

Stop the Drilling Before it Starts

5 Reasons to Withdraw the U.S. Arctic and Atlantic Oceans from All Future Leasing

The U.S. Arctic and Atlantic Oceans are held in trust for the benefit of all Americans. These vibrant seas are still undeveloped and undamaged by the oil industry. The Arctic Ocean is home to a vast array of wildlife yet already facing severe threats from climate change. The Atlantic Ocean supports a rich web of life and thriving coastal economies. Oil production in these oceans—if feasible at all—would take decades to come online, arriving after the transition to cleaner fuels must already have taken place if we are going to avoid the worst impacts of climate change. We must ensure that the U.S. helps to ramp down extraction of fossil fuels—fuels we don't need and can't afford to burn—by no longer dedicating our publicly-owned lands and waters to new development. Withdrawing the Arctic and Atlantic from all future oil and gas leasing will grant these waters the permanent protection they so richly deserve and send a powerful global signal that the U.S. is taking steps to get out of the dirty energy business.

Power of the Pen

- **With the stroke of a pen the President can help protect the climate and ensure the fate of our spectacular, undeveloped Arctic and Atlantic oceans is decided now and not left to an uncertain future.**
- The Outer Continental Shelf Lands Act bestows Presidential authority to withdraw permanently any marine area from eligibility for all future oil and gas leasing.ⁱ
- Presidents from Eisenhower to Obama have used this same authority to preserve millions of ocean and coastal acres from oil and gas exploitation, and to protect their natural and community values.ⁱⁱ

Some Fossil Fuels Must Be Kept in the Ground Permanently

- **To benefit the climate, we must take the Arctic and Atlantic’s unproven reserves off the table—forever. Science tells us it is not enough to leave these fossil fuels undeveloped for only five years--the time frame of the offshore oil and gas leasing program being developed by the Bureau of Ocean Energy Management.**
- Proven fossil fuel supplies already far exceed what the science says we can afford to burn, to limit warming to 2°C or less.ⁱⁱⁱ Recent analysis also indicates that phasing-out federal fossil fuel extraction would contribute to global emissions reductions.^{iv} There is simply no room in a rational carbon budget for any Arctic or Atlantic offshore oil, essentially all of which is classified as unproven.^v
- Drilling in these oceans would trigger “carbon lock-in” that promotes fossil fuel use far beyond what the science indicates is justifiable. Lock-in occurs when an industry has major sunk costs in an enterprise because it has strong incentives to keep operating to eke out marginal income.^{vi} This investment “lock-in” effect is particularly strong for offshore oil and gas in undeveloped areas like the Arctic and Atlantic because of the huge new infrastructure required.^{vii}
- Exploiting oil and gas reserves just in the U.S. Arctic Ocean has the potential to release as much as 15.8 billion tons of CO₂ into the atmosphere when burned^{viii}—equivalent to the emissions from all U.S. transportation modes over a 9 year time period.^{ix}

Clean—Not Dirty—Energy Must Power the Future

- **Opening the Arctic and Atlantic to drilling—ever—is a vote against clean energy and our ability to make even moderate progress on combating climate change.**
- To meet the Paris commitments all countries must significantly cut emissions in the next three decades, with the U.S. and other industrialized countries showing even greater leadership.^x As a result, the U.S. car fleet must be largely transitioned away from oil no later than 2050, with extensive cuts achieved in this sector over the next two decades.^{xi}
- The long-lead times and massive infrastructure development required means oil production in the Arctic and Atlantic—if feasible at all—would take decades to reach the pump, arriving after the transition to cleaner fuels must have already taken place.
- The writing is on the wall for oil as banks and other financial institutions increasingly warn against investing in long-term, high-cost fossil fuel ventures.^{xii} ^{xiii} In fact, oil companies themselves—including Shell—already have relinquished existing leases in the Arctic.

- Clean energy is already growing faster than any prediction, fueling job growth across the country. Last year, 70% of new power generation was renewable. Domestic gasoline consumption is below its 2007 peak despite vehicle miles being at record high levels.^{xiv} The development and demand for low-carbon technologies—like electric vehicles—are outpacing every prediction.^{xv}
- Just one quarter of our nation's offshore wind potential would match our nation's entire existing fossil fuel-based electricity generating capacity.^{xvi} Smart transportation policies could save the U.S. nearly 4 billion barrels of oil annually by 2035, nearly the same amount of oil, in a single year, as the Interior Department estimates can ever be recovered from drilling all our offshore waters from Florida to Maine.^{xvii}
- Proponents of the massive investment needed to open the Arctic and Atlantic to drilling are ignoring both clean energy's growth and our climate commitments. They are betting against clean energy and against winning on climate change – and they want the federal government to do so too.

