North African Energy Market Analysis: Libya

31st of August, 2023

Comprehensive report on the outlook of the Libyan energy market and the political risks involved

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Executive Summary

Thomas Woodlock

Libya is a country with vast natural resources and huge potential but is fraught with a complicated political history and an uncertain future. This report helps the reader gain knowledge of Libya, its politics, its infrastructure as well as the natural resources within its borders.

The country is currently split between the United Nations-recognised Government of National Unity (GNU) located in Tripoli and the Government of National Stability (GNS) based in Sirte. On the 3rd of July, Khalifa Haftar, head of the Libyan National Army, which supports the GNS, threatened to use armed force unless the politically fragmented country could agree on a mechanism for the "fair" distribution of oil revenues. The deadline set by the military leader is 31 August. The potential for another civil war is high and this will have large implications for major commodity markets like crude oil as well as natural gas. The intervention of regional and extra-regional powers further complicates Libya's chaotic political situation, with different countries backing opposing governments.

The report is structured into five sections comprising a country overview, the latest political developments as well as an analysis of the three key commodity markets Libya has a place in. These include crude oil, natural gas and renewable energy. Each of these commodity focused sections cover their respective information on infrastructure, production, consumption, exports and stakeholders. They also investigate the supply and demand side risks for each commodity inside Libya.

This report is part of a broader series of publications London Politica is making on North Energy African energy markets, the first of which covered Algeria.

It would be prudent for anyone with any form of exposure to oil and natural gas markets to read this report diligently and apply the insights to their daily operations, be it risk management or opportunity exploitation.

1. Libya: Country Overview

Sharif Fatourehchi

Demographics and General Economy

Libya is a North African country situated along the Mediterranean coast. It has a population that is predominantly Arab-Berber. The capital city is Tripoli, and Arabic is the official language. Libya has a rich history and diverse cultural heritage, although it has faced significant political and economic challenges in recent years.

The economy of Libya has traditionally been heavily dependent on oil and gas exports. Oil production and exports have been the main source of government revenue for decades. However, political instability and conflict have severely impacted the economy. After the fall of the Gaddafi regime in 2011, the country faced a power vacuum and fragmentation, leading to economic disruptions and the deterioration of public services.

Economic Challenges and Opportunities

Libya's economy has been heavily impacted by fluctuations in oil prices and the overall instability in the country. The reliance on oil exports has made the economy vulnerable to global market dynamics. However, Libya possesses significant oil reserves, which, if managed effectively, could provide a foundation for economic recovery and growth.

Energy Market - Demand, Supply, and Production

The energy market in Libya is primarily centred around oil and natural gas. The country has the largest proven oil reserves in Africa. Historically, oil production has been a major contributor to Libya's economy. However, political instability and conflicts have disrupted oil production and export infrastructure.

Efforts have been made to restore oil production and stabilise the energy sector. International oil companies have been involved in partnership agreements with the Libyan government to help rehabilitate oil fields and infrastructure. The restoration of oil production capacity is crucial for boosting government revenue and economic recovery.

Key Institutions and Political Formation

Libya's political landscape has been marked by instability and divisions. Various factions and militias have vied for power and control since the ousting of Muammar Gaddafi. The country has struggled to establish a stable and unified government, which has had implications for its economic development and energy sector.

In recent years, there have been efforts to find political solutions and unite the country. International initiatives, such as the United Nations-led peace process, have aimed to bring together Libya's various stakeholders and establish a unified government. These efforts have had mixed success, with ongoing challenges in achieving lasting stability.

The Central Bank of Libya has achieved a significant milestone by reuniting as a singular sovereign institution, marking the culmination of almost a decade of division caused by the civil war. Governor Sadiq al-Kabir, in an announcement made at the bank's headquarters in Tripoli, confirmed the reintegration. The event followed a meeting involving Deputy Governor Mari Muftah Rahil and representatives from the Tripoli and Benghazi branches.

Since 2014, Libya's central bank had been split between western and eastern branches, a consequence of the emergence of a parallel administration in the east following the country's division after a civil war. The division of the central bank mirrored the larger fragmentation and instability that the nation faced after the overthrow of leader Muammar Gaddafi in 2011, resulting in Libya's descent into chaos.

One notable recent event is the alleged dismissal of the foreign minister after a visit to Israel. This event highlighted both internal divisions within Libya and the sensitive nature of diplomatic relations in the region.

Conclusion

In conclusion, Libya's energy market and economy have faced significant challenges due to political instability and conflict. However, efforts are underway to restore stability, unite the country's factions, and rejuvenate the energy sector. The successful management of Libya's vast oil reserves could play a pivotal role in its economic recovery and development, provided that political and security challenges are effectively addressed.

2. Political developments

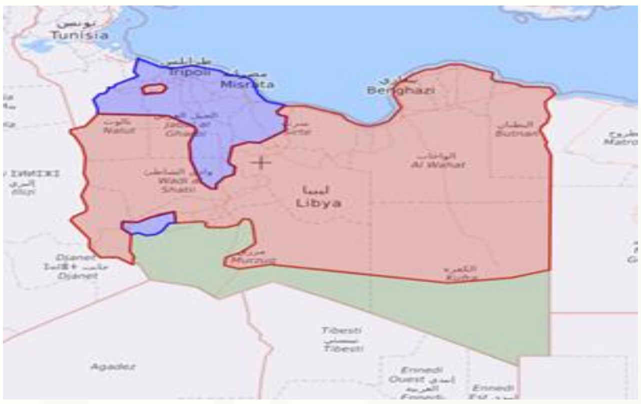
Guido Larocca

Libya has been suffering from chronic political instability since the fall of Gadhafi in 2011. This political turmoil has deeply affected the country's oil production, causing significant harm to its economy. The main political issue of Libya is the de facto split into two power centres: In the West of the country, the Tripoli-based Government of National Unity (GNU) led by Abdul Hamid, a successor of the Government of National Accord (GNA). In the East, the Sirte-based Government of National Stability (GNS) led by Osama Hamada. The GNS is supported by a legislative body in the city of Tobruk, the House of Representatives (HoR). The GNS is also backed by a military force, the Libyan National Army (LNA), under the command of strongman Khalifa Haftar.

The political instability in the post-Gaddafi era significantly impacted the economy. Oil production has been inconsistent since 2011. This represents a severe problem for the country, as oil resources are the pillar of the Libyan economy. The oil and gas sectors represent around 60% of the country's GDP. Oil infrastructure has frequently been targeted during the civil war years. On paper, the second civil war that confronted the GNA and HoR ended in 2020 with the signing of a ceasefire. However, despite the end of large-scale hostilities, there have been outbursts of violence since then. Tensions remain high, with the ever-present possibility of Libya's descent into another civil war.

