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Gas and Oil Pipelines in the Middle East

Merits and Demerits



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While many states in the Middle East experience instability and conflict on a local scale, internal or regional crises that affect oil supply security can pose immediate threats to international peace and global markets, particularly if they result in oil shortages. This situation arises from the belief in Western countries that the responsibility for Middle Eastern oil should be shared between producers and consumers, given its strategic importance to the economies of consuming nations.

Oil in the Middle East has long been a critical factor, with significant geopolitical and strategic implications, as the region holds more than 55% of the world's proven oil reserves and approximately 40% of its natural gas reserves. However, oil also represents a vulnerability for the region, as any disputes or conflicts often initially target the oil industry, which is the backbone of most economies in the area.

Clearly, the oil industry in the Middle East is susceptible to internal instability, as well as to external attacks and violence, all of which can significantly affect oil supplies. This is particularly true for oil pipelines, which face different risks compared to natural gas lines.

Oil Pipelines in the Middle East: An Unbroken Record of Failures

Existing oil pipelines in the Middle East prioritize supply and export security over the economic advantages of lower-cost oil transport. The costs of constructing and operating these pipelines are extremely high. For instance, after World War II, the Arabian American Oil Company (Aramco) constructed the Trans-Arabian Pipeline (TAPLINE) from eastern Saudi Arabia to the port of Zahrani on Lebanon's Mediterranean coast. This route was chosen to avoid crossing the Suez Canal and incurring its transit fees. To keep costs competitive with maritime shipping, Aramco had

to develop new methods and technologies for pipeline construction. Additionally, the company faced fierce competition and political hostility from Britain and its allies in Jordan and Syria. Ultimately, Syria's transit fees on TAPLINE oil diminished the pipeline's economic viability.

However, this pipeline, along with Iraqi pipelines running through Syria and Lebanon, proved invaluable after the closure of the Suez Canal from 1967 to 1975. It enabled Saudi and Iraqi crude oil to reach Mediterranean markets and beyond quickly and smoothly. Yet with the emergence of supertankers, the shipping industry regained some of its economic benefits.

The Iran–Iraq War (1980–1988), which lasted for eight years, motivated both Iran and Iraq to plan and implement a number of alternative oil export outlets to make up for closed pipelines and affected ports. This regional conflict also made such diversification attractive to other Middle Eastern countries. After closing its narrow coastline on the Arabian Gulf at the beginning of the war and subsequently shutting down its export outlets, it is rather unsurprising that Iraq constantly sought to vary its export routes through Turkey and Saudi Arabia.

Although Iranian exports had never been as severely affected by security problems as those facing Iraq, repeated Iraqi air raids on Iran's Kharg Island in the 1980s led Tehran to justify the planning of several pipelines to avoid the island and its port facilities, which are vulnerable to attack. Later, most of these projects were suspended as an indirect consequence of Iraqi air strikes in 1986 on the remotely located Iranian export terminals of Larak and Sirri islands. This raised some serious questions in Tehran concerning the feasibility and security of such pipelines.

Saudi Arabia's East-West Pipeline, known as

Petroline, is the primary export route from the Eastern Province to Yanbu on the Red Sea. It was established to provide alternative export outlets beyond the Arabian Gulf and to reduce dependence on the vulnerable Strait of Hormuz. However, Red Sea export operations still require passage through either the Suez Canal, the Bab el-Mandeb Strait, or the SUMED pipeline, which connects the Gulf of Suez to the Mediterranean Sea in Egypt. Additionally, an Israeli pipeline links Eilat on the Gulf of Aqaba to Ashkelon on the Mediterranean coast, serving a similar purpose.

The Eilat–Ashkelon pipeline was built in 1968 as a joint project between Israel and Iran to transport Iranian crude oil to Europe. Yet Tehran stopped using the pipeline after the Islamic Revolution in 1979, and Israel took control of the pipeline later. The pipeline has recently been in the spotlight following reports about an agreement between the United Arab Emirates and Israel to transport part of the former's crude oil from the Red Sea to the Mediterranean via this pipeline.

In conclusion, the objective of supply security pursued by Middle Eastern oil producers and exporters has never been achieved through pipelines. This conclusion is supported by an assessment of the historical record of international oil pipelines that cross at least one border in the region, projected to extend through the end of 2025. Over a cumulative operational lifespan of 466 years for these pipelines, only about 168 years of actual pumping were recorded, representing 36%. Consequently, during their operational lifetimes, international oil pipelines in the Middle East have experienced 298 years of shutdowns, amounting to 64% of their total lifespan.

