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LIBYA'S OIL AND GAS INDUSTRY

Libya's Oil and Gas Industry offers incredible opportunities but challenges remain

The International Energy Agency (IEA) has stated that a fully explored Libya could yield an additional 100bn barrels of oil equivalent. Libya's proven oil and natural gas reserves stand at 48.4bn barrels and 53 trillion cubic feet (Tcf), respectively, according to the Libyan National Oil Corp (NOC) and international oil companies (IOCs). However, those figures are likely to prove outdated. The NOC envisions "ultimate recoverable reserves" of 144bn barrels of oil and 100 Tcf of natural gas, facilitated by advanced technologies from IOCs.

Libya encompasses six sedimentary basins, four of which have established petroleum systems. These include the Sirte and Murzuq basins, including the Sarir field with 8bn barrels of recoverable reserves. The Kufra basin could contain as much as 4bn barrels of oil.

Libya's oilfields contain high quality oil with low sulphur content, making it extremely attractive to IOCs, especially given its proximity to European markets. Interestingly the NOC announced production of 1.24m barrels per day (bpd) during November 2023, edging closer to its shorter term target of 1.3m bpd.

Challenges

1. Political Instability: Libya has faced political instability and conflict in recent years. This can create a challenging environment for implementing and sustaining infrastructure projects.

2. Security Concerns: Security issues, including the threat of terrorism and attacks on infrastructure, can pose significant challenges to upgrading and maintaining oil and gas facilities.

3. Aging Infrastructure: Many oil and gas facilities in Libya may be outdated and in need of modernization. Upgrading aging infrastructure can be complex and costly.

4. Economic Constraints: Libya's economic situation can impact the availability of funds for infrastructure projects. Low oil prices, for example, can strain the government's budget and hinder investment in the sector. Oil price remains the highest risk.

5. Technical Expertise: The country may face a shortage of skilled labor and technical expertise required for modernizing and maintaining advanced oil and gas infrastructure. This is being offset by involving IOCs and other technical partners.

Costs

1. Investment: The upfront capital required for upgrading oil and gas infrastructure can be substantial. This includes costs for equipment, technology, labor, and project management. This is being mitigated through cost sharing arrangements / concessions with IOCs.

2. Maintenance Costs: Ongoing maintenance costs are a significant consideration. Regular inspections, repairs, and upgrades are necessary to ensure the longevity and efficiency of the infrastructure.

3. Environmental Compliance: Meeting environmental standards and regulations can add costs to infrastructure projects. Implementing technologies to reduce environmental impact may require additional investments.

4. Infrastructure Protection: Given the geopolitical situation in Libya, ensuring the security of the infrastructure against potential attacks or vandalism may require additional investments in security measures.

Opportunities

1. Resource Potential: Libya has significant oil and gas reserves. Upgrading infrastructure can enhance the extraction and production capabilities, providing economic opportunities for the country.

2. Foreign Investment: The government may attract foreign investment by creating a stable and favorable environment for investors. Foreign direct investment can contribute to funding infrastructure projects.

3. Technology Transfer: Upgrading infrastructure provides an opportunity to incorporate advanced technologies, potentially through collaborations with international partners, leading to knowledge transfer and skill development.

4. Job Creation: Infrastructure projects can create employment opportunities, benefiting the local workforce and contributing to economic development.

5. Diversification: Upgrading infrastructure can support efforts to diversify the economy beyond oil and gas, fostering a more resilient and sustainable economic base.

Upgrading oil and gas infrastructure to be more sustainable involves adopting practices and technologies that reduce environmental impact, increase energy efficiency, and promote long-term resilience. Here are several strategies and best practices:

1. Energy Efficiency Improvements:
- Upgrade equipment and processes to improve energy efficiency.
- Implement advanced control systems to optimize energy use.
- Conduct regular energy audits to identify and address inefficiencies.

2. Renewable Energy Integration:
- Integrate renewable energy sources, such as solar or wind, into operations to reduce reliance on fossil fuels. For example, wind and solar can be used to generate hydrogen to replace diesel generators in drilling rigs. LNG can also be utilized to replace diesel.
- Invest in hybrid systems that combine traditional energy sources with renewables.

3. Carbon Capture and Storage (CCS):
- Implement CCS technologies to capture and store carbon dioxide emissions from the production process, reducing greenhouse gas emissions.

4. Advanced Monitoring and Maintenance:
- Utilize advanced monitoring technologies, such as sensors and data analytics, to identify and address issues before they become major problems.
- Implement predictive maintenance strategies to optimize equipment lifespan and reduce downtime.

