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BETWEEN TALES AND FACTS:
THE LONG SAGA OF GAZA MARINE

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ANALYSIS

ABOUT THE AUTHOR

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One of the earliest gas discoveries in the Levant basin, Gaza Marine, was heading towards an agreement on development when the war broke out in Gaza last October. The one trillion cubic feet (Tcf) gas field located 35 km offshore Gaza at a water depth of 600 meters was discovered by British Gas (BG), along with partner CC Oil & Gas, in 2000. At the time, it was hoped that the discovery would provide a "solid foundation" for the economy and for establishing an independent Palestinian state. But 23 years after its discovery, Gaza Marine's road to development is still filled with overwhelming challenges, and first gas appears as elusive as ever amid the fog of war.

Initially, the commercialization options considered involved either selling the gas to the Israel Electric Corporation, or exporting it to the Idku LNG terminal in Egypt, which is partly owned by BG, since the local market is too small to justify the costs of development on its own. After much back and forth, negotiations with the Israelis broke down in 2007, not only because the two sides failed to agree on commercial terms as the Israeli side demanded below market prices, but also for legal and political reasons. Could an Israeli state-owned entity purchase the gas? Who would benefit from the revenue stream? The security dimension became a key concern particularly after Hamas ousted the Palestinian Authority (PA) and took over the Gaza strip in 2007. Though there were several attempts to revive the talks, the fact that Israel concluded a deal to import gas from Egypt in the mid-2000s and discovered its first major gas field, Tamar in 2009, only strengthened its hand in the negotiations and made it hard to reach a deal.

The Egyptian option would have involved laying an offshore pipeline linking Gaza Marine to the Egyptian gas network in El Arish, where gas would be swapped in the system for supplies to Idku. Once liquefied, it would be reexported to world markets. But this option also never materialized.

Fast forward to the 2020s and there is a new attempt to develop the gas field, keeping in mind that the field's license structure has seen some significant changes. In 2016, BG was acquired by Shell. The Anglo-Dutch major thus inherited its stake in Gaza Marine but pulled out of the project in 2018. The new structure subsequently approved by the Palestinian cabinet included the Palestine Investment Fund (PIF) and CCC Oil & Gas, a subsidiary of the Consolidated Contractors Company (CCC), holding 27.5% of the development rights each. The remaining 45% would be allocated to an international operator following the approval of the cabinet.

In February 2021, a Memorandum of Understanding was signed between the license holders and the Egyptian Natural Gas Holding Company (EGAS) that would pave the way for Egyptian companies to join the development consortium. A Framework Agreement followed in October 2022, outlining the general principles for the entry of the Egyptian companies as partners in the consortium and initial technical and financial details. The agreement envisions transporting the gas to El Arish in Egypt where it would be processed. The output would be purchased by EGAS and a share of the revenues transferred to the PA.

The preliminary deal was approved by the PA, which sought a "letter of comfort" from Israel to officially greenlight the project. In June 2023, Israel granted preliminary approval to develop Gaza Marine, while clarifying that the implementation of the project is "subject to coordination" between its security services, Egypt and the PA, in order to "maintain its security and diplomatic interests."

According to the Middle East Economic Survey (MEES), the field will be developed by Egyptian independent Cheiron, which has been tasked by EGAS as technical lead on the project.

Egypt's diplomatic efforts were key to get to this stage. Cairo overcame considerable hurdles on its way over the past couple of years and devised an arrangement that was able to align the interests of all the parties involved in a bid to secure a positive outcome. Less than four months later, however, the Gaza war broke out and all developments on this front came to a halt.

Social media, and certain media outlets, were quick to make the link between the war and an alleged gas bonanza. According to this line of reasoning, the war was driven by ambitions to control gas resources. But this argument disregards Palestinian's decades-long grievances, which led to Hamas' October 7 surprise attack, and Israel's determination to respond to the deadliest assault in its history as it seeks to restore its deterrence power. The claim also blows the importance of the Gaza Marine gas field out of proportion. The field is estimated to hold one trillion cubic feet of natural gas. The "trillion figure" might be misleading. In fact, this pales in comparison to the estimated resources in other gas fields discovered in the Eastern Mediterranean (see table below page 6-8), including in Israeli waters, let alone to world reserves.

