other anthropogenic or environmental stressors.¹⁴⁹

As detailed in section D below, catastrophic oil spills are a reasonably foreseeable impact of a lease sale. As such, BOEM must take a hard look at the impacts of a catastrophic oil spill, in addition to the impacts of smaller spills, on Rice's whale. Notably, the whales' regular occurrence in the Western and Central Planning Areas puts them at greater risk of exposure to a large oil spill. Each one of the blowout scenarios modeled by BOEM in its past analysis of catastrophic spill events—whether they occurred in shallow or deep water, whether near the shelf

¹⁴⁴ NMFS, *Biological Opinion on Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico* at 552-53 (2020), <https://repository.library.noaa.gov/view/noaa/23738>.

¹⁴⁵ Patricia E. Rosel et al., *Status Review of Bryde's Whales (Balaenoptera Edeni) in the Gulf of Mexico Under the Endangered Species Act* (2016) at 30-31 (NOAA Tech. Memo. NMFS-SEFSC-692), <https://repository.library.noaa.gov/view/noaa/14180>; see also *id.* at 95, 131.

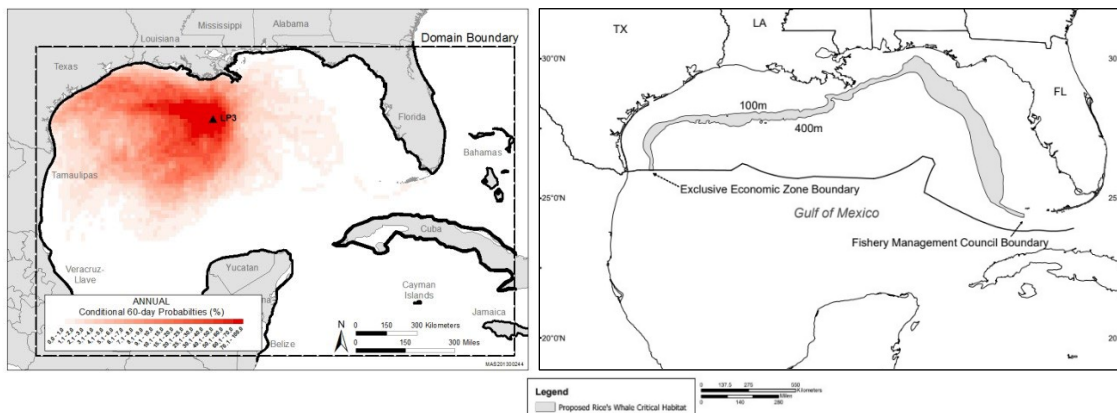
¹⁴⁶ DWH NRDA Trustees (*Deepwater Horizon* Natural Resource Damage Assessment Trustees), *Deepwater Horizon Oil Spill: Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement*, tbls. 4.9-6, 4.9-7, 4.9-9 (2016); see also R. Takeshita, L. Sullivan, C. Smith, T. Collier, A. Hall, T. Brosnan, T. Rowles, and L. Schwacke, L., *The Deepwater Horizon Oil Spill Marine Mammal Injury Assessment*, 33 *Endangered Species Res.* 95 (2017).

¹⁴⁷ J.P. Wise, Jr., J.T.F. Wise, C.F. Wise, S.S. Wise, C. Gianios, Jr., H. Xie, W. D. Thompson, C. Perkins, C. Falank, and J.P. Wise, Sr., *Concentrations of the Genotoxic Metals, Chromium and Nickel, in Whales, Tar Balls, Oil Slicks, and Released Oil From the Gulf of Mexico in the Immediate Aftermath of the Deepwater Horizon Oil Crisis: Is Genotoxic Metal Exposure Part of the Deepwater Horizon Legacy?*, 48 *Env't Sci. & Tech.* 2997 (2014).

¹⁴⁸ C. Metcalfe, B. Koenig, T. Metcalfe, G. Paterson, and R. Sears, *Intra- and Inter-species Differences in Persistent Organic Contaminants in the Blubber of Blue Whales and Humpback Whales from the Gulf of St. Lawrence, Canada*, 57 *Marine Env't Res.* 245 (2004).

¹⁴⁹ See Patricia E. Rosel et al., *Status Review of Bryde's Whales (Balaenoptera edeni) in the Gulf of Mexico Under the Endangered Species Act* (2016) (NOAA Tech. Memo. NMFS-SEFSC-692), <https://repository.library.noaa.gov/view/noaa/14180>.

break or hundreds of kilometers away—would result in contamination of Gulf of Mexico whale habitat, as illustrated in the figures below.¹⁵⁰



The figure on the left is taken from BOEM’s revised model of oil spill trajectories from a catastrophic spill in the northern Gulf of Mexico (Fig. 2-10), where the triangle marked “LP3” denotes the launch point of the modeled spill. When compared to the figure on the right, which shows NMFS proposed designated critical habitat for Rice’s whale, a broad overlap between the projected oil exposure area of Rice’s whale habitat can be seen.

Finally, BOEM must fully consider the threat represented by ship-strikes from industry vessels. In general, vessel collisions have been identified as one of the top human threats to large whale populations globally,¹⁵¹ coinciding with a four-fold increase in marine vessel density from the early 1990s through 2012.¹⁵² While larger ships have long been associated with severe strike-related injury, there is increasing recognition that smaller vessels can also cause mortality, particularly when traveling at faster speeds.¹⁵³ Here, too, the biology of the Rice’s whale leaves it particularly vulnerable to harm. Alarming, the whale spends a considerable amount of time at night within the upper 15 meters of the water column, within the draft depths of most commercial vessels. Such behavior significantly raises the risk of vessel collision.¹⁵⁴

Two Rice’s whales have shown direct evidence of strikes. In 2009, an adult, lactating female was stranded in Tampa Bay, Florida, with injuries consistent with blunt force trauma; and, in 2019, a free-swimming whale was observed in the northeastern Gulf of Mexico with a

¹⁵⁰ Compare NMFS, *Proposed Rice’s Whale Critical Habitat*, <https://www.fisheries.noaa.gov/s3/2023-07/Rices-Whale-Proposed-CH-Map-508-Final.pdf> with BOEM, *Gulf of Mexico Catastrophic Spill Event Analysis: High-Volume, Extended-Duration Oil Spill Resulting from Loss of Well Control on the Gulf of Mexico Outer Continental Shelf, 2nd Revision*, at 192-205 (2021) (OCS Report BOEM 2021-007) (oil trajectory and probability for each of seven modeled spill sites).

¹⁵¹ R.P. Schoeman, C. Patterson-Abrolat, and S. Plön, *A Global Review of Vessel Collisions with Marine Animals*, 7 *Frontiers in Marine Sci.* 292 (2020).

¹⁵² J. Tournadre, *Anthropogenic Pressure on the Open Ocean: The Growth of Ship Traffic Revealed by Altimeter Data Analysis*, 41 *Geophysical Res. Letters* 7924 (2014).

¹⁵³ E.g., D.E. Kelley, J.P. Vlastic, and S.W. Brilliant, *Assessing the Lethality of Ship Strikes on Whales Using Simple Biophysical Models*, 37 *Marine Mammal Sci.* 1-17 (2020).

