ASSESSING SOLUTIONS TO SECURE AMERICA'S OFFSHORE ENERGY FUTURE

OVERSIGHT HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

OF THE

COMMITTEE ON NATURAL RESOURCES
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CONTENTS

OVERSIGHT HEARING ON ASSESSING SOLUTIONS TO SECURE AMERICA'S OFFSHORE ENERGY FUTURE

Thursday, April 18, 2024
U.S. House of Representatives
Subcommittee on Energy and Mineral Resources
Committee on Natural Resources
Washington, DC

The Subcommittee met, pursuant to notice, at 9:32 a.m. in Room 1324, Longworth House Office Building, Hon. Pete Stauber [Chairman of the Subcommittee] presiding.

Present: Representatives Stauber, Graves, Duarte, Westerman; and Kamlager-Dove.

Also present: Representative Carl.

Mr. STAUBER. The Subcommittee on Energy and Mineral Resources will come to order.

Without objection, the Chair is authorized to declare a recess of the Subcommittee at any time.

Under Committee Rule 4(f), any oral opening statements at hearings are limited to the Chairman and the Ranking Minority Member.

I ask unanimous consent that the gentleman from Alabama, Mr. Carl, be allowed to participate in today's hearing.

Without objection, so ordered.

I now recognize myself for an opening statement.

STATEMENT OF THE HON. PETE STAUBER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MINNESOTA

Mr. STAUBER. Good morning. Today, our hearing focuses on a pivotal topic for our nation's energy future: "Assessing Solutions to Secure America's Offshore Energy Future."

The United States is blessed with substantial oil and gas reserves, yet the full extent of these resources remains partially untapped and, in some cases, inadequately understood. Recent evaluations included in the 2021 Undiscovered Resources Assessment by BOEM have illuminated the promising horizons that technological advancements offer, potentially unlocking energy reserves previously deemed inaccessible.

Though it is crucial to recognize that these promising reports might just be the tip of the iceberg, our nation's offshore energy resources represent not only a vital source of energy security, but also a cornerstone of our economic prosperity and environmental stewardship.

At the heart of this discussion lies the intersection of international competition and future energy demand as we assess viable solutions to Federal resource assessments.

As global energy markets evolve and demand continues to rise, it is incumbent upon us to enable America to maintain its leadership in offshore energy innovation and development. Failure to do so risks ceding ground to adversarial nations and jeopardizing our energy security. Forecasts tell us as much. Just last year, 5 billion barrels of oil were discovered globally, but energy data firms estimate by 2050 we will need to discover over 17 million barrels per year to meet the global energy demand.

BOEM's current 5-year plan and current Resource Assessment Framework do not offer viable paths to significantly aid in achieving this necessary level of discovery. One contributing factor in the long list of issues is the current permitting process, with timelines and agency decisions costing millions of dollars, thousands of hours in labor, and years of time before a decision is executed.

Streamlining permitting processes, fostering collaboration between industry and government, incentivizing innovation, and providing more opportunities to lease will be key to unlocking the full potential of America's offshore energy resources. Following through with these reforms could ensure that informed decisions are made at the Department of the Interior, preventing regrettable statements like Secretary Haaland has made, who once admitted, "I don't know what kind of minerals were there. I don't think they were critical minerals." And she was talking about the Duluth complex, the biggest untapped copper nickel find in the world, in Minnesota's Iron Range in the district that I am privileged to represent.

With this example in mind, we cannot afford to overlook the pivotal role of geoscience exploration efforts informing our energy decisions. By harnessing the power of data and analysis, we can gain invaluable insights into offshore resource potential and environmental impacts, as well as provide greater access and incentivize actions for producers.

While offshore oil and gas production may face challenges due to the course President Biden, Secretary Haaland, and Director Cline have set, there are signs of opportunity. By fostering dialogue, promoting collaboration, and embracing innovation, we can forge a path toward a more secure, sustainable, and prosperous offshore energy future for future generations to come.

I will now put it over to our Ranking Member, Ms. Kamlager-Dove, for her opening statement.

STATEMENT OF THE HON. SYDNEY KAMLAGER-DOVE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. KAMLAGER-DOVE. Thank you, Mr. Chair, and welcome everyone to the eighth hearing this Subcommittee has called this Congress to discuss offshore oil and gas development. No other topic has gotten nearly the same amount of attention. You would be forgiven for thinking the oil and gas industry is in some kind of crisis and in immediate need of government assistance and intervention. But let's be clear: nothing could be further from the truth.

American oil and gas production is at all-time highs, and the United States is now the No. 1 exporter of oil and gas in the world.

This record oil production is and always has been heavily supported by taxpayer dollars. For the American people, it is and always has been a bad deal.

Since 1916, the Federal Government has gifted the oil and gas industry over $470 billion in never-expiring tax breaks. Mr. Chair, that is an awful lot of money. Fossil fuel companies benefit from over 13 Federal tax breaks. Offshore drilling companies can even write off the costs of cleaning up their environmental disasters. BP deducted $5.35 billion of the damages they owed for the Deepwater Horizon disaster, passing those costs on to the taxpayer. All of this adds up to huge savings for Big Oil.

The average American worker pays 24.8 percent of their income in taxes. Meanwhile, in 2021, Exxon's effective tax rate, what Exxon paid after claiming all of their tax breaks, was 1.8 percent. That year, Exxon made over $66 billion in profits. And what do all these taxpayer dollars we are paying and investing buy us? Not energy independence. If we could drill, baby, drill to energy security we would be celebrating low energy prices and stability for American consumers. Instead, we are still facing high costs at the pump and on our utility bills while industry jobs decline.

So, when we hear today about the need to secure our competitive advantage and drill for national security, we need to ask: Advantage and security for who?

Over the course of the seven previous hearings we have heard many compelling testimonies from advocates whose lives, health, and communities have been harmed by pollution from offshore oil and gas, whose lands are disappearing under a dual onslaught from offshore infrastructure, stronger storms, and rising seas, whose livelihoods are threatened by oil spills.

We have heard from an expert on the offshore oil and gas workforce that jobs are disappearing and becoming less stable and more unsafe as the industry learns to produce more with fewer workers, cutting corners, pay, and safety.

And while American communities are bearing the burdens of offshore oil and gas production, more and more of that oil and gas is being shipped overseas, while big oil pockets the profits.

True energy independence means producing clean energy for our communities here at home. National security comes from transitioning away from fossil fuels as quickly as possible, ending our reliance on oil once and for all, and containing climate change.

Instead of yet another hearing on offshore oil and gas, we should be focusing on a different, primarily untapped offshore resource: wind. A recent study found that offshore wind could produce 90 percent of the nation's electricity needs in 2050. Building out this energy would create significant economic development opportunities across the country, from factories to installations with family-sustaining union jobs while cutting pollution and benefiting the climate.

The time to act is now, and I would be remiss if I did not mention just days from the 14th anniversary of the Deepwater Horizon disaster that our offshore oil and gas program is ripe for another disaster. The Biden administration has taken steps to address some of the risks identified by the non-partisan Deepwater Horizon Commission. But at least one major risk remains unaddressed: the

use of categorical exclusions from environmental reviews for deepwater drilling.

Deepwater Horizon benefited from multiple categorical exclusions that exempted the rig from site-specific environmental reviews, which the Commission determined contributed to the disaster. As we remember the 11 lives lost in the Deepwater Horizon explosion, it is simply inappropriate not to carefully review the risks of each offshore rig, because the stakes are too high.

Thank you, Mr. Chair, and I yield back.

Mr. STAUBER. Thank you for your opening statement. We will now move to introduce our witnesses.

Let me remind the witnesses that under Committee Rules, they must limit their oral statements to 5 minutes, but their entire statement will appear in the hearing record.

To begin your testimony, please press the "talk" button on the microphone.

We use timing lights. When you begin, the light will turn green. When you have 1 minute remaining, the light will turn yellow. And at the end of 5 minutes, the light will turn red, and I will ask you to please complete your statement.

I will also allow all witnesses to testify before Member questioning.

Our first witness is Ms. Nikki Martin, and she is the President and CEO of EnerGeo Alliance, and is stationed in Houston, Texas.

Ms. Martin, you are now recognized for 5 minutes.

STATEMENT OF NIKKI MARTIN, PRESIDENT AND CEO, ENERGEO ALLIANCE, HOUSTON, TEXAS

Ms. MARTIN. Chairman Stauber, Ranking Member, and members of the Subcommittee, my name is Nikki Martin, and I am the President and CEO of EnerGeo Alliance. EnerGeo members are the geoscience companies and energy developers that use Earth science to discover, develop, and deliver energy and low-carbon solutions to our world. Many of our members operate in the United States, both onshore and offshore across the Outer Continental Shelf and extensively in the Gulf of Mexico.

Geoscience innovation has transformed energy, providing the data needed to see and develop the resources beneath our feet and off our shores, while also reducing the footprint of energy exploration. Informed decisions regarding offshore energy development, including petroleum, wind, natural gas, hydrogen, and carbon capture and storage can only be made with the evaluation provided by modern geoscience.

We are the industry that is making energy possible for the world, and this is critical because 10 percent of the world does not have access to electricity, and an estimated 3.5 billion people do not have reasonably reliable access to electricity, meaning they spend more than 56 days per year without power.

With the world population expected to increase to almost 10 billion by 2050, energy demand is expected to increase 34 percent. All sources of energy are required to meet this demand. Even with the fastest growth expected and alternative energy sources by 2050, as you mentioned, Chairman, we will need about 17.5 billion barrels per year to be discovered, in addition to resources already

discovered to meet this demand. In contrast, just last year we discovered 5 billion conventional resources globally.

While the increasing demand for energy leaves little room to argue, exploration is not required. Where the global industry invests will be influenced by where it can acquire geoscience data, good fiscals, and regulatory and policy structures that are based in risk and science. Congress enacted the Outer Continental Shelf Lands Act for the expeditious development of OCS resources to achieve national security and economic policy goals, and reduce dependence on foreign sources. Geoscience is essential to achieving these goals, as the only technology available to accurately image the subsurface and understand the nation's energy supplies before a single energy source is developed or a single well drilled.

Surveys conducted in the Gulf alone have informed an over five-fold increase in estimated recoverable reserves. Despite or precisely because of its importance, the permitting of this activity is too often stalled within regulatory agencies without accountable timelines and impeded by activists opposed to the energy development that may follow, whether that is natural gas, petroleum, or even wind. It is unfortunately easy to exploit the regulations in existing Marine Mammal Protection Act regulations governing the potential take of these activities. For example, although errors were discovered in the current Gulf of Mexico Geoscience MMPA regulation 3 years ago, proposed revisions were not made until early last year and are still pending. In Alaska, almost every regulation issued for offshore exploration has been challenged in court by activists exploiting the MMPA's ambiguous provisions and duplicative processes. At least one petition currently has stalled for more than 2 years, with unexplained delays currently preventing new geoscience surveys to update Alaska's North Slope.

The hearing brief noted lack of resource estimates in the Atlantic. Six companies attempted to obtain survey permits that would have provided updated estimates to over 40-year-old data, but ultimately their quest ended in 2018 after nearly 7 years toiling through a bureaucratic maze to obtain MMPA authorizations.

Overly broad and unsubstantiated designations of critical habitat also add uncertainty to the regulatory process, like the area currently proposed across the heart of the Gulf of Mexico for the Rice's whale based on very little supporting data.

Since 2014, the number of geoscience surveys mapping the OCS has declined. In order to stimulate new geoscience activity which will inform the government's resource evaluation, regulation should provide predictability and promote competition and fiscal certainty. By setting reasonable deadlines in the application process and removing unnecessary duplication, Congress can ensure the agencies are accountable to existing statutory timelines and prevent future misapplication of the statute.

Geoscience investment will also come with reinstating regular and robust lease rounds on the OCS and publishing the long-overdue regulations for offshore carbon capture and storage. This too would stimulate new geoscience activity.

We urge Congress to review OCSLA, the MMPA, NEPA, and ESA, and pass meaningful modernizing provisions that will rectify

existing delays for geoscience authorization. These are necessary steps to ensure the continued development of U.S. energy resources and low carbon solutions for generations to come. Thank you.

[The prepared statement of Ms. Martin follows:]

PREPARED STATEMENT OF NIKKI MARTIN, PRESIDENT AND CEO, ENERGEO ALLIANCE

Chairman Stauber, Ranking Member Ocasio-Cortez, and Members of the Subcommittee:

For the record, my name is Nikki Martin, and I am the President & CEO of EnerGeo Alliance. I lead a Board of Directors composed of the CEOs from the world's leading geoscience companies. Our membership base includes 60 companies spanning 50 countries. EnerGeo's mission is to advance the energy geoscience and exploration industry through global governmental, regulatory, and legal advocacy, communications, environmental and scientific research, and standard development. We aim to drive excellence in health, safety, environmental performance, and sustainability.

I joined EnerGeo (then IAGC) in 2013 and have extensive experience and background in environmental regulation and legal and government affairs. I am an attorney and studied political science. Before becoming the President & CEO of EnerGeo Alliance, I served as EnerGeo's Vice President for Government and Legal Affairs. I am the former Regulatory and Legal Affairs Manager at the Alaska Oil & Gas Association and previously practiced law in Anchorage, Alaska. Earlier in my career, I also served as staff to U.S. Senate President Pro Tempore Ted Stevens and as a legislative aide to the Alaska State Senate President and Alaska State House Majority Leader.

I present this testimony as President & CEO of EnerGeo Alliance. Founded in 1971, EnerGeo is the non-profit global trade alliance for the energy geoscience and exploration industry. EnerGeo Alliance member companies include onshore and offshore geoscience survey operators and acquisition companies, energy data and processing providers, energy exploration and development companies, equipment and software manufacturers, industry suppliers, service providers, and consultancies. EnerGeo advocates for connecting more people and communities with access to energy around the world—by communicating factually, securing science-based policies, and promoting the geoscience companies, innovators and energy developers that use earth science to discover, develop and deliver energy, sustainably, to our world. Together, we are Making Energy Possible.

Many EnerGeo member companies operate in the U.S., both onshore and offshore across the Outer Continental Shelf (OCS) and extensively within the Gulf of Mexico (GOM). These companies play an integral role in the successful exploration and development of offshore hydrocarbon, wind and low-carbon solutions such as carbon capture and storage (CCS) resources through the acquisition and processing of geophysical and geological data.

Through reliable science- and data-based regulatory advocacy, credible resources and expertise, and future-focused leadership, EnerGeo Alliance continuously works to develop and promote informed government policies that advance responsible energy exploration, production, and operations. As the U.S. and global energy demand evolves, we believe that all policymakers and energy companies pursuing mainstay, alternative, and low-carbon solutions, should have access to reliable data and analysis to support their forward-moving efforts.

At EnerGeo Alliance, we are proud of our unique collaborations between industry, scientists, and governments to support sustainable energy access. In the U.S., this includes EnerGeo's Gulf of Mexico Proactive Regulatory Observational Program (GOM-PROP) to provide a self-sustaining structure for the continued successful implementation of, and compliance with, both present and future Incidental Take Regulations (ITR), governing the operation of geoscience surveys in the Gulf of Mexico (GOM) and providing comprehensive marine mammal monitoring data.

Energy Demand: The global economy and oil demand are set to achieve consecutive record highs in 2024 and 2025, alongside record lows in oil intensity and consecutive global oil supply records, per U.S. Energy Information Administration (EIA) projections.

Natural gas experienced record-breaking global demand, production, and consumption levels in 2023—and these records are expected to be broken again this year and in 2025 per the International Energy Agency (IEA).

Global natural gas demand is also predicted to reach record highs in 2024 and 2025 with natural gas remaining an integral and competitive source for global

electricity generation, heating, cooking, and industrial demands, as well as environmental progress.[1]

Exploration will continue to play a critical role in ensuring global access to energy in the future and now in the midst of the energy evolution. By 2050, the world population is estimated to increase to almost 9.8 billion.[2] Total energy use is expected to increase 34%, with an expected steady growth in mainstay sources of energy (petroleum and natural gas constituting 50%) and faster growth anticipated in all other sources.[3] In this scenario, exploration will be critical for the energy evolution. While about 5 billion barrels of oil were discovered in 2023, by 2050 we will need to discover 17.56 billion barrels per year to match the global energy demand.[4]

The U.S. has been blessed with energy abundance, while roughly 10% of the world does not have any access to electricity. According to the Rockefeller Foundation, more than 840 million people lack access to electricity and over 3 billion people currently live in countries with per capita energy consumption below the Modern Energy Minimum—1,000kwh per year. Together, it is estimated over 3.5 billion people do not have reasonably reliable access to electricity, meaning that they spend more than 56 days per year without power.[5]

Currently, 30% of the world does not have access to clean fuels for cooking. Cooking with kerosene, coal or biomass is directly linked to over 3 million premature deaths per year with women and children disproportionately impacted.[6] Removing access to unfavored energy sources has disproportionate impacts on marginalized populations.

Populations around the world will need greater access to reliable and affordable energy to not only thrive, but for the movement of goods and people and for climate resilience, providing the necessary feedstock for fertilization, refrigeration for foods and medicine, irrigation, heating and cooling, and more. As a top priority of UN Sustainable Development Goals, we need all sources of energy at the table, to meet skyrocketing demand for energy security and energy accessibility.

While we are at the start of what is being called an "international upcycle". where the industry invests now will be influenced by where it has access to insight through geoscience data, infrastructure, and supportive regulatory and policy structures. Unfortunately, the United States is falling behind due to unnecessary bureaucratic delays and shortsighted policies that elevate certain forms of energy over others.

Our Surveys: Meeting growing demand for energy that is more accessible, affordable, reliable, and cleaner will require greater collaboration and geoscience-driven energy policies. The reality is, no matter the preferred or prioritized energy source, virtually all sources of energy needed to support the world's energy evolution require "eyes" on something going in, out, or through the ground. That sight is only made possible through the innovation and insight of the energy geoscience industry.

Mainstay energy sources such as petroleum and natural gas, and the lower carbon energy solutions such as offshore and onshore wind, as well as carbon capture and sequestration, depend on geoscience. Energy literally starts with the geoscience industry.

By providing invaluable information about the resources beneath us, energy companies and policymakers can identify and prioritize high-density, lower-carbon-intensive energy sources, locate where offshore wind facilities are best suited for harnessing the energy from wind, prolong the life of existing natural gas and petroleum assets, make it possible to store carbon beneath the surface, and more.