Despite the lasting tensions, the 2020 ceasefire brought oil production recovery, allowing a partial reconstruction of the country. However, the unsolved political stalemate between Tripoli and Tobruk poses as Damocles' sword over the oil sector. The National Oil Company, a state-owned company based in Tripoli, manages Libya's oil revenues. But many of Libya's oil wells are located in the East, the area under the control of Haftar forces. This situation creates tension between the faction that controls the oil infrastructure in the East and the central government. The most recent conflict between Tripoli and Tobruk lies in the distribution of oil revenues. Haftar threatened military action by the end of August if his demands over oil revenue distribution were unmet.

The blue area is under the control of the GNU; GNS and the LNA controls the red area.



Source: Aumap

A potential solution to address Libya's political division lies in the prospect of holding elections, which could pave the way for the emergence of a unified and legitimate government. The international community has been advocating for celebrating elections as a step towards resolving Libya's political fragmentation. However, the efforts have been unsuccessful, as the elections have been postponed numerous times. Despite a recent agreement on draft laws for the electoral process between the two rival factions, the prospect of elections seems distant. Besides the rivalry between Tripoli and Tobruk, political intrigues are common inside each faction, further complicating an already delicate situation.

In spite of these tensions, the country could achieve a small step towards normalisation with the reunification of the Central Bank. This is beneficial foremost for the economy, with the Central Bank divided, it was not possible for the institution to have a coherent monetary policy. The Central Bank is also responsible for managing oil revenues, which have been a point of conflict between Western and Eastern administrations. The establishment of a unified Central Bank has the potential to defuse the ongoing disputes surrounding the allocation of oil revenues, thus contributing to stabilising the political situation.

The rivalry between Tripoli and Benghazi is the main driver of political instability. However, Islamic militant groups are also to be taken into account. They became active in the country after Gadhafi's fall and achieved territorial gains during the chaotic years of civil war. From 2015 to 216, the Islamic State controlled the city of Sirte. Islamic militant groups are still active in the country, although in a weakened state. They still carry out sporadic attacks. But a renewal of large-scale hostilities between Tripoli and Tobruk can potentially create a chaotic situation that Islamist groups could exploit.

Libya's de facto partition into two rival governments constitutes the most significant risk for the country. Despite the ceasefire and mediating efforts, this rivalry is a looming shadow whose threat is not limited to the physical security of Libyans. The political conflict conditions the economic sector, slowing the reconstruction efforts and damaging an already fragile economy. The fight over control of the oil resources threatens to unleash a new crisis that could reignite in full force the civil war.

On the international front, the intervention of regional and extra-regional powers further complicates Libya's already chaotic internal political situation. Foreign involvement of international actors in Libya ranges from countries backing politically one of the two factions to direct military involvement. Turkey is one of the players with high stakes in Libya. Ankara's profound interests in the North African country are of such significance that it deployed troops in 2020 to bolster the GNA government. An intervention that was crucial for the survival of the GNA. The rationale for such an assertive stance on Libya can be found in Turkey's strategy for the Eastern Mediterranean: the Blue Homeland doctrine. This doctrine underscores Turkey's determination to safeguard its maritime rights, protect its geopolitical interests, and maintain a strong presence in the Mediterranean. Through its backing of a friendly government, Turkey aspires to capitalise on Libya's strategic geographical location, which holds the potential to significantly advance Ankara's broader geopolitical aspirations in the Eastern Mediterranean. Access to Libya's energy resources significantly drives Turkey's interest in the Mediterranean region. Ankara has leveraged its influence within the GNU government to secure exploration deals on Libyan waters and soil.

The permanence of Turkish troops after the signing of the ceasefire showcases Ankara's determination to maintain its influence in North Africa. However, there are signs that Turkey might shift its Libyan policy towards a dialogist approach as it seeks to mend ties with the eastern Libya administration.

Besides Turkey, Russia is the other major foreign power with boots on the ground. However, Moscow exerts its influence through the private military company Wagner Group. The Wagner Group has been active in the country since 2019, supporting Haftar's LNA on the opposite side of Turkey. Moscow's military footprint is significant, with Wagner deploying heavy armament, such as anti-aircraft systems. Wagner's presence is strategically situated around vital energy infrastructure, including oil fields and crude export terminals. This is important for securing Russia's energy interests and puts the Kremlin in a position of potentially blocking oil flows to Southern Europe. Wagner Group's entrenchment in Libya provides The US has tried to work with its regional allies to pressure military commanders of the region to cut ties with the mercenary group. However, it seems unlikely that Moscow would renounce such a vital geostrategic location.

Yet Russia's footprint in Libya's energy sector is not limited to military action. Gas giant Gazprom and the oil company Tatneft are active in the country. And like Turkey, Russia is also resuming diplomatic relations with the rival government of its ally.

While not involved in Libya's political situation with the same depth as Russia and Turkey, the European Union is another major player interested in the normalisation of Libyan politics and with a presence in the country's energy sector. One major concern for the EU is the flow of migrants from Libya. After the fall of Gadhafi, Libya became a hotspot for African migrants crossing the Mediterranean trying to reach European soil. The EU has supported the Libyan coast guard in its efforts to stop the migrants from reaching Europe. The UN has harshly criticised support due to the violation of human rights of migrants committed by Libya's coast guard.

Concerning the EU's interests in Libyan energy, particularly in the aftermath of the Ukraine conflict, where Europe seeks alternatives to Russian energy sources, Libya's geographical proximity emerges as an option for securing energy at a competitive cost. Italy is an important destination for Libyan energy exports. According to the IEA, Libyan oil amounted to 17% of Italian imports in 2021. The Italian-Libya energy partnership has a long history, as the oil firm Eni started operations in the country before Gadhafi took power. Eni endured the chaos of the civil war and kept its presence in the country. The company plans to invest $8bn to boost Libya's gas production to replace Russian gas.

France is another country with investments in Libya. TotalEnergies is an important investor, recently increased its participation in the Waha oilfield, and plans to build a solar power plant. In 2022 Libya supplied 10% of France's fuel imports, and this number may increase in the future as Paris is actively looking for more investment opportunities in Libya.

Despite its chaotic political situation, Libya's energy resources are attracting investments. But high risks remain.