¹⁵⁴ M.S. Soldevilla, J.A. Hildebrand, K.E. Fraser, L.A. Dias, A. Martinez, K.D. Mullin, P.E. Rosel, and L.P. Garrison, *Spatial Distribution and Dive Behavior of Gulf of Mexico Bryde’s Whales: Potential Risk of Vessel Strikes and Fisheries Interactions*, 32 *Endangered Species Res.* 533 (2017).

severely deformed spine posterior to the dorsal fin consistent with a vessel strike.¹⁵⁵ But the majority of incidents may well have gone undetected. As a comparative example, only 36 percent of North Atlantic right whale carcasses were detected from 1990 to 2017.¹⁵⁶ In its Biological Opinion, NMFS estimated that Rice’s whales would be struck 23 times, seventeen times fatally, over the next fifty years of offshore oil and gas development in the region.¹⁵⁷

Oil and gas development from a lease sale poses a significant likelihood of harm to Rice’s whale. BOEM must take a hard look at the impacts of noise, oil spills including catastrophic spills, increased vessel traffic, and other industry activities on Rice’s whale throughout the species’ full habitat.

D. BOEM Must Consider the Risks and Direct, Indirect, and Cumulative Impacts of Oil Spills

Oil spills are an inherent risk of offshore oil and gas activities. In the Gulf of Mexico, oil and gas operations routinely discharge oil. Between 2006 and 2015, for instance, the Bureau of Safety and Environmental Enforcement (“BSEE”) recorded 334 spills from offshore platforms that released a total of 10,951 bbl of oil.¹⁵⁸ Beyond the small oil spills, which pose significant threats, BOEM must also consider the potential impacts of catastrophic oil spills, which have repeatedly occurred in the Gulf of Mexico.

In 1979, 126 million gallons of oil were released into the marine environment after the *Ixtoc* blowout.¹⁵⁹ In 2004, Hurricane Ivan toppled an offshore well owned by Taylor Energy causing an 18 year-long spill that potentially leaked as much as 700 bbls of oil every day.¹⁶⁰ And in 2010, the BP *Deepwater Horizon* explosion spilled 200 million gallons of oil into the Gulf of Mexico, killed 11 people, and killed or injured thousands of marine species.¹⁶¹ These examples are only but a sample of large oil spills in recent history. Impacts from past oil spills are ongoing

¹⁵⁵ P.E. Rosel, L.A. Wilcox, T.K. Yamada, and K.D. Mullin, *A New Species of Baleen Whale (Balaenoptera) from the Gulf of Mexico. With a Review of Its Geographic Distribution*, 37 *Marine Mammal Sci.* 577 (2021).

¹⁵⁶ R.M. Pace III, R. Williams, S.D. Kraus, A.R. Knowlton, and H.M. Pettis, *Cryptic Mortality of North Atlantic Right Whales*, *Conservation Sci. & Practice* 2021: e346 (2021).

¹⁵⁷ NMFS, *Biological Opinion on Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico* at 550, tbl. 121 (2020), <https://repository.library.noaa.gov/view/noaa/23738>.

¹⁵⁸ BSEE, *2016 Update of Occurrence Rates for Offshore Oil Spills*, at 16 tbl.5 (2016); see also Cynthia Sarthou, *Testimony of Cynthia Sarthou, Executive Director, Healthy Gulf Hearing before the House Energy and Mineral Resources Subcommittee*, at 3 (May 13, 2021), <https://democrats-naturalresources.house.gov/download/testimony-ms-cyn-sarthou-heathy-gulf---emr-leg-hrg-051321pdf>.

¹⁵⁹ *Oil in the Ocean, Ixtoc I Oil Well*, Woods Hole Oceanographic Institute, <https://www.whoi.edu/oil/ixtoc-I>.

¹⁶⁰ Brad Plumer, *Louisiana Company to Pay \$43 Million for Longest-Running Oil Spill in U.S. History*, *NEW YORK TIMES* (Dec. 21, 2021) (noting federal estimates that the site was leaking up to 29,000 gallons per day, or around 700 barrels), <https://www.nytimes.com/2021/12/22/climate/taylor-energy-oil-spill-gulf.html>.

¹⁶¹ *Deepwater Horizon*, Woods Hole Oceanographic Institute, <https://www2.whoi.edu/site/deepwaterhorizon/>; *Deepwater Horizon 10 Years Later: 10 Questions*, NOAA Fisheries, <https://www.fisheries.noaa.gov/news/deepwater-horizon-10-years-later-10-questions>; NOAA, *Deepwater Horizon Oil Spill Longterm Effect son Marine Mammals, Sea Turtles*, <https://oceanservice.noaa.gov/news/apr17/dwh-protected-species.html> (accessed Oct. 31, 2023).

and long-lasting, and previously unknown impacts are being discovered.¹⁶² Whether small, catastrophic, abrupt, or chronic, oil spills cause irreversible damage to the environment, coastal communities, and marine-based industries.¹⁶³ As a result of the BP *Deepwater Horizon* over one third of the Gulf of Mexico was closed to commercial and recreational fishing and the oil affected over 650 miles of shoreline.¹⁶⁴ The harms of large oil spills are shattering, and it is vital that BOEM analyze them in the PEIS.

Offshore drilling has moved into ultra-deep waters, approximately 5,000 ft deep, and the trend favoring deeper waters continues.¹⁶⁵ This trend is concerning, since the likelihood of well blowouts and uncontrolled oil spills increases “exponentially” with depth,¹⁶⁶ making deepwater and ultra-deepwater drilling particularly risky. BOEM must consider the risks and potential impacts associated with deepwater and ultra-deepwater drilling.

BOEM’s assessment must also analyze the differing impacts of oil spills between geographic locations, including considering each location’s travel distance and route to transport oil to shore, the level of vulnerability and biological importance of nearby coastal and marine environments, the depth and seafloor composition, and whether the lease area is particularly exposed to hurricanes. Climate change has increased hurricane strength, volatility, and frequency in the Gulf of Mexico,¹⁶⁷ and hurricanes “play a role in the occurrence of large spill event and occurrence of blowouts resulting in loss of well control in the Gulf of Mexico.”¹⁶⁸

We are still uncovering the full extent of oil spill impacts, and coastal communities are still experiencing the effects decades after the fact. BOEM must rely on the vast science showing the devastating environmental, health, and economic impacts of oil spills and must analyze the cumulative impacts of past and potential oil spills, including the possibility of a catastrophic oil spill.

¹⁶² The BP spill has left deep scars on both the landscape and the inhabitants of the Gulf. *See, e.g.,* Zachary Nixon *et al.*, *Shoreline Oiling from the Deepwater Horizon Oil Spill*, 107 *Marine Pollution Bulletin* 170 (April 2016); Oceana, *Time for Action Six Years After Deepwater Horizon* (Apr. 2016).

¹⁶³ *See Deepwater Horizon*, Woods Hole Oceanographic Institute, <https://www2.whoi.edu/site/deepwaterhorizon/>.

¹⁶⁴ National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling* (Jan. 2011) at 176, 187, <https://www.govinfo.gov/content/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf>.

¹⁶⁵ According to the BOEM, “The greatest undiscovered resource potential in the OCS is forecast to exist in the deep and ultra-deep waters of the [Gulf].” Proposed Program 4-19; Steven A. Murawski *et al.*, *Ch. 2, Deepwater Oil and Gas Production in the Gulf of Mexico and Related Global Trends, In Scenarios and Responses to Future Deep Oil Spills* (Jan. 2020).

¹⁶⁶ NMFS, *Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico*, App. G, p. 49 (March 13, 2020); *see also id.* at 52 (noting probability of an accident increases by 8.5% for every 100 feet of increasing depth (citing L. Muehlenbachs *et al.*, *The Impact of Water Depth on Safety and Environmental Performance in Offshore Oil and Gas Production*, 55 *Energy Policy* 699 (2013)).