As nations develop and implement their energy evolution goals to make reliable, affordable energy available to their citizens and meet Net Zero Emissions (NZE) policy ambitions, it is essential to understand that those goals cannot and will not be realized without the critical data and technology the geoscience industry provides.

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[1] TXOGA Quarterly Energy Economics Outlook

[2] Source: *2023 Population Data Sheet*—https://www.prb.org/wp-content/uploads/2023/12/2023-World-Population-Data-Sheet-Booklet.pdf

[3] Source: *EIA International Energy Outlook—October 2023* https://www.eia.gov/outlooks/ieo/

[4] *Source: RystadEnergy UCube; Rystad Energy U.CubeExploration; Rystad Energy research and analysis*

[5] John Ayaburi, Morgan Bazilian, Jacob Kincer, Todd Moss, Measuring "Reasonably Reliable" access to electricity services, The Electricity Journal, Volume 33, Issue 7, 2020, 106828, ISSN 1040-6190, https://doi.org/10.1016/j.tej.2020.106828.

[6] World Health Organization, "Household air pollution", https://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health#:~:text=Each%20year%2C%203.2%20million%20people,air%20pollution%20data%20for%20details)

Even though, by current market cap, geosciences are a small part of the energy supply chain, when it comes to whether energy can be accessed in any given region, we are the first and most pivotal part.

Resource Evaluation in the United States

The only viable process for the U.S. Government to understand the country's resource potential is through geoscience surveys conducted by advanced technology companies like those that comprise EnerGeo's membership. According to BOEM's website, regarding resource evaluation, "Every five years BOEM provides a comprehensive assessment of undiscovered oil and gas resources on the OCS. The results are presented as both Undiscovered Technically Recoverable Resources (UTRR) and Undiscovered Economically Recoverable Resources (UERR). The assessment utilizes a geologic play-based approach that incorporates a complete analysis of geologic and petroleum system elements for the UTRR, and an assessment of engineering and economic considerations for the calculation of the UERR. DOI has released an Assessment of Undiscovered Oil and Gas Resources on the US OCS regularly since 1975."

This information is not possible and would not be available to policymakers and U.S. citizens without the geoscience industry conducting surveys. By conducting surveys that image the subsurface below the ocean floor, geoscience surveys provide the information governments and policymakers need to make informed decisions in the best interest of their citizens regarding accessing and developing energy sources of all types, as well as developing low-carbon strategies.

Based on information compiled by the subcommittee, BOEM last updated its reserves report in December 2019, with their 2023 Comprehensive Inventory still relying on this outdated data for Gulf of Mexico. Notably, there is a lack of reserves information for Alaska and the Atlantic on their website.

Seismic and geoscience surveying is a well-understood and safe industry practice, and informed policy decisions regarding offshore energy development *of any type* can only be made with the evaluation provided by modern seismic survey technology. In the more than 60 years of geoscience surveys in the Gulf of Mexico, there has not been a single reported incidence of sound from survey operations injuring marine life. Tens of thousands of offshore geoscience surveys have occurred throughout the world over the last 60 years using conventional compressed-air arrays. In all that time, and across millions of kilometres, there is no credible scientific evidence that sound from geoscience surveys has had any significant impacts on marine life populations, or the marine environment.

Unfortunately, the permitting of this activity, critical to identifying the nation's energy supplies, is too often stalled within regulatory agencies without accountable deadlines or timelines for review, or impeded by extreme environmental advocacy organizations exploiting existing regulatory and litigation processes.

Policy Challenges

Because the energy geoscience industry provides access to develop energy through its imaging, it is very often the first presence of energy development or exploration in a geographic area. Because of this, our members often encounter obstacles and opposition to their operations that are aimed at preventing the development of a certain energy source—whether that's petroleum, natural gas, or even wind.

In some regions, extreme environmental advocacy groups prioritize preventing any energy geoscience surveys from occurring and even label geoscience research as "the gateway drug to oil and gas". As a result, policymakers and energy companies are unable to access important data needed to make informed decisions about future energy development.

This has led to increased regulatory scrutiny and misinformation about what geoscience research is and its impacts in frontier areas and even in mature basins. Recent eNGO advocacy focuses on geoscience as the linchpin to not only exploration but also increasing production in mature basins includes the Gulf of Mexico.[7]

In order to stimulate new geoscience activity, policymakers must prioritize geoscience-driven energy policies and regulatory frameworks that remove uncertainty and delay, promote timely permitting decisions, and support a quick pace of return on investment. Regulations should provide predictability, promote competition, and provide fiscal certainty, through risk- and science-based processes.

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[7] https://www.nrdc.org/stories/offshore-drilling-101#environmental

BOEM Permitting & NMFS Authorization Delays

In the Outer Continental Shelf Lands Act (OCSLA), Congress expressly mandated the "expeditious and orderly development" of the Outer Continental Shelf (OCS) "subject to environmental safeguards." 43 U.S.C. § 1332(3). Courts have since confirmed that "the expeditious development of OCS resources" is OCSLA's primary purpose. *California v. Watt*, 668 F.2d 1290, 1316 (D.C. Cir. 1981). Congress enacted OCSLA to "achieve national economic and energy policy goals, assure national security, reduce dependence on foreign sources, and maintain a favorable balance of payments in world trade." 43 U.S.C. § 1802(1). Congress expressly intended to "make [OCS] resources available to meet the Nation's energy needs as rapidly as possible." *Id.* § 1802(2)(A).

Geoscience surveying has been and continues to be essential to achieving OCSLA's requirements because it is the only feasible technology available to accurately image the subsurface of the OCS before a single well is drilled or a single energy source is developed.

Offshore geoscience surveys require authorizations from BOEM, pursuant to OCSLA. *See id.* § 1340. There is no requirement for an applicant for an offshore survey permit under OCSLA to obtain an incidental take authorization under the MMPA. However, unlawful "takes" of marine mammals incidental to lawful activities (such as a permitted offshore seismic survey) may nevertheless be subject to MMPA-based penalties. *See* 16 U.S.C. § 1375. Accordingly, many applicants for offshore survey permits from BOEM also request incidental (*i.e.*, unintentional) take authorization under the MMPA from the National Marine Fisheries Service (NMFS) and/or the U.S. Fish and Wildlife Service (FWS).[8]

In this context, it is important to recognize that the permit issued by BOEM authorizes the *seismic survey* and the MMPA authorization narrowly addresses the *incidental take* associated with the seismic survey. NMFS and FWS do not have jurisdiction over the survey; their authority under the MMPA extends only to the authorization of incidental take. Notwithstanding the limited role of FWS and NMFS, MMPA authorizations are often the primary cause of administrative delay in the offshore geoscience survey permitting process.

In the past decade, these problems have manifested in routinely delayed permitting processes, inconsistent and misguided analyses of potential impacts, and opportunistic advocacy litigation intended to block or impede offshore development.

For example, in the Gulf of Mexico, BOEM requires an MMPA authorization from NMFS prior to the issuance of a geoscience permit under the current ITR. During the promulgation process, industry pointed out mathematical errors in the finalized ITR from January 2021. Proposed revisions have been pending since January 2023, further delaying the process and sowing uncertainty and delay into the agency's current authorizations of on-lease and off-lease geoscience activities. At the same time, the number of geoscience surveys mapping the Gulf of Mexico has been steadily decreasing since 2014.

In Alaska, unnecessary and unexplained delays in processing Marine Mammal Protection Act (MMPA) authorizations prevent planned geoscience surveys from providing the timely insight that would update resource estimates. Currently, at least one petition for MMPA authorization has stalled for more than two years preventing updated insight into the resource potential on Alaska's North Slope.

In the Atlantic, approximately 30 years have passed since the potential hydrocarbon resource base has been assessed with seismic surveys. In the meantime, seismic surveys for "scientific research" have been conducted fairly regularly in the Atlantic OCS, in addition to other geophysical surveys used to characterize the seabed and subsurface for suitability of offshore wind energy facilities. Six companies applied to BOEM for permits to conduct seismic surveying in the Atlantic OCS—a process that started in 2011 when the first permit application was filed, and ultimately ended in 2018 after nearly six years of working to obtain MMPA authorizations from NMFS.

Although well-intended at the time it was enacted many years ago, the MMPA's ambiguous, outdated, and unclear language has proven unworkable for issuing incidental take authorizations for offshore activities. Changes to the statute will significantly improve the regulatory process for both federal regulators and the regulated community.

In addition, overly broad and unsupported designations of critical habitat add ambiguity and uncertainty to the regulatory process. On July 24, 2023, NMFS proposed to designate over 28,000 square miles of the GOM continental shelf and slope

[8] FWS has jurisdiction over polar bears, walrus, sea otters, dugongs, and manatees. NMFS has jurisdiction over all other marine mammals.

as critical habitat and asserts all are "occupied" by Rice's whales.[9] The most recent Stock Assessment Report (SAR) published by NMFS places the Rice's whale population in the GOM at 51 individuals.[10] The proposed designation cuts across the heart of GOM and expands known Rice's whale habitat to cover the entirety of the 100–400m isobath throughout the central and western GOM. This equates to an area of about 550 square miles—about eight times the size of Washington, D.C.—for each *individual animal*, assuming the animals are uniformly distributed. However, historical detections, both visual and acoustic, are largely concentrated in the De Soto Canyon area in the northeastern GOM, leaving an even broader swath of the designated habitat likely devoid of animals.

NMFS's determination that the entire GOM is "occupied" is not supported by the best available science or the record before the agency. Just a few years prior, in its 2019 listing determination, NMFS noted that Rice's whales are "restricted primarily to a small region along the continental shelf break in the De Soto Canyon area."[11] Just weeks after releasing the Proposed Rule, NMFS *again* reiterated in its stock assessment report that, "Sighting records and acoustic detections of Rice's whales in the northern Gulf of Mexico (i.e., U.S. Gulf of Mexico) occur primarily in the northeastern Gulf in the De Soto Canyon area, along the continental shelf break between 100 m and 400 m depth."[12] NMFS cannot rationally determine that the entire GOM is occupied, while also explicitly stating that the De Soto Canyon hosts the majority of the species and that the species has not been documented outside of a narrow depth range.

Recommendations to Stimulate Geoscience Activity

Specific to BOEM geoscience permitting, EnerGeo members have experienced certain ambiguities and identified areas that may make the permitting process run more efficiently in the following suggestions:

1. Industry finds the timeliness of the permit process for geoscience activities to be open-ended and uncertain. EnerGeo has recommended that BOEM establish a certain timeline for permit review and approval. The timing requirements for drilling permit review and approval is a good example that BOEM should strive to achieve for geoscience permits.
2. Industry has encouraged BOEM to explore the creation of an electronic permit application process. Efficiencies for permit processing and man-hours may be realized through electronic permit applications. Many countries around the world utilize electronic permit application processes. This allows the applicant to monitor the status of the permit process and timely provide any information requests from BOEM. This has been seen to drastically decrease the permit process timeline.
3. Geoscience operations consistently utilize the same vessels throughout the offshore U.S. BOEM should take steps to create a catalogue of vessel information and certificates to reduce permitting costs and burden hours.
4. Industry encouraged BOEM to develop a catalogue of equipment used in offshore geoscience activities, including Ocean Bottom Nodes, Ocean Bottom Cables, Streamers, etc. This would reduce the time needed to collect pictures and physical samples of all parts and equipment deployed in the water column. Permit applications could then reference these materials to reduce the time spent.
5. Regarding areas of the OCS that are not included in the 5-year Oil & Gas Leasing Program, consider streamlined permitting processes for geoscience activities.
6. BOEM to consider incentivizing the acquisition of new data and products through direct funding or favorable tax regimes.

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[9] 88 Fed. Reg. at 47,455; *id*. at 47,460.

[10] Hayes, S.A., *et al*. 2023. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments 2022. NOAA Tech. Mem. NMFS-NE-304.

[11] *Endangered and Threatened Wildlife and Plants; Endangered Status of the Gulf of Mexico Bryde's Whale*, 84 Fed. Reg. 15,446, 15,460 (Apr. 15, 2019). NMFS revised the common name of the species from Bryde's whale to Rice's whale in 2021. *Endangered and Threatened Wildlife and Plants; Technical Corrections for the Bryde's Whale (Gulf of Mexico Subspecies)*, 86 Fed. Reg. 47,022 (Aug. 23, 2021).

[12] Stock Assessment Report at 114; *see Final 2022 Marine Mammal Stock Assessment Reports*, 88 Fed. Reg. 54,592 (Aug. 11, 2023) (announcing release of Stock Assessment Report).

7. BOEM to work more efficiently with peer agencies such as the Fish and Wildlife Service and NMFS to ensure unnecessary roadblocks and ambiguity in regulations are removed.

EnerGeo encourages congressional direction regarding alignment among the agencies.

Specific to NMFS MMPA authorization processes, EnerGeo members have experienced extensive delay. They have identified problematic areas and encourage regulatory and legislative solutions, including:

1. IHAs involving offshore oil and gas-related activities are rarely, if ever, issued within the timing requirements of the MMPA. NMFS even states on its website that the IHA permitting process takes at least six to nine months to complete. The process often takes much longer. The MMPA provides no consequences for such delay, nor does it provide any incentives to NMFS and FWS to avoid delay.
2. Because the MMPA contains no timing requirements applicable to ITRs, the regulatory process for issuing ITRs often takes years and, in the industry's view, is de-prioritized by the agencies because other agency obligations are subject to timing requirements and consequences.
3. The ESA Section 7 consultation process is cumbersome and time-consuming. The Section 7 process is also subject to statutorily mandated deadlines, but those deadlines are routinely ignored by NMFS and FWS without consequence. The Section 7 consultation process is often a significant cause of the delay in the issuance of an authorization under Section 101(a)(5) of the MMPA, even though the substantive standard governing the Section 7 process is *less stringent* than the MMPA's "negligible impact" standard.
4. Another significant source of delay in the issuance of MMPA incidental take authorizations involves the estimation of the number of "takes" that are expected to occur. Because the MMPA's definition of "take" is extraordinarily broad and ambiguous (more so than the ESA's definition of "take"), FWS and NMFS struggle to determine what activities actually cause "take" and, as a result, they apply extremely conservative assumptions to ensure that their "take" estimation modeling encapsulates all conceivable "take" (and more). This process results in estimates that are inaccurate and vastly exaggerate the number of "takes" that will actually occur.
5. The "take" estimation modeling exercises are considerably more complicated and play an unduly important role in the permitting process because the agencies are required to demonstrate that the incidental take authorization will not only have a "negligible impact" on the potentially affected marine mammal stocks but also affect "small numbers" of marine mammals. The term "small numbers" has no biological significance whatsoever to the marine mammal population and is a legal term of art that has notoriously confused courts and regulators alike.
6. All of these regulatory problems and inefficiencies create fertile ground for legal challenges by advocacy groups that will readily file any and all available lawsuits for the sole purpose of impeding and preventing the energy development of the OCS.

When it was enacted in the early 1970s (and subsequently amended), the congressional intent behind the MMPA was cutting-edge and forward-thinking. However, as described above, decades of regulation and litigation have exposed some significant flaws in the MMPA. The primary flaws in the MMPA stem from (i) poorly written statutory language that creates ambiguity and uncertainty in the application of the MMPA's legal standards, and (ii) procedural duplication and inefficiency. These flaws result in agency delays, overly conservative and inaccurate impact analyses, confusion by agencies and courts, and exploitation by environmental advocacy groups. Fixing some of the obvious flaws in the MMPA could result in tangible regulatory improvements that increase efficiency, decrease uncertainty and risk, and ultimately benefit all stakeholders, citizens, and the implementing agencies.

BOEM Carbon Capture & Storage Permitting

Geoscience also ensures that CCS projects are sited, designed, and managed to ensure and demonstrate the long-term technical and environmental integrity of the storage or sequestration.

In March 2021, the Biden administration set an ambitious goal of deploying 30 gigawatts of offshore wind electricity generation by 2030[13] and has since highlighted new steps the United States was taking to meet its ambitious 1.5°C-aligned goal of reducing emissions 50–52 percent in 2030, noting it would "require responsible deployment of carbon capture, utilization, and storage (CCUS) and carbon dioxide removal (CDR) technologies . . . CCUS has a critical role to play in decarbonizing the global economy, particularly the industrial sector, where process emissions are more difficult to address.[14]" These goals are simply not possible without the geoscience industry, and the current regulatory delays will disallow implementing the vast offshore CCS needed.

Following this ambitious goal, the Administration mandated the Department of Interior to publish CCS regulations by November 2022, a deadline that was missed and is still outstanding with no end date in sight. Policymakers should prioritize now the infrastructure required, including ensuring the efficient permitting of geoscience surveys needed for the identification and monitoring of the storage areas.

EnerGeo continues to call on BOEM and the current administration to propose long-overdue regulations for offshore CCS. Particularly, expanded permitting and permitting capacity with unambiguous, clear, concise regulations and timely permitting decisions. Further, regulations should prioritize timely, accessible geoscience data throughout the life of the asset.

The energy geoscience industry has recommended the following to BOEM on the development of offshore CCS regulations and encourages Congress to support the following:

- Defined timelines for approving or denying requested permits.
- The process should not differ in a significant way from existing geoscience permitting processes for hydrocarbons.
- The geoscience industry has a long history of obtaining permits with the expectation that science-based mitigation measures will match the potential impacts from activities.
- The geoscience industry supports a research and evaluation phase, pre-leasing.

Lease Rounds

- Regularly held, predictable and well-defined lease rounds should be held for CCS, if existing hydrocarbon leases will not be available for CCS. Clarity from the agencies is required on how leasing will be conducted for CCS.
- Recognition by BOEM and Federal Agencies of the critical role of existing geoscience data available for licensing and bidding on CCS—and avoid disclosure of confidential industry intellectual property.
- Lease lengths should be consistent with hydrocarbon leases.

On-Lease

- Once leases have been awarded, or CCS work programs are being developed, requirements for geoscience data to confirm geological stability and for carbon injection should be included.
- Monitoring requirements throughout the lease term will require geoscience activity to confirm the safe injection and stability of depleted reservoirs and/or aquifers.