3. Crude oil

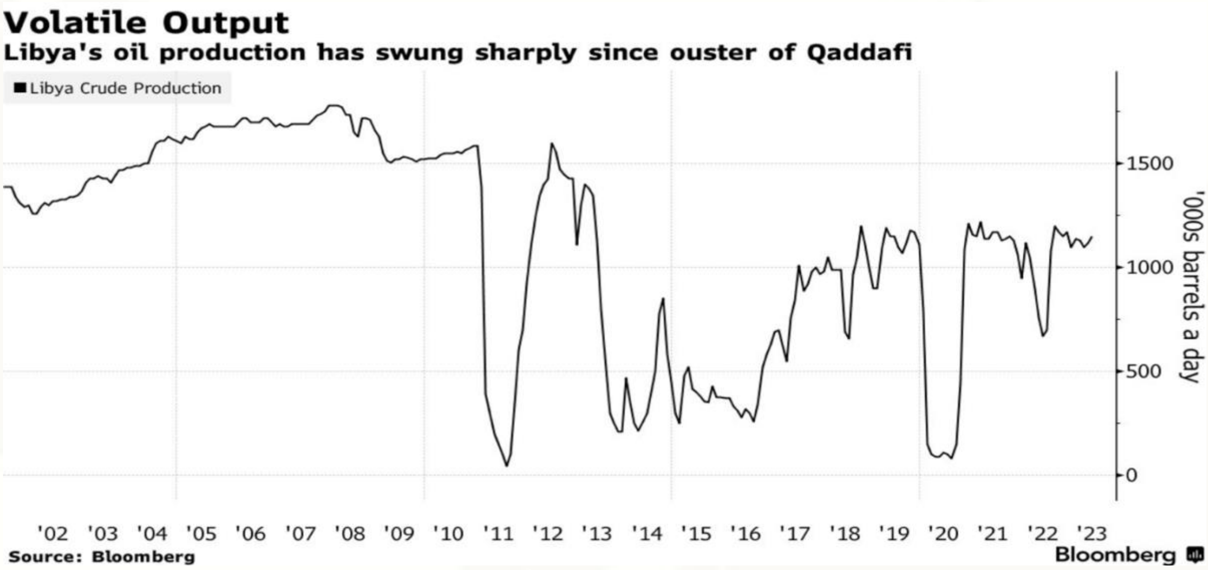
Wilson Symons

Overview

Sitting atop Africa's largest proven oil reserves, Libya is a key supplier that many European nations rely on and a member of the Organization of the Petroleum Exporting Countries (OPEC). Oil revenues are the country's main source of income, with 105.5 billion Libyan dinars ($22.01 billion) generated in revenue in 2022 according to the Central Bank of Libya (CBL). Although political insecurity looms over Libya, their crude output has been relatively stable since July 2022 at roughly 1.2 million barrels per day (mn b/d), while exports have gravitated around 1mn b/d. In February 2023, Farhat Bengdara – the chairman of the National Oil Corporation (NOC) – announced a new strategic plan to increase oil production to 2mn b/d within the next three to five years.

Since the outbreak of the Russo-Ukrainian War, demand for Libyan crude has skyrocketed, as European customers are increasingly buying Libya's medium sweet grade Es Sider as an alternative to Russia's Urals crude oil, especially after the EU's ban on Russian seaborne crude in December 2022. However, there are an abundance of supply-side risks that hang over this African nation's ability to meet this surging European demand. Libya is no stranger to a tightened oil supply and political instability, as major factions, armed groups, and local tribes have sought to control this commodity, frequently disrupting its production and exportation since the overthrow of the long-time dictator Muammar Gaddafi in 2011. The graph below highlights Libya's seesawing crude output – a consequence of more than a decade of immense political turmoil.

Libya's Crude Oil Production 2002-2023



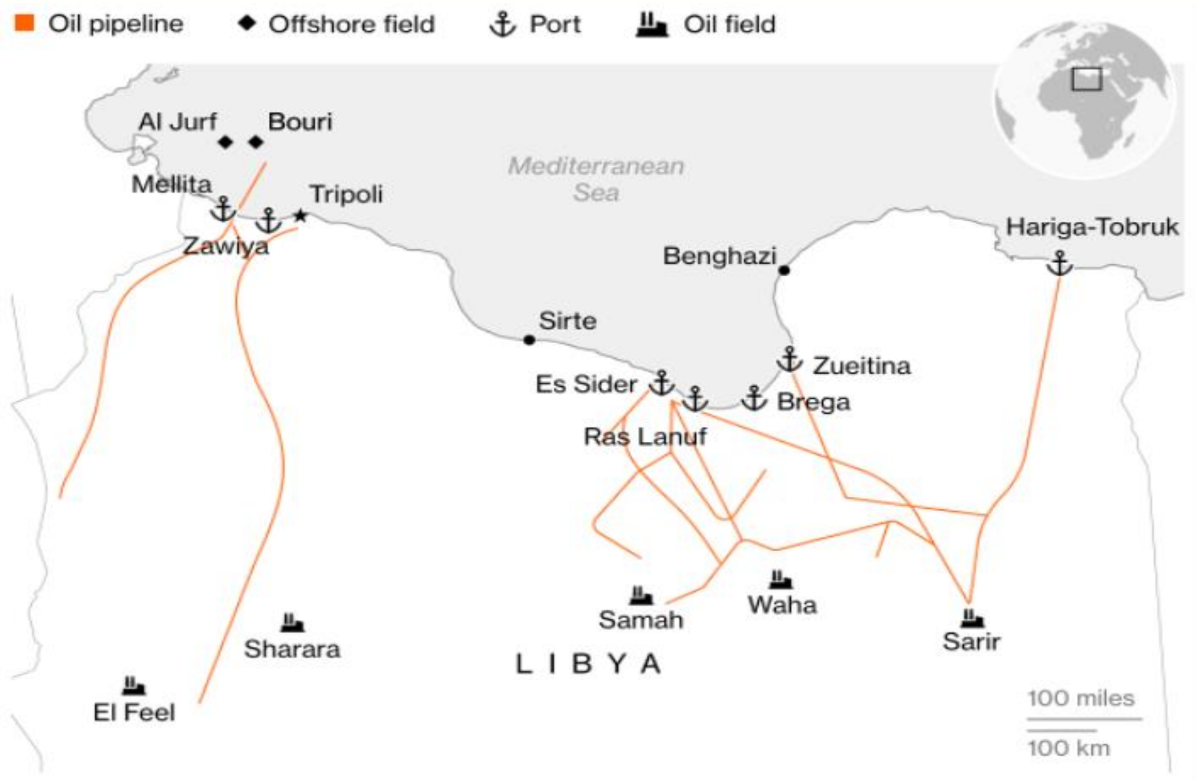
Source: Bloomberg

Stakeholders

The distribution of oil revenues is at the heart of the east-west political divide between the Government of National Stability (GNS) based in Sirte and the United Nations-recognised Government of National Unity (GNU) located in Tripoli. Although the majority of Libya's output and export capacity lies in the East, international agreements stipulate that the NOC – a state-owned enterprise run by Bengdara and overseen by GNU Prime Minister Abdul Hamid Debeibah – and its subsidiaries are solely in charge of the oil sector. The NOC's export revenues are transferred to the Tripoli branch of the CBL, which is responsible for distributing these oil revenues across the country. CBL Governor Sadiq Al-Kabir, alongside PM Debeibah, determine the distribution of oil revenues. Eastern stakeholders, such as Osama Hammad – Prime Minister of the GNS – and his ally Khalifa Haftar, the commander of Tobruk-based Libyan National Army (LNA), have jointly wrestled the western administration in Tripoli over revenue allocation. Eastern powerbrokers' desires to shift a larger share of oil revenues to the East constitute substantial supply-side risks, as blockades are one of their preferred methods of action.