¹⁶⁷ BOEM & BSEE, *Final Biological Assessment (Oil & Gas Activities in the Gulf of Mexico)* (Feb. 2013) at 79 (noting the increasing frequency and intensity of hurricanes); Veronica Penney, *What Is the Impact of Climate Change on Hurricanes?*, *NEW YORK TIMES* (June 29, 2022), <https://www.nytimes.com/2022/06/29/climate/climate-change-hurricanes.html>; USGCRP, *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II*, at 41 (2018); USGCRP, *Climate Change Impacts in the United States: The Third National Climate Assessment*, at 30-43 (2014).

¹⁶⁸ Gulf Program BiOp, App. G, p. 50; *see also* BOEM & BSEE, *Final Biological Assessment (Oil & Gas Activities in the Gulf of Mexico)*, App. K, at 16 tbl. 14 (Feb. 2013).

II. BOEM MUST CONSIDER THE MYRIAD DIRECT, INDIRECT, AND CUMULATIVE IMPACTS OF ALL OIL AND GAS ACTIVITIES IN THE GULF OF MEXICO

NEPA's regulations broadly define cumulative effects as those:

that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.¹⁶⁹

Critically, cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.¹⁷⁰ This requirement to assess cumulative effects is to ensure that agencies consider their decisions within the larger context: while a particular action “may seem unimportant in isolation,” that small action “may have dire consequences when combined with other actions.”¹⁷¹ The key inquiry then is to assess the total accumulated harm from all of the various ecological insults catalogued by BOEM.

Moreover, in considering cumulative impacts, BOEM must provide “some quantified or detailed information; . . . [g]eneral statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.”¹⁷² As such, BOEM must detail the total, accumulated harm: effects from the lease sale added to the potentially moderate effects from other OCS leasing along with the potentially major effects from other activities in the Gulf. This assessment “must be more than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future projects.”¹⁷³

In addition to the aforementioned concerns, oil and gas activities cause a myriad of other direct and indirect impacts in the Gulf of Mexico. Foreseeable impacts from oil and gas activities include water, air, light and noise pollution, increased vessel traffic, habitat destruction, harm from decommissioned and abandoned wells, and the cumulative effect of all these. BOEM must analyze all these impacts in the PEIS.

The oil and gas industry further contributes to air quality concerns. Namely, it uses diesel vessels that emit noxious chemicals, which can be detrimental to human health.¹⁷⁴ Vessels emit nitrogen and sulfur oxides while in port or near the shore, which could have a direct detrimental impact on the air quality along the Gulf Coast and disproportionately affect coastal communities.

¹⁶⁹ 40 C.F.R. §1508.1(g)(3).

¹⁷⁰ *Id.*

¹⁷¹ *ONRC v. Goodman*, 505 F.3d 884, 893 (9th Cir. 2007).

¹⁷² *Ocean Advocates v. U.S. Army Corps of Eng'rs*, 402 F.3d 846, 868 (9th Cir. 2005) (cleaned up).

¹⁷³ *Id.*; see also *Friends of the Earth v. Army Corps*, 109 F. Supp. 2d 30, 42 (D.D.C. 2000) (noting that the Corps “dedicated nine or ten pages of each EA to cumulative impacts” but that “[t]here is no actual analysis” as the EAs “merely recite the history of development along the Mississippi coast and then conclude that the cumulative direct impacts ‘have been minimal’”).

¹⁷⁴ See EPA, International Standards to Reduce Emissions from Marine Diesel Engines and Their Fuels, <https://www.epa.gov/regulations-emissions-vehicles-and-engines/international-standards-reduce-emissions-marine-diesel>.

BOEM must analyze the impacts that oil and gas activities have on the global, national, and local air quality.

BOEM must also consider the increased noise pollution from oil and gas activities. Increased vessel traffic, construction of underwater and above-water infrastructure, drilling, exploration, and other operations can significantly change the underwater soundscape and cause physical and behavioral changes on marine wildlife that can impact species' ability to survive or result in ecosystem-wide changes.¹⁷⁵ Noise impacts from exploration, which includes surveying and exploratory drilling, as well as other activities undertaken in preparation for resource extraction are especially concerning. At the exploration stage, operators use loud airgun blasts to map the seafloor and locate oil reserves. The noise from these exploratory activities can reach sound levels up to 240 dB and, in the Gulf of Mexico, studies have shown the sound can travel for about 310-440 miles.¹⁷⁶ Moreover, during the exploration stages, operators use explosives to create holes to find minerals and drill test wells.¹⁷⁷ BOEM must analyze the impacts of noise pollution, account for the differences between geographic locations, and consider the impacts that noise could have on excluded areas given the great distances that sound can travel underwater.

Another consequence of oil and gas expansion in the Gulf of Mexico is increased vessel traffic. The Gulf of Mexico has major vessel traffic lanes with high levels of commercial shipping and commercial fishing traffic as well as traffic from recreational vessels. In the PEIS, BOEM must consider how increased vessel traffic will increase the chances of vessel strikes on marine wildlife, which could harm and kill endangered and threatened species, like the Rice's whale and sea turtles,¹⁷⁸ as well as myriad other species. The Gulf of Mexico is a biologically rich space that benefits Gulf communities and provides home to numerous marine and coastal species. In order to protect biodiversity, BOEM must analyze how oil and gas activities will cumulatively impact areas of heightened biological importance such as the Flower Garden Banks National Marine Sanctuary, which hosts the northernmost tropical coral reef in the United States and consists of 17 different reefs and banks within 19 separate boundaries.¹⁷⁹ The Flower Garden Banks is home to threatened coral species and attracts many other species, including reef fishes,

¹⁷⁵ See, e.g., John A. Hildebrand, *Impacts of Anthropogenic Sound*, in *Marine Mammal Research: Conservation beyond Crisis* (2005).

¹⁷⁶ Estabrook, B.J., D.W. Ponirakis, C.W. Clark, and A.N. Rice, *Widespread Spatial and Temporal Extent of Anthropogenic Noise Across the Northeastern Gulf of Mexico Shelf Ecosystem*, 30 *Endangered Species Research* 267 (2016); see also Wiggins, S. M., J. M. Hall, B. J. Thayre, J. A. Hildebrand. 2016. *Gulf of Mexico Low-Frequency Ocean Soundscape Impacted by Airguns*, 140 *Journal of the Acoustical Society of America* 176 (2016).

¹⁷⁷ *Oil and Petroleum Products Explained*, U.S. Energy Info. Admin., <https://www.eia.gov/energyexplained/oil-and-petroleum-products/oil-and-the-environment.php>; Robert Lamb & Desiree Bowie, *How Offshore Drilling Works* (updated Sep. 20, 2023), How Stuff Works, <https://science.howstuffworks.com/environmental/energy/offshore-drilling.htm#pt3>.

¹⁷⁸ Julia Hazel & Emma Gyuris, *Vessel-Related Mortality of Sea Turtles in Queensland, Australia*, 33 *Wildlife Rsch.* 149 (2006); Kristen M. Hart et al., *Marine Threats Overlap Key Foraging Habitat for Two Imperiled Sea Turtle Species in The Gulf of Mexico*, 5 *Front. Mar. Sci.* 336 (2018); *Endangered and Threatened Wildlife and Plants: Notice of 12-Month Finding on a Petition to List the Gulf of Mexico Bryde's Whale as Endangered Under the Endangered Species Act (ESA)*, 81 *Fed Reg.* 88,639, 88,648 (Dec. 8, 2016).

