



HOUSE COMMITTEE ON
NATURAL RESOURCES
CHAIRMAN BRUCE WESTERMAN

To: House Committee on Natural Resources Republican Members
From: Energy and Mineral Resources Subcommittee staff, Ashley McManus (ashley.mcmanus@mail.house.gov) x63044 & Will King (will.king@mail.house.gov)
Date: Thursday, April 18, 2024
Subject: Oversight Hearing titled “*Assessing Solutions to Secure America's Offshore Energy Future*”

The Subcommittee on Energy and Mineral Resources will hold an oversight hearing titled “*Assessing Solutions to Secure America's Offshore Energy Future*” on **Thursday, April 18, 2024, at 9:00 a.m. in 1324 Longworth House Office Building.**

Member offices are requested to notify Lonnie Smith (lonnie.smith@mail.house.gov) by 11:30 a.m. on Wednesday, April 17, 2024, if their Member intends to participate in the hearing.

I. KEY MESSAGES

- The U.S. has robust oil and gas reserves on the Outer Continental Shelf (OCS), but much is still unknown about the true resource potential of most offshore regions. Ensuring access to offshore domestic resources and developing accurate resource assessments are increasingly important as OPEC nations, China, and Russia, have ramped up production and consolidated efforts to diminish U.S. market share and increase global reliance on their resources.
- U.S. offshore oil and gas production is among the cleanest in the world. Expanding access to domestic offshore resources will displace oil supplies from our adversaries, benefiting both the U.S. and global markets, as global energy-related offshore activity is projected to increase in the near term.¹
- This hearing will focus on solutions to improve the Bureau of Ocean Energy Management’s (BOEM) approach to resource assessments to better inform future resource management decisions for taxpayer benefit, especially as BOEM prepares its next national assessment of offshore resources in 2026.

¹ International Energy Agency. Offshore energy outlook 2018. <https://www.iea.org/reports/offshore-energy-outlook-2018>.

II. WITNESSES

- **Mr. Andy McConn**, Director, Head of Commercial Intelligence, Enverus, Houston, TX
- **Ms. Nikki Martin**, President & CEO, EnerGeo Alliance, Houston, TX
- **Mr. Eric Zimmermann**, Chief Operating Officer, LLOG Exploration, Covington, LA
- **Mr. Tyson Slocum**, Director, Energy Program, Public Citizen, Washington, DC

III. BACKGROUND

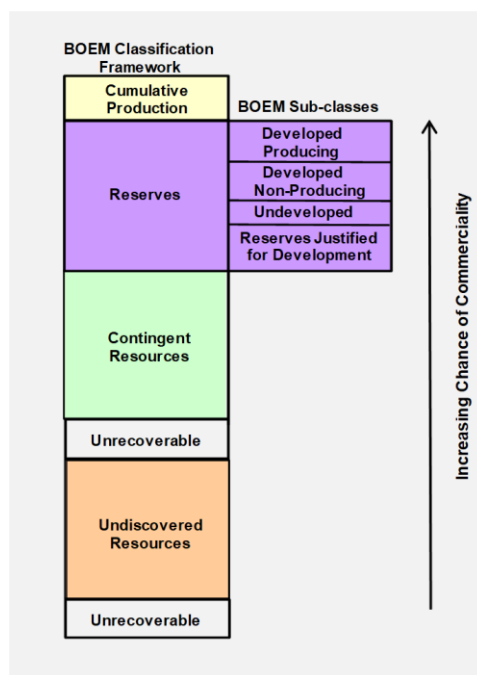
National Assessment of Undiscovered Oil and Gas Resources on the OCS

BOEM plays a crucial role in assessing domestic offshore energy resources. However, several deficiencies hinder the accuracy and transparency of its assessments.

The Department of the Interior (DOI) has released a report titled the “National Assessment of Undiscovered Oil and Gas Resources on the OCS” every five years since 1975. It estimates undiscovered oil and gas resources in two ways: in terms of Undiscovered Technically Recoverable Resources (UTRR) and Undiscovered Economically Recoverable Resources (UERR). UTRR estimates offer insight into resource development possibilities with current technology regardless of economic considerations, while UERR analysis considers price-supply curves, which are crucial for understanding energy market dynamics.²

DOI’s most recent assessment, released in 2021, includes inferior techniques and methods of estimating resource potential on the OCS. Specifically, this assessment does not include new seismic surveys conducted by BOEM to enhance accuracy.

