

ISRAEL-HAMAS CONFLICT: IMPLICATIONS FOR THE REGIONAL & INTERNATIONAL GAS MARKETS

Introduction

On October 7, 2023, Hamas launched an assault on Israeli communities near the Gaza Strip, complemented by missile attacks on Tel Aviv and surrounding areas. Israel responded with a military operation in Gaza, ongoing as of mid-November 2023. While the full extent and consequences of the conflict are uncertain, it has already impacted Israel's economy and its relations in the Middle East.

Israel has recently become a significant natural gas producer and net exporter in the region. Pre-existing pipelines to Egypt and newly constructed interconnectors to Jordan enable to export ever growing volumes of gas from Israel to neighbouring countries. Israeli supplies have been pivotal for supporting Egyptian LNG exports, compensating for Egypt's declining indigenous gas availability. Jordan, once reliant on LNG imports, cut its LNG procurement, given its access to stable Israeli pipeline supplies. Thus, although Israeli gas is not directly exported to the global market, the country's natural gas sector has implications for the wider global LNG market.

At the time of writing, the conflict's impact on the regional natural gas sector amounts to a month of shutdown of the Israeli Tamar field and of the key Israel-Egypt pipeline gas export route – the East Mediterranean Gas pipeline (EMG). Due to security concerns, the Tamar field production was shut down from October 9 to November 13, while the EMG flows were halted from October 10 to November 14¹. While in Israel other operating fields – Leviathan and Karish – successfully increased supply to the domestic market in order to compensate for the one-month loss of the output from Tamar, the Tamar field and EMG shut-in impacted Egypt's gas balance and its LNG exports.

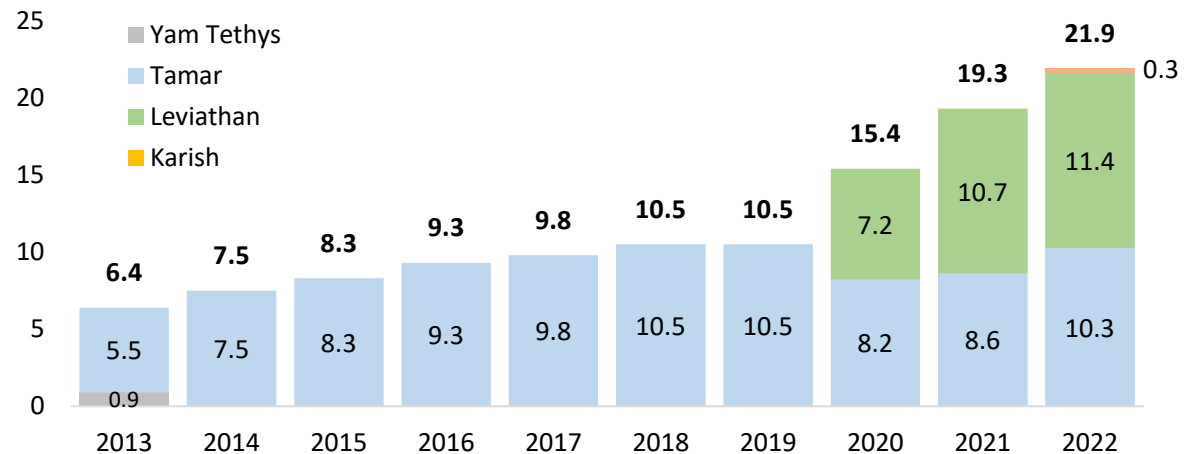
Beyond the short-term impacts, the conflict might also influence the long-term prospects of natural gas developments in Israel. This paper examines the potential scale and nature of the Israel-Hamas conflict's short-term and long-term implications on regional and international gas markets.

Latest developments of the Israeli gas market

In the past decade, Israel has achieved a substantial boost in gas production, attributable to the launch of the Tamar field (2013) and the Leviathan field (end of 2019). By October 2022, output from Tamar and Leviathan fields was complemented by gas from the newly developed Karish field.