It is also important to note that all international oil pipelines in this region have been closed at least once, and most of them remain closed to this day. The Middle Eastern experience clearly



demonstrates that the vulnerability of any international pipeline is directly proportional to the number of borders it crosses. In contrast, domestic pipelines encounter relatively fewer problems and challenges.

Supply Security or Political Stability?

Some Western analysts have a limited perspective on oil supply security in the Middle East, viewing it in isolation from its political context. They point to the wars that Iraq fought in the 1980s and 1990s as evidence that oil production and export facilities are less vulnerable than previously thought. These conflicts demonstrated that transporting oil overland via pipelines is less susceptible to attacks than maritime transport. As a result, with the diversification of transportation methods and the addition of new pipelines, these analysts believe that oil exports from the Middle East could reach a point where they are considered “highly secure.”

Analysts state that only a limited number of oil pipelines in the Middle East were actually shut down as a direct result of military hostilities. While above-ground pipelines and pumping stations in the region have faced sporadic terrorist attacks and airstrikes, the Saudi and Iraqi pipelines to the Mediterranean were only temporarily affected. During the military conflict with Kuwait, only a few parts of Iraq’s export network and pumping stations were disrupted.

This perspective seems to overlook the primary reasons behind the closure of many oil export pipelines in the Middle East, such as political conflicts within producing or transit countries and disputes between neighboring countries. In fact, most cross-border pipelines have been casualties of political rivalries and conflicts in the region. The pipelines built to transport Iraqi oil to the Mediterranean coast illustrate the complexities

of the region’s infrastructure. The pipeline constructed before World War II to the port of Haifa (in occupied Palestine) was permanently closed in 1948 due to the first Arab-Israeli war. In addition, the Iraqi pipelines running to Tripoli in Lebanon and Baniyas in Syria have frequently faced challenges stemming from tensions between Baghdad and Damascus. Between 1990 and 2003, Iraqi pipelines passing through Turkey were shut down following the conflict over Kuwait. Furthermore, the Iraqi pipeline running through Saudi Arabia to the Mu’ajjiz terminal, located north of Yanbu on the Red Sea, has since then remained permanently closed.

As a result, decades of pipeline construction have diversified oil export routes in the Middle East and significantly reduced their vulnerability. However, the risk of political disruptions in both producing and transit countries remains a significant concern. This situation may worsen due to various regional instability factors, potentially leading to the closure of additional pipelines.

The oil-producing states in the Middle East possess vast oil and gas resources, which they are compelled to sell. Furthermore, transit fees comprise a significant portion of the revenues for transit countries. Given these factors, the risk of a permanent or prolonged outage of oil supplies from the region is relatively low. This phenomenon is often referred to as the “stability arising from interdependence.”

Nevertheless, the likelihood of short-term disruptions or outages in oil supplies (ranging from weeks to months or even years) due to regional governments losing control amid internal and external pressures remains extremely high. This was clear during the Arab oil embargo imposed after the wars with Israel in 1967 and 1973, the international sanctions imposed on Iraq between 1990 and 2003, and those imposed on Iranian oil exports since the beginning of the current century.



All of this confirms that genuine political stability is essential for ensuring oil supply security from the Middle East. However, the historical pattern of instability in the region does not suggest future stability. At least one country is typically experiencing instability at any given time; when one issue eases, another arises. As a result, this ongoing instability has affected the region's oil pipelines. Most closed pipelines have remained inactive, and there are currently no serious plans to construct new ones, except for a proposed oil pipeline linking Iraq to Jordan.

For oil pipelines to operate effectively, it is essential to maintain stability in the exporting, importing, and transit countries and to address several key issues. A primary concern is transit fees, which are particularly relevant when a pipeline crosses through the territory of a third country. These fees, whether monetary or in-kind, can significantly influence the economic viability of any pipeline project.

Another crucial factor affecting the transport of crude oil, natural gas, or petroleum products through pipelines is the agreements set by the World Trade Organization (WTO). Each WTO member state is required to grant the owner or operator of any pipeline crossing its territory full and free access to its domestic market. However, Middle Eastern countries have consistently waived the right to market access for various reasons.

