

Oil and Gas Exploitation of The Liberian Sea

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Abstract

The oil and gas sector in Liberia is still in the early stages of development, despite the country's significant offshore potential. The country has a long coastline and several sedimentary basins that are believed to contain hydrocarbons. However, political instability, corruption, and a lack of infrastructure have hindered the exploration and production of oil and gas in Liberia. In recent years, there have been some efforts to develop the oil and gas sector in Liberia. The government has awarded several offshore blocks to international oil companies, including ExxonMobil, Chevron, and Anadarko. These companies have conducted seismic surveys and drilled some exploration wells, but no significant discoveries have been made yet. The Liberian government has also established the Liberia Petroleum Regulatory Authority (LPRA) to regulate the oil and gas sector and promote transparency and accountability. The LPRA has developed regulations and guidelines for the exploration and production of oil and gas, as well as for the management of revenues. Despite these efforts, the oil and gas sector in Liberia faces several challenges. The country's infrastructure is limited, and there are concerns about the environmental impact of oil and gas activities. Moreover, the government's dependence on revenues from natural resources, such as iron ore and rubber, has led to a lack of diversification and economic vulnerability.

Keywords: Liberia Oil and Gas Sector, Offshore Hydrocarbon Potential, Liberia Petroleum Regulatory Authority (LPRA), Economic Diversification

Received: December 9, 2025

Revised: February 17, 2026

Accepted: March 7, 2026

Introduction

The exploitation of offshore hydrocarbon deposits off the coast of Liberia has gained importance in recent years, as the country seeks to boost its economic growth and reduce its dependence on fuel imports. Liberia has considerable potential in hydrocarbons, with estimated reserves of oil and natural gas located in the country's territorial waters.

Offshore oil exploration and production present significant economic advantages, such as job creation, increased tax revenues, and economic diversification. However, they can also pose significant environmental and social risks, such as oil spills, impacts on coastal communities, and marine ecosystems.

In this context, it is essential for Liberia to adopt a cautious and responsible approach to offshore hydrocarbon exploitation, ensuring that economic benefits are balanced with measures to protect the environment and local communities. Several studies and reports provide detailed information on offshore hydrocarbon exploitation in Liberia. For example, the World Bank report on the oil and gas industry in Liberia offers a comprehensive analysis of the opportunities

and challenges related to offshore hydrocarbon exploitation in the country. The Extractive Industries Transparency Initiative (EITI) report on Liberia provides information on the revenues generated by hydrocarbon exploitation and their use by the government (Dosmaganbetov & Pelizzo, 2025; Villar, 2021). Finally, Greenpeace's report on offshore oil exploration in the tropical Atlantic highlights the environmental risks associated with offshore hydrocarbon exploitation in this region (Kark et al., 2015; Salter & Ford, 2001).

The exploitation of offshore hydrocarbon deposits off the coast of Liberia has gained importance in recent years, as the country seeks to boost its economic growth and reduce its dependence on fuel imports. Liberia has considerable potential in hydrocarbons, with estimated reserves of oil and natural gas located in the country's territorial waters (Dolo et al., 2024). Offshore oil exploration and production present significant economic advantages, such as job creation, increased tax revenues, and economic diversification. However, they can also pose significant environmental and social risks, such as oil spills, impacts on coastal communities, and marine ecosystems.

In this context, it is essential for Liberia to adopt a cautious and responsible approach to offshore hydrocarbon exploitation, ensuring that economic benefits are balanced with measures to protect the environment and local communities. Several studies and reports provide detailed information on offshore hydrocarbon exploitation in Liberia. For example, the World Bank report on the oil and gas industry in Liberia offers a comprehensive analysis of the opportunities and challenges related to offshore hydrocarbon exploitation in the country (Adeola et al., 2022; Yusuf et al., 2024). The Extractive Industries Transparency Initiative (EITI) report on Liberia provides information on the revenues generated by hydrocarbon exploitation and their use by the government. Finally, Greenpeace's report on offshore oil exploration in the tropical Atlantic highlights the environmental risks associated with offshore hydrocarbon exploitation in this region.