Figure 1. Israeli gas production in the past 10 years (2013-2022), bcm

Source: Israeli Ministry of Energy



¹ <https://www.reuters.com/business/energy/chevron-says-natgas-flow-resumes-through-israel-egypt-pipeline-2023-11-14/>

Figure 2. Israel key natural gas fields and export infrastructure; Egypt & Jordan LNG export & import infrastructure; Israel export volumes by route in 2022, bcm

Source: Israeli Ministry of Energy, Israeli companies' public reports, NewMed Energy Investor Presentations, GIIGNL

Note: volumes transported through the northern interconnection to Jordan in 2022 include both volumes for Jordan and Egypt

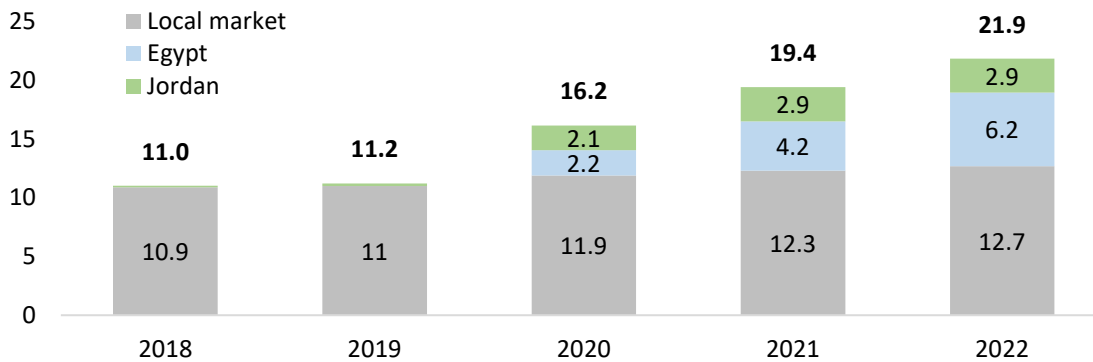


Benefiting from its expanding gas production, Israel has effectively fulfilled domestic gas demand, minimized LNG imports and solidified its status as a gas exporter. In 2022, Israel exported over 9.2 bcm, with 6.2 bcm destined for Egypt, 2.9 bcm for Jordan, while domestic consumption stood at 12.7 bcm.

Figure 3. Distribution of the Israel's gas supply by destination markets in 2018-2022, bcm

Source: Israelil Ministry of Energy

Note: volumes in the chart also include Israeli LNG imports



Israel has two primary gas export routes: EMG pipeline and a northern interconnection linked with the Jordanian segment of the Arab Gas Pipeline. EMG has a capacity of ~5 bcm/a; and with the anticipated completion of the offshore Ashdod-Ashkelon section in 2024, EMG's capacity is projected to increase to ~7.5 bcm/a. The northern connection in Israel to the Jordanian grid has the capacity of 6.5 bcm/a.

Volumes transported via EMG are allocated for Egypt, while gas entering the Jordanian grid from the North is partly consumed within Jordan, with the remainder transited to Egypt through the Jordan-Egypt interconnection point in Aqaba. Additionally, a small quantity of ~0.2 bcm/a is exported to Jordanian industrial users along the Dead Sea coast through a southern link between Israel and Jordan.

Short-term implications on gas markets

Israel

The ongoing conflict is not anticipated to impact Israel's domestic gas market. As the Tamar field remained shut-in, other Israeli fields, whose operations remained unaffected, namely the key producing field – Leviathan, alongside with the Energean-operated Karish field ramped-up supplies to the local market, successfully compensating for the loss of the Tamar's volumes.

Jordan

Based on the accessible information, Israeli gas flows to Jordan have not been affected by the conflict. The country's gas market fully depends on Israeli imports, and Jordan's core interest is to receive stable Israeli supplies in the long-term. The unlikely worst-case scenario of a complete halt of Israeli flows to Jordan would lead to Jordan having to import LNG since it has no indigenous supplies. Jordan has access to LNG imports through the Energos Eskimo FSRU. Given the exports from Israel to Jordan in 2022 (~3 bcm/a), Jordan would need to procure about ~2.2 mt/a of LNG to compensate for the potential loss.

Egypt

Egypt being the main destination for Israeli gas exports has been affected the most by the conflict. During the month of the halt of production at Tamar and shut-in of the EMG pipeline, Israeli exports to Egypt were limited to the flows through Jordan. The decrease of Israeli supplies reduced the feedgas availability for the Egyptian LNG plants.