5. Water Management:
- Implement water conservation and recycling measures to minimize water usage in oil and gas operations.
- Treat and reuse produced water for non-critical processes.
- The Bauer Nimr project in Oman is a great example of using a sustainable process to treat oilfield water.

6. Environmental Impact Assessments:
- Conduct thorough environmental impact assessments before initiating any infrastructure upgrades to identify potential risks and develop mitigation strategies.

7. Compliance with Environmental Standards:
- Ensure strict adherence to environmental regulations and standards.
- Stay informed about evolving environmental policies and make necessary adjustments to maintain compliance.

8. Community Engagement:
- Involve local communities in the decision-making process and address their concerns.
- Implement social responsibility programs to contribute positively to the local community.

9. Technological Innovation:
• Invest in and adopt cutting-edge technologies that reduce environmental impact and improve overall efficiency.
• Explore emerging technologies, such as artificial intelligence, robotics, and automation, to enhance operations.

10. Emission Reduction Strategies:
• Implement technologies that reduce emissions during extraction, refining, and transportation.
• Invest in low-emission technologies and equipment.

11. Supply Chain Sustainability:
• Encourage suppliers and contractors to adopt sustainable practices.
• Consider the environmental and social impact of the entire supply chain when making procurement decisions.

12. Investment in Research and Development:
• Allocate resources for research and development to explore and implement new, sustainable technologies.
• Collaborate with research institutions and industry partners to drive innovation.

13. Training and Skill Development:
• Provide training programs for employees to enhance their skills in sustainable practices and technologies.
• Foster a culture of sustainability within the organization.

14. Lifecycle Assessments:
• Conduct lifecycle assessments of infrastructure projects to understand and minimize their overall environmental impact.

It's important to note that the specific challenges, costs, and opportunities can vary based on the unique circumstances and conditions in Libya at any given time. For the most accurate and up-to-date information, it's recommended to consult recent reports, industry analyses, and government sources

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UK'S GREEN HYDROGEN INITIATIVE

The UK government recognises how important green hydrogen will be in the energy mix going forward, particularly through the use of offshore wind at scale. However, given that there is currently no established market for low carbon hydrogen, the government has created a hydrogen production business model to try and provide certainty of pricing and a route to market. The recent results of allocation round five in Scotland indicated that no offshore developers had bid into the auctions due to the low strike prices, which has put the offshore wind Sector back, and therefore has a causal impact on the potential to develop green hydrogen at scale.

UK's Green Hydrogen Initiative: Challenges and Solutions

The UK Government has set a target of 10 gigawatts (GW) of low carbon hydrogen by 2030, half of which will be green hydrogen generated from renewables. Analysis shows that this will support over 12,000 jobs and attract £11 billion in private investment.

Ministers have also set an interim target of 2GW of low carbon hydrogen by 2025, including 1GW of green hydrogen. There are currently only about 5 megawatts (MW) of green hydrogen projects operational in the UK, so the Government's Hydrogen Production Business Model (the Model) will be essential to kickstart a baseline of large operational projects by de-risking and reducing finance costs.

The Model provides support in a similar way to the Contracts for Difference scheme, in which a generator receives a fixed price (a strike price) for their electricity over a fixed term. The guarantee of a fixed price for renewable generators de-risks the project sufficiently to attract private capital investment in it. As well as revenue stabilisation, the Model is also attempting to establish a market for low carbon hydrogen in the absence of multiple buyers and sellers.

So far, there has been one allocation round (HAR1). In this initial round, 17 projects totaling 262MW entered bilateral negotiations with the Department for Energy Security and Net Zero in August to receive Low Carbon Hydrogen Agreements. These contracts are due to be awarded this year, with the first HAR1 projects reaching Financial Investment Decision within three months of receiving contracts. This will be followed by a second allocation round (HAR2) which aims to secure 750MW of capacity. Although support is currently awarded through negotiations between industry and Government, Ministers are now proposing a transition to a competitive, price-based CfD-style.

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LIBYA & TUNISIA TRADE AND INVESTMENT TRENDS

The historical economic ties between Tunisia and Libya have been characterised by close co-operation in various sectors, particularly through cross-border investments that have played a pivotal role, demonstrating mutual trust and a shared understanding of the benefits of this collaboration. Currently, investment prospects between the two countries have reached an unprecedented level. Trade between Tunisia and Libya has seen a remarkable increase of 70% in 2023 compared to the previous year.