Gas Pipelines in the Middle East: A Missed Golden Opportunity

In the Middle East, electricity demand and, consequently, natural gas consumption reaches its peak during the summer months due to intensified air conditioning use, resulting in a sharp seasonal imbalance. To manage these fluctuations, it is vital to evaluate storage solutions at both production and consumption sites, while carefully

weighing their impact on capital and operational expenditures (CAPEX and OPEX).

Furthermore, “the drive for energy independence and self-sufficiency” remains a critical factor. Many states in the region are historically hesitant to rely on neighboring countries for their primary fuel supplies. As oil producers, these nations implicitly prioritize self-sufficiency, which reinforces their willingness to burn liquid fuels despite higher costs, significant opportunity costs, and adverse environmental impacts. Ultimately, these countries—prideful of their vast fossil fuel reserves and the associated gas produced alongside crude oil—find it difficult to import gas or any other energy source, particularly from neighboring states.

Owing to the complexities of these challenges, only a limited number of cross-border gas pipelines have been constructed in the Middle East, most of which have encountered persistent operational issues and disruptions. Consequently, these setbacks have thwarted the realization of an ambitious regional network designed to transport gas from resource-rich nations to those facing energy shortages.

To date, only a few isolated pipelines exist within the region. The first cross-border link was established in 1986 between Iraq and Kuwait; however, it was decommissioned following the 1990 invasion (after being repurposed to supply Iraqi forces with water). Later, the more significant Dolphin pipeline commenced operations in 2007, delivering Qatari gas to the United Arab Emirates and the Sultanate of Oman. These projects were largely the result of political compromises and strategic concessions, which ultimately led to the relatively low pricing of pipeline-transported gas across the region.

In the Eastern Mediterranean, a pipeline originally



designed to export Egyptian gas to Israel eventually reversed its flow to supply Egypt with Israeli gas. On a broader scale, the Arab Gas Pipeline, constructed over two decades ago, connects Egypt with its neighbors, including Jordan, Syria, and Lebanon (via a link from Syria), with long-term plans to integrate the system into the European network through Turkey.

Since its inauguration, however, the Arab Gas Pipeline has encountered significant hurdles, primarily due to insufficient supply from Egypt. Heavy domestic subsidies fueled local demand, which in turn constrained the volumes available for export. This shortage forced Egypt to pivot, importing gas from Israel and sourcing liquefied natural gas (LNG) from global markets. Consequently, these supply disruptions compelled Jordan to rely more heavily, albeit intermittently, on LNG imports to meet its own energy needs. The Arab Gas Pipeline saw partial operations in March 2025, when Qatari gas was supplied to a power plant south of Damascus after being processed at Jordan's Aqaba terminal. Four months later, in July 2025, Azerbaijan began exporting gas to Syria via Turkey, utilizing existing infrastructures, specifically the Kilis-Aleppo pipeline. Azerbaijan ultimately aims to link this network to the Israeli gas pipeline system through Syrian territory.

Broadly speaking, regional pipeline projects have faced significant setbacks following the development of liquefied natural gas (LNG) import terminals. Bahrain, Dubai, Jordan, and Kuwait currently operate LNG facilities, while Lebanon, Iraq, and Saudi Arabia are seriously considering similar infrastructure.

In response to challenges to pipelines, including transit fees, WTO provisions, political risks, and security concerns, LNG has become the preferred option. This preference is driven by the competitive costs of the entire supply chain (liquefaction, shipping, and regasification), expectations of declining prices in the coming years, and LNG's growing role in diversifying and securing energy resources. Consequently, regional developers and exporters must adapt to a new global market reality where LNG holds the upper hand over pipeline-transported gas.

Nevertheless, Middle Eastern policymakers should continue to prioritize establishing a regional gas network. Properly integrating available gas resources would significantly boost the regional economy and foster development. Furthermore, such a network would enhance intra-regional trade and serve as a vital step toward long-term political cooperation and economic integration across the region.