Oil Infrastructure

Map of Libya's oil infrastructure



Source: U.S. Energy Information Administration

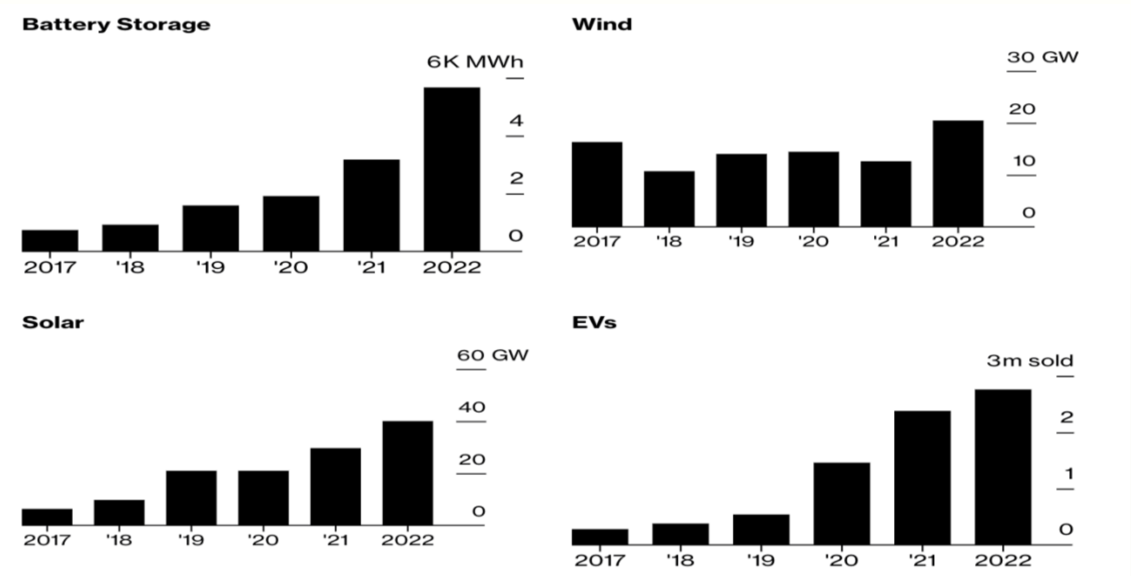
Libya's key oil production and transportation infrastructure comprises of onshore oil fields, offshore oil fields, export terminals (ports), pipelines, and refineries. The majority of this infrastructure is located in the East, as five of the nation's nine export terminals are situated there, while three-quarters of its crude output comes from eastern basins. The four main ports in the Gulf Sirte have a total export capacity of roughly 630,000 b/d – Es Sider (250,000 b/d), Ras Lanuf (200,000 b/d), Zueitina (90,000 b/d), and Brega (90,000 b/d). The nation's two largest onshore oil fields located in the south-western Murzuq Basin are El Feel and Sharara, while the Samah, Waha and Sarir fields are in the Sirte Basin. Libya's two biggest oil fields – Waha and Sharara – account for just under half of the nation's output capacity, pumping approximately 260,000 b/d and 290,000 b/d, respectively. While Libya has five major onshore sedimentary basins, the Sirte basin, which stretches southwards from the Gulf of Sirte, accounts for approximately 80% of Libya's proven oil reserves. Al Jurf and Bouri, two offshore fields in the Pelagian basin, are operated by the NOC in conjunction with the European energy companies Wintershall, Total, and Eni.

Demand-side Risks

Europe's Green Transition

Libya's biggest demand-side risk is Europe's green transition towards renewable energy. European customers imported approximately 80% of Libya's total oil exports in the first five months of this year. Libya has helped fill the substantial supply void left by Russia, a nation whose oil exports historically accounted for roughly 20% of Europe's total crude diet. European refiners have become increasingly dependent on Libyan crude. Since the EU's import ban on Russian seaborne crude came into effect in December 2022, demand for Libya's medium sweet grade Es Sider – the nation's largest crude export stream – has seen an uptick. According to Argus' latest tracking data, European customers imported 796,000 b/d of Libya's total 999,000 b/d of crude exports from January to May in 2023.

Europe's Shift to Green Tech in 2022



Source: Bloomberg NEF

Russia's invasion of Ukraine accelerated the European Union's (EU) plans to reduce their dependence on fossil fuels, with a record amount of 'green tech' being installed in 2022 (see charts above). Various forms of renewable energy technology – solar panels, wind turbines, battery storage, and electrical vehicles – were purchased and utilised at unprecedented rates across the EU, Norway and the United Kingdom in 2022. With increasingly more green tech being deployed, Europe's dependence on crude oil imports will slowly be reduced over the coming decades; however, demand for Libyan crude has yet to soften. Nonetheless, the green transition's trajectory is looking promising with agreements such as the European Green Deal, which aims to make the EU climate neutral by 2050 through a plethora of groundbreaking policies.

Supply-side Risks

Khalifa Haftar & the Libyan National Army (LNA)

The most substantial risk to the production and transportation of Libyan oil is posed by Haftar's LNA. This military force can quickly and effectively shut down the majority of this nation's oil infrastructure. While tensions between Haftar and the western government have settled down since July 2022, they were recently inflamed, as the eastern strongman threatened to impose another blockade on July 3rd. In a speech made in Ramja, Haftar threatened military intervention unless the GNU established a new "higher financial committee" to create a more equitable and transparent oil revenue distribution system. The military commander claimed that if a new oversight body did not "complete its mission" by the end of August, "the armed forces will be ready for orders when the time comes." Unlike Hammad's threats, Haftar's comments hold weight, as in 2020 and 2022, with the backing of Russia's Wagner Group, the LNA imposed blockades that wiped out most of the nation's production and export capacity. Following Prigozhin's aborted munity and recent death, Putin has strengthened Russia's "military cooperation" with the LNA. In January 2020, the LNA shutdown a significant number of onshore oil fields, pipelines, and export terminals. Consequently, between February and September, production averaged 100,000 b/d and did not stabilise until a ceasefire was signed in October 2020. According to the NOC, this blockade cost Libya roughly $9.8 billion in oil revenues. Between April and July 2022, Haftar instigated a blockade in a bid to expel Debeibah's administration and impose a new government elected by the House of Representatives – an eastern legislative body aligned with the GNS. Three quarters of Libya's output capacity was taken offline until a deal that replaced the NOC chairman and allocated more revenue to the East was agreed upon. The 2020 and 2022 blockades illuminate Haftar's ability to cripple his nation's output and export capacities; this eastern strongman's recent threats are the most significant supply-side risk.

Faraj Bumatari's Electoral Efforts

Faraj Bumatari's criticisms towards the CBL's misappropriation of public funds, coupled with his bid to replace Al-Kabir as the governor of the central bank, pose a considerable risk to crude output. Bumatari, who hails from the southeastern al-Zawi tribe and was formerly the Government of National Accord's (GNA) finance minister, was arrested on July 11th at Tripoli's Mitiga International Airport by the Internal Security Agency, an organisation allied with Dbeibah. Subsequently, production at the El Feel, 108 and Sharara oil fields was halted on July 13th by protestors from the Al-Zawi tribe angered by his imprisonment. According to the Al-Zawi leadership, Bumatari was detained due to his politicised denunciations and governorship bid. Mohamed Aoun, the GNU's oil minister, claimed that these closures cost Libya 340,000 b/d in output and announced that a force majeure was on the table.

