

## Turning Off the Egyptian Gas Spigot: Implications for Israel

Written by Daniel Fink  
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Since the ouster of Egyptian President Hosni Mubarak in February 2011, Egypt's gas exports to Israel have come under both armed and political attack. Twice in the past two months, armed elements operating in the northern Sinai successfully detonated explosives targeting the El-Arish gas pipeline, which transports Egyptian gas to Israel and Jordan. The first attack occurred on February 5, 2011 and targeted the Al-Sabil pumping station around 30 kilometers from the Israeli border, halting exports for thirty-eight days. On April 27, another attack was carried out in the same area halting deliveries which are expected to resume at the end of May. Meanwhile, Egypt's gas exports to Israel have also come under intense political scrutiny. On April 13, Egyptian Prime Minister Essam Sharaf ordered a comprehensive review of the gas contacts with Israel and Jordan and is demanding a higher price for exports. On April 22, Prime Minister Sharaf with support from the Supreme Military Council, arrested Sameh Fahmy, Egypt's former Oil Minister and other government officials, accusing them of corruption and selling gas to Israel at artificially low prices. Egypt's public prosecutor also questioned Hosni Mubarak on details of the gas deal. As the new power brokers in Egypt take aim on the Mubarak regime's cronyism and relations with Israel, is the reassessment of its energy relationship simply economic or a prelude to a new tone in Israeli-Egyptian relations? Moreover, what implications will attacks on pipelines and demands for higher prices have on the development of Israel's energy security and the recently discovered Tamar and Leviathan gas fields?

### **Natural gas: an increasingly important fuel source for Israel**

Egypt is an important supplier of natural gas to Israel. Since 2008, the country has supplied Israel with gas through a 100 kilometer undersea pipeline between El-Arish in the northern Sinai and a gas import facility in Ashkelon on Israel's Mediterranean coast. The pipeline is an artery of the larger Arab Gas Pipeline (AGP), which pumps Egyptian gas to Jordan, Syria and Lebanon. Egyptian exports account for around 40% of Israel's gas consumption. In 2010, Egypt's Eastern Mediterranean Gas Company (EMG) supplied Israel's state-owned Israel Electric Corporation (IEC) with around 2.5 Bcm (billion cubic meters). Israel's domestic consumption in the same year was around 5.2 Bcm. The remainder of Israel's gas comes from its offshore Mari-B field, which is expected to be depleted by 2013. Afterwards, Israel will rely on production from the recently discovered Tamar and Leviathan fields, which hold around 184 Bcm and 453 Bcm, respectively. For Israel, gas is increasingly becoming an important fuel source for generating electricity. It currently relies on gas to meet around 36% of its electricity compared to 0% in 2004. Dr. Amit Mor, CEO of the Eco Energy consulting firm, forecasts that this could rise to around 70% by 2020, making gas imports from Egypt an increasingly important source of energy for Israeli firms and households.

### **The Egyptian-Israeli gas accord**

The Israel-Egypt gas accord was the largest trade deal and one of the most important developments of the relationship between Cairo and Jerusalem under Mubarak. The agreement was signed in 2005 between the IEC and EMG whose partners include the state-owned Egypt Natural Gas Co. and the Ampal-American Israeli Corp., controlled by Israeli businessman Yosef Maimon, who has a 12.5% stake and Hussein Salem, a former Egyptian intelligence official and close confidant of former Egyptian President Hosni Mubarak. The details of the agreement were kept secret, and domestic opposition was high. One of the leading critics was Talaat Sadat, the nephew of assassinated Egyptian president Anwar Sadat, a former independent member of the

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Egyptian parliament, and a critic of the Mubarak regime in recent years. The accord was seen as yet another manifestation of Mubarak's crony capitalism where close associates and members of the regime were given preferential access to business opportunities. Their criticisms were largely suppressed by the government. Other parties, along with the Muslim Brotherhood, which opposes the 1979 peace treaty, criticized the accord for bringing the country closer to Israel.

The basic accusation has been that the Egyptian government was selling gas to EMG at below market rates (which allowed the company to mark up its prices for the IEC and pocket the profits). Members of the regime, including Mubarak himself, his sons, and members of the intelligence service were thought to be personally benefiting from the deal. When the agreement was signed in 2005, EMG agreed to supply around 25 Bcm (60 Bcf) at 1.7 Bcm annually for a period of 15-20 years. The price is generally believed to have been around US\$1.50 per million British thermal units (BTUs), though the exact amount was not revealed. Though there is no global benchmark for gas prices, industry experts maintained that gas was under-priced and was costing the country US\$13 million a day in lost revenues. Nikos Tsafos, an analyst at PFC Energy said that at the time, Turkey, Greece and Italy were paying \$7 to \$10 per million BTUs in comparable deals.

In November 2008, Egyptian opposition groups, led by former chairman of the Khalda Petroleum Company Ibrahim Zahran, filed a lawsuit against the government charging it with selling gas at preferential rates. A lower court ruled in their favor though the verdict was overturned by an Egyptian higher court after it received petitions from the Egyptian Prime Minister and the Ministries of Petroleum and Finance. According to the higher court, decisions taken over gas exports fell under the jurisdiction of the state and were a national security issue.