Offshore Drilling Runs Clear, Severe, Unnecessary Risks

- **Offshore drilling would put the Arctic and Atlantic's communities and ecosystems at grave risk of devastating oil spills.**



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- The Department of Interior's own assessment finds there is a **75%** chance of one or more oil spills of greater than 1,000 barrels should oil production move forward in the Arctic's Chukchi Sea.^{xviii}
- The three primary oil spill response methods in the Arctic—mechanical containment and recovery, *in situ* burning, and dispersants—would likely be even less effective (and more damaging) than in much less harsh and remote conditions.^{xix xx}
- In the Atlantic, a spill equivalent to the BP Gulf oil disaster could coat beaches stretching from Savannah to Boston.^{xxi} A spill off Virginia's coast would threaten the Jersey Shore. The region's established tourism, recreation and fishing industries - worth over \$40 billion annually—are reliant on clean and healthy ocean waters. A single big spill would risk over 244,000 seafood-supported jobs and more than \$650 million in annual seafood catches.^{xxii}

Setting the Global Model

- **U.S. leadership would once again demonstrate we intend to meet our global commitments and are aligning the use of our federally owned oceans with a clean energy future—not industry predictions of global climate failure.**
- The mandate from Paris is clear that we must use every tool in the toolbox to accelerate the transition to a low carbon world.
- Withdrawing the Arctic and Atlantic would model for other countries the importance of disentangling national resources from investment in future fossil fuel development.
- In contrast, if world governments continue to flood markets with fossil fuels in a race for market share, we will continue to encourage investment in polluting energy instead of clean energy solutions. ^{xxiii}

ⁱ See 43 U.S.C. § 1341(a).

ⁱⁱ See Obama, B.H., Dec. 16, 2014, Memorandum on Withdrawal of Certain Areas of the United States Outer Continental Shelf From Leasing Disposition (2014 Daily Comp. Pres. Docs. 934); Clinton, W.J., June 12, 1998, Memorandum on Withdrawal of Certain Areas of the United States Outer Continental Shelf From Leasing Disposition (34 Weekly Comp. Pres. Docs. 1111); Eisenhower, D.D., Mar. 17, 1960, Proclamation 3339—Establishing the Key Largo Coral Reef Preserve (F.R. Doc. 60–2544).

ⁱⁱⁱ Intergovernmental Panel on Climate Change (IPCC), Climate Change 2014: Synthesis Report, at 63, available at https://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full.pdf

^{iv} Erickson, P. and M. 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 2016-02 (2016), available at <https://www.sei-international.org/publications?pid=2937>. The report estimates that such a policy would lead to a net reduction of global CO₂ emissions from oil of 31 million metric tons of CO₂ in the year 2030. Of this total, 85% (or 26 million metric tons of CO₂ in 2030) can be attributed to offshore oil leases covered by BOEM’s five-year planning process. *Id.* at 25-26.

^v McGlade, C. and P. Elkins, *The geographical distribution of fossil fuels unused when limiting global warming to 2 degrees C*, *Nature* 517: 187-190 (Jan. 8, 2015).

^{vi} As the *Economist* reported in its January 23, 2016 edition: “In the industry at large, the incentive is to keep producing ‘as flat out as you can’, once investment costs have been sunk into the ground, says Simon Henry, Shell’s chief financial officer.” *The oil conundrum: Plunging prices have neither halted oil production nor stimulated a surge in global growth*, *The Economist* (Jan. 23, 2016); see also Smil, V., *The Long Slow Rise of Solar and Wind*, *Scientific American* (Jan. 2014) (“Even if we were given free renewable energy, it would be economically unthinkable for nations, corporations or municipalities to abandon the enormous investments they have made in the fossil-fuel system, from coal mines, oil wells, gas pipelines and refineries to millions of local filling stations—infrastructure that is worth at least \$20 trillion across the world.”); Lazarus, M. and P. Erickson, *Global emissions: New oil investments boost carbon lock-in*, *Nature* 526: 43 (Oct. 1, 2015).

^{vii} Erickson, P., M. Lazarus, and K. Tempest, *Carbon Lock-in from Fossil Fuel Supply Infrastructure*, Stockholm Environment Institute (2015), available at <https://www.sei-international.org/mediamanager/documents/Publications/Climate/SEI-DB-2015-Carbon-lock-in-supply-side.pdf>.

^{viii} The U.S. Arctic Ocean has 23.6 billion barrels of technically recoverable oil and 104.41 trillion cubic feet of technically recoverable gas. See U.S. Dep’t of the Interior, Bureau of Ocean Energy Mgmt., Assessment of Undiscovered Oil and Gas Resources of the Nation’s Outer Continental Shelf, 2016, at 3, Table 1, available at <http://www.boem.gov/National-Assessment-2016/>. One barrel of oil = 0.43 metric tons of CO₂. See U.S. Evtl. Prot. Agency, Green Power Equivalency Calculator Methodologies, available at <https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references>. One cubic foot of gas = 0.0000545 metric tons of CO₂. See

id. Producing and burning all reserves would result in 15.8 billion metric tons of CO₂ (10.1 billion from oil and 5.7 billion from gas).

^{ix} U.S. Env'tl. Prot. Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2014 (2016), at ES-5, Table ES-2, available at <https://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2016-Chapter-Executive-Summary.pdf>.