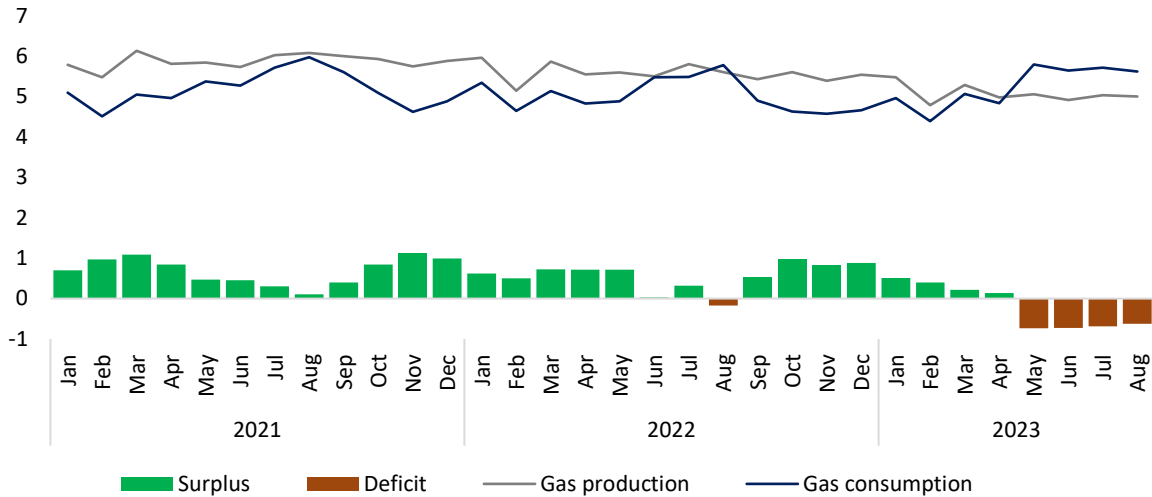
However, it is crucial to note that Israeli pipeline flows are not the primary factor affecting Egyptian LNG exports. The availability of feedgas for the two operational Egyptian LNG plants, Idku (7.2 mtpa) and Damietta (5 mtpa), depends primarily on the balance between Egypt's local gas production and consumption, which has been exceptionally tight in 2023.

Since May 2023, amidst declining indigenous production and increasing local demand, Egypt has been grappling with a gas deficit. The Egyptian government was compelled to ration power consumption, and blackouts persisted in the country during the hot summer months.

Figure 4. Egypt gas production, consumption, and surplus/deficit in 2021-2023 (Aug), bcm

Source: JODI

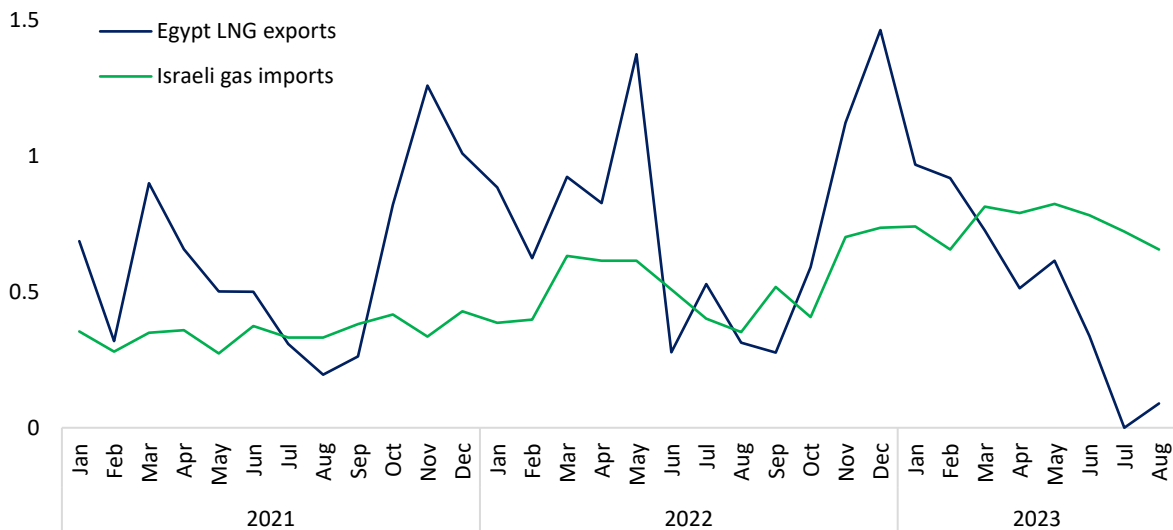
Note: surplus and deficit are calculated as production minus consumption



Facing challenges in meeting local demand, Egypt had no choice but to reduce LNG exports in 2023. The Israeli pipeline flows, which had been increasing throughout the year, were predominantly utilized by Egypt to fulfil domestic consumption needs since March 2023, thereby undermining the direct correlation between Israeli pipeline supplies to Egypt and Egyptian LNG exports.

Figure 5. Egypt’s pipeline imports from Israel and LNG exports in 2021-2023 (Jan-Aug), bcm

Source: JODI for pipeline imports from Israel, Cedigaz for Egypt’s LNG exports



Initially, the Egyptian government had anticipated a resumption of LNG exports in October, expecting a decrease in domestic consumption as temperatures fell and the demand for air-conditioning dropped in the country, along with stable Israeli pipeline imports. However, the shutdown of Tamar and EMG exacerbated an already tight Egyptian supply-demand balance. In October 2023, the country managed to export only one LNG cargo.