According to Asiago (2017); Liaropoulos et al. (2019); Arruda (2015), despite the promising potential of offshore hydrocarbon resources, the development of this sector requires strong governance frameworks and effective regulatory mechanisms. Countries with emerging oil and gas industries often face challenges related to transparency, institutional capacity, and the management of natural resource revenues. For Liberia, establishing clear regulations and strengthening institutional oversight are crucial steps to ensure that offshore hydrocarbon development contributes to sustainable national development.

Another important aspect concerns the environmental management of offshore drilling activities. Offshore operations involve complex technological processes that may increase the risk of environmental accidents if not properly managed. Oil spills, drilling waste, and underwater noise pollution can negatively affect marine biodiversity, fisheries, and coastal livelihoods. Therefore, environmental impact assessments and strict monitoring systems must be implemented to minimize potential ecological damage.

In addition to environmental considerations, the social implications of offshore hydrocarbon exploitation should also be carefully addressed. Jueseah et al. (2025) said that, coastal communities in Liberia often depend heavily on fishing and marine resources for their livelihoods. Large-scale industrial activities in offshore areas may disrupt traditional economic activities and raise concerns regarding equitable benefit distribution. Ensuring community participation and inclusive decision-making processes is therefore essential in managing these resources responsibly.

Furthermore, transparency and accountability in the management of hydrocarbon revenues play a vital role in preventing the so-called “resource curse,” a phenomenon where resource-rich countries experience slow development due to poor governance and corruption. International initiatives promoting transparency in extractive industries provide useful frameworks that can help Liberia strengthen public trust and ensure that revenues from offshore hydrocarbons are used for national development priorities (Sovacool & Andrews, 2015; Beever, 2015; Epremian & Brun, 2018).

Considering these opportunities and challenges, it is necessary to examine how offshore hydrocarbon exploitation in Liberia can be managed in a way that balances economic growth, environmental protection, and social welfare. Understanding the regulatory, environmental, and socio-economic dimensions of offshore oil development will contribute to more sustainable resource governance and support Liberia’s long-term development objectives.

Result and Discussion

Context of Oil and Gas Exploitation in Liberia

History of Oil and Gas Exploration in Liberia

Liberia has a long history in oil and gas exploration, dating back to the 1970s. However, the civil war that ravaged the country for nearly two decades significantly slowed exploration activities. It was only after the conflict ended in 2003 that the sector saw renewed interest. According to the U.S. Energy Information Administration, exploration licenses were granted to several international oil companies, including ExxonMobil, Chevron, and Total, following an auction in 2009 (U.S. Energy Information Administration).

Oil and Gas Resources in the Liberian Sea

The Liberian Sea is believed to have significant potential for oil and gas resources. According to a study by the USGS (United States Geological Survey), the Liberian basin could contain up to 3.3 billion barrels of oil and 33.8 trillion cubic feet of natural gas, mainly located in deep waters (Provinces, 2010). These resources are situated in exploration blocks off the coast of Liberia, covering an area of approximately 62,000 square kilometers.

Challenges of Oil and Gas Exploitation in the Liberian Sea

Economic Challenges

The anticipated benefits of oil and gas exploitation in the Liberian Sea are considerable. The Liberian government expects the oil and gas industry to significantly contribute to the country's economic growth by generating substantial revenue and creating jobs. However, achieving these benefits will depend on the necessary investments to develop infrastructure and exploit the resources. International oil companies will need to invest billions of dollars in the exploration, production, and transport of oil and gas.

Nevertheless, exploiting oil and gas resources in the Liberian Sea is not without risks. The sector is often associated with corruption issues due to the concentration of power and wealth it generates. Liberia ranks 94th out of 180 countries on the 2020 Transparency International Corruption Perceptions Index, highlighting the challenges the country faces in ensuring transparent and responsible resource management (Index, 2021).

Environmental Challenges

Oil and gas exploitation in the Liberian Sea also presents significant environmental risks. Exploration and production activities can lead to oil spills, which can have devastating consequences on the marine and coastal environment. Oil slicks can cause long-term pollution of water, land, and air, leading to the destruction of natural habitats and loss of biodiversity. Exploration and production activities can also lead to underwater noise pollution, which can disrupt the habitats of marine mammals, such as whales and dolphins. Additionally, exploiting oil and gas resources can result in increased greenhouse gas emissions, contributing to climate change.