¹⁷⁹ NOAA Flower Garden Banks National Marine Sanctuary, *Sanctuary Boundaries*, <https://flowergarden.noaa.gov/visiting/boundaries.html> (accessed Oct. 27, 2023).

sharks, marine mammals, sea turtles and other predatory fishes like jack.¹⁸⁰ At a time when the world is facing a biodiversity crisis, and around 1 million species are threatened with imminent extinction, for some within decades,¹⁸¹ BOEM must critically analyze the impacts of an unnecessary and destructive industry on the Gulf’s biodiversity and the habitats that sustain that biodiversity, including migratory corridors, deepwater ecosystems, and every other system composing the marine scape in the Gulf of Mexico.

Abandoned and orphaned wells, pipelines, and other infrastructure can have substantial impacts on the Gulf environment. So can decommissioned infrastructure, despite best efforts to prevent future harms. BOEM must provide an honest assessment of the proportion of wells, pipelines, and platforms resulting from a lease sale that will be decommissioned, abandoned, or orphaned. It would be irrational to assume 100% of infrastructure will be successfully and promptly decommissioned. There is already a well-known shortfall of financial assurances necessary to cover just the existing decommissioning liabilities.¹⁸² BOEM has embarked on a research effort to better understand the impact of abandoned oil and gas wells on air and water quality in the Gulf.¹⁸³ It states, “The GOM has thousands of abandoned oil and gas wells with some dating back to the 1960s.”¹⁸⁴ And it acknowledges that there are concerns about the potential for oil leaks from abandoned wells to contaminate regional areas. The use of abandoned wells for carbon storage will create another environmental risk, as pressurizing those formations could increase the likelihood and magnitude of pollutants escaping from inadequately plugged wellbores.¹⁸⁵ BOEM must account for the likelihood that energy market trends, including those spurred by the IRA’s climate policies, are likely to lead to stranded assets on the OCS. As oil demand declines, OCS production would also decline and lead to more idle iron that must be decommissioned. At the same time, companies operating in the OCS would be earning less revenue from oil and gas as demand declines, increasing the likelihood that lessees will not be financially able to cover their decommissioning responsibilities. These issues together are likely to increase the proportion of leases with unaddressed decommissioning, so would increase the effects to the environment that occur when OCS operations are not decommissioned promptly or adequately.

The Gulf of Mexico supports industries apart from oil and gas, including offshore wind, carbon capture and sequestration, aquaculture, tourism, scuba diving, and commercial and recreational fisheries that catch tuna, swordfish, sharks, mackerel, lobster, crab, red drum, red

¹⁸⁰ National Marine Sanctuaries, Flower Garden Banks National Marine Sanctuary, <https://flowergarden.noaa.gov/about/specieslist.html> (accessed Oct. 27, 2023); see also NOAA Flower Garden Banks National Marine Sanctuary, West Flower Garden Bank, <https://flowergarden.noaa.gov/about/westflowergardenbank.html> (accessed Oct. 27, 2023).

¹⁸¹ *Global Assessment Report on Biodiversity and Ecosystem Services*, INTERGOVERNMENTAL SCIENCE-POLICY PLATFORM ON BIODIVERSITY AND ECOSYSTEM SERVICES (IPBES). E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany (2019), <https://doi.org/10.5281/zenodo.3831673>.

¹⁸² GAO, *Offshore Oil and Gas Resources: Information on Infrastructure Decommissioning and Federal Financial Risk*, GAO-17-642, at 2 (2017).

¹⁸³ BOEM, *Environmental Studies Program: Studies Development Plan - Impact of Abandoned Oil and Gas Wells on Air and Water Quality in the Gulf of Mexico (GOM) (GM-22-01)* (2021), <https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/GM-22-01.pdf>.

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

snapper, and shrimp.¹⁸⁶ Some of these industries are well-established while others are expected to grow quickly within the next decade. The federal government, for instance, has committed to deploying 30 GW of offshore wind by 2030.¹⁸⁷ BOEM must analyze the cumulative impacts of oil and gas activities in conjunction with these novel ocean users as well as the other existing marine-based industries.

In addition to leasing, there are many deepwater and mainland gas and oil export facilities proposed along the Gulf Coast. These facilities include (but are not limited to) the proposed SPOT Terminal Services, LLC; West Delta, LNG; Delfin LNG; and Texas GulfLink, LLC deepwater facilities and approximately 25 mainland gas export facilities (e.g. the Plaquemines LNG facility in Plaquemines Parish, Louisiana) that are either already approved, proposed, or under construction.¹⁸⁸ Given the sheer number of offshore facilities, BOEM must analyze the cumulative impacts of leasing in addition to all these proposed projects.¹⁸⁹ Indeed, United States LNG exports are projected to increase by an astounding 152% from 2022 to 2050, an increase equivalent to the gas use of the entire U.S. commercial sector projected for 2030.¹⁹⁰ And, beyond this, a number of massive deepwater crude oil ports have been proposed or approved for construction in the area, including the SPOT, GulfLink, Bluewater, and Blue Marlin projects, and these projects will also increase the risks of vessel strikes, increase the volume and ubiquity of vessel-related noise, and increase the risk of oil spills in the region. A cumulative evaluation of impacts must include a comprehensive analysis of how approval of these projects would intensify climate change and harm the ocean environment. Taken together, these projects' impacts on marine species and the climate are staggering; absent a comprehensive review of these projects' cumulative impacts, BOEM will be unable to meaningfully assess the risks its decisions may have on the global climate and on the Gulf of Mexico.

Finally, relevant CEQ guidance directs agencies like BOEM to consider proposed actions' cumulative GHG effects.¹⁹¹ Agencies must “consider the proposed action in the context of the emissions from past, present, and reasonably foreseeable actions.”¹⁹² “When assessing

¹⁸⁶ NOAA Fisheries, Sustainable Fisheries in the Gulf of Mexico,

<https://www.fisheries.noaa.gov/southeast/sustainable-fisheries/sustainable-fisheries-gulf-mexico>.

¹⁸⁷ DOE, *DOE Releases Strategy to Accelerate and Expand Domestic Offshore Wind Deployment* (Mar. 29, 2023), <https://www.energy.gov/articles/doe-releases-strategy-accelerate-and-expand-domestic-offshore-wind-deployment>.

¹⁸⁸ Robert Rozansky, *Gas Run Aground: Proposed Projects to Export US LNG by Ship Are Stuck with a Shallow Pool of Investors*, Global Energy Monitor (Mar. 2022), <https://globalenergymonitor.org/report/gas-run-aground-2022/> (attached); FERC, *North American LNG Export Terminals – Existing, Approved not Yet Built, and Proposed* (April 20, 2021), <https://cms.ferc.gov/media/north-american-lng-export-terminals-existing-approved-not-yet-built-and-proposed-1>.

¹⁸⁹ *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1216–17 (9th Cir. 2008) (“The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct.”); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 77 (D.D.C. 2019) (requiring agency to conduct cumulative impacts analysis of greenhouse gas emissions from related past, present and reasonably foreseeable leasing proposals in same region); *WildEarth Guardians v. U.S. Bureau of Land Mgmt.*, 457 F. Supp. 3d 880, 894 (D. Mont. 2020) (“The global nature of climate change and greenhouse-gas emissions means that any single lease sale or BLM project likely will make up a negligible percent of state and nation-wide greenhouse gas emissions. Thus, if BLM ever hopes to determine the true impact of its projects on climate change, it can do so only by looking at projects in combination with each other....”).