UTRR estimates for 2021 reveal mean figures of 68.79 billion barrels of oil and 229.03 trillion cubic feet of gas, even with outdated BOEM methodologies.³ UERR estimates are more complex to report but still demonstrated significant resource potential across multiple price pairs in every U.S. OCS region. However, these figures are only as strong as the UTTR they are based upon.⁴



Source: U.S. BOEM, Resource Classifications

² Bureau of Ocean Energy Management. (2021). 2021 National Assessment of Oil and Gas. https://www.boem.gov/sites/default/files/documents/oil-gas-energy/2021-NA_1.pdf.

³ Id.

⁴ Id.

Without robust inputs, resource estimates run a significant risk of inaccuracy, even when UERRs are thoroughly analyzed.⁵

Energy Policy Act of 2005: Comprehensive Inventory of U.S. OCS Oil and Natural Gas Resources

Mandated by the Energy Policy Act of 2005, DOI publishes a “Comprehensive Inventory of U.S. OCS Oil and Natural Gas Resources” every five years, primarily focusing on the Gulf of Mexico. Last year, DOI published and shared with Congress its 2023 Comprehensive Inventory. Despite this updated title, the report included identical information from the Department’s 2021 assessment, which used data inputs from December 2019.⁶ This concerning approach fails to provide accurate information for leasing and resource management decisions at BOEM and fails to inform the public about our true resource potential. The 2023 Comprehensive Inventory estimates U.S. offshore reserves and production to date at 108.31 billion barrels of oil and 461.15 trillion cubic feet of gas. These figures include both UTRR mean estimates and the total cumulative production that has already occurred.⁷

Comparative Analysis of Global Offshore Energy Activity

The global landscape of offshore oil and gas production underscores the competitive nature of energy markets. With more than a quarter of the world's oil and gas supply originating from offshore fields, nations like Saudi Arabia, Brazil, Mexico, Norway, Guyana, and others are positioning themselves to be leaders in deepwater production.⁸ Forecasts indicate a surge in offshore energy activity until 2040, making it imperative for the United States to enhance its competitiveness by leveraging its own undiscovered resources.⁹

Cost reductions in offshore production have made previously uneconomical projects viable, further emphasizing the need for accurate assessment and strategic development.¹⁰ While exploration activity has declined in recent years, the potential of these areas remains significant, with half of all discovered oil and gas resources attributed to deepwater reserves.¹¹ One dynamic worth noting is that capital investments in the Norwegian offshore and in the U.S. Gulf of Mexico that once required a breakeven oil price of \$60-80/barrel are now claimed to be robust at \$25-40/barrel.¹² This downward pressure on costs stems from simplified and standardized oil rig and platform designs, as well as a large overhang in the market for offshore services and equipment.

To maintain competitiveness on the global stage and meet rising energy demands, it is crucial for the U.S. to prioritize the exploration and development of its offshore resources. Otherwise, we risk

⁵ Society of Petroleum Engineers. (2019). PRMS Classifications: Updated Methodology for Resource Inventory Management. Journal of Petroleum Technology. Retrieved from <https://www.spe.org/en/jpt/jpt-article-detail/?art=5999>.

⁶ Id. at 2.

⁷ Bureau of Ocean Energy Management. (2023). 2023 Section 357 Comprehensive Inventory Report. Retrieved from <https://www.boem.gov/sites/default/files/documents/oilgasenergy/resourceevaluation>.

⁸ Journal of Petroleum Technology. (n.d.). Ranking Offshore Oil-Producing Countries. Retrieved from <https://jpt.spe.org/ranking-offshore-oil-producing-countries>.

⁹ International Energy Agency. (2018). Offshore Energy Outlook 2018. World Energy Outlook Special Report. Retrieved from <https://www.iea.org/reports/offshore-energy-outlook-2018>.

¹⁰ Id.

¹¹ Id. at 2.

¹² Id. at 9.

falling subject to price manipulations by other countries and oil cartels and availability concerns amidst increasing energy and oil demand. Moreover, without a clear understanding of our offshore resources, the United States will be disadvantaged in getting supply to market, especially as other nations relax environmental and exploration standards to expedite production.¹³

The global offshore energy landscape is diverse and complex, with varying degrees of transparency and discovery across nations. As we consider the intricacies of our offshore potential, it is vital to compare the offshore activities of other key nations to our own. This is especially applicable given the Biden administration's approach to offshore development.