Post-Lease

- Following the expiration of a lease term, continued monitoring of the injection site will be required.
- Liability should be borne by the Federal Government, ie: Plume Leaks. At no time should liability surrounding the sequestration site be placed on geoscience companies providing data to the leaseholders or the government.

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[13] FACT SHEET: Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/

[14] FACT SHEET: President Biden to Catalyze Global Climate Action through the Major Economies Forum on Energy and Climate https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/20/fact-sheet-president-biden-to-catalyze-global-climate-action-through-the-major-economies-forum-on-energy-and-climate/

Conclusion

The energy geoscience industry is in the business of minimizing the footprint of energy activity, by pinpointing where the resource is and importantly where it is not, allowing companies and policymakers to identify and prioritize high-density, low-carbon-intensive energy sources closer to existing infrastructure and the end user, locating where offshore wind facilities are best suited for harnessing the energy from wind, prolonging the life of existing natural gas and petroleum assets, and making it possible to store carbon beneath the surface. Geoscience surveys provide the information governments and policymakers need to make informed decisions in the best interest of their citizens regarding accessing mainstay energy and alternative sources, as well as developing low-carbon strategies. Currently, those data acquired by our members make it possible for BOEM to publish resource assessments. Nations cannot develop and provide opportunities for energizing their economies without the geoscience industry, let alone implement their energy evolution goals to make reliable, affordable energy available to their citizens and meet Net Zero Emissions (NZE) policy ambitions.

We urge Congress to review OCSLA, the MMPA, the ESA, and other relevant statutes and pass meaningful modernizing provisions, that will rectify the existing delays for geoscience survey authorizations and urge the administration to implement regulations to provide for efficient carbon capture and storage projects on the OCS. The energy geoscience and exploration industry stands ready to partner in the discovery and development of low carbon solutions and of energy dense, low emissions sources of energy to power the world. Streamlining the permitting process along with reducing the ability for outside special interest groups to obstruct energy geoscience exploration is a necessary step to ensure our continued development of energy resources and low-carbon solutions for future generations in the U.S.

Thank you for the opportunity to testify today.

Mr. STAUBER. Perfect timing. Thank you very much for your testimony.

Our next witness is Mr. Andy McConn. He is the Director and Head of Commercial Intelligence for Enverus, and he is stationed in Houston, Texas.

Mr. McConn, you are now recognized for 5 minutes. Welcome.

STATEMENT OF ANDY MCCONN, DIRECTOR, HEAD OF COMMERCIAL INTELLIGENCE, ENVERUS, HOUSTON, TEXAS

Mr. MCCONN. Thank you, Mr. Chairman.

Enverus is a software, analytics, and AI company focused on the energy sector. I serve as Director within the Enverus Intelligence Research Division, which publishes research focused on oil, natural gas, power, and the renewables industries. Our role here today is to provide a commercial perspective on U.S. offshore energy potential and the region's role within the global market.

Our analysis suggests that, under current market conditions, the U.S. offshore oil region oil and gas production is unlikely to return to growth. We forecast that the current slate of sanctioned projects can keep the region's oil production near flat for only 2 years. Exploration drilling, which is needed to replenish discoveries to maintain or grow production, has been declining by a 14 percent annual rate since 2014.

It is well known that growth momentum has shifted in previous decades from the offshore region to onshore, namely to shale resources, but we forecast that U.S. onshore oil growth will moderate significantly this year and beyond. We estimate that each of the main shale oil basins holds between 3 and 10 years of economically attractive drilling inventory, which represents a sharp reduction from industry estimates of years ago.

Producers' desire to preserve scarce shale inventory in conjunction with the diminished role of growth-oriented private capital and investors' desire for capital to be returned to shareholders rather than reinvested for growth, all contribute to our forecast of lower domestic oil production growth onshore.

Shale's diminishing role, in conjunction with the dearth of exploration activity and growth potential globally, provides an opportunity for the U.S. offshore region. We believe the global oil market is structurally under-supplied for the long term. OPEC has regained control of the oil market. Investors are looking for new potential sources of supply. A change to market conditions such as higher oil prices and/or new government-led initiatives could inject growth potential back into the U.S. offshore energy sector. And indeed, we already see signs of green shoots.

The most recent Gulf of Mexico lease sale, No. 259, featured an increase in competition and bid value for high-impact acreage in the growing lower tertiary play. Recent applications of hydraulic fracturing technology in the play has yielded some positive results. These tailwinds add to the region's already recognized attractive features like low emissions intensity, low above-ground risk, and high resource estimates.

To summarize, exploration drilling has waned in the U.S. offshore region in recent years, but growth potential has also weakened onshore and in other energy-producing countries. The global oil market is projected to become increasingly under-supplied from non-OPEC regions. Long-term investors are seeking new sources of supply. The U.S. offshore region offers many attractive features to such investors, and a moderate change or improvement in market and regulatory conditions could cause the region to realize more of its growth potential.

Thank you for the opportunity to testify here today, and I look forward to answering your questions.

[The prepared statement of Mr. McConn follows:]

PREPARED STATEMENT OF ANDY MCCONN, DIRECTOR, ENVERUS

A Commercial Perspective on U.S. Offshore Energy Potential

Focus

Congressional Testimony for the U.S. House of Representatives Natural Resources Subcommittee on Energy and Mineral Resources Oversight Hearing Titled "Assessing the Solutions to Secure America's Offshore Energy Future"

Enverus is a software, analytics and AI company focused on the energy sector. I serve as a director within the Enverus Intelligence Research (EIR) division, which publishes research focused on the oil, natural gas, power and renewable industries. Our role here today is to provide a commercial perspective on U.S. offshore energy potential and the region's position in the global market.

Our analysis, based on current market conditions, suggests that U.S. offshore oil and gas production is unlikely to return to growth. We forecast that the current slate of sanctioned projects can keep the region's oil production near flat for only two years (Figure 1). Exploration drilling, which is needed to replenish discoveries to maintain or grow production, has been declining by a 14% annual rate since 2014 (Figure 2).

It is well known that growth momentum has shifted in previous decades from the offshore region to onshore, namely to shale resources. But we forecast U.S. onshore oil growth to moderate significantly by the end of the decade (Figure 3). We estimate that each of the main shale oil basins holds between three and 10 years

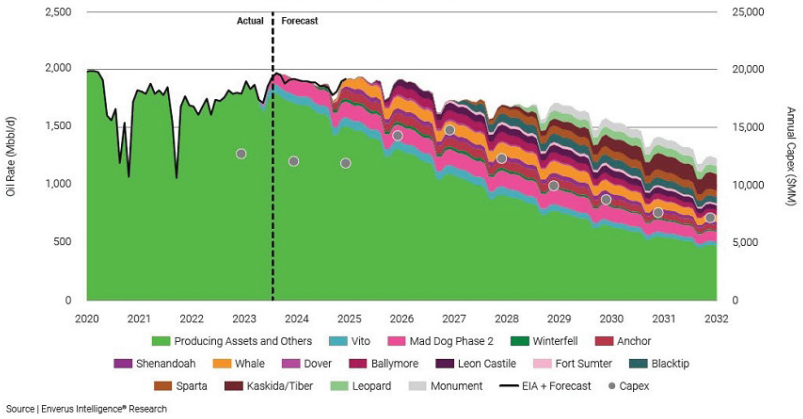
of economically attractive drilling inventory, which represents a sharp reduction from industry estimates years ago. Producers' desire to preserve scarce shale inventory—in conjunction with a diminished role of growth-oriented private capital and investors' desire for capital to be returned to shareholders rather than reinvested for growth—all contribute to our forecast of lower domestic oil-production growth onshore.

Shale's diminishing role—in conjunction with a dearth of exploration activity and growth potential, globally—provides an opportunity for the U.S. offshore region. We believe the global oil market is structurally undersupplied for the long term (Figure 4). OPEC has regained control of the oil market. Investors are looking for new potential sources of supply. A change to market conditions, such as higher oil prices and/or new government-led initiatives, could inject growth potential back into the U.S. offshore energy sector.

Indeed, there are already signs of green shoots.The most recent Gulf of Mexico Lease Sale #259 featured an increase in bid value on remote, high-impact acreage in the growing Lower Tertiary play (Figure 5). Recent application of hydraulic fracturing technology in the play has yielded some positive results (Figure 6). These tailwinds add to the region's already-recognized attractive features like low emissions intensity (Figure 7), low above-ground risk and high estimates for undiscovered technically recoverable resources (UTRR).

To summarize: Exploration drilling has waned in the U.S. offshore region in recent years. But growth potential has also weakened onshore and in other energy-producing countries. The global oil market is projected to become increasingly undersupplied from non-OPEC regions. Long-term investors are seeking new sources of supply. The U.S. offshore region offers many attractive features to such investors. A moderate change in market conditions could cause the region to realize more of its growth potential.

FIGURE 1 | Production Forecast for Sanctioned Projects in U.S. Deepwater Gulf of Mexico

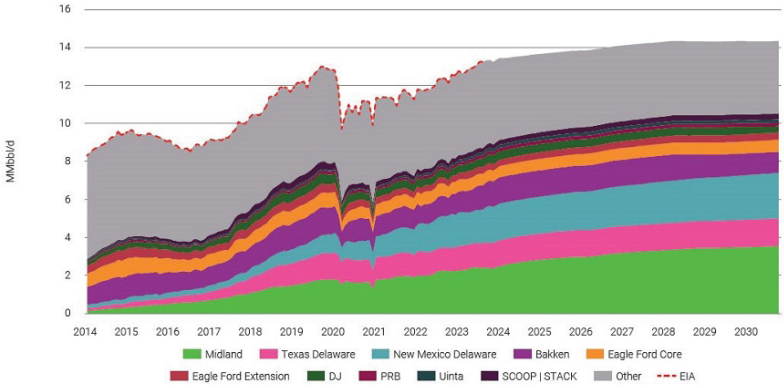


Source | Enverus Intelligence® Research

FIGURE 2 | U.S. Deepwater Gulf of Mexico Exploration Trends

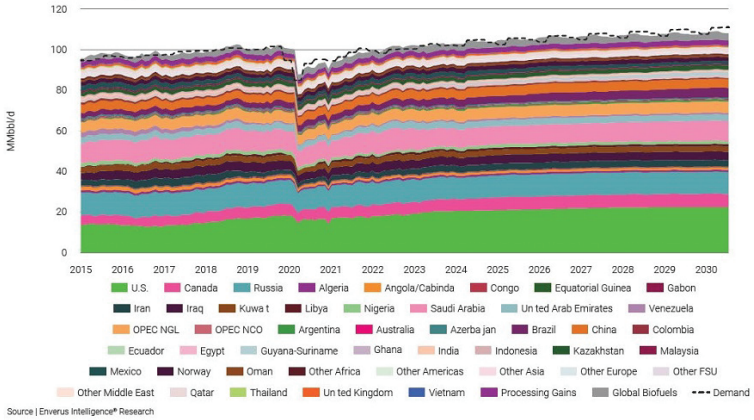
Source | Enverus Intelligence® Research

FIGURE 3 | U.S. Oil Production Forecast



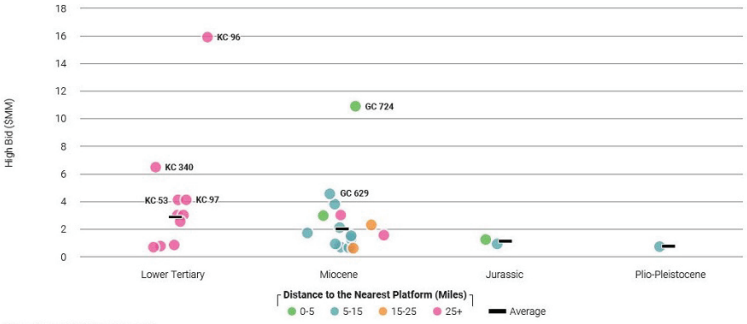
Source | Enverus Intelligence® Research

FIGURE 4 | Global Oil Supply and Demand Forecast



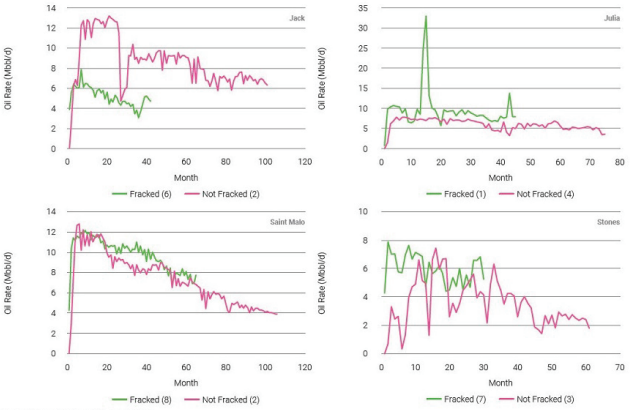
Source | Enverus Intelligence® Research

FIGURE 5 | Blocks that Received Two or More Bids in U.S. GOM Lease Sale 259



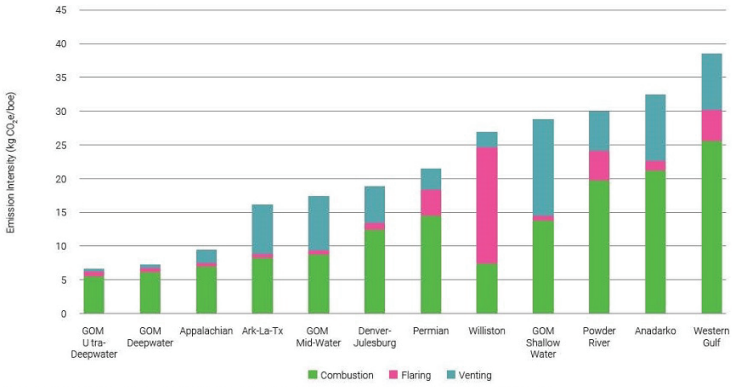
Source | Enverus Intelligence® Research

FIGURE 6 | Comparison of Performance on GOM Fields With Fractured and Non-Fractured Wells



Source | Enverus Intelligence® Research, BOEM

FIGURE 7 | 2022 GHG Intensity in the U.S. GOM vs. Onshore Basins



Note | Our analysis includes emissions from the onshore production, gathering and boosting, natural gas processing and offshore production sectors. We calculate intensities as emissions from all four sectors divided by production from just onshore and offshore production.
Source | Enverus Intelligence® Research

Mr. STAUBER. Thank you very much. I am going to ask Representative Graves from Louisiana to introduce our next witness.

Mr. GRAVES. Thank you, Mr. Chairman. Joining us today is the Chief Operating Officer of LLOG Exploration from Covington, Louisiana, just over to the east of our district, but we are going to give them a chance to move their headquarters to our district, whenever you are ready to do that. The Chief Operating Officer has worked for decades in the energy industry.

I appreciate you being here, and I look forward to your testimony.

Mr. STAUBER. Thank you.

Mr. Zimmermann, you are now recognized.

STATEMENT OF ERIC ZIMMERMANN, CHIEF OPERATING OFFICER, LLOG EXPLORATION, COVINGTON, LOUISIANA

Mr. ZIMMERMANN. Good morning, Chairman Stauber, Representative Graves, ladies and gentlemen of the House Natural Resources Committee, and good morning to my fellow guests. It is an honor to be here today. My name is Eric Zimmermann, and I am proud to represent LLOG Exploration Company, based out of Covington, Louisiana.

The offshore energy sector is a proven leader in solving energy challenges and delivering diverse sources of energy to the global economy. At LLOG Exploration, we remain committed to operating in the Gulf of Mexico, which already produces some of the least-carbon-intensive oil and gas production in the world, while leading innovation and investment in technologies and practices to continue to reduce an already-small environmental footprint.

For the past 47 years, LLOG has developed some of the best offshore projects available to the industry, with an uncompromising commitment to safe practices and ethical standards. We are one of the largest privately-owned exploration and production companies in the United States, and currently employ nearly 150 hard-working Americans, and use the services of hundreds of contractors

on top of that. Thanks to advances in technologies and decades of operational experience, we are achieving remarkable 68 percent success rate in the deep water, and have drilled over 300 wells to date in the OCS, with an additional 30 deep water prospects in the portfolio.

LLOG is a proud company headquartered in Louisiana with our employee base in the Gulf Coast. We live and recreate in our development areas, and we take seriously our responsibility to maintain the health of the Gulf of Mexico and our coastline.

We also take seriously our obligation and duty to deliver energy resources for our country and our community, for our national security and economic advancement of our regional and national economies. LLOG drilled our first deep water well in 2002. In the last 20 years, we have grown our capabilities into ultra-deep waters while maintaining our focus on safety and environmental responsibility.

Our largest current project today is the Salamanca Development, which is a host facility that will support the Leon and Castile developments. This facility will exist in over 6,000 feet of water and 300 miles south of New Orleans. When installed next year, it will produce over 50,000 barrels of oil per day. A unique aspect of Salamanca is that the floating production unit is the first refurbishment of a facility that was in production and is being brought back into commerce as a producing asset. This operation will result in a reduction of approximately 70 percent of emissions in the development of the asset versus a new build facility. The other sustainable aspect is that the major construction of this project has been undertaken in shipyards and construction yards across Texas and Louisiana versus all major construction for new build facilities generally occurring in Asia.

For the foreseeable future, the offshore sector will play an integral role in shaping an energy system that promotes the provision of affordable and reliable energy, while simultaneously continuing to reduce environmental impacts, including emissions.

Despite LLOG and our peers across the offshore oil and gas industry achieving great success in delivering increasingly-lower carbon intensity in increasing quantities to Americans, our nation's offshore oil and gas market is facing an issue. With the smallest 5-year leasing plan in our history now in effect, and companies confined to new development in primarily only 2 of the United States' 26 offshore planning areas, we are at a crossroads for the long-term success of our industry.

For this reason, it is critical for the United States not only to take seriously the role that offshore resources play in the security and well-being of the nation, but that Congress and the executive branch take reasonable steps to ensure the nation's offshore resources are accounted for, developed, and available to consumers. This is key not only for our well-being of our own citizens, but the well-being and security of the people around the world that rely on American oil and gas.

We appreciate the tremendous work and efforts that the Bureau of Ocean Energy Management has performed in resource assessments, and that the Bureau of Safety and Environmental Enforcement has performed in keeping our waters safe, and want

to see these agencies have the ability to expand their assessments in geographic regions. Without complete understanding of our untapped offshore energy resources, and without a comprehensive leasing policy and permitting law of reforms that would allow American companies to bring those resources to market, the United States risks operating at a competitive disadvantage.