^x According to the IPCC, in order to have a likely chance of keeping temperatures below 2°C compared to pre-industrial levels, global emissions must be 41-72% below 2010 levels in 2050 (Fifth Assessment Report, Working Group III Summary for Policymakers, Table SPM.1). Holding temperatures to less than 1.5°C would require even deeper emissions cuts. A recent study has found that staying below the 2°C threshold may require even deeper cuts than previously estimated as the remaining “carbon budget” could be half previous estimates (Rogelj & Knutti, *Nature Geoscience*, 22 Feb 2016).

^{xi} The U.S. is currently aiming to cut its emissions by 83% compared to 2005 levels in 2050. One study looking at achieving this U.S. target found that oil consumption would need to be cut by over 50% by 2040 to meet this target. Williams, J.H. et al., *Policy implications of deep decarbonization in the United States*, Energy & Env'tl. Econ., Inc. and the Deep Decarbonization Pathways Project (Nov. 2015), Figure 16. Even deeper cuts from industrialized countries are likely needed to hold temperatures below the 2°C threshold. For industrialized countries these studies have found that emissions reduction targets would need to reach 80-100% compared to 2010 levels in 2050 to hold temperatures well below 2°C. IPCC, Working Group III, Figure 6.29. As a result, achieving even deeper U.S. emissions cuts would likely result in greater oil consumption reductions.

^{xii} Carney, M., Breaking the tragedy of the horizon - climate change and financial stability, (Sept. 29, 2015) (speech given at Lloyd's of London), available at <http://www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx>.

^{xiii} Dlouhy, J.A., *Big Oil Abandons \$2.5 Billion in U.S. Arctic Drilling Rights*, Bloomberg (May 9, 2016), available at <http://www.bloomberg.com/news/articles/2016-05-10/big-oil-abandons-2-5-billion-in-u-s-arctic-drilling-rights>.

^{xiv} Energy Info. Admin., Monthly Energy Review (Apr. 2016); Fed. Highway Admin., *Traffic Volume Trends* (Feb. 2016).

^{xv} LeBeau, P., *UPDATE: Tesla CEO Musk says Model 3 orders now at 232K*, CNBC (Apr. 2, 2016), available at <http://www.cnbc.com/2016/04/01/why-teslas-model-3-is-blowing-away-expectations.html>.

^{xvi} See U.S. Dep't of Energy, Office of Energy Efficiency & Renewable Energy, *Offshore Wind Research and Development*, available at <http://energy.gov/eere/wind/offshore-wind-research-and-development>.

^{xvii} See Tonachel, L., *Cleaner, Cheaper and Faster: Why Efficiency Beats Drilling*, NRDC (March 10, 2011), available at <https://www.nrdc.org/experts/luke-tonachel/cleaner-cheaper-and-faster-why-efficiency-beats-drilling>; Lehner, P., *New Drilling Plan Puts Jersey Shore to Miami Beach and Wild Arctic at Risk*, NRDC (January 27, 2015) available at <https://www.nrdc.org/experts/peter-lehner/new-drilling-plan-puts-jersey-shore-miami-beach-and-wild-arctic-risk>; U.S. Dep't of the Interior, Bureau of Ocean Energy Mgmt., 2017-2022 Outer Continental Shelf Oil and Gas Leasing Draft Proposed Program (Jan. 2015), available at <http://www.boem.gov/2017-2022-DPP>.

^{xviii} U.S. Dep't of the Interior, Bureau of Ocean Energy Mgmt., *Chukchi Sea Planning Area OCS EIS/EA*, (Oct. 2014), at 186, available at

http://www.boem.gov/uploadedFiles/BOEM/About_BOEM/BOEM_Regions/Alaska_Region/Environment/Environmental_Analysis/Lease_Sale_193_DraftSSEIS_vol1.pdf.

^{xix} Pew Env't Grp., *Oil Spill Prevention and Response in the U.S. Arctic Ocean: Unexamined Risks, Unacceptable Consequences* (Nov. 2010), available at

<http://www.pewtrusts.org/~media/legacy/uploadedfiles/peg/publications/report/Oil20Spill20Preventionpdf.pdf>.

^{xx} For example, oil spill recovery in the Deepwater Horizon incident was only 3% from skimming. Lubchenco, J., Nat'l Oceanic & Atmospheric Admin. & U.S. Geological Survey, *BP Deepwater Horizon Oil Budget: What Happened To the Oil?* (2010), available at

http://www.noaanews.noaa.gov/stories2010/PDFs/OilBudget_description_%2083final.pdf.

^{xxi} The total extent of shoreline impacted by the BP oil spill was 1,300 miles. Deepwater Horizon Nat. Res. Damage Assessment Trustees. *Deepwater Horizon oil spill: Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement* (Feb. 2016), available at

<http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan>.

^{xxii} See Nat'l Ocean Econ. Program, *Ocean Economy Data*, available at

<http://www.oceaneconomics.org/Market/ocean/oceanEcon.asp>.

^{xxiii} “Full energy efficiency potential will not be realized while end-user prices are too low. ... artificial reduction in energy costs leads to higher than optimal demand for energy.” Int'l Energy Agency, *World Energy Outlook 2011* (Nov. 9, 2011), available at http://www.iea.org/publications/freepublications/publication/WEO2011_WEB.pdf.