President Biden released the worst schedule of offshore lease sales ever offered, leading to the unprecedented absence of an offshore sale in 2024, making it the first year without a sale in over 65 years.¹⁴ Consequently, this policy stance has positioned the U.S. at a competitive disadvantage, enabling foreign producers to capitalize on the void, expand their market presence, and secure a larger share of the global energy market in the near future. The pursuits of Saudi Arabia, Brazil, Mexico, Norway, and Russia each present unique insights and challenges that can inform and refine our approach to harnessing the untapped riches beneath our oceans.

Saudi Arabia has historically held secret its reserves data, complicating comparisons of global offshore capabilities. A notable revelation in 2011 suggested that Saudi Aramco's reported reserves of 716 billion barrels might have been overstated by including speculative resources, indicating actual proven reserves could be significantly lower.¹⁵ Despite this, subsequent audits associated with Saudi Aramco's IPO have provided some validation to its reserve claims. Based on various reporting and intelligence, it is fair to say that Saudi Arabia's undiscovered resources were as much as 300 billion barrels of oil equivalent.¹⁶ This opacity in Saudi Arabia's reporting underscores the complex nature of global energy markets and strategic planning in the disclosure of oil reserves by some nations. The careful management and occasional release of such data reflect not only the national interests but also the global dynamics of supply and geopolitical influence.

Brazil has emerged as a powerhouse in offshore oil production, boasting the world's largest recoverable ultra-deep oil reserves. The country's transition from an oil importer to becoming self-sufficient in 2007 and eventually a net exporter underscores the strategic value of offshore resources. Estimates suggest Brazil's pre-salt reserves hold up to 176 billion barrels of undiscovered, recoverable oil and gas resources, positioning Brazil as a potentially significant player on the global stage and underscoring the potential benefits of offshore exploration and production. The challenge of offshore exploration is underscored by the discrepancies between reported reserves and actual findings, as highlighted by exploration activity in Brazil. In 2017, despite Brazil's reported substantial reserves of undiscovered oil, an operator invested \$4 billion to secure drilling rights, only to come up empty-handed.¹⁷ This emphasizes the critical importance

¹³ OilPrice.com. (n.d.). The Most Exciting Oil Frontier On Earth. Retrieved from <https://oilprice.com/Energy/Crude-Oil/The-Most-Exciting-Oil-Frontier-On-Earth.html>.

¹⁴ Bureau of Ocean Energy Management. (2024). All Lease Offerings (February 2024). Retrieved from <https://www.boem.gov/sites/default/files/documents/about-boem/All%20Lease%20Offerings%20%28February%202024%29.pdf>.

¹⁵ CNN. (2011, February 9). U.S. diplomat: Saudi oil reserves may have been overstated. Retrieved from <http://www.cnn.com/2011/WORLD/meast/02/09/saudi.arabia.wikileaks/index.html>.

¹⁶ Id.

¹⁷ Reuters. (2023, April 5). Exxon quits drilling in Brazil after failing to find oil - WSJ. Retrieved from <https://www.reuters.com/business/energy/exxon-quits-drilling-brazil-after-failing-find-oil-wsj-2023-04-05/>.

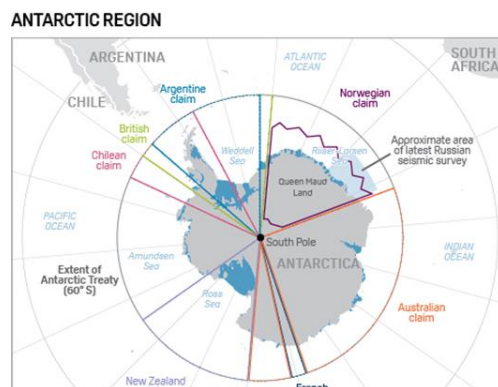
of precise assessments that eliminate uncertainties and eliminate the existence of resources in economically viable quantities and conditions.