Taking advantage of relative economic stability, both countries are making efforts to strengthen their co-operation by diversifying their economies, with a specific focus on sectors such as energy, infrastructure, agriculture, and information technology. This was materialised in November 2022 through the signing of a protocol aiming to enhance economic integration and develop inter-professional relations.

From 2001 to 2020, the main products imported by Libya held significant shares in Tunisian goods exports, highlighting complementarity between Tunisian export offerings and Libyan import demands, similar to that observed with Tunisia's European partners. An examination of the evolution of Tunisia's goods exports to Libya reveals that Tunisia and Egypt are the only African countries among the top 20 exporters to Libya.

According to the General Manager of the Tunisian-Libyan Bank, 80% of Tunisian businesspeople have engaged in transactions or economic activities in the Libyan market, indicating a strong involvement of the majority of Tunisian businesspeople in this market.

Despite challenges, with over 1,000 Tunisian companies present in Libya before the revolution, the agri-food sector, construction materials, ICT, and construction offer opportunities for restart and development, creating a dual advantage for investment and employment for both countries. Similarly, consulting and research firms can offer their skills, expertise, and experiences in Libya's development.

Despite obstacles related to financing and guarantees for bank transfers, Tunisia can improve its economic position in Libya. The public authorities of both countries are working to assist Tunisian investors in overcoming these obstacles. It would be prudent to reconsider economic relations with Libya by exploring partnerships with countries that have succeeded in this market, such as China, Turkey, and certain members of the European Union, leveraging geographical, linguistic, and cultural proximity, as well as complementarity in their trade exchanges. Tunisia could thus become an essential platform for trade, enhancing co-operation prospects.

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LIBYA OIL FIELD REHAB ESG

Libya is uniquely placed to serve the European oil market due to its geographic proximity to the continent and the emerging gap in supply as a result of ongoing sanctions limiting the inflow of Russian crude oil. Further, while a member of OPEC, it does not face the same production caps as other member nations, meaning it can export as much oil as the European market demands.
However, Libya's oil sector has faced substantial disruption throughout the past few decades, leading to the country's oil fields requiring significant rehabilitation in order to retain productivity. Meeting European demand for oil will require not only a focus on rehabilitating Libya's oil fields, but also for Libya to recognise the increasing importance of sustainability among European countries.
By focusing on oil field rehabilitation through new, cleaner technologies and improved governance, Libya's oil sector has the opportunity to prosper in the European market and simultaneously attract increased European investment into oil field redevelopment projects.

Limiting the environmental impact of oil extraction

European countries are increasingly focused on corporate sustainability, with increasing requirements for EU companies and large companies operating in the EU to disclose their environmental impact under the Corporate Sustainability Reporting Directive (CSRD). CSRD will encourage increased expectation not only on reporting companies, but on key suppliers within their supply chain. This means that doing business in the EU will become more challenging for the oil sector in general, but particularly for those companies unwilling or unable to adapt to improving their practices.

The rehabilitation of oil fields in Libya provides an opportunity to implement modern technologies and best practices that reduce the environmental impact of oil extraction and production. As the EU continues to rely on oil as a key energy source, Libya has the opportunity to emerge as a key provider of less environmentally damaging oil to Europe.

Good governance is the key to investment from Europe

In addition to demand for Libyan oil from Europe, there is an emerging opportunity for European investment into the rehabilitation process of Libyan oil fields. Increasingly, European investors are placing importance in the governance practices of their investment opportunities.

French Total has foreseen significant investment of c$2bn into Libyan oil fields, with the aim to increase the production capacity of North Gialo and NC-98 oil fields. Royal Dutch Shell has similarly expressed plans to redevelop ageing fields in the Murzuq basin, signalling its re-entry into Libya after the 2011 first Libyan civil war.

However, these significant foreign investment plans remain highly dependent on Libya's ability to improve security and stability, concepts underpinned by an underlying need for good governance practices both in the oil sector and more broadly.

In summary, the rehabilitation of Libya's oil fields presents an opportunity for Libya to emerge as a key exporter of oil to Europe. Cleaner and more modern technologies will allow not only increased production, but also a more attractive source of oil for the increasingly sustainably conscious European market.

Attracting European investment into rehabilitation projects, however, is highly dependent on the stability of Libya's governance systems. The oil sector in the country has seen significant volatility as the result of conflict and unrest, discouraging significant European investment. Despite this, recent interest from key players in the European oil sector signals a shift in outlook. If Libya is able to continue to demonstrate its ability to maintain security and good governance in its oil sector, this could signify a new generation of Euro-Libyan collaboration and investment.

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