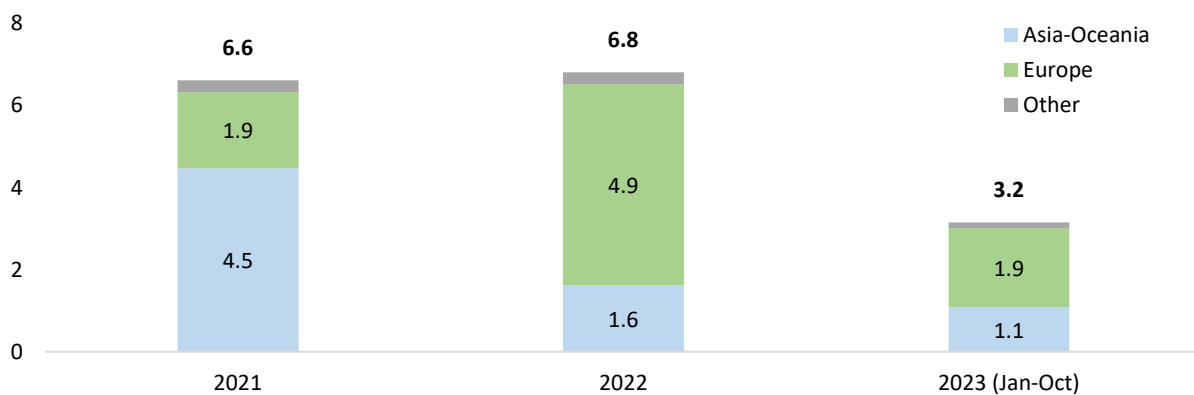
As the Tamar field and the EMG pipeline were relaunched in mid-November, Israeli gas flows to Egypt are expected to return to the pre-war levels by the end of 2023. However, it should be noted that even with the restart of stable Israeli pipeline supplies, LNG exports from Egypt would not be guaranteed, as evidenced in the summer of 2023. During that period, despite the flow of pipeline supplies from Israel, the tight supply-demand balance in Egypt led to the absence of LNG exports.

Considering that the EMG pipeline's annual capacity is 5 bcm/a, its average monthly capacity can be estimated at ~0.4 bcm. Therefore, the month of EMG shut-in in October-November 2023 might have resulted in Egypt's missing ~0.4 bcm/month of Israeli gas imports. In a scenario where Egypt fully met local demand through indigenous production, and the imports from the Israeli pipeline constituted surplus gas, that month would likely have resulted in only about 0.3 million tonnes (mt) of additional Egyptian LNG exports (equivalent of ~4 LNG cargos given a standard cargo size of ~0.07 mt LNG).²

While assessing the potential further consequences of the conflict on regional gas flows, it is crucial to understand that, according to the perspective of Israeli gas sector stakeholders, the 'peak risks' of the conflict have been surpassed. This was manifested in the reopening of the Tamar field and the EMG pipeline. In the highly unlikely and most pessimistic hypothetical scenario of the EMG being shut-in again for security concerns for the entire year of 2024 and considering the planned EMG capacity expansion to 7.5 bcm/a, Egypt might miss ~7.5 bcm of Israeli imports next year. On top of that, a potential cease of Israeli gas flows through Jordan (which also seems unlikely given the up-to-date flows dynamics) could deprive Egypt of additional 1.5 bcm Israel imports. This would result in ~6 mt (85 cargos) of missed LNG export volumes, comparable to Egypt's LNG exports in 2021-2022.

Figure 6. Egypt's LNG exports by destination markets in 2021-2023 (Jan-Oct), mt

Source: Cedigaz



In total, the least likely but most severe case of an interruption of Israeli exports to both Egypt and Jordan throughout 2024 could create a significant 'pull' on the global LNG market — an additional demand of approximately 2 million tons from Jordan, coupled with a supply loss of around 6 million tons from Egypt, totaling around 8 million tons (over 100 LNG cargos).

Long-term implications on gas markets

In recent times, Israel's offshore sector has evolved into an exploration and production 'hotspot', drawing increasing attention and investments from major IOCs. Both local companies and global players have plans to invest in expanding output at currently operating fields, in the expansion of the Israeli pipelines export capacity, and in exploring country's offshore resources for new discoveries and developments.