In Mexico, the expedited expansion of the energy sector has ushered in a new era of offshore exploration. The National Hydrocarbons Commission's (CNH) decision to open waters for international seismic data collection marked a significant policy shift, aimed at boosting exploration and production.¹⁸ Historical data reveals that the Gulf of Mexico harbors the majority of Mexico's undiscovered oil and gas resources, emphasizing the importance of seismic exploration in unlocking these reserves.¹⁹

Norway remains a leader in offshore energy, with an estimated 21.89 billion barrels of oil equivalent in undiscovered resources, a significant portion of which lies in gas.²⁰ Recent discoveries and advancements in seismic technology have increased their resource estimates, especially in areas with existing infrastructure, highlighting the value of continuous exploration and technological innovation in maximizing offshore potential.²¹ Norway's approach to understanding its untapped energy potential is methodical and forward-looking, with the Norwegian Petroleum Directorate (NPD) updating its estimate of undiscovered resources every other year.²² The most recent update, conducted at the close of 2023, reflects a sophisticated analysis that hinges significantly on the identification of potential petroleum accumulations, including prospects and leads. This meticulous process has produced a notable increase in mapped prospects and leads within the NPD's database in recent years, underscoring the country's proactive strides in energy exploration.

The Guyana-Suriname Basin is considered a frontier basin in South America. It was last assessed by the United States Geological Survey (USGS) in 2000, which estimated the basin to have a mean of 13.6 billion barrels of oil (BBO) and 32 trillion cubic feet (TCF) of gas reserves. Guyana's offshore oil sector is now booming, with over 11 billion barrels of oil equivalent of resources discovered so far and an ExxonMobil-led consortium advancing what could prove to be its seventh development in the region.²³ It is expected that Guyana's deepwater oil discoveries will keep growing, with companies such as Total SA, Repsol SA, ExxonMobil, and Tullow Guyana BV exploring for oil in Guyanese waters.

While Russian offshore production is not as promising or economic as their onshore facilities, it is noteworthy to mention Russia's exploration efforts in the Antarctic, signaling the global race to tap into frontier offshore



Source: U.S. CIA, S&P Global, Russian Antarctic

¹⁸ Energy Policy Research Foundation, Inc. (2020, November). A New Look at Mexico's Oil Potential. Retrieved from <https://eprinc.org/wp-content/uploads/2020/11/A-New-Look-at-Mexicos-Oil-Potential-Nov-2020.pdf>.

¹⁹ Id.

²⁰ Statistical Office of the Directorate for Mineral Management (SODIR). (2022). Resource Accounts as per 31 Dec. 2022. Retrieved from <https://www.sodir.no/en/whats-new/publications/reports/resource-accounts/resource-accounts-as-per-31-dec.-2022/>.

²¹ Id.

²² Id.

²³ S&P Global Commodity Insights. (n.d.). Infographic: Guyana Oil Output, Drilling: Fangtooth Production. Retrieved from <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/oil/120123-infographic-guyana-oil-output-drilling-fangtooth-production>.

regions. The recent actions by Russia's state-run geological surveyor, Rosgeologia, to conduct a seismic survey in the relatively inhospitable area of the Riiser-Larsen Sea off the coast of Antarctica, gives perspective on how attainable surveys in our own backyard should be. The stated objective of the survey was to evaluate the offshore oil and gas potential of the region using advanced technology, which included 4,400 km of new seismic shot.²⁴ The area is delineated in the graphic above.

The fact that Russia is conducting surveys in remote Antarctic waters, while the United States may not have comprehensive knowledge of resources in its own waters, raises concerns about potential disparities in information access and resource management strategies. This situation underscores the importance of enhancing our understanding of domestic resource potential and maintaining vigilance over international developments. Russia's geological surveyor's seismic activities off the Antarctic coast reflect a broader interest in the untapped potential of Earth's polar regions, despite the Antarctic Treaty's restrictions on mineral resource exploitation.²⁵ This bold maneuver should serve as a wake-up call to the U.S., highlighting a glaring oversight in our own offshore inaction.

In total, the global offshore energy sector is a blend of confidential data, sometimes shared significant discoveries, and often guarded advancements in technology, reflecting its dynamic and only sparsely transparent nature. As nations like Saudi Arabia, Brazil, Mexico, Norway, Guyana, and others continue to explore and develop their offshore resources, the U.S. must prioritize accurate resource assessments and strategic development to maintain competitiveness in the global energy market.