This sudden supply shock had a pronounced impact on oil markets. While oil prices rose as traders caught wind of El Feel's closure on Thursday morning, prices gradually retreated until Sharara's shutdown that afternoon caused a significant knee-jerk reaction. International-benchmark Brent crude oil futures rose $1.25, or 1.5%, to settle at $81.36 a barrel. Markets followed this development closely, monitoring if production would resume or be further restricted, as unrest could have spread further to Waha – Libya's biggest field.

However, this was a short-lived development, as oil was being pumped again at El Feel and Sharara following Bumatari's release on July 15th. The restoration of output provided temporary relief for oil markets increasingly concerned about tighter supply and increasing demand amidst substantial OPEC+ cuts led by Saudi Arabia. These shutdowns are a stark reminder of how Libya's tumultuous political environment continuously threatens their crude output capacity.

Osama Hammad's Government of National Stability

On June 24, Libya's eastern government, headed by PM Hammad, threatened to shut production in the East. This threat was preceded by a Benghazi court ruling on June 22, which awarded the GNS the right to freeze all oil and gas revenues held by the CBL. While this ruling was unenforceable, it provided Hammad with a public window of opportunity to denounce the GNU's tight grip on oil revenue distribution. A spokesperson from his government remarked "if necessary, the Libyan government will raise the red flag and prevent the flow of oil and gas and stop its export by turning to the judiciary and issuing an order declaring force majeure." While one of Haftar's sons supported Hamad's blockade, support from the LNA was fragmented and ultimately absent, as the commander decided against the move. Of the three supply-side risks outlined in this section, this is the least substantial, as the GNS' threats to halt production and exports hold little weight without Haftar's military backing. However, it is important to recognize that Hammad's repeated blockade threats not only endanger Libya's output capacity, but also their supply contracts, as turmoil concerns their trade partners.

4. Natural gas

Toribio Iriarte

Overview

Natural gas is not as abundant or vital to the economy in Libya as crude oil, yet it plays a large role in the nation's energy autonomy. With over 1500 billion cubic metres of proven natural gas reserves, Libya could meet domestic demand and become a prominent gas exporter. The yearly production for 2021 was marketed at 24 billion cubic metres, with exports reaching 8 billion cubic metres. As the fourth largest natural gas producer in Africa, Libya seeks to expand extraction and refinement operations to establish itself as a supplier of energy commodities, especially to gas-deprived European nations.

Developments

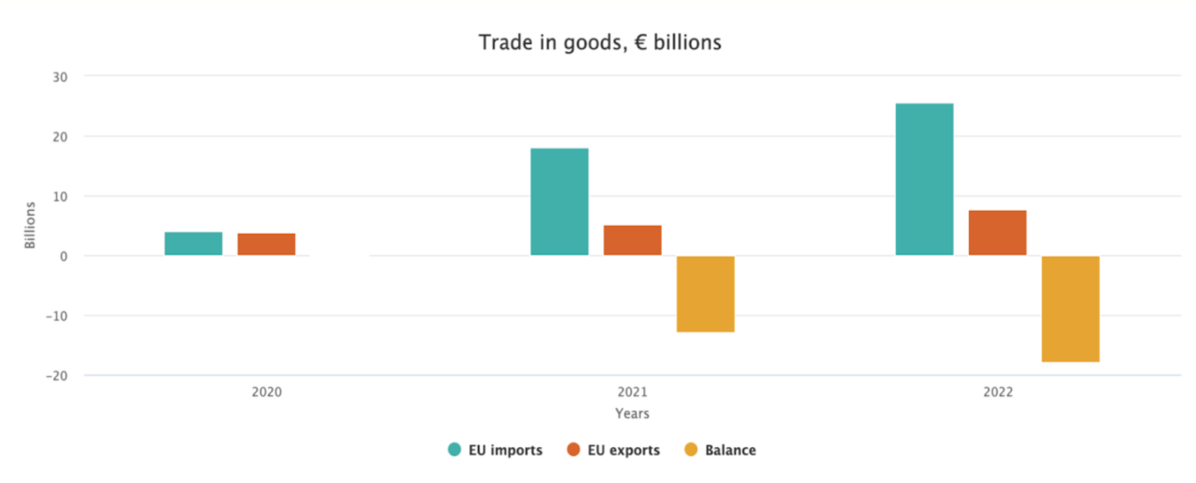
Various corporations have been increasing their stakes in Libya's natural gas production. The projects undertaken by these corporations, mostly commissioned and funded by state-run companies, include developing infrastructure, facilities, technology, and construction necessary for natural gas production expansion. The most prominent Italian stakeholder is Eni (Ente Nazionale Idrocarburi, meaning State Hydrocarbons Authority), an energy company that holds 80% of Libya's gas production shares. This company has carried out exploration, production, and development in Libya for decades, having initiated operations in 1959.

On August 3, 2023, Eni announced the removal of force majeure, a contract law clause that halted operations at three gas exploration sites due to security issues. Eni will continue exploration and operation of two onshore and one offshore areas as an operator, collaborating with British Petroleum, which holds the same 42.5% stake as Eni, and the Libyan Investment Authority, which holds a 15% stake. This event, apart from developing Libya's natural gas production, provides significant strides towards the reinvigoration of Libya's extractive activities. The security issues caused by the civil war and lingering violent conflicts put a halt to most projects, including these three exploration sites, and resuming their activity provides hope that the nation will regain productivity and growth. Eni's most recent project is an $8 billion contract with the National Oil Corporation, seeking to secure alternative supply chains after the loss of Russian gas inflows. The project involves the construction of two gas-producing structures in the Mellitah Complex and a carbon capture and storage facility. Upon completion, this project will produce 750 million cubic feet (228.6 million cubic metres) of standard gas per day.

Saipem, an Italian multinational energy services company in which Eni holds 30% shares, announced its $1 billion Bouri Gas Utilisation Project development contract in Libya. The project was awarded by the Eni North Africa and National Oil Corporation of Libya consortium, known as Mellitah Oil & Gas Libyan Branch. Saipem will be responsible for developing offshore platforms, expanding infrastructure, and revamping facilities in order to improve Libya's offshore natural gas production. Saipem will engineer, procure, construct, install, and commission a 5000-tonne gas recovery module. This will be built on an existing offshore facility, DP4, which will later be connected to the DP3 and Sabratha platforms via a 28-kilometre pipeline also commissioned to Saipem.