Social Challenges

Oil and gas exploitation in the Liberian Sea also impacts local communities. Exploration and production activities can lead to forced displacement of populations, especially in coastal areas where fishing communities are located. Fishermen may be affected by water pollution and the destruction of marine habitats, which can hinder their ability to sustain their livelihoods. Local communities may also be affected by the social impacts of the oil and gas industry, such as rising prices of goods and services, degradation of infrastructure, and competition for access to natural resources. It is therefore essential that the Liberian government and international oil companies work closely with local communities to mitigate these impacts and ensure that the benefits of resource exploitation are shared equitably.

The Actors Involved in Offshore Oil and Gas Exploitation in Liberia

The Liberian government and oil and gas companies: The Liberian government plays a key role in granting exploration and production licenses to international oil and gas companies. Among these companies are ExxonMobil, Chevron, and Total, which hold offshore licenses in Liberia. International organizations and funders: International organizations such as the World Bank and the African Development Bank are major funders for the oil and gas sector in Liberia. They provide funding and technical advice to help the country develop its natural resources sustainably.

Local communities and civil society organizations: Local communities are directly affected by offshore oil and gas exploitation and play an important role in monitoring its environmental and social impacts. Civil society organizations such as the Society for the Conservation of Nature of Liberia (SCNL) and the Liberian Oil and Gas Society (LOGS) are active in advocating for sustainable and responsible exploitation of natural resources.

Measures in Place to Regulate Offshore Oil and Gas Exploitation in Liberia

Existing laws and regulations: Liberia has adopted specific legislation to govern offshore oil and gas exploitation, including the Hydrocarbon Law of 2014 and the Hydrocarbon Regulations of 2016. International agreements and environmental standards: Liberia is a party to several international environmental agreements, such as the United Nations Convention on the Law of the Sea and the Barcelona Convention. The country is also committed to adhering to international environmental standards, including the OECD Guidelines for Multinational Enterprises and the Voluntary Principles on Security and Human Rights for Extractive Industries (Liberia Extractive Industries Transparency Initiative). Control and monitoring mechanisms: Liberia has implemented control and monitoring mechanisms for offshore oil and gas exploitation, such as the Liberia Extractive Industries Transparency Initiative (LEITI) which aims to promote transparency and accountability in the extractive sector.

Current Trend

Issues and challenges of offshore oil and gas exploitation in Liberia: Offshore oil and gas exploitation in Liberia faces several challenges, such as environmental and social impacts, corruption and poor governance, and excessive dependence on oil and gas revenues.

Recommendations for sustainable and responsible resource exploitation: To achieve sustainable and responsible offshore oil and gas resource exploitation in Liberia, it is recommended to enhance transparency and accountability in the extractive sector, promote economic diversification, strengthen the capacities of local communities, and establish mechanisms for monitoring and evaluating environmental and social impacts (Ankenbrand et al., 2021).

The importance of transparent and participatory management of oil and gas revenues for Liberia's development: Transparent and participatory management of oil and gas revenues is essential for sustainable development in Liberia. This involves strengthening public institutions, promoting the participation of local communities, and ensuring equitable distribution of revenues among different regions and social groups.

Conclusion

In conclusion, offshore oil and gas exploration in Liberia represents a major economic opportunity for the country, but it also raises significant environmental and social concerns. Offshore natural resources can contribute to economic growth, job creation, and infrastructure improvement, but it is crucial to ensure that exploitation is conducted responsibly and sustainably. It is essential to implement strict regulations to prevent environmental damage, such as hydrocarbon spills, and to ensure the safety of coastal communities. Transparency and public participation in decision-making processes are also crucial to ensure an equitable distribution of benefits and a reduction in potential conflicts. International partnerships and foreign investments can play a key role in the development of the offshore oil and gas industry in Liberia, but they must be framed by fair agreements and effective control mechanisms. Companies involved in exploration and production must adhere to high environmental and social standards and be held accountable for their actions. Ultimately, offshore oil and gas exploitation in Liberia can offer considerable benefits, but it requires prudent management, strict regulation, and active participation from all stakeholders.

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