¹⁹⁰ See U.S. Energy Info. Admin., *U.S. Natural Gas Production and LNG Exports Will Likely Grow through 2050 in AEO2023*, <https://www.eia.gov/todayinenergy/detail.php?id=56320>.

¹⁹¹ CEQ GHG Guidance.

¹⁹² *Id.*

cumulative effects, agencies should also consider whether certain communities experience disproportionate cumulative effects, thereby raising environmental justice concerns.”¹⁹³ Here, therefore, BOEM must evaluate not just the direct and indirect GHG implications of a lease sale, but it must also consider those emissions in the aggregate, alongside the emissions associated with the myriad other LNG and oil export projects being proposed along the Gulf Coast. And it must also consider whether, together, these projects may disproportionately impact the many low-income and majority-minority communities living in the Gulf Coast region.

III. BOEM MUST PROPERLY DEFINE THE PURPOSE AND NEED AND THOROUGHLY EVALUATE ALL ALTERNATIVES

When evaluating proposed projects like that at issue here, agencies must consider a reasonable range of alternatives that are technically and economically feasible, while meeting the “purpose and need” of the proposed action.¹⁹⁴ Importantly, an agency cannot unreasonably narrow the proposed project’s purpose and need such that only one alternative among other more environmentally benign ones would accomplish the goals of the proposed action.¹⁹⁵ And, in defining the project’s purpose, the agency must consider Congress’s directives, primarily in the form of statutory policy objectives, as well as input from other agencies.¹⁹⁶ BOEM should not define the purpose and need so narrowly as to only provide for holding the lease sale. Instead, the purpose and need must account for the agencies’ statutory obligation to evaluate whether proposed lease sales are “consistent with the need . . . to balance orderly energy resource development with protection of the human, marine, and coastal environments.”¹⁹⁷ This must therefore include climate and ecological considerations, national security implications, and energy sufficiency impacts, each of which factor *against* BOEM holding a sale.

Moreover, NEPA requires a “detailed statement” of “alternatives to the proposed action.”¹⁹⁸ “[N]o major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.”¹⁹⁹ Agencies are not obliged to consider every alternative to every aspect of proposed actions, but they must nevertheless “consider such alternatives to the proposed action as may partially or completely meet” proposed projects’ purposes and needs.²⁰⁰ Accordingly, BOEM must evaluate a true “no-action” alternative (i.e. cancelling the sale altogether).²⁰¹ Further, in evaluating the no-action alternative, BOEM cannot assume that the sale would still occur at some future date or in some other location, as doing so would undermine the purposes of NEPA and “avoid[] the task actually facing [BOEM]”

¹⁹³ *Id.*

¹⁹⁴ 40 CFR § 1508.1.

¹⁹⁵ *League of Wilderness Defs. v. U.S. Forest Serv.*, 689 F.3d 1060, 1069-70 (9th Cir. 2012) (agencies are afforded “considerable discretion to define the purpose and need of a project” but they “cannot define the purpose and need of a project in unreasonably narrow terms”).

¹⁹⁶ *Protect Our Cmty's. Found. v. Jewell*, 825 F.3d 571, 579-80 (9th Cir. 2016); *see also Citizens against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991).

¹⁹⁷ 43 U.S.C. § 1802(2).

¹⁹⁸ 42 U.S.C. § 4332(C).

¹⁹⁹ *Env't Def. Fund v. Corps of Eng'rs*, 492 F.2d 1123, 1135 (5th Cir. 1974).

²⁰⁰ *Nat. Res. Def. Council, Inc. v. Callaway*, 524 F.2d 79, 93 (2d Cir. 1975).

²⁰¹ 40 C.F.R. § 1502.14(c); *Ctr. for Biological Diversity v. U.S. Dep't of the Interior*, 623 F.3d 633, 642 (9th Cir. 2010).

of determining what a lease sale’s environmental impacts would be as compared to the status quo.²⁰²

IV. BOEM MUST CONSIDER MORE PROTECTIVE ALTERNATIVES THAT INCORPORATE GEOGRAPHIC EXCLUSIONS, MITIGATION MEASURES, AND A CLIMATE SCREEN

In the PEIS, BOEM must “evaluate reasonable alternatives to the proposed action, and, for alternatives that the agency eliminated from detailed study, briefly discuss the reasons for their elimination.”²⁰³ The alternatives should “present the environmental impacts of the proposed action and the alternatives in comparative form” and “discuss each alternative considered in detail, including the proposed action, so that reviewers may evaluate their comparative merits.”²⁰⁴

BOEM’s notice of intent includes four alternatives (A, B, C, and D). Alternative A proposes the cancellation of the single representative lease sale. Alternative B proposes a region-wide lease sale subject to BOEM’s analysis of lease stipulations and other mitigating measures for environmental protection. Alternative C proposes a lease sale that would meet the IRA 60-million-acre requirement to allow offshore wind leasing to proceed and excludes the Rice’s whale core and critical habitats but does not include analysis of lease stipulations or mitigation measures. Alternative D proposes to exclude the largest amount of area, including the Rice’s whale core and critical habitat, but involves carrying out two lease sales to meet the IRA’s 60-million-acre requirement for offshore wind. Like in Alternative C, in Alternative D BOEM does not include analysis of lease stipulations or mitigation measures.

Offering expansive lease sale areas increases BOEM’s burden under NEPA to ensure that all direct and indirect impacts are considered and analyzed in the PEIS. The National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling found that “OCS lease sales cover such large geographic areas that meaningful NEPA review is difficult.”²⁰⁵ Accordingly, Alternative B is especially concerning since it proposes a region-wide lease sale, which would allow industry to dictate where to explore and develop; a decision that falls under BOEM’s authority and responsibility as the agency in charge of managing marine resources in an environmentally and economically responsible manner. In addition, BOEM should ensure that leasing will be consistent with the federal government’s commitment to reduce greenhouse gas emissions and combat climate change. BOEM should, therefore, offer an

²⁰² *Conservation Council for Haw. v. Nat’l Marine Fisheries Serv.*, 97 F. Supp. 3d 1210, 1236-37 (D. Haw. 2015); see also CEQ GHG Guidance, at 1205 (“For proposed actions involving such resource substitution considerations, where relevant, CEQ encourages agencies to conduct substitution analysis to provide more information on how a proposed action and its alternatives are projected to affect the resulting resource or energy mix, including resulting GHG emissions. Substitution analysis generally is relevant to actions related to the extraction, transportation, refining, combustion, or distribution of fossil fuels, for example. Agencies should not simply assume that if the federal action does not take place, another action will perfectly substitute for it and generate identical emissions, such that the action’s net emissions relative to the baseline are zero.”)

²⁰³ 40 C.F.R. § 1502.14(a).

²⁰⁴ *Id.* § 1502.14.

²⁰⁵ See Weekly Address: President Obama Establishes Bipartisan National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, May 22, 2010, <https://obamawhitehouse.archives.gov/the-press-office/weekly-address-president-obama-establishes-bipartisan-national-commission-bp-deepwa>.

alternative that includes limited leasing blocks, a climate screen prioritizing reduction of greenhouse gas emissions, lease stipulations, and mitigation measures.

A. The PEIS Should Consider an Alternative That Excludes Rice’s Whale Habitat With a 10 Kilometer or Greater Buffer and Establishes Protective Mitigation Measures.