I look forward to answering questions from the Committee today, and thank you again for the opportunity to represent our state here in Washington, DC.

[The prepared statement of Mr. Zimmermann follows:]

PREPARED STATEMENT OF ERIC ZIMMERMANN, CHIEF OPERATING OFFICER, LLOG EXPLORATION COMPANY, L.L.C.

The offshore energy sector is a proven leader in solving energy challenges and delivering diverse sources of energy to the global economy. Through the National Ocean Industries Association, the entire supply chain of companies works together collaboratively to improve our performance in all aspects of operations including, among other things, emission reductions and workforce development. At LLOG Exploration Company, we remain committed to operating in the Gulf of Mexico, which already produces some of the least carbon-intensive oil and natural gas production in the world, while leading innovation and investment in technologies and practices to continue to reduce an already small environmental footprint. With our management team averaging 34 years of experience in the industry, we have access to an unparalleled knowledge base that allows companies like ours to continue to help deliver affordable, reliable energy for the American consumer.

For the past 47 years, LLOG has developed some of the best offshore drilling prospects available to the industry with an uncompromising commitment to safe practices and ethical standards. Headquartered in Covington, LA, we are one of the largest privately-owned exploration and production companies in the United States and currently employ nearly 150 hardworking Americans and utilize the services of many contractors as well. Thanks to advances in technology and decades of operational experience, we are achieving a remarkable 68% success rate in deepwater exploration, as well as a 94% success rate in deepwater development, having drilled over 300 wells to-date, with an additional 30 deepwater prospects in the portfolio. LLOG is a proud company headquartered in Louisiana with our employee base in the Gulf Coast. We live and recreate in our development areas and we take seriously our responsibility to maintain the health of the Gulf of Mexico and our coastline. We also take seriously our obligation and duty to deliver energy resources for its country and community for our national security and economic advancement of our regional and national economy.

LLOG drilled its first deepwater Gulf of Mexico well in 2002. In the last 20 years we have grown our capability into ultradeep waters and deeper reservoirs, while maintaining our focus on safety and environmental responsibility for years. Our first major development was our Who Dat facility which was the first deepwater facility owned by a private company in the Gulf of Mexico. We have proceeded to build additional facilities and to commit to subsea tiebacks. One subsea tieback that LLOG has recently completed was Taggart field which involved a novel approach of tying a subsea discovery directly into a third-party operator's subsea infrastructure, resulting in almost a 50% reduction in carbon usage and months of timeline improvements.

Our largest current project is the Salamanca development, which is a host facility that will support the Leon and Castile Developments. The facility will exist in over 6,000' of water over 300 miles south of New Orleans. When installed next year, it will produce around 50,000 barrels of oil per day. A unique aspect of Salamanca is that the floating production unit is the first refurbishment of a facility that was in production and is being brought back into commerce as a producing asset. This operation will result in a reduction of approximately 70% of emissions in the development of the asset versus a new build facility. The other aspect is that the major construction for this project has been undertaken in shipyards and construction yards in Texas and Louisiana versus all major construction for new build facilities occurring in Asia.

For the foreseeable future, the offshore sector will play an integral role in shaping an energy system that promotes the provision of affordable and reliable energy while simultaneously continuing to reduce environmental impacts, including

emissions. Importantly, for the coming decades, oil and natural gas will remain a vital energy source for Americans and our allies around the globe, even as we simultaneously add low carbon sources into the mix and find ways to lower the environmental impact of our already world-leading hydrocarbon production operations.

Despite LLOG and our peers across the offshore oil and natural gas industry achieving great success in delivering increasingly lower-carbon intensity energy in increasing quantities to Americans and our global partners, our nation's offshore oil and natural gas market is facing a cliff. With the smallest five-year leasing plan in history now in effect, and companies confined to new development in primarily only two of the United States' 26 offshore planning areas, we are at a crossroads for the long-term success of our industry.

For this reason, it is critical that the United States not only take seriously the role offshore resources play in the security and wellbeing of the nation, but that Congress and the Executive Branch take reasonable steps to ensure the nation's offshore resources are accounted for, developed responsibly, and available to consumers. This is key not only for the wellbeing of our own citizens, but the wellbeing and security of people around the world that rely on American oil and natural gas.

Without complete understanding of our untapped offshore energy resources, and without a comprehensive leasing policy and permitting law reforms that would allow American companies to bring these resources to market, the United States risks operating at a competitive disadvantage.

ENERGY REALITIES

Energy lifts society and standards of living. A system of reliable, abundant, and affordable energy is essential for meeting basic societal needs, including healthy living conditions, health care, education, and mobility, economic or otherwise. Oil and natural gas fill the fuel tanks of passenger vehicles and airplanes. They are transformed into the essential building blocks of smartphones, clothing, and medical equipment. They are in so many products we use every day that they underpin the conveniences of modern life.

Natural gas is recognized as a key energy source for providing electricity, heating, cooling, and clean cooking. More than 750 million people around the globe do not have access to electricity, which leaves entire communities at a severe and fundamental disadvantage. According to the World Health Organization (WHO), "Access to energy is critical when it comes to the functionality of health-care facilities and the quality, accessibility and reliability of health services delivered. Electricity is necessary for the operation of critically needed medical devices such as vaccine refrigeration, surgical emergency, laboratory and diagnostic equipment, as well as for the operation of basic amenities such as lighting, cooling, ventilation and communications." [1]

Globally, 2.6 billion people do not have the means for clean cooking and must use solid fuels such as wood, crop wastes, charcoal, and dung in open fires and inefficient stoves. The WHO attributes 3.8 million premature deaths each year to indoor air pollution caused by the fumes and soot generated by inefficient and dirty cooking.

The impacts of energy insecurity are not only experienced abroad; 44 percent of low-income American household's experience energy insecurity, spending 10 percent to 20 percent of their income on energy expenses.[2] Energy insecurity has adverse consequences on both physical and mental health. Millions of Americans are faced with the "heat or eat" dilemma, regularly having to choose between paying utility bills and paying for food.[3]

Energy production in the U.S. Gulf of Mexico demonstrates that it is possible to develop offshore resources while adhering to the highest safety and environmental standards. A multitude of companies involved in offshore energy development are working collaboratively to shrink an already small carbon footprint. From electrifying operations to deploying innovative solutions that reduce the size, weight, and part count of offshore infrastructure—thus increasing safety and decreasing emissions—the U.S. Gulf of Mexico hosts a high-tech revolution.

Currently, global oil consumption is approximately 100 million barrels per day. Various scenarios forecast global oil consumption volumes through 2050 and beyond, and nearly all of them predict substantial oil production will be necessary through 2050. The facts, data, and our experience make clear that we should focus on the

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[1] https://www.who.int/activities/accelerating-access-to-electricy-in-health-care-facilities

[2] http://large.stanford.edu/courses/2020/ph240/radzyminski2/

[3] S. Jessel, S. Sawyer, and D. Hernández, "Energy, Poverty, and Health in Climate Change: A Comprehensive Review of an Emerging Literature," Front. Public Health 7, 357 (2019).

U.S. offshore region, and the Gulf of Mexico in particular, for securing those vital resources.

Oil produced from the U.S. Gulf of Mexico has a carbon intensity one-half that of other producing regions.[4] The technologies used in deepwater production—which represents 92 percent of the oil produced in the U.S. Gulf of Mexico—place this region among the lowest carbon intensity oil-producing regions in the world.[5] Policies that restrict domestic offshore development require imports to make up the shortfall, and that supplemental production comes from higher-emitting operations in other countries. Foreign providers generally employ less environmentally conscientious production methods, which when combined with the added emissions from transporting oil over great distances by tanker, *increases* the amount of carbon released into the atmosphere rather than *decreasing* it.

Emissions reduction is a global challenge. As analysts at Wood Mackenzie explain, "Removing or handicapping a low emitter hurts the collective global average."[6] This is a debilitating solution with devastating consequences. The better choice is to institute government policies that promote cleaner and safer domestic production, less reliance on higher-emitting foreign suppliers like Russia and China, and the preservation of hundreds of thousands of American jobs.

On the other hand, restricting U.S. offshore energy development could eventually lead to Americans of every walk of life having to contend with the issues Europe has been experiencing as a result of disrupted supply from Russia, including potential industrial curtailment and families having to make difficult choices between heat and food. Our energy reality makes it clear that U.S. energy policy should support U.S. offshore energy production of all types, including oil and natural gas, as well as wind. Government policies play a substantial role in the ability to develop energy in the U.S., whether onshore or offshore, and whether the energy source is oil and natural gas, wind, solar, hydrogen, or other sources. Obstructive government policies inevitably lead to adverse consequences for our energy security, national security, economic security, and decarbonization efforts.

OFFSHORE ENERGY DEVELOPMENT ENHANCES ENERGY SECURITY

Oil and Natural Gas Will Be Crucial Energy Sources for Decades to Come

Oil and natural gas touch every part of our daily lives. Fundamentally, "Everything that is fabricated, grown, operated or moved is made possible by hydrocarbons."[7] The U.S. Department of Energy states:

> Oil and natural gas play an essential role in powering America's vibrant economy and fueling a remarkable quality of life in the United States. Together, oil and natural gas provide more than two-thirds of the energy Americans consume daily, and we will continue to rely on them in the future. In addition to meeting our energy needs, oil and natural gas are integral to our standard of living in ways that are often not apparent. Several key advances in technology enabled a dramatic increase in domestic oil and natural gas production over the past 20 years. This increased production provides energy security and economic benefits to the entire country, and ongoing technology advances will help us to enjoy those benefits into the future.
>
> Oil and natural gas are used in many ways that are familiar to consumers. Petroleum products power transportation, providing fuel for cars, trucks, marine vessels, locomotives, and airplanes. Natural gas generates more than one-third of the electricity needed for dependable heating, air conditioning, lighting, industrial production, refrigeration, and other essential services, and tens of millions of Americans rely on oil and natural gas to heat their homes directly and on clean burning natural gas to cook their food. But petroleum products do so much more than fuel our cars and power our homes and businesses.
>
> While perhaps less recognized, oil and natural gas also play critical roles in supplying essential products and materials, increasing agricultural productivity, and supporting the expansion of new energy sources.
>
> Oil, natural gas, and natural gas liquids are building blocks for a range of modern materials used to produce life-changing prosthetics, energy-efficient

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[4] Motiwala, and Ismail, "Statistical Study of Carbon Intensities in the GOM and PB," ChemRxiv, April 13, 2020.

[5] https://www.woodmac.com/news/the-challenge-of-negative-emissions/

[6] https://www.woodmac.com/news/opinion/could-restricting-oil-production-in-the-us-gulf-of-mexico-lead-to-carbon-leakage/

[7] Mark Mills, Wall Street Journal, January 8, 2019

> homes, safer cars that go farther on a gallon of gasoline, and hundreds more consumer products that Americans use every day. Plastics and chemicals derived from oil and natural gas make our food safer, our clothing more comfortable, our homes easier to care for, and our daily lives more convenient.
>
> Natural gas is also a key ingredient for chemical fertilizers, helping increase crop production and yield per acre planted, and powering many important operations on the farm like crop drying.[8]

According to the United Nations, access to affordable, reliable, and sustainable energy is critical to achieving many international development goals, specifically, the eradication of poverty through continued improvements in education, health, and access to water.[9] Oil and natural gas play a central role in eliminating poverty and raising the standard of living for millions by serving as a key form of abundant and affordable energy.

OFFSHORE ENERGY DEVELOPMENT IMPROVES ENERGY AFFORDABILITY

The cost of energy is fundamentally driven by supply and demand, and recently, global markets have been disrupted by a supply crunch in both the oil and natural gas markets. The energy paradigm has shifted over the past decade, with the United States rising to a position of energy power and emerging as the leading producer of both oil and natural gas in the world.

Vice Chairman of IHS Markit Daniel Yergin explains how things have changed:

> According to the old script, United States oil production was too marginal to affect world oil prices. But the gap today between demand and available supply on the world market is narrow. The additional oil Saudi Arabia is putting into the market will help replace Iranian exports as they are increasingly squeezed out of the market by sanctions . . .. But if America's increase . . . [in oil production] . . . had not occurred, then the world oil market would be even tighter. We would be looking at much higher prices—and voters would be even angrier.[10]

Mr. Yergin made this point in 2012 at the outset of the shale revolution, but the significance of U.S. production for global energy markets is as important as ever today. In fact, Mr. Yergin reiterated this very point in February this year in the aptly title op-ed in the *Wall Street Journal*, "America Takes Pole Position on Oil and Gas."

Analysts recognize that the downturn in the oil and natural gas industry from 2014–2020, combined with ill-conceived policies and investment approaches, led to significant underinvestment in oil and natural gas exploration and infrastructure. According to Simon Flower, Chairman, Chief Analyst at Wood Mackenzie and author of a weekly column called The Edge, "Underinvestment in oil supply will lead to a tight oil market later this decade. It's a narrative that's gained increasing traction as capital expenditure on upstream oil and gas has shrunk. Spend in 2021 is half the peak of 2014 after slumping to new depths in [2021's] crisis."[11]

Mr. Flowers poses the question, "How much ***new*** oil supply does the world need?" His answer is, "A lot—we reckon about 20 million b/d from 2022 to 2030." According to Flowers, "This is the 'supply gap', the difference between our estimate of demand in 2030 and the volumes we forecast existing fields already onstream or under development can deliver."[12] If his numbers are correct, a huge amount of new oil is needed to close the expected gap between the supply and demand and help bring stability and affordability to oil and petroleum product prices.

Rystad Energy echoes the concern about the supply gap and the huge amount of investment needed to close it. According to Rystad, more exploration for oil and gas is needed to supply the volumes needed worldwide by 2050.[13] In fact, it will take massive investment just to keep pace with growing demand. Rystad suggests capital expenditures of at least $3 trillion will be required to replenish declining production

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[8] *U.S. OIL AND NATURAL GAS: Providing Energy Security and Supporting Our Quality of Life*, U.S. Department of Energy, September 2020, p. 4.

[9] https://unstats.un.org/sdgs/report/2016/goal-07/

[10] Daniel Yergin, "America's New Energy Reality," *The New York Times*, June 9, 2012

[11] https://www.woodmac.com/news/the-edge/is-the-world-sleepwalking-into-an-oil-supply-crunch/

[12] https://www.woodmac.com/news/the-edge/is-the-world-sleepwalking-into-an-oil-supply-crunch/

[13] https://www.offshore-mag.com/drilling-completion/article/14188804/exploration-overdrive-urgently-required-rystad-energy-report-claims

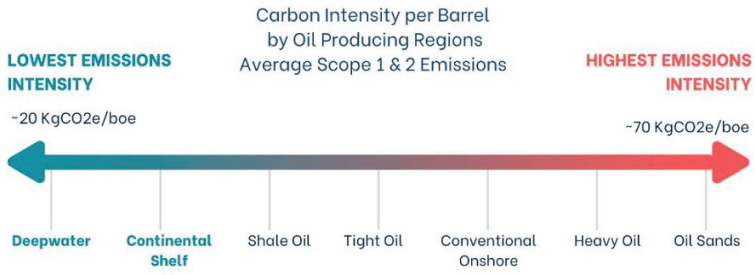
from currently producing assets around the world to meet expected global demand in 2050.

We are fortunate in the United States that our Gulf of Mexico region is up to the task of delivering the oil and gas the economy needs. Production numbers from the U.S. Gulf of Mexico place it in the company of some of the largest oil producing countries. If the Gulf of Mexico were its own country, it would be one of the top 11 oil producing countries:

Source: U.S. Energy Information Administration.

OFFSHORE LEASING PROVIDES AMONG THE LOWEST CARBON BARRELS IN THE WORLD

The U.S. offshore operates under one of the strongest regulatory and oversight regimes in the world, which means production here in the United States is more environmentally friendly than operations in many producing regions in the world. The carbon intensity of the Gulf of Mexico is 50 percent of that of other producing regions.[14] Part of the reason is that U.S. Gulf of Mexico developments deliver high volumes of oil and gas with a far smaller physical footprint. In 2019, 18 offshore facilities (with a combined surface area equal to about nine city blocks) produced 75 percent of offshore production.[15]



Source: Wood Mackenzie

Management practices and related regulations for venting and flaring of methane in the offshore have helped to dramatically reduce the practice in the Gulf of Mexico. The U.S. Gulf of Mexico accounted for 15% of U.S. oil production in 2019, yet EIA data shows venting and flaring emissions from offshore oil and gas

[14] Motiwala, and Ismail, "Statistical Study of Carbon Intensities in the GOM and PB," ChemRxiv, April 13, 2020.

[15] Director Scott Angelle, BSEE Director, BSEE Presentation to the Deepwater Technical Symposium, November 13, 2020.

operations accounted for a mere 2.6% percent of nationwide energy production venting and flaring emissions in 2019.[16] EPA data also shows methane emissions from offshore oil and gas production accounted for less than one percent of total nationwide methane emissions in 2019.[17]

In short, the U.S. and the world depend upon reliable supplies of oil and natural gas for a high quality of life and to lift people out of poverty, and U.S. offshore production should be the basin of choice for producing that energy because of demonstrably lower GHG and environmental impacts for an energy source we will continue to need for years to come.