² 10% liquefaction losses, 1 mt LNG = 1.35 bcm

At the end of 2022, Chevron and its partners in the Tamar field took FID to expand production from ~11 bcm/a to 12 bcm/a and unveiled plans to increase output further to 16 bcm/a for the following years to meet Israel's energy needs and export gas to Egypt and neighbouring countries³.

In July 2023, Chevron and its partners (NewMed Energy and Ratio Energies) in Leviathan took an FID to lay a third gathering line from the field to the platform that will allow to increase gas production from the current 12 bcm/a to 14 bcm/a by 2025⁴. Furthermore, Leviathan partners have been jointly exploring ways to increase the production at the field to 21 bcm/a ("Phase 1 B" project).

In February 2023, the Leviathan partners launched a Pre-FEED study for Phase 1B upstream expansion and for the construction of an FLNG facility with a capacity of 4.6 mtpa⁵. While this FLNG facility has been viewed as the key export option for Phase 1B, other projects are still being examined – including the EastMed pipeline project, additional exports to Egypt and a pipeline to Turkey.

In the field of midstream development, in May 2023, Israeli Ministry of Energy approved the project of a new direct Israel-Egypt onshore Nitzana pipeline (6 bcm/a capacity)⁶. On top of that, in the upcoming period the capacity of the northern interconnection to Jordan might be increased by an additional 4 bcm/a. The two projects, which would increase Israel's export capacity by another 10 bcm/a, might face delays in FIDs and implementation due to the ongoing conflict, but they remain on track.

Moreover, international majors have been looking into opportunities to enter Israeli natural gas upstream sector through acquisitions. In March 2023, BP and ADNOC made a non-binding offer to acquire 50% of the NewMed Energy, 45.3% working interest holder in the Leviathan field⁷.

In addition to production expansion and investments in operating assets, there are ambitious plans to further carry out exploration activities offshore Israel. At the end of October 2023, the Israeli Ministry of Energy announced the results of the latest (4th) offshore bidding round launched at the end of 2022. Israel's Energy Ministry awarded 12 licenses to six companies for natural gas exploration, including a group led by Italy's Eni (operator) in collaboration with Dana Petroleum and Ratio Energies, as well as a group involving Azerbaijan's Socar (operator) along with BP and Israel's NewMed.

Based on the latest information available, the Israeli-Hamas conflict is unlikely to lead to cancellation of those long-term developments, investments, and exploration plans. In November 2023, Chevron, the key major IOC operating in Israel, announced that the company "would continue to pursue expansion plans for natural gas developments in Israel despite the conflict, as part of its long-term view for the fuel's future"⁸. On 11th of October 2023, BP confirmed that its joint bid with ADNOC to acquire a 50% stake in Israeli gas producer NewMed Energy remains on track⁹.

The conflict's influence might be limited to delays in timelines and FIDs, as well as some adjustments in terms of some projects' details or priorities. For example, the deterioration of the Israel-Turkey relations, which followed the conflict¹⁰, might temporarily push aside the option of a pipeline to Turkey as a monetization option for Leviathan's Phase 1B project. Nevertheless, it should be noted that a pipeline to Turkey was not considered as a priority option for the Leviathan development, and thus Israel-Turkey relations shift should not cause a major influence on the Leviathan field expansion.

³ <https://www.timesofisrael.com/chevron-partners-okay-expansion-of-gas-production-from-tamar-field/>

⁴ <https://ratioenergies.com/wp-content/uploads/2023/07/Final-Investment-Decision-FID-for-the-Third-Pipeline-Project.pdf>

⁵ <https://ratioenergies.com/wp-content/uploads/2023/02/Approval-of-Budgets-for-the-Performance-of-FEED-in-the-Context-of-Phase-1B.pdf>

⁶ <https://www.gov.il/en/departments/news/news-080523>

⁷ <https://www.bp.com/en/global/corporate/news-and-insights/press-releases/statement-regarding-bp-and-adnoc-bid-for-interest-in-newmed-energy.html>

⁸ <https://www.rigzone.com/news/wire/chevron-to-pursue-israel-expansion-in-longterm-plan-for-gas-03-nov-2023-174587-article/>

⁹ <https://www.reuters.com/markets/deals/bp-says-bid-acquire-stake-israels-newmed-track-2023-10-11/>

¹⁰ In Oct 2023 Turkey recalled its ambassador to Israel, Turkish President Erdogan announced that he was cutting off all contact with Israeli Prime Minister Netanyahu due to Israel's actions in the Gaza Strip, Israel withdrew all diplomats from Turkey <https://www.euronews.com/2023/11/04/israel-hamas-war-netanyahu-rebuffs-pushes-for-gaza-humanitarian-pause-until-hostages-are-r>.