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PIF estimates that the cost of developing the field stands at around USD 1.4 billion. Yet the Fund refrains from estimating the revenues that could be generated at this stage, as they will depend on several factors, including the volumes that can be extracted, the investments needed to develop the field and transport the gas, the price of the gas and the duration of the project. Previous operator BG had planned to produce around 1.6 billion cubic meters (bcm) per year. Current plans are considering an output of 2 bcm/year. This is also the throughput that is assumed to be necessary by a 2017 World Bank report to provide adequate returns on investment. The same report estimates that the project would generate USD 2.7 billion in fiscal revenues for the PA over its lifetime. This is in line with back-of-the-envelope calculations by MEES East Med Editor Peter Stevenson, indicating the project would generate around USD 4.5 billion in overall revenues, assuming recoverable volumes of around 750 billion cubic feet and an average price of USD 6 per thousand cubic feet. While these are estimates that will need to be adjusted in light of the latest plans to develop the field, they are far off from the wild figures, in the tens and hundreds of billions of dollars, relayed on certain media and social media platforms.

In all cases, developing the reservoir would be significant for the Palestinian economy. Its benefits would come mainly in the form of fiscal revenues to the PA. But it remains to be seen whether it would contribute directly to improving the energy security of Gaza and the West Bank, as it is unclear if the development plan under consideration, which envisages exports to Egypt, would also include domestic supplies.

The massive destruction of infrastructure and residential neighborhoods caused by Israel's bombardment of Gaza will require an equally massive, years-long effort to finance post-war reconstruction and economic recovery efforts. If Gaza Marine is developed, it could ultimately

provide a much-needed domestic source of revenues to contribute towards that end. That is particularly important given growing fatigue among traditional donors. A similar message was relayed by US Special Presidential Coordinator Amos Hochstein when he visited Israel in November 2023 and discussed, among other things, the role Gaza Marine could play in revitalizing the Palestinian economy after the war. "We shouldn't exaggerate its potential," Hochstein said, "but it can absolutely be a revenue stream for a Palestinian government."

Amid the scale of death and destruction, it is incomprehensible that offshore gas resources would become the news, particularly if the purpose is to convey fake information. In the 23 years since the discovery of Gaza Marine, too many battles have been fought in Gaza. None of these involved access to or control over gas resources. Palestinian militancy against Israel and Israeli offensives in Palestinian territories are part of a dynamic of their own. The justifications for the decades-long conflict are found elsewhere and should not be reduced to competition over modest offshore resources. That said, Israeli obstructions to develop Gaza Marine have been a constant feature since its discovery in 2000 and are part of a policy to keep pressure on the Palestinians. Intra-Palestinian disputes only made things harder and remain a risk for any initiative to develop the field. Future production from Gaza Marine will not only require a solid diplomatic effort that would bring all stakeholders to facilitate the implementation of the project, but also an agreement among Palestinians to support any such arrangement that would see its benefits go to its rightful owners.

Country	Field	Operator (working interest)	Partners (working interest)	Recoverable reserves (trillion cubic feet)	Recoverable reserves (billion cubic meters)	Year of discovery	Water depth (m)	Status	Year of first production	Notes
Israel	Noa	Noble Energy (47%)	NewMed Energy (53%)	0.2	6	1999	790	Depleted	2012	First commercial offshore gas field of Israel, discovered by the Tethys Sea Partnership of Samedan (a previous name for Noble Energy) and Delek. The field was in production from 2012–2014 and is now depleted.
	Mari-B	Noble Energy (47%)	NewMed Energy (53%)	1	28	2000	235	Depleted	2003	
Palestinian Authority	Gaza Marine	Palestine Investment Fund (100%)	n/a	1	28	2000	603	In develop-ment	n/a	Egypt's EGAS reportedly will lead development of the gas field. BG was the original operator and 90% owner of the field discovered in offshore Israel/Palestine.
Israel	Tamar	Chevron (25%)	Isramco (28.75%), Mubadala (22%), Tamar Petroleum (16.75%), Dor (4%), Everest (3.5%)	11.2	317	2009	1,680	In product-ion	2013	Original discovery was made by Noble Energy. Mubadala acquired its equity from Delek in December 2021 with subsidiary Tamar Investment 1 RSC Ltd and Tamar Investment 2 RSC Ltd. Original discovery was made by Noble Energy, acquired by Chevron in 2020.
	Dalit	Chevron (25%)	Isramco (28.75%), Mubadala (22%), Tamar Petroleum (16.75%), Dor (4%), Everest (3.5%)	0.5	14	2009	1,380	In appraisal	n/a	Original discovery was made by Noble Energy, acquired by Chevron in 2020.
	Levia-than	Chevron (40%)	NewMed Energy (45%), Ratio (15%)	22.0	623	2010	1,650	In product-ion	2019	Current company names are used. NewMed was previously called Delek Drilling.