In fact, a 2016 report at the end of the Obama administration—issued under then-Secretary Sally Jewell—stated, "U.S. GHG emissions would be higher if BOEM were to have no lease sales . . .. Emissions from substitutions are higher due to exploration, development, production, and transportation of oil from international sources being more carbon intensive." [18]

Recent research from multiple sources continues to validate the low carbon benefits of U.S. Gulf of Mexico oil leasing and production: [19]

Wood Mackenzie:

According to Wood Mackenzie, reducing oil production from the U.S. Gulf of Mexico would increase the average emissions rate for global oil production:

> Using our recently updated Emissions Benchmarking Tool, which profiles emissions for more than 2,800 oil and gas assets around the world, [researchers] Oberstoetter and Usoro were able to compare the carbon intensity of the principal sources of crude used in the US. Numerous factors drive the differences in intensity: emissions in Venezuela, Colombia and Canada are driven by the more energy-intensive processes needed to produce the heavier crude qualities, while in Iraq flaring is the big problem. The overall picture is clear, however: the deep water of the Gulf of Mexico is one of the lowest-carbon sources of oil used in the US, with only Saudi Arabia coming in lower. In the light of that, Oberstoetter and Usoro argue, restrictions on US production in the Gulf could end up having a counterproductive impact on global emissions. "Removing or handicapping a low emitter hurts the collective global average." [20]

McKinsey:

In the report titled "How the Gulf of Mexico can further the energy transition," McKinsey describes four key factors that give the deepwater Gulf of Mexico a "low carbon advantage":

> First, in contrast to other regions where flaring natural gas without a market is more commonplace, most of the natural gas produced in the Gulf of Mexico is sold to local markets, which results in minimal routine flaring and, consequently, less GHG emissions. Second, the facilities have efficient, modern designs that minimize methane leakage. Third, wells and production facilities have a high throughput, minimizing the number of energy-intensive processes required to bring on new supply, such as drilling. And fourth, operators have

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[16] https://www.eia.gov/dnav/ng/ng_prod_sum_a_EPG0_VGV_mmcf_a.htm

[17] Draft 2021 Greenhouse Gas Inventory

[18] https://www.boem.gov/sites/default/files/oil-and-gas-energy-program/Leasing/Five-Year-Program/2017-2022/OCS-Report-BOEM-2016-065—OCS-Oil-and-Natural-Gas---Potential-Lifecycle-GHG-Emissions-and-Social-Cost-of-Carbon.pdf. Although court decisions have questioned components of the methodology the Obama administration used in this report, the fundamental proposition remains—a "no leasing" scenario must consider the impacts of fuel-switching, which, as shown by the outside experts discussed below, will lead to higher GHG emissions because of the unusually low GOM carbon intensity.

[19] A recent study by researchers at the University of Arizona and elsewhere suggests that methane emissions from offshore shallow water facilities has been underestimated. However, 92 percent of offshore oil production is from deepwater, which is consistently recognized for low methane and low overall carbon emissions. The recent study analyzed just 8 percent of total shallow water facilities, with many of the facilities outside of federal jurisdiction in state waters, using a relatively new technique. Many NOIA members with facilities in federal shallow waters have focused on methane management, deploying technologies such as leak detection or electrifying activities to the extent feasible. In any event, the offshore industry will continue to review relevant data, including this recent research, as part of the ongoing process of learning and improvement.

[20] https://www.woodmac.com/news/the-challenge-of-negative-emissions/

made active decarbonization efforts to stay in line with environmental sustainability goals and in compliance with regulations.[21]

McKinsey estimates production from the U.S. Gulf of Mexico could decrease by about 800,000 barrels per day by 2040 without additional projects beyond those that have already been sanctioned. In that situation, McKinsey expects lost production would be made up by substitutions from other parts of the world without much oil demand destruction. The country would be able to import sufficient oil, but it would come from higher-emitting basins, resulting in an increase in greenhouse gas emissions globally:

> This supply reduction would have to be offset by alternative sources to meet global demand, which could hinder net-zero goals significantly. Because many other oil producing regions globally have total unit costs similar to those in the Gulf of Mexico, global oil price increases or substitution with other energy sources wouldn't be expected, and global demand for oil would remain unchanged. Instead, the reduced Gulf supply would be offset by production increases from other sources, such as other deepwater basins, shale, and OPEC. Based on the higher emissions per barrel of this new supply, global emissions would increase by 50 million to 100 million metric tons of CO_2e through 2040.[22]

Offshore energy is a true story of accomplishing more with less—creating more energy with less environmental impact. Offshore production platforms are incredible edifices of continuously evolving technology that allow enormous amounts of energy to be produced through a relatively small footprint. Incredibly, 18 deepwater facilities, which equate to about the size of only nine city blocks, produce about the same amount of oil as the entire state of North Dakota.[23]

PERMITTING

From a regulatory standpoint, federal government policy should serve to eliminate potential roadblocks to investment in energy projects, including offshore wind. As the Administration reviews and reworks regulations, such as the National Environmental Policy Act (NEPA), it will be important to ensure changes to bedrock environmental policy are done in a way that enhances environmental protection and energy development. Environmental stewardship and energy and economic progress are not mutually exclusive; NOIA members have consistently been leaders in both arenas. Promulgating rules that balance the need for energy development with effective environmental stewardship will provide the certainty massive investments require.

Timely, transparent and rational NEPA processes are of significant importance to project developers, investors, employees, and contractors whose jobs and livelihoods are tied to projects subject to NEPA reviews. Preconstruction delays for projects typically add costs and delay the delivery of the benefits that projects can bring. Delays and associated cost increases may result in projects being canceled altogether. In today's globalized economy, where there is a high level of competition for the world's investment, increasing uncertainty and delays in the federal permitting process can serve to drive investments elsewhere. The United States needs these investments to remain competitive and to support long term economic growth, as well as to elevate the quality of life for communities that most acutely need these investments.

Lack of clarity in the NEPA process does not only impact the time it takes a federal agency to act, but also increases litigation risk. Because of its broad applicability across sectors and agencies, NEPA is often at the center of project opponents' litigation strategy in seeking to delay and block both federal and nonfederal activities. In response to the threat of litigation, agencies prepare NEPA analyses in defense of potential litigation, attempting to anticipate every possible objection that could be raised in court, however insignificant and however detached from the intent of NEPA—with mixed ultimate success. The result is that over time NEPA has become less about informing agencies and the public of environmental impacts of significance, and more about agencies attempting to avoid lengthy and costly litigation. Several NEPA-related legal challenges have already been filed over the approvals of the construction and operation plans for the early-mover offshore wind

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[21] Brown, Di Fiori, Smith, and Yanosek, "Deepwater Gulf of Mexico's role during the energy transition," McKinsey, September 2022, at pages 3-4.

[22] Brown, Di Fiori, Smith, and Yanosek, "Deepwater Gulf of Mexico's role during the energy transition," McKinsey, September 2022, at page 6.

[23] Director Scott Angelle, BSEE Director, BSEE Presentation to the Deepwater Technical Symposium, November 13, 2020.

projects. Congress should continue to consider permitting legislation to streamline the process and reduce the investment and litigation uncertainty.

CONCLUSION

Our national energy needs require continued supplies of oil and natural gas. Continued U.S. offshore oil and natural gas development provides vast benefits and a sensible pathway for energy security for the next few decades. At the same time, the U.S. offshore sector is contributing to the development of low and zero carbon energy options, including offshore wind, hydrogen and carbon removal technologies.

Thank you for the opportunity to testify on behalf of the offshore energy industry. LLOG and the members of NOIA stand ready to work with policy makers to advance policies to ensure that Americans can rely upon an affordable and reliable energy system built upon strong pillars of energy, economic, and environmental security.

Mr. STAUBER. Thank you for your testimony. Our final witness is Mr. Tyson Slocum. He is the Director of the Energy Program for Public Citizen, and is based here in Washington, DC.

Mr. Slocum, you are now recognized for 5 minutes.

STATEMENT OF TYSON SLOCUM, DIRECTOR, ENERGY PROGRAM, PUBLIC CITIZEN, WASHINGTON, DC

Mr. SLOCUM. Thank you so much, Mr. Chairman, Ranking Member, and members of the Committee. Like the Chairman said, I am Tyson Slocum, and for the last quarter century I have directed the energy program for Public Citizen here in DC, where we represent the interests of household consumers.

Today, the United States is producing more oil and gas than any nation in the history of world. As the Ranking Member pointed out, we are the largest oil and natural gas producer on the planet.

The President doesn't talk about this a lot, but under President Biden's term, it is clear that the United States has achieved fossil fuel energy dominance. The catch is that, while we are producing record amounts of oil and gas, we are producing more than we domestically consume. And that has turned the United States into the world's largest fossil fuel exporter.

We are exporting almost one out of every three barrels of oil that we produce here in the United States every day. So, we are exporting more than 4 million barrels of oil every day, and an additional 6 million barrels of refined petroleum products every day. China is the recipient of almost a million barrels of exported petroleum from the United States every single day. So, almost 1 out of every 10 barrels of petroleum exports from the United States are going to one of our adversaries, China.

The Gulf of Mexico oil production has increased more than 40 percent over the last decade and every year of the Biden administration. But growing shares of Gulf of Mexico oil production is not going to result in lower energy burdens for American families because the proximity of oil production is going to be aligned with all of the export terminals, because 99 percent of all of our oil exports are being exported out of the Texas and Louisiana Gulf.

The Gulf of Mexico oil and gas industry consistently fails to meet their decommissioning obligations. As more of the industry's profits come from exporting oil, it is outrageous that the industry fails to invest those profits into abandoned well cleanup and other liabilities. The GAO just months ago estimates that the current Gulf of

Mexico well cleanup liabilities are as high as $70 billion in excess of what the industry has pledged to support. That is a looming taxpayer bailout that should not fall on the hard-working taxpayers of the United States, but on the oil and gas industry that, as the Ranking Member accurately pointed out, are experiencing some of the largest profits in their history, primarily driven by the fatter profits that they can earn from exporting America's oil and gas.

As the Ranking Member pointed out, we are relying too heavily on the use of categorical exclusions by Federal offshore oil and gas regulators for exploration and production plans. The use of such exclusions have to be discontinued in order to ensure the protection of sensitive Gulf of Mexico marine ecosystems.

Oil export terminals that are currently subject to the Deepwater Ports Act should have to comply with a modernized national interest standard that takes into account the consumer and environmental effects of America's record oil exports, including banning any such exports to foreign adversaries like China.

This hearing is titled, "Assessing Solutions to Secure America's Offshore Energy Future." Any sort of balanced approach would have to take into account the ability for the Gulf of Mexico to produce renewable energy like from wind power. Just in the last year, we have seen successful offshore wind leases conducted by both the Federal Government and the state of Louisiana that demonstrate the viability of offshore wind to provide 100 percent clean energy for citizens and industries on the Gulf Coast. We are seeing a proliferation of offshore wind-associated industry in Gulf port communities that need to be emphasized in order to continue to grow offshore wind capability.

Thank you so much for your time, and I look forward to your questions.

[The prepared statement of Mr. Slocum follows:]

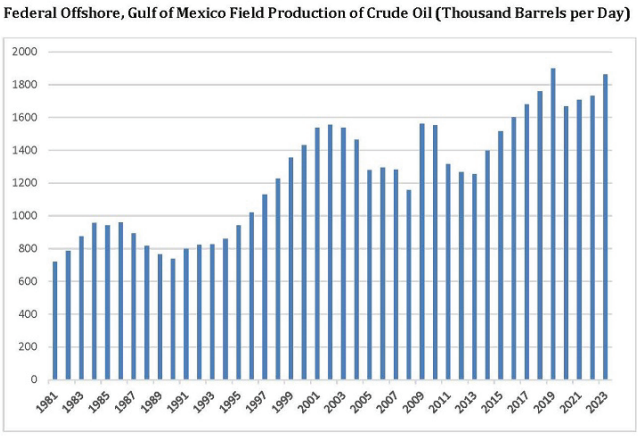
PREPARED STATEMENT OF TYSON SLOCUM, ENERGY PROGRAM DIRECTOR, PUBLIC CITIZEN

Assessing Solutions to Secure America's Offshore Energy Future: Limitations and Liabilities of Offshore Oil and Gas Drilling

I am Tyson Slocum, and I direct the Energy Program at Public Citizen. Public Citizen is a national consumer advocacy organization with more than 500,000 members and supporters across the country. I serve on two advisory committees to the U.S. Commodity Futures Trading Commission (Energy and Environmental Markets Advisory Committee, and the Market Risk Advisory Committee), and am a faculty member at the University of Maryland. I oversee Public Citizen's work on petroleum, natural gas and electric power markets, including intervening in adjudicatory proceedings at the Federal Energy Regulatory Commission and the U.S. Department of Energy on behalf of household consumers.

The title of today's hearing is *Assessing Solutions to Secure America's Offshore Energy Future*. No nation in history has ever produced as much oil and natural gas as the United States does today. We are not only the world's largest oil and natural gas producer, but also the biggest exporter of petroleum and natural gas. Federal offshore oil production in the Gulf of Mexico reached its 2nd highest output in history in 2023, behind only 2019.[1]

[1] www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=mcrfp3fm2&f=a



Source: U.S. Energy Information Administration

The data quite clearly demonstrates that, during President Joe Biden's term, America has achieved energy dominance: we now produce more petroleum and natural gas than we domestically consume. But so-called energy dominance in oil and gas production does not and cannot deliver consistently low gasoline or natural gas prices to American consumers, because our record exports ensure our domestic prices are firmly linked to global markets, exposing Americans to inherent pricing volatility.

Expanding production of oil and natural gas in the Gulf of Mexico will provide no price relief for American consumers struggling with stubbornly high energy burdens. Absent reforms, Gulf of Mexico oil and gas operations will expose American taxpayers to looming liabilities inherent in offshore oil and gas production. Indeed, today's hearing is two days shy of the 14th anniversary of the BP Deepwater Horizon disaster, one of the largest industrial catastrophes in American history. Reforms are needed to ensure the protection of the Gulf of Mexico marine ecosystem, American taxpayers, and our national security.

My testimony has four highlights:

- A discussion of America's *Offshore Energy Future* must include a commitment to expand offshore wind energy production.
- The BOEM *Risk Management and Financial Assurance* final rule published April 15 is a necessary first step to protect taxpayers by requiring offshore leaseholders to post increased bonding requirements to ensure they can meet their decommissioning obligations.
- BOEM must discontinue the use of categorical exclusions for offshore Gulf of Mexico oil and gas exploration, development and production plans.
- Oil export terminals subject to the Deepwater Ports Act should comply with a modernized national interest standard that takes into account the consumer and environmental effects of America's record oil exports, including banning any such exports to adversaries like China.

Wind Power Is Essential To Secure America's Offshore Energy Future

While Gulf of Mexico energy production has historically been exclusive to oil and gas, the Bureau of Ocean Energy Management completed its first successful lease sale for offshore wind in August 2023, with RWE submitting the winning $5.6 million bid for OCS-G-7334 off Lake Charles, LA—suitable for a wind system to power more than 435,000 homes.[2] Some analysts noted the first auction results were lackluster, as U.S. states on the Gulf of Mexico haven't implemented electricity

[2] www.boem.gov/renewable-energy/state-activities/gulf-mexico-activities

offtake agreements and other state policy mechanisms that are driving a more robust wind energy industry on the offshore Atlantic coast of the U.S.[3]

That said, one of the reasons why RWE's bid may have been successful was because the company signed a Memorandum of Understanding with the regional electric utility, Entergy, on a plan to deliver offshore Gulf of Mexico wind to Entergy's customers.[4] To facilitate equitable financing of offshore wind electricity offtake agreements, it may be necessary to explore federal or regional funding of such projects, so as not to overburden a single utility's ratepayers. Coordination between Gulf of Mexico offshore wind developers and the utilities responsible for delivering power to customers will be necessary for the industry to grow in the region. BOEM is in the midst of planning a second Gulf of Mexico offshore wind energy lease auction, possibly executing the auction by October 2024.

Following the August 2023 federal auction, Louisiana held a successful lease sale in state waters, with Mitsubishi winning a bid for its wind facility off the shores of Terrebonne and Lafourche parishes, and Vestas securing acreage off the coast of Lake Charles.[5] This is the first phase of Louisiana's target of generating 5 gigawatts of power from offshore wind by 2035.

The job and economic benefits of offshore wind in the Gulf of Mexico can be significant. A 2020 assessment by the U.S. Department of Energy concludes that a single, 600 MW wind facility offshore from Port Arthur, TX would support 4,470 construction jobs with $445 million in gross domestic product (GDP) and 150 permanent jobs with $14 million GDP annually from operation and maintenance labor, materials, and services.[6]

Gulf of Mexico ports and shipbuilding facilities can also be calibrated to serve the offshore wind industry. More than 600 employees are at work in Louisiana building the *Eco Edison*, the first U.S.-built vessel to service offshore wind farms; Dominion Energy is spending $500 million on the first US-built wind installation vessel, the 472-foot *Charybdis*, in Brownsville, TX; and hundreds of people are working on the first US-built substation near Corpus Christi.[7] Indeed, the U.S. Department of Treasury just issued a "clarifying" notice expanding the types of projects and areas that qualify for the Inflation Reduction Act's bonus credit for energy communities, detailing how offshore wind projects may attribute nameplate capacity to supervisory control and data acquisition system equipment located in ports that qualify as "energy communities".[8]

Protecting Taxpayers From Offshore Oil and Gas Liabilities

Quite fittingly, on the deadline for Americans to file their income taxes with the IRS, the Bureau of Ocean Energy Management issued a final rule April 15 to protect taxpayers by requiring companies seeking to drill oil and natural gas in the Gulf of Mexico to put more money up front to cover future well decommissioning liabilities.[9] The rule is necessary because oil and gas corporations have failed in their responsibility to clean up and safeguard their non-operating wells in the Gulf of Mexico. Thousands of jobs would be created by a program to properly plug and decommission orphan wells in the Gulf of Mexico.[10]

According to a GAO investigation released three months ago, more than 2,700 wells and 500 platforms were overdue for decommissioning in the Gulf of Mexico, with the federal government holding only $3.5 billion in bonds from companies to cover a potential well decommissioning cost of as much as $70 billion.[11] The offshore oil and gas industry has an abysmal record of cleaning up its mess, threatening the American taxpayer with billions of dollars in unfunded cleanup liabilities. While this week's final *Risk Management and Financial Assurance* rule is a good start to begin forcing oil and gas companies to cover their own cleanup and decommissioning

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[3] Kelsey Tamborrino, Gulf of Mexico offshore wind auction brings in lackluster bids, *E&E News*, August 29, 2023.

[4] www.entergynewsroom.com/news/rwe-entergy-partner-define-route-market-for-offshore-wind-in-gulf-mexico/

[5] Heather Richards, Louisiana inks first-ever offshore wind deals, *Greenwire*, December 14, 2023.