Proposed Solutions

Enhancing the accuracy and reliability of our domestic resource assessments demands consideration of new seismic surveys. This foundational step will refine and enhance data quality and assist in the future production of otherwise obscured resources. The inclusion of industry stakeholders in the assessment process is critical. Their on-the-ground experience and technical expertise offer invaluable perspectives that can bridge gaps in understanding and foster a more practical approach to assessing our offshore potential. Currently, there is little to no collaboration between BOEM and the offshore industry in publishing resource assessments.

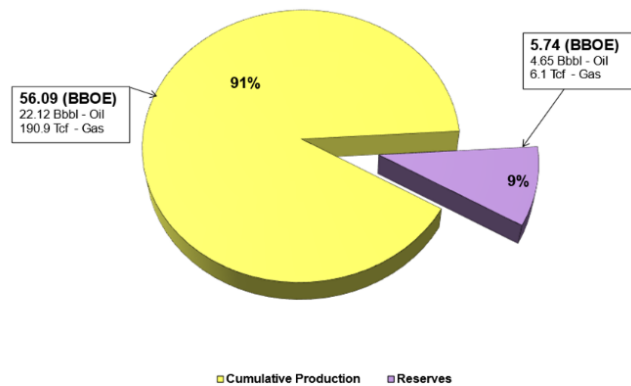
Incentivizes to utilize and initiate exploratory drilling to better inform assessments should also be considered. As noted by Enverus, "Exploratory drilling plays a crucial role in the offshore oil and gas exploration process, serving as a vital step in confirming the findings of seismic surveys."²⁶ BOEM's current reports offer little practical utility if they do not directly facilitate actionable exploration and development.

²⁴ S&P Global Commodity Insights. (2020, March 4). Map: Russia Eyes Antarctic Oil Potential Despite Exploration Ban. Retrieved from <https://www.spglobal.com/commodityinsights/en/market-insights/blogs/oil/030420-map-russia-eyes-antarctic-oil-potential-despite-exploration-ban>.

²⁵ "Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol)." Signed October 4, 1991, Madrid, Spain. Entered into force January 14, 1998.

²⁶ Enverus, Unlocking the Depths: How Seismic Surveys Drive Oil and Gas Exploration. Retrieved from <https://www.enverus.com/blog/unlocking-the-depths-how-seismic-surveys-drive-oil-and-gas-exploration>.

It is imperative for the U.S. to accelerate exploration of undiscovered resources to sustain market competitiveness, stabilize prices, and ensure the introduction of cleaner U.S.-produced oil and gas to the global market. BOEM's most recent five-year offshore oil and gas leasing plan takes the opposite strategy. BOEM is only planning for three possible offshore lease sales over the next five years, putting the U.S. at risk of lagging in a race where others are rapidly capitalizing on their offshore assets. This backwards stance echoes through the broader economy, affecting everything from gas prices to energy independence and even natural disaster resilience and planning.²⁷ In an era where global competition for energy resources is intensifying, the U.S. must recalibrate its approach to help incentivize production, not slow it down. The U.S., as a leading oil and gas producer, has the capacity to conduct more robust leasing schedules with more sales and deepen our understanding of our domestic resources.



Source: BOEM, 2023 Comprehensive Inventory: US Cumulative Production vs. Remaining