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Israel (cont'd)	Tanin	Energean (100%)	n/a	0.9	25	2012	1,750	In appraisal	n/a	Energean acquired from Delek in 2016. Original discovery was made by Noble Energy.
	Shim-shon	ATP (40%)	Isramco (39%), other minority owners (21%)	0.2	6	2012	1,100	In appraisal	n/a	ATP bought into the license in June 2011.
	Karish	Energean (100%)	n/a	1.1	31	2013	1,750	In product-ion	2022	Energean acquired from Delek in 2016. Production started on October 26, 2022.
	Karish North	Energean (100%)	n/a	1.4	40	2019	1,731	In develop-ment	2H 2023 (estimated)	First new deepwater gas field found in Israel in past five years. Will be developed through a subsea tieback to Energean FPSO.
	Athena	Energean (100%)	n/a	0.4	12	2022	n/a	In appraisal	n/a	Energean announced on May 9, 2022, that Athena well is a commercial gas discovery in Block 12, and provided a volume update in a November 7, 2022, press release.
	Hermes	Energean (100%)	n/a	0.4	11	2022	n/a	In appraisal	n/a	Energean announced on October 6, 2022, that Hermes well has made a commercial discovery of 7–15 bcm in Block 31.
	Zeus	Energean (100%)	n/a	0.4	13	2022	n/a	In appraisal	n/a	Energean announced on November 7, 2022, that it has made a commercial discovery of 13.3 bcm at Zeus in Block 12.
Israel and Palestinian Authority subtotal				**40.7**	**1,153**					

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Cyprus	Aphro-dite	Chevron (35%)	Shell (35%), NewMed Energy (30%)	4.5	127	2011	1,689	In appraisal	n/a	Main field is located in Cyprus economic zone, with some (estimated to be less than 10%) in Israeli waters. Field was originally discovered by Noble Energy. Chevron and Shell equity were obtained through acquisitions of Noble Energy and BG, respectively.
	Calyp-so	Eni (50%)	TotalEnergies (50%)	3	85	2018	2,074	In appraisal	n/a	Confirmed extension of Zohr-like play from Egyptian side to Cyprus. There is no oicial reserve announcement. The field is estimated to be as large as 8 Tcf.
	Glau-cus	ExxonMobil (60%)	QatarEnergy (40%)	6.5	184	2019	2,063	In appraisal	n/a	First well in the block, Delphyne-1, was dry. First appraisal well Glaucus 2 was drilled in 2022, said to have confirmed high-quality reservoir. Estimated to contain 5–8 Tcf.
	Cronos	Eni (50%)	TotalEnergies (50%)	1.75	50	2022	2,287	In explora-tion	n/a	Eni stated that preliminary estimates are the gas field contains 2.5 Tcf of gas in place. 70% recovery factor used to estimate recoverable reserves.
Cyprus subtotal				**15.8**	**446**					
Egypt	Zohr	Eni (50%)	Rosneft (30%), BP (10%), Mubadala (10%)	**30**	**849**	2015	1,450	In prouction	2017	Largest ever hydrocarbon discovery in Egypt and East Mediterranean region. This field doubles the gas reserve of the entire country of Egypt.
Total				**86**	**2,448**					

Source: Dr. Shangyou Nie and Robin Mills, Eastern Mediterranean Deepwater Gas to Europe: Not Too Little, But Perhaps Too Late, Center on Global Energy Policy at Columbia.

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