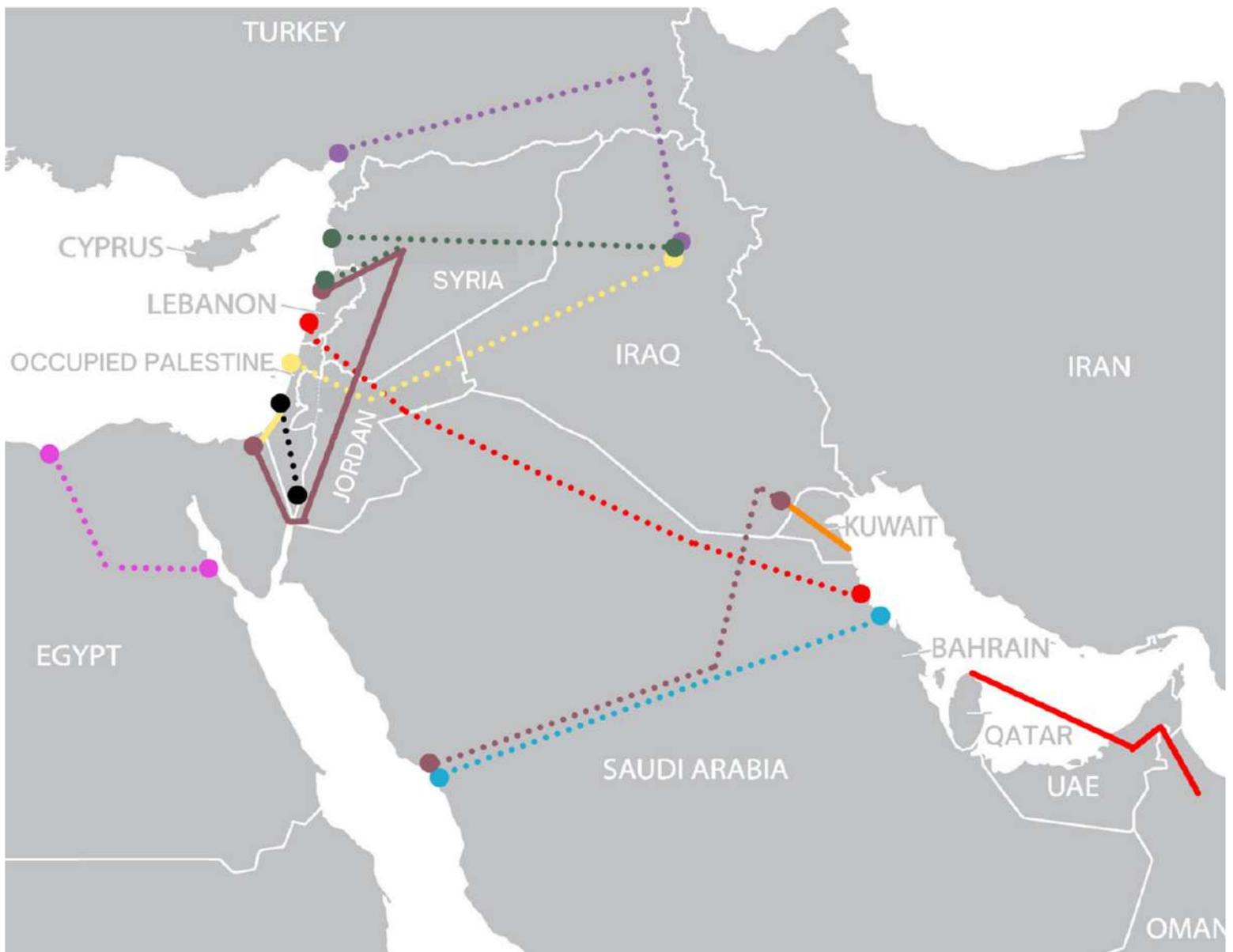
Oil & Gas Pipelines in the Middle East

Oil Pipelines

- Abqaiq (Saudi Arabia)- Zahrani (Lebanon) Tapline
- Kirkuk (Iraq)-Baniyas (Syria)- Tripoli (Lebanon)
- Kirkuk (Iraq)-Ceyhan (Turkey)
- Kirkuk (Iraq)-Haifa (Palestine)
- Rumaila (Iraq) - Yanbu (Saudi Arabia)
- Eastern Province (Saudi Arabia)- Yanbu (Saudi Arabia) Petroline
- Eilat (Israel)- Ashkelon (Israel)
- Ain Sokhna (Egypt) - Sidi Krir (Egypt) Sumed Pipeline

Gas Pipelines

- North Field (Qatar) - Taweelah (Abu Dhabi)- Sohar (Oman) Dolphin Pipeline
- Arish (Egypt)- Aqaba (Jordan)- Amman (Jordan)- Homs (Syria)- Deir Ammar (Lebanon)- Baniyas (Syria) Arab Gas Pipeline
- Ashkelon (Israel) - Arish (Egypt)
- Rumeila (Iraq)- Shuaiba (Kuwait)



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