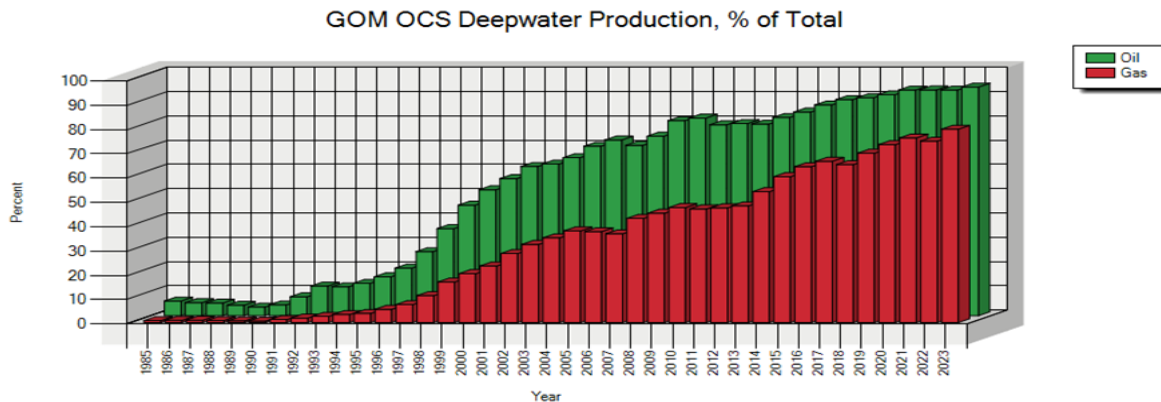
While historically BOEM posted updated offshore data annually, the agency has not updated its reserves reporting published exclusively on their website since December 2019, neglecting updates for over four years. Notably, there is a lack of reserves information for Alaska and the Atlantic on their website, and the agency's data on the Gulf of Mexico's reserves has not been updated since 2019.²⁸ The lack of new seismic surveys, reliance on outdated seismic data, and absence of exploratory wells to confirm data must be corrected to ensure BOEM has an accurate and up-to-date understanding of our offshore resources.

Recent trends have demonstrated that production further away from shorelines is becoming the norm and what were previously undiscovered resources will become more technologically recoverable as deepwater trends continue. The first chart on the next page shows OCS deepwater production in the Gulf of Mexico as a percentage of total offshore production. The second chart shows BOEM's approved APD's and Active Platforms.²⁹ These charts show that there are more active leases in deeper waters (1000 meters or more in depth) totaling 1,234, compared to 728 in shallower regions, but the number of approved drilling permits and active platforms in deepwater is lower. Despite having a higher lease count, deepwater areas have only 2,749 permits and 36 platforms. These figures fall far below current permit and platform counts in shallow water areas, showing that deepwater exploration is still in its early stages and has significant potential for growth in the short term. Industry investment in deepwater exploration underscores the need for enhanced understanding of potential reservoirs.

²⁷ U.S. Congress. (2006). Gulf of Mexico Energy Security Act of 2006, Pub. L. No. 109-432, 120 Stat. 2922.

²⁸ U.S. Bureau of Ocean Energy Management. (n.d.). Discovered Resources. April 6, 2024 Retrieved from <https://www.boem.gov/oil-gas-energy/resource-evaluation/discovered-resources> & U.S. Bureau of Ocean Energy Management., 2019 Offshore Statistics by Water Depth. Retrieved from [Alaska OCS Resource Assessment](https://www.data.boem.gov/Leasing/OffshoreStatsbyWD/Default.aspx).

²⁹ U.S. Bureau of Ocean Energy Management. (n.d.). Offshore Statistics by Water Depth. Retrieved from <https://www.data.boem.gov/Leasing/OffshoreStatsbyWD/Default.aspx>.



Source: BOEM, 2023 Comprehensive Inventory Report

Water Depth in Meters	Active Leases	Approved Applications to Drill	Active Platforms
0 to 200	728	37616	1378
201 to 400	40	1215	17
401 to 800	117	950	8
801 to 1000	142	649	9
Above 1000	1234	2749	36

Source: BOEM, Applications for Permit to Drill by Water Depth³⁰

There are several actions BOEM could take to improve and modernize the agency’s data collection activities and reporting of offshore resources. For example, BOEM could collaborate more closely with industry stakeholders to publish comprehensive resource assessments, leveraging their expertise for a clearer understanding of offshore potential. Additionally, the agency might seek to incentivize exploratory drilling, crucial for confirming seismic survey findings and facilitating actionable exploration and eventual production. BOEM could prioritize updating its reserves reports with current data, including information for Alaska, the Atlantic, and the Gulf of Mexico, ensuring transparency and credibility in resource management. Lastly, BOEM could expedite the publication of reserve data on its website and commit to more regular updates, demonstrating its credibility in stewardship of taxpayer dollars, and providing essential information for informed decision-making.

Prioritizing offshore development is essential for bolstering America's economic competitiveness and reinforcing its energy independence and dominance. While uncertainties persist in accurate resource assessments, proactive measures can be taken to minimize inaccuracies and address gaps in data availability. With accurate mapping and understanding of domestic energy resources, the United States can secure its position as a global leader in energy production and ensure a stable and secure energy future for generations to come.

³⁰ Id.