[6] www.nrel.gov/news/program/2020/studies-find-gulf-of-mexico-well-positioned-for-offshore-wind-development.html

[7] www.bloomberg.com/news/features/2023-05-22/oil-workers-in-gulf-of-mexico-find-jobs-in-offshore-wind

[8] Notice 2024-30, www.irs.gov/pub/irs-drop/n-24-30.pdf

[9] www.boem.gov/sites/default/files/documents/oil-gas-energy/risk-management/Risk_Rule.pdf

[10] www.energypolicy.columbia.edu/wp-content/uploads/2022/04/OffshoreWells-CGEP_Report_111022.pdf

[11] *Interior Needs to Improve Decommissioning Enforcement and Mitigate Related Risks*, GAO-24-106229, Jan 25, 2024, www.gao.gov/products/gao-24-106229

costs, the rule doesn't go nearly far enough to hold the offshore drilling industry accountable. BOEM needs to "tighten eligibility on who can bid on a lease or acquire an existing lease in federal waters. For existing and future leases, we recommend that regardless of the lease owner's size, each and every single well, and each and every piece of infrastructure should possess financial assurance equal to the cost of decommissioning and plugging and abandonment." [12]

Nationwide, oil and gas production has soared over the past 15 years. Though domestic production has surged, exports have surged since 2015 when President Barack Obama negotiated and signed into law the repeal of the 40-year old ban on exporting oil from the United States. Exporting oil and refined petroleum products puts upward pressure on domestic prices.

Over the past three years, oil and gas giants have been earning record profits, as worldwide crude oil prices have remained above $65 per barrel since 2021, but the industry's history of boom-bust cycles suggests that this state of affairs will now be permanent. Through the 2010s, oil and gas executives ramped up production at all costs, even though doing so created a supply glut that depressed prices. Low oil and gas prices then battered the industry in the late 2010s, and the drop in demand caused by the coronavirus pandemic in 2020 caused prices to plunge even further. More than 600 oil and gas companies filed for bankruptcy from 2015 through 2021, including 274 oil and gas producers, according to the energy industry law firm Haynes and Boone.[13] Notable offshore drilling bankruptcies include Cox Operating,[14] Fieldwood Energy,[15] Diamond Offshore,[16] and Noble Corp.[17]

In addition to failing to cover their own offshore well decommissioning liabilities, the offshore oil and gas industry has a poor track record of compliance with existing operational and safety regulations. The Federal Bureau of Safety and Environmental Enforcement has fined offshore oil and gas companies more than $46.5 million since 2000, according to Violation Tracker, a watchdog site.[18] Meanwhile, more than a decade after the 2020 Deepwater Horizon disaster, members of the bipartisan commission formed to prevent a repeat of the tragedy have said their reforms were ignored and have warned that another disaster as all too possible.[19]

Top Recipients of Bureau of Safety and Environmental Enforcement Penalties, 2000-Present

Parent Company	Total Penalties
Chevron	$3,712,424
APA Corporation	$3,442,000
Talos Energy	$2,366,154
Riverstone Holdings	$2,277,363
W&T Offshore	$2,193,243
Cox Oil	$1,826,124
Freeport-McMoRan	$1,779,350
Black Elk Energy Offshore Operations LLC	$1,633,736
BP	$1,341,600
Occidental Petroleum	$1,142,125
All Penalties 2000-present	**46,530,995**

Source: Violation Tracker

[12] Comments of Megan Milliken Biven, *True Transition*, www.regulations.gov/comment/BOEM-2023-0027-1696

[13] Haynes and Boone, LLP Oil Patch Bankruptcy Monitor 2022. https://tinyurl.com/4sdyxh3p

[14] www.nola.com/news/business/louisiana-oil-company-cox-operating-files-for-bankruptcy/article_6ee3ad4c-06f4-11ee-af49-e344fd063b30.html

[15] https://grist.org/accountability/oil-gas-bankruptcy-fieldwood-energy-petroshare/

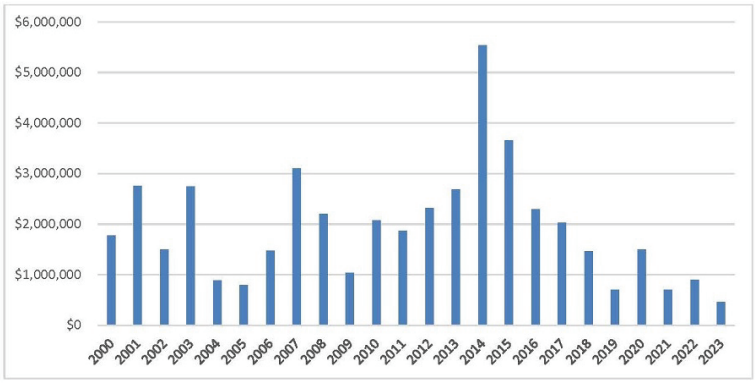
[16] https://investor.diamondoffshore.com/news-releases/news-release-details/diamond-offshore-completes-financial-restructuring

[17] https://gcaptain.com/noble-emerges-from-chapter-11-bankruptcy/

[18] Violation Tracker, Good Jobs First https://tinyurl.com/ykebkd4p

[19] www.nytimes.com/2020/04/19/climate/deepwater-horizon-anniversary.html

Bureau of Safety and Environmental Enforcement Penalties, 2000-Present



Source: Public Citizen analysis of Violation Tracker data

In addition, oil production in the Gulf of Mexico involves massive leaks of methane. Independent scientific research documents methane emissions in the Gulf of Mexico oil operations far in excess of what industry reports to the government.[20] Media reports have documented unprecedented methane plumes from Gulf of Mexico oil operations.[21]

Discontinue Categorical Exclusions For Offshore Gulf Of Mexico Oil And Gas Exploration, Development And Production Plans

The U.S. Department of Interior first utilized a categorical exclusion from having a specific exploration and production plan from having to comply with National Environmental Policy Act in 1981, and its use by BOEM has proliferated since then, with BOEM using categorical exclusions for a quarter of all Gulf of Mexico exploration plans over the last several years.[22] Indeed, Interior granted a categorical exclusion to BP for its Macondo well that experienced a catastrophic failure in 2010. BOEM's overreliance on categorical exclusions puts the health and safety of people and the Gulf of Mexico environment needlessly at risk. Interior should establish a policy immediately terminating the use of categorical exclusions.

America's Record Exports of Petroleum and Natural Gas Reward China And Place American Families At Risk Of Higher Prices

While the United States is today producing the most crude oil of any nation in history, we are also the world's largest exporter of petroleum.[23] We exported nearly 1 million barrels per day of American crude and refined petroleum to China in 2023, smashing the all-time record.[24] That means one out of every ten barrels of oil the United States exported in 2023 went to China. Nearly all crude oil exports (~99%) exit the United States from the Gulf Coast, which means Gulf of Mexico oil production is logistically slated for export.

In 2015, President Barack Obama negotiated and signed legislation ending the 40-year de facto-ban on crude oil exports, retaining limited emergency authority to control exports: "The President may impose export licensing requirements or other restrictions on the export of crude oil from the United States for a period of not more than 1 year, if the President declares a national emergency and formally notices the declaration of a national emergency in the Federal Register."[25]

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[20] www.pnas.org/doi/10.1073/pnas.2215275120

[21] https://lailluminator.com/2023/02/08/growing-body-of-research-suggests-offshore-oils-methane-pollution-is-underestimated/

[22] www.biologicaldiversity.org/campaigns/offshore_oil_drilling/pdfs/BOEM-petition-re-categorical-exclusions-7-12-23.pdf

[23] www.eia.gov/todayinenergy/detail.php?id=61703 and www.eia.gov/todayinenergy/detail.php?id=61584

[24] www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MTTEXCH2&f=A

[25] Title I ("Oil Exports"), Section 101: www.congress.gov/114/plaws/publ113/PLAW-114publ113.pdf

While Congress regulated natural gas as an essential utility service when it passed the Natural Gas Act of 1938—deeming the natural gas industry to be "affected with a public interest, and that Federal regulation in matters relating to the transportation of natural gas and the sale thereof in interstate and foreign commerce is necessary in the public interest"[26]—there is no consumer protection equivalent for petroleum. However, oil that is exported via deepwater ports are subject to the Deepwater Port Act of 1974, which requires "the construction and operation" of any deepwater port—including certain oil export terminals—must "be in the national interest and consistent with national security and other national policy goals and objectives, including energy sufficiency and environmental quality".[27] Congress should clarify whether record oil exports to adversaries like China are "in the national interest".

QUESTIONS SUBMITTED FOR THE RECORD TO MR. TYSON SLOCUM, DIRECTOR, ENERGY PROGRAM, PUBLIC CITIZEN

Mr. Slocum did not submit responses to the Committee by the appropriate deadline for inclusion in the printed record.

Questions Submitted by Representative Grijalva

Question 1. During the hearing, Representative Graves challenged several of your earlier statements on the environmental impacts of offshore drilling and infrastructure. Could you please elaborate on or clarify your statements for the record?

Mr. GRAVES [presiding]. Thank you, Mr. Slocum. I appreciate all of your testimony.

I will tell you what. Can I put you on the spot? You want to go first? I have my displays over there, so I am a little out of pocket here.

Ms. KAMLAGER-DOVE. This is bipartisanship at work. Thank you, Mr. Chair.

Mr. Slocum, as I mentioned in my opening statement, we are just days away from the 14th anniversary of the Deepwater Horizon disaster. And one of the companies here today, LLOG, bought out BP's interest in the block of the Outer Continental Shelf where Deepwater Horizon occurred, everything other than the actual wreckage, which still sits on the seafloor. Correct? Is this true?

Mr. SLOCUM. I believe so, yes.

Ms. KAMLAGER-DOVE. OK, so who financially backs LLOG?

Mr. SLOCUM. Well, actually, I just had a discussion with Mr. Zimmermann before this, and he explained to me, and Mr. Zimmermann could probably explain it better than I can, that it is a privately-held company, and they do partnerships with private equity on specific projects. In the past, that included Blackstone, ArcLight, and others, but that the company itself remains closely held by the family interests that founded it, and some of the specific investments are done in partnerships with certain private equity firms.

Ms. KAMLAGER-DOVE. And yet in 2019, they managed to sell off a controlling stake in these assets that they have for a cool $1.375 billion.

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[26] 15 USC § 717(a).
[27] 33 USC § 1503(c)(3).

I want to say that LLOG is involved in several other lawsuits, including being sued by several Louisiana parishes. Can you speak to some of these lawsuits?

Mr. SLOCUM. Right. There are a number of local communities throughout Louisiana that have filed lawsuits against the offshore oil and gas industry for damages that the industry have done to the communities and to the ecosystems and to the very delicate ecosystems in these coastal communities that the oil and gas industry has not met their obligations.

So, a number of these lawsuits by local communities, not by activists, outside environmental groups, these are by local governments that remain frustrated that the offshore oil industry is not reinvesting enough of their local profits into undoing some of the harm that has been done by digging these pipelines to supply the offshore oil industry.

Ms. KAMLAGER-DOVE. And yet, before the sale in 2017, at one of the wells nearest to BP's Macondo well, the well actually exploded, yes, and caused the Deepwater Horizon disaster?

A corroded pipeline had spilled 672,000 gallons of oil. It leaked, or discharge happened over a period of 32 hours. And while LLOG managed not to admit any liability, they did settle, I guess, yes, this year with the Federal Government for $3.1 million.

Mr. SLOCUM. Yes, that is my understanding. It was, I believe, a corroded pipeline, undersea pipeline that ended up leaking 16,000 barrels of oil, which is a very significant amount. This happened in 2017, and they were forced to settle, I believe, for $3.1 million.

Ms. KAMLAGER-DOVE. Looking back over the last 14 years since Deepwater Horizon, can you tell us if you believe there is an increased culture of safety and accountability among offshore oil and gas companies?

Mr. SLOCUM. We are not seeing a wholesale improvement in a culture of improved safety. I think, when you look at the fines as we have compiled, there continued to be a large number of noncompliance violations across a spectrum of safety issues in the U.S. offshore oil and gas industry, and that is very concerning to me.

There is no such thing as a benign offshore oil or gas development. There are always risks. And when we are providing so many categorical exclusions for this development, when we do not have a regulator that is enforcing the rules as strongly as they should, I see a lot of liabilities, and especially, we have an industry that is not funding its decommissioning liabilities, again, as the GAO has pointed out.

Ms. KAMLAGER-DOVE. I am so concerned I am planning to send a letter to BOEM requesting that they finally end the practice of categorically excluding offshore rigs from environmental reviews.

In the last few seconds that I have, BOEM recently adopted a new financial assurance rule to incentivize timely decommissioning. How can this rule help protect communities, the environment, and taxpayer dollars?

Mr. SLOCUM. This final rule is a great step in the right direction. It is going to require certain offshore oil and gas firms to put up almost $7 billion in new bonds to ensure that they have committed secure capital to pay for their decommissioning costs.

But as the GAO pointed out just a few months ago, there is $70 billion in overhanging liability for thousands of other wells across the Gulf of Mexico. So, the industry is not providing enough financial resources to clean up its own mess.

Ms. KAMLAGER-DOVE. Thank you, Mr. Chair, and I yield back.

Mr. STAUBER [presiding]. Thank you, Representative Kamlager-Dove.

Before I begin my questioning I am going to ask unanimous consent that this press release from the Department of the Interior dated November 9, 2023 announcing the $18.24 billion the Federal Government collected in revenues from energy production on Federal lands and waters in Fiscal Year 2023.

Without objection, so ordered.

[The information follows:]

PRESS RELEASE

Interior Department Announces $18.24 Billion in Fiscal Year 2023 Energy Revenue

Thursday, November 9, 2023

https://www.doi.gov/pressreleases/interior-department-announces-1824-billion-fiscal-year-2023-energy-revenue

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WASHINGTON—Today, the Department of the Interior's Office of Natural Resources Revenue (ONRR) announced the disbursement of $18.24 billion in revenues generated in fiscal year 2023 from energy production on federal and Tribal lands and federal offshore areas. U.S. energy production under President Biden's leadership has reached an all-time high on both public and private lands throughout the nation.

The disbursements provide funds for states and Tribes to pursue a variety of conservation and natural resource goals, including irrigation and hydropower projects, historic preservation initiatives, conservation of public lands and waters, and investments in maintenance for critical facilities and infrastructure on our public lands.

The Department's renewable energy programs yielded nearly $600 million in revenue and is making significant progress toward the President's ambitious clean energy goals. President Biden's Investing in America agenda is growing the American economy from the middle out and bottom up—from rebuilding our nation's infrastructure, to driving over $600 billion in private sector manufacturing and clean energy investments in the United States, to creating good paying jobs and building a clean energy economy that will combat the climate crisis and make our communities more resilient.

This year, $1.43 billion was distributed to Tribes and individual Indian mineral owners; $3.46 billion to the Reclamation Fund; $1 billion to the Land and Water Conservation Fund; $150 million to the Historic Preservation Fund; $379 million to federal agencies; and $7.09 billion to the U.S. Treasury.

ONRR disbursed $4.72 billion in fiscal year 2023 funds to 33 states. This revenue was collected from oil, gas, renewable energy, and mineral production on federal lands within the states' borders and offshore oil and gas tracts in federal waters adjacent to four Gulf of Mexico states' shores.

The states receiving the highest disbursements based on those activities are:

New Mexico	$2.93 billion
Wyoming	$832.86 million
Louisiana	$177.25 million
Colorado	$153.24 million
North Dakota	$132.66 million
Utah	$123.91 million
Texas	$108.27 million

Mississippi	$52.58 million
Alabama	$52.49 million
California	$49.12 million
Alaska	$44.81 million
Montana	$36.18 million

The revenues disbursed to 33 federally recognized Tribes and approximately 31,000 individual Indian mineral owners represent 100 percent of the revenues received for energy and mineral production activities on Indian lands. Tribes use these revenues to develop infrastructure, provide health care and education, and support other critical community development programs, such as senior centers, public safety projects, and youth initiatives.

Since 1982, the Department has disbursed more than $371.3 billion in mineral leasing revenues. ONRR makes most of these disbursements monthly from the royalties, rents, and bonuses it collects from energy and mineral companies operating on federal lands and waters.

A complete list of states receiving revenues and FY 2023 disbursement data is available on the Natural Resources Revenue Data portal.

Mr. STAUBER. Mr. Zimmermann, given the production efficiencies and low emission standards of oil extracted from the Gulf of Mexico, can you elaborate on how increased production could benefit downstream industries in non-offshore production states?

Specifically, how might this lead to more accessible and cost-effective products for critical sectors like health care and manufacturing in my home state of Minnesota?

Mr. ZIMMERMANN. Thank you, Chairman Stauber. My grandfather is actually from Virginia, Minnesota. He worked in the Iron Range, and his family was in the railroad industry in all of northern Minnesota. Many of my days were spent in Lake Vermilion over the summer in northern Minnesota.

Mr. STAUBER. You are talking my language now, but keep going.

Mr. ZIMMERMANN. One of the things that I want to make sure that people understand about the industry is that our industry, even though in the Gulf of Mexico our operations happen along the Gulf Coast, our stretch goes well beyond into all parts of our country.

We talked a little bit about our partnerships. We have multiple partnerships with many, many groups that come from many walks of life, many states. One of our major partners through the years, the Southern Ute Indian Tribe of Colorado, has been a deep water partner of ours in accessing deep water resources.

Furthermore, the ability to bring products from many parts of the country. We access pipe and much of our tooling from the states of the Midwest, Ohio, which access their ores from the Iron Range in northern Minnesota. So, even though much of the activity happens on the Gulf Coast, the feeder system is broad, and is accessed through our entire country, and touches all 50 states.

Mr. STAUBER. In your testimony, you mentioned advanced technologies that improve safety and reduce emissions in offshore oil production. Could you provide specific examples of these technologies, and discuss how they might be applied to future developments?

Mr. ZIMMERMANN. Yes, one of the major technologies that we have implemented is our subsea integrity management program,

where we use the technologies of LiDAR and remote-operated vehicles to assess the health and welfare of the subsea infrastructure in looking for minor movements and looking for potential damage, to see if there are risks for future problems well in advance of the problems manifesting themselves.

Mr. STAUBER. Thank you.

Ms. Martin from the great state of Alaska, welcome. And by the way, Alaska is the only state that has more mineral wealth than the great state of Minnesota. And I think you know that.

What specific reforms or expansions in categorical exclusions could BOEM implement to streamline the permitting process, thus expediting the development of offshore resources while still ensuring environmental safeguards?