The geographical advantage held by Libya, which lies in its proximity to European ports, provides ease of trade. As Europe faces an energy crisis, the convenience of Libyan natural gas, which takes only two days to arrive in Italy and eleven in the Netherlands, makes it a prime candidate for further cooperation. The reciprocal nature of relations with European countries, which make up 51% of Libya's global trade exports, illustrates the benefits of contributing to Europe's sustainable energy supply bid. Nonetheless, the volatile nature of Libya's political sphere, paired with the current threats to oil and gas production, calls into question whether this cooperation will thrive.

Illustration of Libya-EU Goods Trade in The Last 3 Years



Source: European Commission

Demand-Side Risks

A potential threat to Libya's natural gas export demand are the sustainability initiatives undertaken by the European Union. As the EU pushes for sustainable energy practices, stricter regulations on supply chains are discussed and implemented. These issues have already been observed as the bloc's cooperation with entities such as Mercosur has been compromised due to stringent sustainability stipulations. As Libya develops cooperation with European nations, they will likely have to adapt to whatever the EU deems sustainable. These issues have been addressed to a certain extent, with many of the projects undertaken in Libya including sustainability practices. The Carbon Capture and Storage system included in the Eni gas development project will result in a carbon footprint reduction. The presence of corporations with sustainable practices and goals, such as Eni's decarbonization strategy, strengthens stakeholder confidence and helps Libya maintain its allure as a natural gas supplier. Libya has also signed a memorandum to collaborate with Eni in studying and implementing projects that reduce greenhouse gas emissions. As the largest natural gas shareholder in Libya, Eni's commitment to sustainability provides the sector with a positive outlook. The country's commitment to renewable energy has strengthened this global perception.

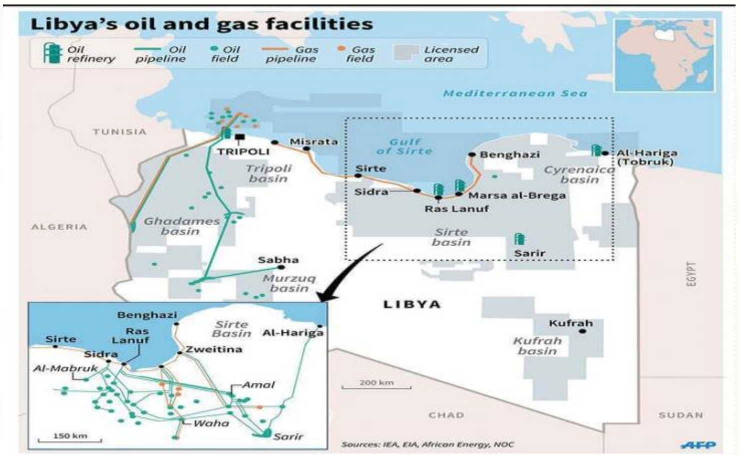
Supply-Side Risks

Infrastructure

A significant threat to natural gas infrastructure, whether it be through disruption of transports or extraction activities, is violent conflict. Like in many African countries, such as Burkina Faso and the DRC, the presence of armed groups disrupts economic activity, and the presence of the Wagner Group in Libya could bring similar results. Two of Libya's most important gas extraction fields, al-Wafa and al-Fargh, are in Wagner-controlled territory. The lack of control over these fields hinders domestic production and prevents investments to improve their productivity. The al-Wafa field is a key post in the Green Stream pipeline that connects the country with Italy, making the Wagner Group's presence a liability in terms of production and exports. The Dbeibé government still has control of the al-Bouri and Bahr al-Salam fields and is able to expand operations through direct investment and international cooperation. Nonetheless, the lack of control over such vast and productive fields, paired with the looming threat of having mercenary forces near the pipeline that connects the nation with its largest natural gas consumer, further decreases investor confidence and harms any foreign direct investment that could help the country develop.

The energy transition in Egypt offers yet another opportunity to develop a natural gas supply chain to Europe. A significant milestone was reached on June 17 2023, as a memorandum between the European Union and Egypt to increase natural gas exports was signed. Notably, Eni also holds a prominent presence in Egypt, producing around 516 billion cubic feet (157 billion cubic metres) of natural gas annually. The Italian company's involvement in both countries could facilitate investments and infrastructure developments. Furthermore, in May 2023, the Interim Prime Minister of the Libyan Government of National Unity and Egyptian officials met to develop energy cooperation, strengthening international relations and bilateral cooperation.

Graphical Representation of Libya's Oil and Gas Facilities



Source: Atalayar

Libya's inability to join the trans-Saharan pipeline project (or NIGAL pipeline), which would stretch from Nigeria to Europe, also precluded an opportunity to greatly improve domestic and international infrastructure. Algeria, Niger, and Nigeria signed a memorandum on July 28, 2022, establishing an understanding to continue talks on the pipeline, which could one day hold a capacity of 30 billion cubic metres of gas per year. This project has been delayed by recent conflicts, with the coup in Niger potentially affecting these countries' collaboration (for a comprehensive evaluation, refer to London Politica's report). Not participating in these talks and including Libya in the pipeline's trajectory represents a loss in collaboration with African nations and decreased trade capacity with the country's largest customers.

Protests

Internal disputes have engendered protests that have stunted natural gas production. In the beginning of 2023, oil college graduates shut down the Green Stream pipeline, halving gas exports to Italy. Protestors targeted the Mellitah complex as a reaction to the National Oil Corporation's recent exclusion of western students from employment opportunities. As international corporations increase their stakes in Libya's natural gas, it is imperative to demonstrate the stability required to accommodate a developing project's breakeven balance and payoff. Protestors have leveraged the delicate situation of current investments, renewing protests during dealings and delegation visits to pressure the authorities involved.

Political Adversity

A Parliament Member, Ashaham Beloun, asserted that the energy Deal Eni signed with the National Oil Corporation could likely fail due to national opposition, poor infrastructure, and conflict with Libya's courts. The Government of National Unity's Oil Ministry said Eni's 8 billion-dollar gas deal was undervalued. The ministry had originally rejected the project, stating it violated the law and placed too little investment burden on Eni. The animosity of some towards the corporation's marked presence in Libya's extractive sector undermines Eni's capacity to collaborate with national corporations, and blocks placed by the opposition could limit the success of current projects.