As detailed in section I(C) above, multiple lines of scientific evidence demonstrate that Rice’s whale habitat extends across the entire Gulf of Mexico in waters between the 100m and 400m isobaths. Both NMFS and BOEM have recognized the importance of this habitat to the recovery and survival of the whale. NMFS recently proposed the area as designated critical habitat for Rice’s whale.²⁰⁶ Following a recommendation from NMFS,²⁰⁷ BOEM excluded the same area from offshore wind leasing in 2022, deeming it “unsuitable” for offshore wind development.²⁰⁸

Consistent with the importance of Rice’s whale habitat and its unsuitability for offshore wind, the habitat area should be excluded from oil and gas leasing. Oil and gas activities pose a far greater risk to Rice’s whale than offshore wind development. As described in section I(C), increased vessel traffic, noise from seismic surveys, and oil spills have the potential to cause injury, mortality, and behavioral and habitat disturbance. NMFS has repeatedly concluded that oil and gas activities in the Gulf of Mexico jeopardize the very survival of the species.²⁰⁹

Consequently, we strongly support inclusion of Alternatives C and D in the PEIS, which exclude whole and partial blocks within the full range of Rice’s whale habitat.²¹⁰ However, these alternatives should also exclude from leasing a 10 kilometer (km) (or greater) buffer around the habitat area to account for whale movement.²¹¹ Exclusion of Rice’s whale habitat plus a 10km

²⁰⁶ Proposed Rule, Designation of Critical Habitat for the Rice's Whale, 88 Fed. Reg. 47,453, 47,461 (July 24, 2023).

²⁰⁷ Comments of Andy Strelcheck, NMFS Regional Administrator for the Southeast Regional Office, to Tershara Matthews, Chief of Emerging Programs, BOEM, at 6 (Feb. 9, 2022) (scoping comments on Draft Environmental Assessment for commercial leasing wind power development on the Outer Continental Shelf in the Gulf of Mexico).

²⁰⁸ Memorandum from Michael Celata, Regional Director for BOEM Gulf of Mexico Regional Office, to Amanda Lefton, BOEM Director, at 12-13, 34 (July 20, 2022) (request for concurrence on Preliminary Wind Energy Areas for the Gulf of Mexico), <https://www.boem.gov/draft-area-id-memo-gom-508>.

²⁰⁹ NMFS, *Biological Opinion on Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico* at 554 (2020), <https://repository.library.noaa.gov/view/noaa/23738>; Patricia E. Rosel et al., *Status Review of Bryde's Whales (Balaenoptera edeni) in the Gulf of Mexico Under the Endangered Species Act* at iv (2016) (NOAA Tech. Memo. NMFS-SEFSC-692), <https://repository.library.noaa.gov/view/noaa/14180>.

²¹⁰ BOEM, “Gulf of Mexico Regional OCS Oil and Gas Programmatic Environmental Impact Statement,” <https://www.boem.gov/environment/environmental-assessment/gulf-mexico-regional-ocs-oil-and-gas-programmatic>.

²¹¹ A larger buffer would provide enhanced protection for Rice’s whales from a catastrophic oil spill. However, excluding a buffer greater than 10 km around Rice’s whale habitat may not leave enough available acreage to meet IRA’s requirement that BOEM offer 60 million acres in order to issue offshore wind leases. Conversely, a 10km buffer may be insufficient to meet the requirements of the Endangered Species Act or Marine Mammal Protection Act. BOEM should therefore consider excluding from leasing a buffer around Rice’s whale habitat that is larger than 10 km.

buffer would still allow BOEM to meet the 60-million-acre threshold for lease sales necessary to enable offshore wind leasing under the Inflation Reduction Act.²¹²

The PEIS should also analyze mitigation measures that reduce impacts to Rice’s whale from noise, vessel traffic, and habitat disturbance. Noise from seismic surveys used in oil and gas exploration disrupts whale behavior and communication, in addition to causing injury.²¹³ To minimize noise impacts from seismic testing, lease stipulations assessed under this alternative should include a requirement that operators use best available noise-reduction technology, such as modified airguns and other methods. Lease stipulations should require compliance with any noise output standards that BOEM may set in the future, for all deep-penetration seismic surveys taking place in the northern Gulf. Moreover, BOEM should include a lease stipulation restricting deep-penetration seismic surveys throughout Rice’s whale habitat, such that noise from such surveys does not reach or exceed sound pressure levels of 140 dB (re 1 micPa (RMS))²¹⁴—the exposure level that NMFS associates with direct impacts on foraging and other vital behaviors—anywhere in Rice’s whale habitat.

BOEM should include in the PEIS a lease stipulation that requires industry vessels operating in Rice’s whale habitat to meet quiet-vessel standards. It is well established that vessel noise can disrupt baleen whale behavior, mask their communications, and induce chronic stress.²¹⁵ To reduce harmful noise impacts, this lease stipulation should require that all industry vessels operating in or transiting through Rice’s whale habitat receive a quiet-vessel notation from an IACS-member ship-classification society, and that they comply with any vessel-quieting standards that BOEM may establish in the future.

The Rice’s whale is particularly vulnerable to collisions with vessels, with at least two whales struck by ships in recent years.²¹⁶ To minimize impacts from increased vessel traffic, BOEM should include a lease stipulation in the PEIS that establishes a 10-knot speed limit and a prohibition on transits at night and during low-visibility conditions in the full extent of Rice’s whale habitat, except when compliance would pose a safety risk. BOEM currently requires

²¹² 43 U.S.C. § 3006(b)(2)(B). A 10km buffer around Rice’s whale habitat would be approximately 5.7 million acres in size, based on internal NRDC calculations using GIS software. The Record of Decision (ROD) for Lease Sale 261 excluded areas similar to those excluded from leasing under Alternative C, and under the ROD, Lease Sale 261 would offer 67.3 million acres. Excluding an additional 5.7 million acres for the buffer would still allow BOEM to offer 60 million acres and meet the IRA threshold. *See* Record of Decision for Gulf of Mexico Outer Continental Shelf Oil and Gas Lease Sale 261, https://www.boem.gov/sites/default/files/documents/oil-gas-energy/leasing/GOM%20LS%20261%20ROD_508.pdf.

²¹³ *See* discussion *supra* section I(C).

²¹⁴ This is the threshold at which species “take” begins according to the standard presently applied by NMFS under the Marine Mammal Protection Act.

²¹⁵ *See, e.g.,* Hannah B. Blair et al., *Evidence for Ship Noise Impacts on Humpback Whale Foraging Behaviour*, 12 *Biol. Lett.* (2016); Danielle Cholewiak et al., *Communicating Amidst the Noise: Modeling the Aggregate Influence of Ambient and Vessel Noise on Baleen Whale Communication Space in a National Marine Sanctuary*, 36 *Endang. Spec. Res.* 59 (2018); Jennifer Tennessen & Susan Parks, *Acoustic Propagation Modeling Indicates Vocal Compensation in Noise Improves Communication Range for North Atlantic Right Whales*, 30 *Endang. Spec. Res.* 225 (2016); Rosalind M. Rolland et al., *Evidence That Ship Noise Increases Stress in Right Whales*, 279 *Proc. Royal Soc’y B* 2363 (2012).

²¹⁶ P.E. Rosel, L.A. Wilcox, T.K. Yamada & K.D. Mullin, *A New Species of Baleen Whale (Balaenoptera) From the Gulf of Mexico, with a Review of Its Geographic Distribution*, 37 *Marine Mammal Sci.* 577 (2021). *See* discussion *supra* section I(C).

vessels to follow ship-strike prevention measures in Rice’s whale habitat in the eastern Gulf, and a new notice to lessees (NTL) recommends that vessels follow a 10-knot speed limit and avoid transits at night or in low-visibility conditions in the entire habitat area.²¹⁷ A lease stipulation making these measures mandatory throughout the entirety of Rice’s whale habitat would significantly mitigate the risk of vessel collisions.