Ms. MARTIN. Thank you, Chairman.

Unambiguous, clear, concise regulations that support timely permitting is key to accelerate any sort of acquisition of geoscience data required for virtually any energy source. So, no matter your preference of energy source, as the United States and Congress considers its future energy policies, it requires eyes on something going in, out, or through the ground. And that vision is only provided by geoscience.

So, we are certainly supportive of categorical exclusions for geoscience activities, regardless of their energy objective.

Mr. STAUBER. OK, so given the advanced technologies used in geoscience surveys, can you discuss how these technologies not only improve the efficiency of resource exploration, but also ensure the safety and environmental integrity of the operations?

Ms. MARTIN. Yes, thank you for the question.

Geoscience not only shows where resources may be, but also, importantly, where they are not. So, with increasing amounts of geoscience, we have been able to delineate not only increasing amounts of resources available to develop. And whether that includes imaging the subsurface for harnessing the wind or imaging the subsurface to determine where natural gas and petroleum is, we are able to delineate what are the most energy-dense, lowest-carbon-intensive sources on the planet. And because of that, developers like LLOG are able to pinpoint those before they even put a drill bit in the ground. They are able to have the confidence and the proof that these resources will provide energy density and low carbon intensity.

Mr. STAUBER. Thank you very much.

Mr. McConn, you mentioned that OPEC has regained control of the oil market. Could you explain why this shift has occurred, and what impacts this might have on U.S. energy security and market stability?

Mr. MCCONN. Yes, thank you, Mr. Chairman.

Yes, I do think there is a shift in global oil markets specifically. We do think OPEC has regained control. The main reason for that, just on fundamentals of supply and demand, on the demand side we do see demand growing through the end of the decade. I know there is a big debate and more uncertainty about demand forecasts. But it seems increasingly clear to us and industry participants that it will be very difficult for demand to peak and start declining before the end of this decade, just given the general correlations

that we have had with demographic and GDP growth correlated with oil demand growth. And for those correlations to break seem unlikely to us.

So, demand is growing still, as it always has, and on the supply side, while we do see growth in some Latin American countries, it is really offsetting global declines. And the U.S. onshore shale industry has provided much of the growth to meet demand growth in previous years, and that is the key thing that we believe is going to change. As the shale inventory is diminished, producers have consolidated much of that resource and they are incentivized to preserve inventory and not grow.

Mr. STAUBER. OK, real quick, what kind of effect is the Biden administration's unsupportive policies towards the domestic energy industry having on the investment community support for the offshore oil and gas industry?

And is the industry seeing necessary capital going to other projects in other areas of the world instead of the United States?

Mr. MCCONN. Yes. Generally speaking, investors do not like uncertainty. There is a high degree of uncertainty in oil and gas exploration already. Around 30 percent of exploration wells are successful, so that scares investors already. And then regulatory uncertainty. So, skipping lease sales, for instance, can inject more uncertainty that stifles investment in the U.S. offshore sector.

To the question of is capital going elsewhere, yes. As far as growth capital in offshore regions outside of the United States, I mentioned Latin America where most of the growth is happening. So, that is one area. And really, one of the main capital shifts that I would like to detail is not just to other regions geographically, but the distinction between development capital and exploration capital. I mentioned we need more exploration capital if we want to ensure long-term supply and growth for energy security and other reasons, and it is the exploration aspect that has diminished recently.

Mr. STAUBER. Thank you very much. My time is up. I will now recognize Representative Graves from Louisiana for 5 minutes.

Mr. GRAVES. Thank you, Mr. Chairman, and I want to again thank the witnesses for coming to testify today.

[Chart.]

Mr. GRAVES. You know, I am either lucky or good, I am not sure which one, but this is a post that we did in social media as well as in different letters dating back to early 2021, where we predicted things like energy prices going up, energy emissions going up, becoming more dependent upon foreign sources of energy, and all these things have come true. Again, I am not sure if it was lucky or good, but we nailed it. Let me say it again, this was January of 2021. And, yes, you can have this to put in your office.

[Laughter.]

Mr. GRAVES. And all this stuff was so predictable.

Mr. Slocum, you seem like a bright guy. But look, let's be really honest. The things that you were saying, they just weren't realistic at all.

No. 1, this Administration predicts that global energy demand is going to increase, all right? This Administration predicts it. And you are sitting here saying that, oh, well, all this energy is being

exported. Your organization opposes pipelines. You have repeatedly come out and opposed pipelines to actually transport the energy to other places in the country that could use it. Maybe, for example, we could build a pipeline to California so they can stop consuming more oil from the Amazon rainforest than any other state in the country, in fact, the top consumer from the Amazon rainforest. It is completely unrealistic what you are saying.

What you should actually be doing if you care about the environment, you should be asking that U.S. energy be exported. The areas where Mr. Zimmermann and some of the other folks produce actually has a 46 percent lower emissions profile than the international average. We have the lowest or the second-lowest carbon intensity sources of energy of anywhere else in the world.

So, look, we can sit here and spin all these false narratives that are going to result in further penalizing American families that can't afford energy, or we can actually follow the math and science and policies that actually support better environmental outcomes.

So, let's look at some of the other outcomes as a result of what is going on.

[Chart.]

Mr. GRAVES. You may be familiar that Iran just lobbed hundreds of drones and rockets at Israel, hundreds of them. According to some estimates, they have profited to the tune of $65 billion, $65 billion additional profits over their baseline on what they were making before because of flawed U.S. energy policies.

This is what happens when there are voids. Voids are going to be filled. Look at the spike in Iranian exports, dirtier oil, they are using it to kill American troops and attack our allies and interests around the globe. Whose hands have blood on them? You are trashing the environment and, literally, lives are being lost.

I am just going to ask you. Go back and look at the math and science, and stop this proliferation of completely bogus information.

Mr. Zimmermann, I want to ask you, how does it make you feel when you hear people like this saying things that are completely against U.S. interests, that are completely against better environmental outcomes? You live in these communities. Is it just your desire to go trash the environment where you and your family live?

Mr. ZIMMERMANN. We are proud to be in the oil industry, and we see ourselves as the tip of the spear in providing energy security for our country. We see ourselves as providing economic security for our state. We live and recreate where we work. I have never lived north of I-10, so the coast is very important to me, and the environmental coast and the economic coast is equally important.

I am a geologist by background, so people who get into geology get into it because they love the outdoors, they love the environment, they love their planet. And I can tell you that that is consistent with all of the folks, proud folks, who work in the oil industry in the Gulf of Mexico.

Mr. GRAVES. Mr. McConn, do you believe that we could produce more energy cleaner in the United States and improve the overall global emissions conditions?

Mr. MCCONN. Yes, the data suggest that emissions intensity is lower domestically for production domestically than internationally. So, yes, the short answer is yes.

Mr. GRAVES. Thanks. Mr. Chairman, I am out of time, but I want to ask unanimous consent to include in the record an E&E article that says, "Californians already paying sky-high pump prices. It might get much worse."

And also an article from Bloomberg that says, "China sets record Russian oil imports in March."

Dirtier oil profiting countries like Russia as a result of flawed policies.

And finally, Mr. Chairman, an article, "U.S. to reimpose oil sanctions on Venezuela over election concerns."

Mr. STAUBER. Without objection, so ordered.

Mr. GRAVES. Mr. Chairman, all of these things were entirely predictable. And it is remarkable to watch folks doubling and tripling down on policies that harm our environment, our economic conditions of families, and our energy and national security. I yield back.

Mr. STAUBER. Thank you very much.

We are going to go to a second round of questions, and I am going to allow Representative Kamlager-Dove to start.

Ms. KAMLAGER-DOVE. Thank you, Mr. Chair. I will say this Committee does love to pick on California, but that is OK. We have thick skin.

Mr. Chair, in response to the item entered into the record by you, I would also like to enter into the record proposals to reduce fossil fuel subsidies by EESI. It says that by Fiscal Year 2022 subsidies exceeded revenue by $2.1 billion, which was a net loss for the government. It goes on to talk about other ways in which fossil fuel subsidies can be reduced.

Mr. STAUBER. Without objection, so ordered.

[The information follows:]

Environmental and Energy Study Institute

Fact Sheet

Proposals to Reduce Fossil Fuel Subsidies (2021)

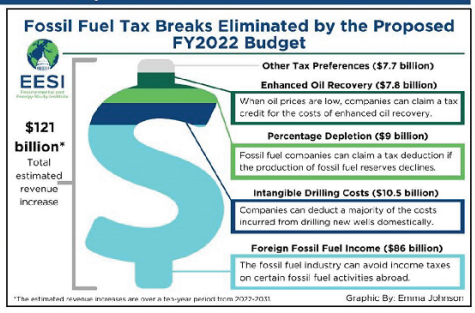
July 2021

U.S. direct subsidies to the fossil fuel industry are estimated at roughly $20.5 billion per year, including $14.7 billion from federal subsidies and $5.8 billion from state subsidies.[1] When externalities such as health, environmental, and climate factors are included, it is estimated the United States subsidizes fossil fuels to the tune of $649 billion per year.[2] Eliminating fossil fuel subsidies would save taxpayer dollars while simultaneously reducing greenhouse gas emissions.

This fact sheet reviews President Biden's 2021 Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*,[3] the Administration's Fiscal Year (FY) 2022 budget proposal, and recent Congressional actions to provide an overview of potential ways to reduce U.S. government subsidies to fossil fuels.

Tax Expenditures

Executive Order 14008 calls for the elimination of fossil fuel subsidies in the FY2022 budget request and thereafter.[3] The Biden-Harris Administration's FY2022 budget seeks to meet this goal by repealing 13 fossil fuel tax preferences, which would increase federal revenue by about $35 billion over the next 10 years.[4] An additional $86 billion would be raised during the same period by reforming the taxation of foreign fossil fuel income.[4] The Department of the Treasury explains that "these oil, gas, and coal tax preferences distort markets by encouraging more investment in the fossil fuel sector than would occur under a more neutral tax system."[5]



Leases and Royalty Rates

The fossil fuel industry is also subsidized through inexpensive leases and low royalty rates on fossil fuels extracted from public lands. The below-market price of leases on federal lands starts at $2 per acre—a number that has not changed since 1987—and the onshore royalty rate has remained at 12.5 percent since 1920.[6] The Congressional Budget Office estimates that increasing the onshore royalty rate to 18.75 percent for new parcels, which is equivalent to the offshore royalty rate, would raise federal revenue by $200 million over ten years.[6] Executive Order 14008 directs the Secretary of the Interior to "pause new oil and natural gas leases on public lands or in offshore waters pending completion of a comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices."[3] Executive Order 14008 also calls for the consideration of coal, oil, and gas royalty adjustments to account for climate costs.[3]

Fossil Fuel Research & Development (R&D)

The Department of Energy (DOE) has historically subsidized fossil fuels through research and development (R&D). Between 1978 and 2018, 24 percent of DOE's R&D budget was spent on fossil energy.[7] However, Executive Order 14008 calls for government agencies, such as DOE, to "take steps to ensure that ... Federal funding is not directly subsidizing fossil fuels."[3] The FY2022 DOE budget request proposes to eliminate direct subsidies for fossil fuel R&D by reprioritizing or eliminating funding for the following programs:

- Funding for the renamed **Office of Fossil Energy and Carbon Management (FECM)** would increase from $750 million to $890 million.[9] The proposed budget re-focuses FECM funding "from traditional fossil combustion-centric activities ... to climate-centric activities," such as capturing carbon dioxide, accelerating clean hydrogen, and reducing methane emissions.[9] FECM programs would no longer directly subsidize fossil fuels, in accordance with Executive Order 14008.[9] Zeroing out funding for the Unconventional Fossil Energy Technologies and Gas Hydrates programs would reduce fossil fuel-related expenditures by $71 million.[9]
- The **Title 17 Innovative Technology Loan Guarantee Program**—which had $8.5 billion in loan guarantees available for advanced fossil energy projects in 2021—would now only encourage "projects that help achieve a carbon-pollution free electric sector by 2035 and net-zero emissions, economy-wide, by 2050."[8,9] Funding for the Title 17 program would increase 517 percent, from $29 million to $179 million.[9] The program, according to the budget request, is "ideally positioned to tackle the climate crisis" and would no longer provide loan guarantees for traditional fossil fuel projects.[9]
- The **Advanced Technology Vehicle Manufacturing (ATVM) Loan Program** would continue to receive $5 million under the proposed budget but would encourage "projects that support the transition to zero-emission vehicles" and exclude "projects that manufacture gas-only light duty vehicles" to avoid directly subsidizing fossil fuels.[9]

International Financing for Fossil Fuel Projects

Between 2015 and 2020, the U.S. International Development Finance Corporation (DFC), DFC's predecessor, the Overseas Private Investment Corporation (OPIC), and the United States Export-Import Bank (EXIM) provided over $13 billion for fossil fuel projects overseas.[10] Executive Order 14008 calls for DFC and EXIM "to identify steps through which the United States can promote ending international financing of carbon-intensive fossil-fuel based energy while simultaneously advancing sustainable development and a green recovery."[3] In April 2021, DFC committed to achieving net-zero emissions in its portfolio by 2040.[11]

Congressional Efforts to Reform Fossil Fuel Subsidies (117th Congress)

Legislation proposed in the 117th Congress to reform fossil fuel subsidies includes the following bills:

- **End Polluter Welfare Act of 2021** (H.R.2102 and S.1167), the most comprehensive bill, would eliminate several tax subsidies, prohibit taxpayer-funded fossil energy R&D, and update royalty rates and lease prices.[12,13]
- **End Oil and Gas Tax Subsidies Act of 2021** (H.R.2184) would eliminate 11 tax subsidies, including the intangible drilling costs deduction and percentage depletion (see graphic for details).[14]
- **Ending Taxpayer Welfare for Oil and Gas Companies Act of 2021** (H.R.1517) would raise onshore royalty rates to 18.75 percent and increase the minimum bid for onshore federal land parcels to $5 per acre.[15]
- **Clean Energy for America Act** (S.1298) would eliminate several tax incentives for fossil fuels, such as the intangible drilling costs deduction, and provide tax credits for the production of clean electricity.[16]

Author: Savannah Bertrand **Graphic: Emma Johnson**

This fact sheet is available electronically (with hyperlinks and endnotes) at www.eesi.org/papers.

The Environmental and Energy Study Institute (EESI) is a non-profit organization founded in 1984 on a bipartisan basis by members of Congress to help educate and inform policymakers, their staff, stakeholders, and the American public about the benefits of a low-emissions economy that prioritizes energy efficiency, renewable energy, and new clean energy technologies. In 1988, EESI declared that addressing climate change is a moral imperative, which has since guided our work toward our vision: a sustainable, resilient, and equitable world.

Ms. KAMLAGER-DOVE. Thank you, Mr. Chair.

So, while we consider our energy resources, we also have to consider the costs of developing those resources and who pays those costs. And when it comes to oil and gas development, Big Oil has gotten very good at passing the costs of their business onto the public. So, I would like to take a moment to go back to talking about BOEM, and to point out that when it is estimating whether an offshore oil and gas resource is economically recoverable, if it makes business sense for the industry to go after that oil, the

agency factors in the costs of decommissioning the oil and gas infrastructure at the end of its life.

Mr. Slocum, what risks does oil and gas infrastructure pose to coastal communities when it is not properly decommissioned?

And why is it important to plug wells and clean up the infrastructure quickly?

Mr. SLOCUM. Thank you very much for the question.

As pointed out in the dozens of lawsuits by coastal parishes across Louisiana, laying all these pipelines through very sensitive wetlands and cheniers erodes those sensitive habitats and further exposes coastal communities to threats of rising sea levels. And it has devastating impacts on other industries in the region.

I just recently came back from southwest Louisiana. I don't think it was Mr. Graves' district, but I was in Cameron, Louisiana, where I met with shrimp fishermen whose catches have been going down by 50 percent over the last few years as the proliferation of LNG export infrastructure competes with their fishing territories. So, there is harm, not just from an environmental justice standpoint, but from a livelihood and a cultural standpoint. And when I met with these Louisiana fishermen, it is a cultural industry, it is an industry that represents their culture, and it is quickly disappearing because of the encroachment by the oil and gas industry. And failing to require the industry to pay its necessary costs, I think, is a huge liability.

And if I may, to quickly turn, I didn't have an opportunity to respond to Mr. Graves. I do agree with Mr. Graves that I am a very bright guy, so I appreciate that.

[Laughter.]

Mr. SLOCUM. But I recall President George W. Bush, in his 2006 State of the Union address—this was the president that oversaw our response to the terrorist attacks on 9/11—and he said in his State of the Union that America's problem is that it is addicted to oil, and he got applause from every Democrat and every Republican in that room, because George Bush understood that what has worked for us in the past will not continue to work for us in the future. And producing our way out of our oil dependence is just not feasible or sustainable. And the technology of alternatives, especially off the coast of Louisiana, and the job opportunities are immeasurable. So, I just wanted to say that.

Ms. KAMLAGER-DOVE. Thank you. Earlier this year, at another hearing on offshore drilling, Ms. Trevino testified that her family lives, works, and goes to school in a sacrifice zone in Houston, Texas. And every day she is exposed to concentrated levels of pollutants. And then Ms. Robinson, another witness, told us that oil and gas continued to promote a better economy and well-paying jobs, yet Louisiana remains at the bottom for education, housing, and health care.

So, Mr. Slocum, can you elaborate on how this singular focus is missing a massive piece of the impact of this development in terms of economies and otherwise, how we are continuing to be reliant on energy and not focusing on some of these other issues?

Mr. SLOCUM. Right. I think one of the fundamental problems is that a lot of the players in the oil and gas industry, particularly the foreign-based companies, they are delivering the financial

returns from their offshore oil and gas activity to their investors and shareholders, many of whom are far outside of the United States. So, we are not seeing enough direct reinvestment and assistance to the communities that are not directly employed or financial beneficiaries of the oil and gas industry.

So, the benefits are not evenly distributed across many of these communities. And, again, that is what I saw firsthand just a few weeks ago in southwest Louisiana, is pretty significant disparities between which communities are being successful from oil and gas development and which aren't.

Ms. KAMLAGER-DOVE. Thank you.

Mr. Chair, I yield back.

Mr. STAUBER. Thank you very much. Chairman Westerman, I know that you have just walked in, but if you are ready for your first 5 minutes of questioning, you are up, sir.