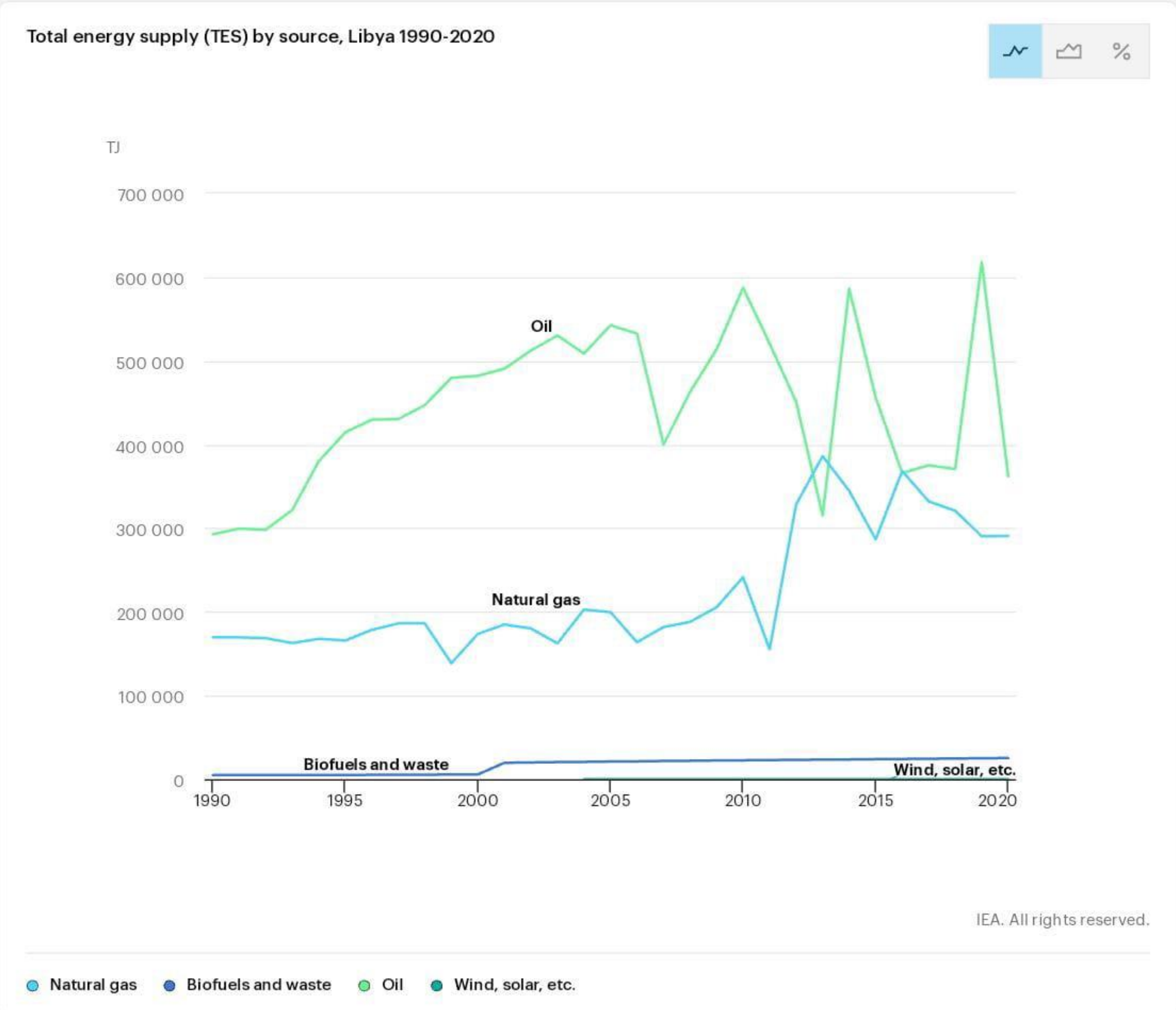
5. Renewables

Sibasish Kumar Sen

Overview

In addition to oil and gas, Libya has enormous potential to harness renewable energy, particularly solar energy, to meet its energy demands. The country's exposure to long hours of sunlight serves as a great platform to harness solar energy. Despite its favourable location in the heart of the sun belt, Libya has, both historically and in present times, been a heavy reliant on fossil fuels to meet its energy demand, currently consuming approximately 11 million tonnes of oil in its power stations for producing electricity. With the global energy market shifting rapidly towards renewable resources, the investments in the renewable energy space will exceed those in the conventional energy market. $1.7 trillion investment is expected to be made towards harnessing clean energy technologies. The Libyan government is very well aware of the unfolding trajectories in the energy market. The government has launched the ambitious Renewable Energy Strategic Plan 2013-2025, aimed at integration of locally available natural energy resources with the national energy system. The plan has a target of achieving 7 percent and 13 percent of renewable energy contribution to the electric energy mix by 2013 and 2025 respectively. However, only limited success has been achieved due to a multitude of reasons: corruption and instability at government levels, sectarian violence and clashes, lack of foreign and domestic investments, and most importantly, the behavioural unwillingness among the various key Libyan stakeholders to make an independent rapid transition towards renewable energy production. In 2020, renewable energy accounted for 3.1% of total energy consumption in Libya.

The country's extreme dependency on oil leads to most of its FDI to flow to the oil industry. The Libyan government in Tripoli is pushing aggressively to attract foreign investments, especially in the renewable space. With the ongoing war in Ukraine creating energy insecurity in Europe, countries in North Africa, including Libya are seen as potential hubs to help improve energy shortcomings in Europe. Geographical proximity provides Libya the opportunity to export green electricity as it can be converted into hydrogen and then shipped to various destinations and hotspots in Europe. This, however, requires infrastructure for production and shipping which is not yet in place. Current energy cooperation agreements such as one between Malta and Libya are being examined in this regard to understand possibilities of implementation.



Source: IAEA (Total Energy Consumption; 1990-2020)

Stakeholders

The Libyan National Oil Corporation, is the leading player when it comes to controlling and managing energy and oil production in the country. Despite having been traditionally inclined towards expanding oil production in the country, in recent times, the corporation has tried to rope in private companies and attract foreign investments towards developing renewable infrastructure in the country. Several renewable projects were initiated by the Renewable Energy Authority (REAoL) of Libya, a body established by Law 426 during the rule of the Libyan transitional government in 2007. Several key renewable projects have been initiated by REAoL, like development of solar power plants in Bani Walid, Tajoura and Kufra. European energy companies have also shown a keen interest towards investments in Libya. In 2021, the French company, TotalEnergies signed an agreement with the General Electricity Company of Libya (GECOL) to build 500 MW of solar generation capacity and the initiative was kickstarted in June 2022. The massive $8 billion gas development deal made by Eni in Libya is likely to act as a positive example for overseas companies to invest in Libya, particularly so in the less competitive renewable sector which has been neglected for a long time. Libya also signed an agreement with Malta on renewable energy cooperation in 2023.