Finally, BOEM should analyze in the PEIS lease stipulations prohibiting anchoring and the placement of new structures, drilling rigs, and pipelines in the whale’s habitat. It is likely, as NOAA stated in listing Rice’s whale as endangered, that oil and gas development has contributed to the constriction of the species’ range.²¹⁸ These measures would prevent further damage to the whale’s limited habitat.

B. The PEIS Should Consider an Alternative that Establishes a Climate Screen to Mitigate Climate Impacts of a Lease Sale.

International scientific evidence has unequivocally established that human-caused climate change is a severe and pervasive threat to all aspects of society. The climate crisis is largely driven by the burning of fossil fuels, and the impacts of climate change are projected to worsen without a significant and rapid reduction in global reliance on these fuels. Considering the significant GHG emissions of a lease sale, the PEIS should analyze an alternative that adopts a climate screen to ensure that any issuance of new offshore oil and gas leases conforms with U.S. climate goals. BOEM would apply the climate screen to its leasing decisions and only issue new leases that are consistent with achieving climate goals, taking into consideration existing leases and operations on those leases and future operations on any new lease issued. The climate screen could be tied to several different benchmarks, including a fifty percent reduction in GHG emissions by 2030, the nation’s Paris Agreement commitments, or a cut-off based on the social cost of carbon.

Under OCSLA, BOEM has broad discretion to adopt a climate screen to inform leasing decisions. The Act’s policies provide that OCS development be “subject to environmental safeguards,” consistent with “national needs,”²¹⁹ and “reflect[ing] the public interest.”²²⁰ Section 18, which requires the Secretary to prepare a five-year program containing a schedule of offshore lease sales, directs the Secretary to consider environmental impacts and the environmental value of OCS resources when managing the OCS.²²¹ Moreover, the Secretary of Interior and BOEM have broad discretion over decisions to conduct lease sales and to accept or reject any bids received. OCSLA authorizes, but does not require, BOEM to grant OCS oil and gas leases to the

²¹⁷ BOEM, *Notice to Lessees and Operators of Federal Oil and Gas, and Sulphur Leases in the Gulf of Mexico Outer Continental Shelf*, BOEM NTL No. 2023-G01 (Aug. 17, 2023). This NTL was issued pursuant to the *Sierra Club* settlement agreement. *Sierra Club v. NMFS*, No. 8:20-cv-03060-DLB (D. Md. July 21, 2023).

²¹⁸ 84 Fed. Reg. 15,446, 15,459, 15,460, 15,463-64, 15474-75 (Apr. 15, 2019); *see also* Patricia E. Rosel et al., *Status Review of Bryde’s Whales (Balaenoptera edeni) in the Gulf of Mexico under the Endangered Species Act* (2016) (NOAA Tech. Memo. NMFS-SEFSC-692).

²¹⁹ 43 U.S.C. § 1332(3).

²²⁰ 43 U.S.C. § 1801(7).

²²¹ 43 U.S.C. § 1344(a)(1) (Secretary must consider “economic, social, and environmental values” of OCS resources and the “potential impact of oil and gas exploration” on the environment).

highest bidder(s) following a lease sale.²²² As noted in OCSLA regulations, BOEM “reserves the right to reject any and all bids received, regardless of the amount offered.”²²³

One method of establishing a climate screen for leasing decisions consists of creating a carbon budget and issuing only the number of leases that would not exceed that budget. Under this system, BOEM would first define the carbon budget, representing a total allowable amount of carbon that may be emitted under leases issued pursuant to the five-year program (e.g., based on U.S. commitments under the Paris agreement). This carbon budget would be divided across the lease sales scheduled in the five-year program. Then, in advance of each lease sale BOEM would publish in the proposed and final notices of sale a specific amount of production in barrels of oil equivalent (BOE) that may be produced by that sale. The notice would inform prospective lessees that BOEM will only accept as many bids and issue as many leases as are estimated to fall within the maximum amount of production.

After holding the lease sale and receiving bids, BOEM would estimate the amount of oil or gas that will be produced from each tract receiving bids over the lifetime of a lease for that tract. This estimate would be based on information submitted by bidder, something that is already being done to enable BOEM to determine fair market value. Using the lease sale’s assigned overall production cap as a ceiling, BOEM would accept bids sequentially, starting with the bid producing the highest value per unit production²²⁴ (one per tract) and proceeding down the list. As BOEM is accepting bids, it would keep track of the estimated oil and gas production that might result from acceptance of each bid. BOEM would continue to accept the highest-value bids that fall within the production cap and stop accepting bids once the production cap has been reached (without exceeding the cap). The agency would then reject all remaining bids. Moving forward, BOEM would adjust its carbon budget to account for any cancelled lease sales or discrepancies between predicted and actual production.

C. The PEIS Should Consider an Alternative Excluding Additional Environmentally Sensitive Areas From Leasing.

As detailed in our comment on BOEM’s Call for Information and Nominations for Western, Central, and Eastern Gulf of Mexico Outer Continental Shelf Oil and Gas Lease Sales for 2024-2029 (“Healthy Gulf Comments”),²²⁵ BOEM should exclude from oil and gas leasing additional environmentally sensitive areas and those that pose a conflict with other uses of the Gulf. These areas include blocks containing topographic features with sensitive biological habitat

²²² 43 U.S.C. § 1337(a)(1).

²²³ 30 C.F.R. § 556.516(b). As an example of this discretion, BOEM currently assesses all bids received using the agency’s bid adequacy procedures for the purpose of comparing the value offered by a bidder to BOEM’s estimated value of that tract. These procedures were designed to help “assure receipt of fair market value” for OCS leasing. 43 U.S.C. § 1344(a)(4). If BOEM determines that a bid does not represent fair market value, the agency will reject that bid.

²²⁴ Assigning royalty rate as the bidding variable would allow BOEM to easily rank bids by highest value per unit production. See 43 U.S.C. § 1337(a)(1)(B) (authorizing use of variable royalty bidding in OCSLA lease sales).

²²⁵ Healthy Gulf et al., *Comments on the Call for Information and Nominations for Western, Central, and Eastern Gulf of Mexico Outer Continental Shelf Oil and Gas Lease Sales for 2024-2029*, Docket BOEM-2023-0053, at 5-25 (Nov. 1, 2023), attached hereto [hereinafter Healthy Gulf Comments].

(expanded as described in Healthy Gulf Comments and below),²²⁶ the entire Flower Garden Banks National Marine Sanctuary, non-energy mineral borrowing areas (particularly Significant Sediment Resource Areas), wind energy area options identified by BOEM in its offshore wind suitability analysis,²²⁷ and areas identified by other agencies as unsuitable or posing a conflict. BOEM should analyze an alternative in the PEIS that excludes these areas, to the extent that such exclusions are not already considered in Alternatives C and D.²²⁸

D. The PEIS Should Consider Additional Measures to Avoid, Minimize, and Mitigate Impacts to the Environment.

BOEM should include the following mitigation measures as part of its alternatives in the PEIS. These measures would be implemented as lease stipulations, or in a notice to lessees (NTL) where indicated.