Ms. KAMLAGER-DOVE. Take a breath.

Mr. WESTERMAN. Thank you, Mr. Chairman. Thank you to the witnesses. I appreciate you being here today.

Mr. Zimmermann, in light of the suggested improvements for BOEM, including closer collaboration with the industry for comprehensive resource assessments, incentivizing exploratory drilling, and regularly updating reserve reports, could you elaborate on how these changes would enhance the United States' ability to effectively manage and utilize its offshore resources?

Mr. ZIMMERMANN. Thank you for the question, and we support the BOEM in their continued activity and assessments. We think that the technology that they use is good. We think that there is the opportunity to improve them through advances in seismic technologies.

One of the great things about the Gulf of Mexico is, as a geologist, you learn that there are multiple levels and multiple places that we can continue to look. It is a salt basin that is difficult to image. So, advances in seismic technology and geologic theory have given us the opportunity to access different zones that we didn't think were accessible before and to understand the resources which can be accessed within those zones.

Mr. WESTERMAN. Yes, we know these modernizations are essential for improving transparency and credibility, but also for optimizing the economic, strategic benefits of our national offshore assets. Could you elaborate on that a little bit?

Mr. ZIMMERMANN. We have talked about the price of oil, and the price of oil is a global indicator. We also have tremendous amounts of royalties and taxes that we pay into the national economy. So, there is a direct payment to the national economy, and then there is the secondary economy, which is the folks who work and breathe and are in the industry on a day-to-day basis.

And there is a lot of talk about production here, and I think it is important to remember that production is a trailing indicator of basin health. So, when Mr. McConn talks about exploration drilling, that is the leading indicator. What are lease sales looking like? What are exploration drills looking like? And when we see those declining in the ways that we are seeing in the Gulf of Mexico, it should give us pause as to what the overall production potential of the Gulf of Mexico is in the next few years.

Mr. WESTERMAN. So, what is the lag time from when seismic is done until we see production?

Mr. ZIMMERMANN. From seismic to production can last as long as 20 years. So, it is a long process, it is an expensive process. But from when we shoot the seismic, the seismic needs to be shot, processed, studied, and then the leases need to be acquired, leases need to be studied, leases need to be drilled, and then the developments go forward.

So, the shortest time frame may be in the 10 to 12, but I would say the median of seismic shoot to production is probably in that 12- to 15-year range.

Mr. WESTERMAN. So, anybody who is trying to squelch seismic work right now will probably be much later in their career or even out of office before any of the negative benefits of that. I won't say any of the negative benefits, but the real negative benefits are felt.

And we hear this narrative today that America is producing more oil than ever, and you have also mentioned something else about the global markets for oil. And I hate to ask you to state the obvious, but do oil companies set the price of oil?

Mr. ZIMMERMANN. No, we categorically do not. We participate in a global economy for oil and gas.

Mr. WESTERMAN. And you may or may not know this, but what was the most profitable oil company in the world last year?

Mr. ZIMMERMANN. I have a guess, but I would hesitate to speculate.

Mr. WESTERMAN. It is Aramco. It wasn't a U.S. oil company. It was actually an oil company that operates in an area where they do, through their cartels, set oil prices.

So, our decisions here in the United States do affect the global markets, and we have to have a long vision and foresight to do the right things today so that down the road we are not paying an even steeper price.

Mr. Chairman, I yield back.

Mr. STAUBER. Thank you very much.

Before we go to Representative Duarte, I will ask unanimous consent to enter into the record a June 10, 2023 article, "China Drills in Deeper Waters to Cut Reliance on Foreign Oil."

Without objection, so ordered.

[The information follows:]

China Drills in Deeper Waters to Cut Reliance on Foreign Oil

- State-owned giant Cnooc spearheading offshore drilling efforts
- Wells at sea account for 60% of country's new oil production

Bloomberg News, June 10, 2023, With assistance by Kathy Chen and Dan Murtaugh

https://www.bloomberg.com/news/articles/2023-06-10/china-s-offshore-oil-drilling-expands-for-energy-security

*****

Workers assemble a jacket for an offshore oil platform at a construction site in Zhuhai, China.*Source: Cnooc*

A concrete expanse the size of Monaco jutting off China's southern coastline is the imposing centerpiece in Beijing's efforts to slow its growing dependence on imported oil.

More than 15,000 workers can be on site at one time at the facility at Zhuhai, near the gambling mecca of Macau. Run by a unit of China National Offshore Oil Corp., it's been churning out production platforms to be deployed in China's offshore oil fields.

The deepwater drilling push comes as China's aging onshore wells and insatiable appetite for energy force it to become ever-more reliant on foreign crude. The world's biggest oil importer gets more than 70% of its supply from overseas, compared with less than 10% at the turn of the millennium.

With its sprawling industrial base and deepwater ambitions, Cnooc, one of China's three main state-owned oil firms, is on a spending spree to develop the drilling technology currently dominated by western oil majors. But pushing into waters contested by China's neighbors has also put it in conflict with the US government.

Washington blacklisted Cnooc in 2021, saying that it acted in concert with China's military to "bully" neighboring countries over its disputed claims over large parts of the South China Sea. The company has denied the allegations.

The Chinese oil major has developed the Bohai Sea between northern China and the Korean peninsula into the country's largest oil field and is expanding the Liuhua and other fields in the eastern South China Sea. Wells at sea accounted for 60% of China's new oil production last year.

"With significant untapped volumes offshore China, domestic offshore barrels are expected to become an indispensable growth engine for the coming decade," said Baihui Yu, senior research analyst at S&P Global Commodity Insights. "Technology progress and increased access have enabled more drilling to be focused into deeper waters."

China's Offshore Oil Push

China isn't the first country to have to go to sea to replace dwindling onshore reserves. US drillers opened up the Gulf of Mexico in the 1960s, and European firms turned the North Sea into a major production hub in the 1970s and 1980s.

Cnooc is China's exclusive offshore oil producer and its domestic production grew to account for 23% of the country's total in 2021, compared with 15% in 2013, according to company filings and BP Plc data. The explorer is investing heavily to raise output by 4% to 6% this year and then by a further 12% by 2025.

As well as geopolitical hurdles, the technical challenges of deep-water drilling are also immense. On a recent weekday afternoon at the site in Zhuhai, one of the world's largest such facilities, sparks flew into the air as a small group of workers put the finishing touches on what looked like the Eiffel Tower laying on its side.

The steel structure, called a jacket, will be dragged onto a boat and taken 200 kilometers offshore, where its 338.5-meter-length will let it stretch from the seafloor to above the ocean's surface. The jackets, which need to be strong enough to withstand massive waves and typhoons, are too large to be moved by crane so they are constructed horizontally and rolled sideways onto a ship.

China Oil Import Dependency Rises

Oil majors like Chevron Corp. and Shell Plc are still the most advanced players in the sector, with the technological capability to drill in harsher and deeper offshore environments. But Cnooc is catching up.

A year ago it built the largest jacket in Asian history for its Haiji-1 field, and it's increasing exploration in deeper waters further from China's coast. Cnooc expects to produce between 650 million to 660 million barrels of oil equivalent this year and is also participating in projects globally, including Exxon Mobil Corp.'s mammoth find off the coast of Guyana.

At another construction site in Qingdao, it's experimenting with even more advanced technology, building a new cylindrical-shaped vessel designed to float near the jacket and oil platform, processing and storing the oil on board before offloading it onto tankers.

Technical progress like this has made some previously uneconomic offshore fields now viable for development, according to the company.

Mr. STAUBER. Representative Duarte, you are up for 5 minutes.

Mr. DUARTE. Thank you, Mr. Chairman, I appreciate it. Thank you to the witnesses today.

Ms. Martin, you talk in your witness testimony about clean cooking oils, access to clean heat and clean cooking oils. Explain to me some of the personal health risks of alternatives to natural gas in the home.

Ms. MARTIN. Yes, thank you, Congressman Duarte. We have seen different debates here in the Western world about using natural gas in your home. The reality is 30 percent of the world does not have access to clean cooking, and that includes natural gas. Instead, they are cooking over kerosene, coal, or animal dung. And the World Health Organization estimates that directly contributes to over 3 million deaths prematurely per year. To put that in perspective, we shut down the whole world for a global pandemic for that number, and this happens reoccurring. Those deaths could be tremendously eliminated by increasing access——

Mr. DUARTE. The poorest folks in the world are lacking natural gas?

Ms. MARTIN. Yes.

Mr. DUARTE. So, are the richest folks in the world using solar ovens or wind power?

Ms. MARTIN. No, sir. The world heavily relies still on both petroleum and natural gas, and natural gas dynamic benefits from fertilization to powering homes, industrialization, and even the importance of ensuring climate resilience will remain for many decades to come.

Mr. DUARTE. Great. And Mr. Zimmermann, you speak to the economic benefits broadly of the petroleum industry, of petroleum products. I asked in a hearing in Agriculture a few weeks ago if one of the witnesses would, in good faith, recommend that a business build a new fertilizer-based chemical manufacturer here in America today, given our policies towards fossil fuels and industry in general.

Do petroleum products lift humanity in a broad sense?

Mr. ZIMMERMANN. Petroleum products help everything that we do, from the medical community to technology to every part of life. And the access to those resources and the access to those resources in a consistent manner and in a reasonably-priced manner all help humanity.

And as we discussed, the increase of prices does have a tremendous impact on the lower rungs of the socioeconomic. One of the things that we are proud of in our industry, as well as helping to provide the energy to the future, is the range of people who work in our industry. We have the broadest range of people, from folks who have little traditional education all the way up to PhDs. And there is a place for those people to work in our business and a place for them to make a good living.

Mr. DUARTE. Thank you. Yes, I live in a rural part of California, 18th highest poverty level in the country, where they have taken the water off the farms and my families simply can't afford it.

And I have personal friends from our public schools my kids went to years ago that went off the oil fields because they felt they could better their lives by moving to the oil fields. But it is not just the oil fields themselves. We are talking all the derivative products from the oil fields that get offshored.

Mr. Slocum, you are a self-attested bright guy, right?

Mr. SLOCUM. Yes, sir.

Mr. DUARTE. OK, got that on record. So, we are going to stop drilling oil. We don't like the way it deals with the shrimp fishermen. It goes through some lowland somewhere.

Now, we have had testimony from the Administration that the Administration is against all pipelines, period. I live in California. We would love to bring oil from the eastern oil fields in Texas and New Mexico, the Permian out to California through a lot of desert. No shrimp fishermen to worry about. And it is not happening because this Administration doesn't want pipelines.

So, we are shutting down oil leases, we are shutting down oil transport. We are shutting down the oil economy which includes many derivatives, many industries that many families can better themselves on. I don't think those burning animal dung today think they are quite finished with their climb up the economic ladder. Are you going to subject these folks to living the life they have today? Or what is your solution outside of petroleum to realistically lift billions to a standard of living where they have healthy, prosperous, and opportunity-rich lives?

Mr. SLOCUM. Great question.

First, U.S. LNG exports cannot go to poor countries because they cannot afford LNG. Bangladesh was priced out of the global LNG market last year.

Mr. DUARTE. So, we are going to make it scarce.

Mr. SLOCUM. And also, poor countries do not have the domestic natural gas pipeline infrastructure to move LNG exports from the coast into the interior. So, it is not a realistic solution——

Mr. DUARTE. Nor do they have chains for agricultural and food products. Do we not expect them to eat cheese, or fruit, or produce because they don't currently have the infrastructure? We are just going to shut them out permanently?

Mr. SLOCUM. There are lots of solutions to clean up home cooking that does not involve U.S. LNG, which cannot solve those problems.

Mr. DUARTE. I am sorry, I will have to yield back, but your policies sound insensitive and mean to the most vulnerable people on earth, and I really detest that.

Mr. SLOCUM. That is a complete mischaracterization of what I just said. I am not being insensitive, and also——

Mr. DUARTE. You are denying reality.

Mr. SLOCUM. I politely disagree on a contention that the Biden administration is opposing all pipelines.

The Biden administration literally just recently approved one of the largest oil export terminals for the Gulf Coast. The Biden administration went out of its way to appoint Willie Phillips as permanent Chair of FERC, who has taken a much more permissive view of permitting natural gas infrastructure. And, in fact, FERC Chairman Phillips proudly talks about how——

Mr. DUARTE. Energy infrastructure is an issue of promiscuity. I mean, you have to be permissive to allow the carbon economy to grow and lift more billions of lives out of poverty.

Mr. SLOCUM. Well, first, natural gas infrastructure must be found to be in the public interest. And that public interest determination must balance an array of different things like the impact that burning fossil fuels has on destabilizing climate change, the impact that it has on exacerbating health and safety of local communities.

Mr. DUARTE. So, if you aren't already up the economic ladder, the Earth can't afford you to better your life. Is that what I am hearing?

Mr. SLOCUM. That is absolutely not what I am hearing.

Mr. DUARTE. Can the public around the world that can't afford fossil fuels and natural gas afford nuclear? Can they afford windmills and solar panels?

Mr. SLOCUM. In the global South, absolutely. Decentralized solar systems are already generating clean and zero-emission power.

Mr. STAUBER. The Chair is going to intervene now.

Mr. SLOCUM. Yes, please.

Mr. DUARTE. Thank you, Chair, I yield back.

And thank you to our witness.

Mr. STAUBER. The Chair now recognizes Representative Graves.

Mr. GRAVES. Mr. Slocum, I appreciate your answers, and I am glad that you went down to Cameron Parish. It is outside of our district, but it is clear to me that one trip down to Cameron Parish doesn't make you any brighter on seafood issues than it does on energy issues. So, let's go through a few things.

We represent the shrimping community. As a matter of fact, Louisiana is the top shrimp producer in the United States, by far. I sent a text to the guy who owns the largest—we call it shrimp

shed, and it is the place that buys the shrimp from the boats—the largest one in the United States. And I said, "We have a witness testifying in our Committee right now saying that shrimp catch is down because of offshore energy production." That is all I said. I knew exactly what his answer was going to be, because I actually do this for a living, and have for an extended period of time.

His first text back was—and I will just use the abbreviation, because I would hate to say this word—but "BS." He then came back and said, "That is stupid." And Mr. Slocum, it is.

You made a comment earlier saying that pipelines result in sea rise. You have no idea what you are talking about. I am sorry, but you don't. And for you to sit here in front of this Committee and be saying these things—the cause of land loss and resiliency problems in Louisiana are because we put levees on the river system. We put levees on the river system. We lost over 2,000 square miles of our coast. That is the primary cause of land loss. Our state used to grow three-quarters of a square mile a year.

I mean, just sitting here and continuing to say things—there is a Louisiana Shrimp Alliance. We have been working with them for years. Do you know what the problem with shrimp is right now? It is because our own government is funding foreign aquaculture shrimp operations that then are turning around and sending the shrimp back to us and undercutting prices because we are subsidizing it and their governments are subsidizing it. By the way, it is also filled with illegal chemicals.

We have legislation to try to stop that. If you want to join us in that, I would love your support if you truly have a heart for the shrimpers in Louisiana. But the things you keep saying here are just completely false. And it is things like this, it is false narratives like this that actually result in awful policy.

I said earlier, this Administration's own EIA predicts that there is going to be an increase in global energy demand, which includes an increase in oil demand and an increase in gas demand. By the way, the largest increase in energy sources in Bangladesh—in fact, not even close—is gas. I am not an expert on what the LNG issue is, but they have apparently figured it out. And the largest, multiple times larger than any other source, is increased utilization of gas, OK?

[Chart.]

Mr. GRAVES. So, this is energy production. I said it twice, I am going to say it a third time: There is an increase projected to be a global increase in oil and gas demand. We produce it cleaner than just about anywhere else. This is energy acreage that has been leased under the Biden administration compared to other administrations. And the only reason this one was done was not because he wanted it done, it is because the IRA that Ms. Kamlager-Dove enthusiastically supported required that he did it, because he didn't want to. All right?

I mean, this is amazing. New energy leases under this Administration, it is incredible. It is disgusting, what they are doing. Jimmy Carter, over 100 times more energy production than under this Administration.

Ms. Martin, I have talked about my frustration, but could you talk a little bit about the bureaucracy under this Administration in

terms of regulatory, even things like getting permission for seismic, and how that prevents us from being able to produce more clean energy in the United States?

Ms. MARTIN. Congressman Graves, thank you for the question.

One of the things I love about representing the geoscience industry is that it is really non-partisan. While geoscience is best known for its tremendous improvement in step changes in technology that have improved the discovery of resources like beneath salt layers in the Gulf of Mexico like Mr. Zimmermann referred to, we also support virtually any energy source required or preferred in the energy evolution. So, the permitting of these activities are absolutely key for any energy policy.

Currently, the bureaucracies that exist particularly in the permitting and authorizations of Marine Mammal Protection Act authorizations have upheld, have stalled, delayed—unnecessarily so—the permitting of geoscience activities time and time again, whether that is Alaska, Gulf of Mexico, Atlantic, which, as you well know, was a failed attempt by a company, my own members, to update the resource estimates after over 40 years.

Mr. GRAVES. Ms. Martin, do you believe that these efforts and this bureaucracy is helping to improve the global environment?

Ms. MARTIN. No, I do not. Of course, any time we are able to provide updated delineation of the subsurface, the resources that our citizens can access and benefit from right underneath our feet and off our shores, is a benefit for not only energy access and accessibility, but also for the environment.

Mr. GRAVES. Thank you.

Mr. Chairman, I just want to make note. As the United States has led the world in reducing emissions, for every 1 ton we have reduced China has increased by 5, to where today China is releasing more emissions than the entire developed world combined.

Mr. Slocum, your focus is absolutely on the wrong country.

I yield back.

Mr. SLOCUM. May I respond to Mr. Graves?

Mr. STAUBER. No, sir.

I thank the witnesses for their valuable testimony and the Members for their questions. It was a good debate this morning.

The members of the Subcommittee may have some additional questions for the witnesses, and we will ask you to respond to these in writing. Under Committee Rule 3, members of the Committee must submit questions to the Committee Clerk by 5 p.m. on Tuesday, April 23. The hearing record will be held open for 10 business days for these responses.

If there is no further business, without objection, the Committee stands adjourned.

[Whereupon, at 10:46 a.m., the Subcommittee was adjourned.]