Infrastructure

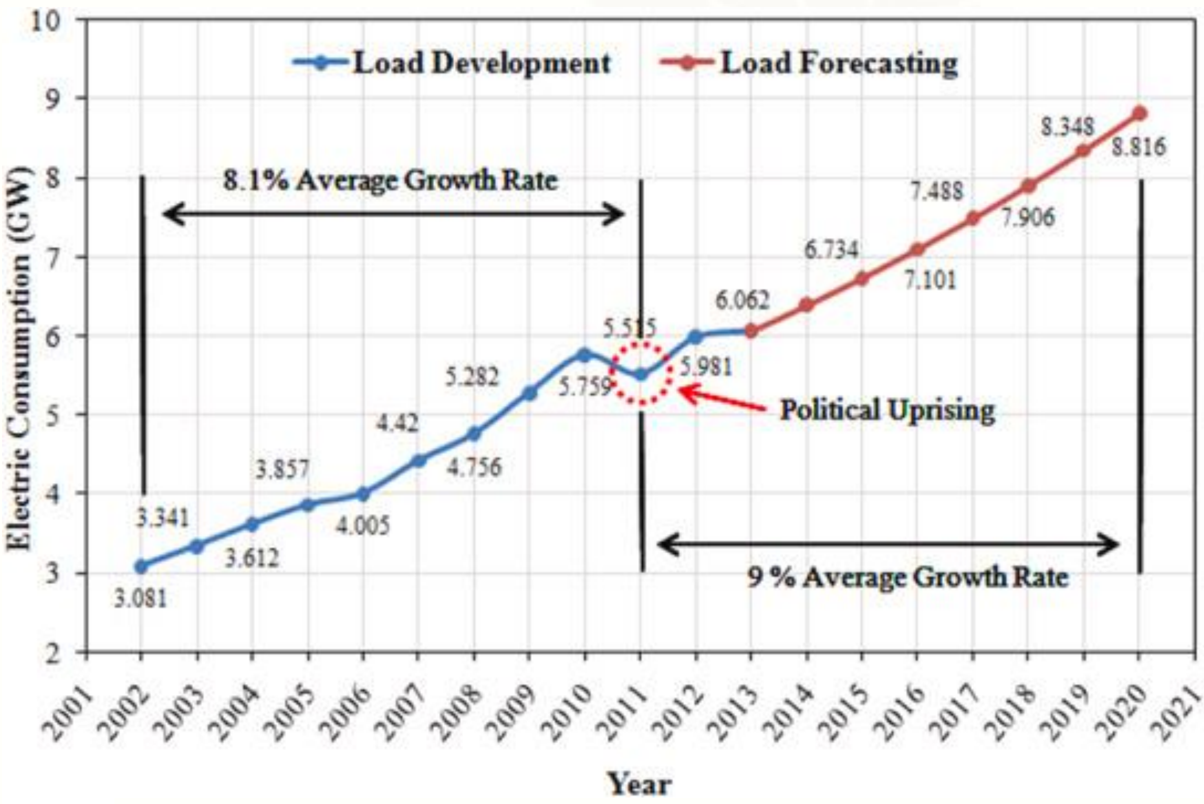
Renewable infrastructural developments are still at a nascent stage in Libya, undermining the enormous potential to harness solar power in the country. There are some key projects under development at this moment in time. There have also been plans to implement projects totaling 2,000 MW, leveraging photovoltaic technology across three main stages: project phase, exploitation phase and end of life phase in the forthcoming years. The projects primarily seek to use public-private partnerships as the investment vehicle, although some projects with more urgent demand will be implemented solely through state participation. On the basis of recent investments in the country to develop green energy capacities, Libya plans to export its renewable energy supplies, especially to the European market. The signing of the agreement between Libya and Malta on energy cooperation will draw focus on developing Libya's export infrastructure capabilities in addition to fast tracking the production of renewable energy supplies within the country to meet its domestic demands.

Despite Libya's ambitious plans to export green electricity to Europe, it currently lacks significantly in its infrastructural facilities. Moreover, the export of green electricity from Libya to Europe requires connection between European and Libyan grids which is currently non-existent. Given its own electricity supply woes and power cuts, Libya is likely to use its own production of green energy domestically in the near future.. The prospects of export mechanisms remain on paper and can only be a full blown reality when infrastructural and technical upgrades are carried out proactively and efficiently.

Foreseeable Changes

In the coming years, Libya is likely to witness significant investments in the renewable energy sector, particularly in the development of solar power plants across the country. After years of instability caused by two civil wars, there has been a general consensus to attract foreign investors and develop partnerships with local libyan firms for collaborating on projects in the energy sector. Tripoli has also set up the ambitious Libya Energy and Economic Summit since 2021 to attract overseas oil and renewable majors. The first edition saw the French giant TotalEnergies agreeing to invest in building the largest solar power plant to date in Libya, in the Al-Sadada region. The plant is expected to generate up to 152 TWh of clean energy annually thanks to the installation of up to 1.2 million solar panels. Libya is presently facing a perennial situation of electricity woes and power cuts in the country due to disruption of oil fields by dissent groups and protestors. The upcoming decades are likely to witness new overseas companies entering the shores of Libya in a bid to initiate new projects in the energy and renewable sectors. Political stability is extremely a crucial factor for the aforementioned to occur in the first place.

Increasing trend of electricity consumption in Libya



Source: Solar photovoltaic applications in Libya

Forecasted Risks

Interference of international actors in the political and economic landscape of Libya

Some of the key actors militarily involved in Libya have been Turkey and Russia. Both sides have supported opposite political factions; the former endorsing the UN backed GNA government in Tripoli and the latter extending support to Haftar's Libya National Army (LNA) in the east. Despite taking opposite sides, both the countries seem to agree on a compromise in order to maintain their own economic and political interests in the respective parts of the country. Moreover, given Russia's clout, Turkey will very likely avoid a direct confrontation with Russia in the region.

In addition, Russia has been able to shape the security architecture of East Libya efficiently through the Wagner group. Russia is keen to continue its presence in the North African nation in order to strengthen its influence over the African continent, keep the influence of the US and its allies in check and gain an upper hand to dictate the future political and economic narrative of the country. Presidential and parliamentary elections have often been heralded as a way to mitigate the current political crisis.

Moscow is closely monitoring the situation and seeks to develop Haftar as a loyal client and endorser of the Russian state. With its oil rich reserves and the further potential for military bases, Libya is too good a deal for Russia to withdraw anytime soon. Given a possible future

Russian de facto control over Libya, any plans and prospects for development of further renewable projects are likely to be cut short in favour of exploiting oil reserves.

Lack of infrastructure

Libya is currently at a preliminary stage of development in terms of its renewable energy capacities. The primary reliance has been on foreign corporations developing the technical know how and the infrastructural capacities. Despite ambitions of exporting green electricity, the present scenario negates any progress. The export to the European market requires a connection between the Libyan and European grids, which is currently non-existent. The Libyan grid requires a substantial technical upgrade before such an interconnection is technically feasible.

Domestic Political and Economic Risks

Despite the current ceasefire, there have been constant tensions brewing between the various competing factions, increasing the possibility of another civil war. In case of such drastic events, the European oil and renewable majors are very likely to end their operations in the country, as had been the case in Iraq. If the Moscow-backed Haftar's LNA gains an upper hand during a possible civil war, the country is likely to face sanctions from US led allies, like in the past, which will hammer the country's export and FDI potential. The current economic situation is grim. In 2022, GDP contracted sharply, by 12.1%, after growing 28.3% in 2021. The recession was driven by rising conflict and lower performance of hydrocarbons, services, and, to a lesser extent, manufacturing. Inflation increased to 4.6% in 2022 from 2.8% in 2021, following the price increases for food and essential goods. Libya's ongoing economic woes has led to its dependence on private overseas companies to develop renewable infrastructure in the country. However, any sort of major political violence unleashed would completely undermine the capacity of foreign companies to undertake any such endeavours.