- Consider in the PEIS all mitigation measures described in the Healthy Gulf Comments, including: expanding the “Topographic Features” stipulation and NTL No. 2009-G39 to protect low relief features with sensitive biological habitat, to increase buffer zones, and to cover the entire FGBNMS; prohibiting lessees and operators from utilizing oil and gas leases for carbon storage; requiring operators to measure and report more accurate methane emissions data by incorporating top-down measurement methods; incentivizing lessees to enter into Community Benefit Agreements with environmental justice communities; and incorporating commonly-applied post-lease mitigation measures into mandatory lease stipulations.²²⁹ BOEM should also collaborate with environmental justice communities to co-develop mitigation measures that will protect these communities from the impacts of oil and gas development.²³⁰
- Require additional safeguards to prevent blowouts and catastrophic oil discharges.

The 2010 *Deepwater Horizon* catastrophe arose from a single accident on an offshore drilling rig involving a failed cement installation, failed cement testing, and a failed blowout preventer system. The Bureau of Safety and Environmental Enforcement (BSEE) recently finalized changes to the Well Control Rule,²³¹ which was first published in 2016 to correct some of the deficiencies that investigators found contributed to the BP *Deepwater Horizon* disaster. Although the final Well Control Rule improved standards for operations using blowout preventers, significant gaps remain.

²²⁶ *Id.* at 10-14.

²²⁷ A.L. Randall et al., *A Wind Energy Area Siting Analysis for the Gulf of Mexico Call Area*, <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/GOM-WEA-Modeling-Report-Combined.pdf>.

²²⁸ See BOEM, “Gulf of Mexico Regional OCS Oil and Gas Programmatic Environmental Impact Statement,” <https://www.boem.gov/environment/environmental-assessment/gulf-mexico-regional-ocs-oil-and-gas-programmatic>.

²²⁹ Healthy Gulf Comments, at 26-37.

²³⁰ *Id.*

²³¹ Final rule, Oil and Gas and Sulfur Operations in the Outer Continental Shelf-Blowout Preventer Systems and Well Control Revisions, 88 Fed. Reg. 57,334 (Aug. 23, 2023).

The PEIS should include three mitigation measures requiring operators to implement additional safeguards to help prevent another *Deepwater Horizon*-like catastrophe. First, BOEM should require that all lessees have the capability to deploy the full range of Source Control and Containment Equipment (SCCE) to control or contain a blowout. BSEE regulations currently require drilling operations to have access to SCCE generally but do not require that operations have access to specified types of SCCE.²³² The PEIS should include a mitigation measure requiring drilling operations to have access to *all* eight types of SCCE listed as voluntary in BSEE regulations.²³³ Increasing the amount of mandatory SCCE equipment would provide necessary protections for worker safety and the environment. Well control cooperatives were set up after the *Deepwater Horizon* spill, and oil and gas companies can join these cooperatives to access the full suite of well control equipment for an annual fee.

Second, the PEIS should include a mitigation measure requiring cement evaluation logs for all offshore wells. Cement failure was a root cause of the *Deepwater Horizon* blowout, yet BSEE generally relies on industry volunteering to run cement evaluation logs. Cement evaluation logs are critical to ensuring correct cement placement and verifying cement repairs. They should therefore be required for all offshore wells, and, in particular, for complex wells or wells in environmentally sensitive locations.

Third, the PEIS should include a mitigation measure prohibiting the use of a blowout preventer that is under investigation by BSEE. If a component failure or other issue is serious enough to warrant a BSEE-required investigation, it is serious enough to halt use of that same blowout preventer during that investigation until corrective actions are made and the BOP has been verified fit for service.

- Require lessees to decommission idle wells prior to bidding on new leases.

Poorly decommissioned, orphaned, and abandoned wells harm the marine environment and contribute to climate change. Such wells are at a high risk of leaking or spilling oil into the ocean.²³⁴ They can also emit methane, a climate pollutant with eighty times the warming power of carbon dioxide during the first twenty years it is in the atmosphere.²³⁵ Lessees are required by law and the terms of their leases to decommission offshore wells, yet thousands of idle wells remain unplugged in federal waters.²³⁶ To prevent and mitigate environmental harm from abandoned wells, BOEM should stipulate that historic or current owners of abandoned or idle wells in federal waters that require decommissioning are not eligible for new leases. Companies who have not fulfilled their decommissioning obligations in the past should not be awarded new leases until their prior commitments have been met.

²³² 30 C.F.R. § 250.462(b).

²³³ *Id.*

²³⁴ Zainab Mirza, Say Sanchez & Miriam Goldstein, *Fixing Abandoned Offshore Oil Wells Can Create Jobs and Protect the Ocean*, Ctr. for Am. Progress (Apr. 20, 2022), <https://www.americanprogress.org/article/fixing-abandoned-offshore-oil-wells-can-create-jobs-and-protect-the-ocean/>.

²³⁵ *Id.*

²³⁶ Mark Agerton et al., *Financial Liabilities and Environmental Implications of Unplugged Wells for the Gulf of Mexico and Coastal Waters*, 8 *Nature Energy* 536 (2023).

V. CONCLUSION

Expansion of the oil and gas industry in the Gulf of Mexico is unnecessary, harmful, and contrary to the federal government’s commitments to transition toward renewables and away from fossil fuels to combat climate change, prioritize environmental justice, and protect biodiversity.

The Biden Administration set out a goal to reduce greenhouse gas emissions by 50 percent from 2005 levels by 2030 and to achieve net zero emissions by 2050, directed federal agencies to develop “programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities”²³⁷ and incorporated environmental justice into the NEPA process,²³⁸ and committed to protecting biodiversity.²³⁹ Accordingly, additional oil and gas lease sales in the Gulf of Mexico are antithetical to the Administration’s purported goals.

If BOEM, nonetheless, moves forward with a lease sale, it must “take a hard look” at all the foreseeable direct and indirect environmental impacts,²⁴⁰ including increased greenhouse gas emissions, disproportionate harm on Gulf communities’ health and livelihoods, the impacts on the critically endangered Rice’s whale, the risk and long-term effects of small as well as catastrophic oil spills, and the impacts of all other activities related to oil and gas operations in the Gulf of Mexico. In the PEIS, BOEM must also analyze the cumulative effect of all these impacts. Namely, BOEM must take a hard look at “the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions.”²⁴¹

Finally, when evaluating a lease sale, BOEM must consider a reasonable range of alternatives.²⁴² To comply with this obligation, BOEM must present additional alternatives that simultaneously include geographic exclusions, contain mitigation measures to protect the environment, and incorporate a climate screen. These considerations can be implemented concurrently and as mentioned throughout these comments, are part of the federal government’s policy priorities, falling squarely into the reasonable range of alternatives that BOEM is legally required to consider, rigorously explore, and objectively evaluate in the PEIS.²⁴³

Sincerely,

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²³⁷ 86 Fed. Reg. at 7629.

²³⁸ CEQ, *Environmental Justice Guidance Under the National Environmental Policy Act* (Dec. 10, 1997), http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-EJGuidance.pdf.

²³⁹ The White House, *Countries Follow U.S. Lead and Set Global Goal to Protect at Least 30% of Lands and Waters by 2030* (Dec. 19, 2022), <https://www.whitehouse.gov/ceq/news-updates/2022/12/19/countries-follow-u-s-lead-and-set-global-goal-to-protect-at-least-30-of-lands-and-waters-by-2030/>.

²⁴⁰ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989); 40 C.F.R. § 1502.1; 42 U.S.C. § 4321, *et seq.*

²⁴¹ 40 C.F.R. § 1508.1.

²⁴² *Id.*; 40 C.F.R. § 1502.14.

²⁴³ 40 C.F.R. § 1502.14(a).

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