In February 2010, a new deal came into effect which raised the price of gas paid by the IEC by around 60% to \$4-\$4.50 per million Btu. This was the result of negotiations begun in August 2009, when the IEC sought to increase the volumes it could purchase but reduce those it was required to buy. As it currently stands, the total quantity covered in the contract with EMG is 7 Bcm of natural gas annually for 20 years. Around the same time, EMG also inked deals with Israel's Oil Refineries Ltd and Dorad Electricity for a combined 2.25 Bcm annually. EMG has signed contracts to supply Israel with gas until 2025 with volumes not exceeding 5.5 Bcm. In 2011, EMG was expected to supply the IEC with 3 Bcm, though these volumes will not be met given halts to Egypt's exports.

### **Renewed pressures: political and armed attacks against Egyptian gas exports**

The ouster of Hosni Mubarak has paved the way for an intensified investigation into the regime's dealings with EMG and Egypt's gas accord with Israel more generally. In February 2011, Platts reported that leaders of Egypt's protest movement presented a position paper to Egypt's transitional military government, the Supreme Military Council, urging the country to stop shipments of gas to Israel on the basis of artificially low prices and Israel's treatment of Palestinians. In a May 13 interview, which aired on al-Jazeera, former deputy head of Egyptian Court of Appeals Judge Mahmoud Al-Khodheiri went so far as to sanction the attacks on his own country's energy infrastructure saying, "I consider the exportation of gas to Israel an act of treason, and we should stop it. I salute the people who bombed the gas pipe, because this is

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my blood that is being transferred to my enemy." Sentiments like this, and the fact that 54% percent of Egyptians surveyed by the Pew Research Center's Global Attitudes Project want the government to annul the 1979 Peace Treaty with Israel, provides further fodder against the gas agreement.

Egypt's current power brokers—the courts, the Supreme Military Council, and Prime Minister Essam Sharaf—are taking action. As mentioned, on April 13 Prime Minister Sharaf ordered a comprehensive review of the gas contracts with Israel and Jordan and on April 22 former Egyptian Oil Minister Sameh Fahmy was arrested with five associates on charges of supplying Israel with natural gas at artificially low prices. Mubarak and his sons, Gamal and Alaa, were also questioned by Egypt's public prosecutor. Also ordered for detention was Hussein Salem, the close associate of Mubarak, former intelligence official and 28% owner of EMG. Reports maintain that Salem is outside of Egypt and that Interpol has issued a warrant for his arrest on charges of corruption.

The move to raise prices is not only political. Egypt is also seeking to raise the prices it charges Jordan, which receives 2.8 Bcm from Egypt and pays US\$1.27 per million BTU for the first 2.1bcm and US\$3.06 per million BTU for a further 0.9bcm. According to Prime Minister Essam Sharaf, increasing prices paid by Israel and Jordan could raise revenue from natural-gas sales by US\$3 billion to US\$4billion. Egyptian sources maintain that the Egyptian Natural Gas Holding Company (EGAS), the Petroleum Ministry, and EMG will propose a price that is commensurate with prices paid by European utilities which is between US\$4- US\$5 per million BTU. On whether Israel would pay more for Egyptian gas, on April 27 Israel's Minister of National Infrastructure Uzi Landau said, "the price Israel pays Egypt for the gas isn't low, it's twice as much compared to Syria, Jordan and Lebanon. The rate the Israel Electric Corporation pays the Egyptian gas company is identical to the rate it pays Israel gas suppliers." On May 15, 2011, Egypt's Al Masry Al-Youm reported that a high-level Israeli delegation was in Cairo to discuss issues related to gas prices.

### **The second pressure point: armed attacks against pipelines**

The lack of political consensus on Egypt's gas exports to Israel exacerbates an already diminished capacity to protect its energy infrastructure. Previous attempts to blow up sections of the El Arish-Ashkelon pipeline, allegedly carried out by Bedouins in the northern Sinai, have often been met with stiff resistance from police. The deterioration of Egypt's security environment, which ensued during the Tahrir square protests, have made it easier to successfully carry out attacks. On February 5, armed gunmen targeted the Al-Sabil pumping station in the Sinai Peninsula, which cut off natural gas supplies to Israel and Jordan for thirty-eight days. This came a day after Bedouins in the same area used rocket propelled grenades to attack the headquarters of Egypt's state security in El Arish. On March 27, another attempt was made to blow up the terminal though explosives failed to detonate. Most recently, the Al-Sabil terminal was successfully attacked by armed gunmen with explosives on April 27. Egyptian state TV has blamed "subversive elements" for the attack while security sources in the northern Sinai have blamed "foreign elements" probably a means of deflecting responsibility. Though no group has claimed responsibility for the attacks, the perpetrators are likely Bedouins from the northern Sinai or Palestinians from the El-Arish or Rafah area. Though less likely, foreign Islamists could also be responsible. According to SITE intelligence group, which

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monitors al Qaeda and other Islamist websites, one Islamist site said, "To our brothers, the Bedouins of Sinai, the heroes of Islam, strike with an iron fist because this is a chance to stop the supply to the Israelites." As a means of boosting security, in February 2011 Israeli Prime Minister Benjamin Netanyahu agreed to let Egyptian forces deploy 800 troops to the Sinai notwithstanding the 1979 peace accord which stipulates that the region be demilitarized.

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The halt in natural gas deliveries poses short-term economic and environmental costs on Israel, but presents medium-term opportunities to proceed more quickly with the development of new offshore energy projects. In response to cutoffs, Israeli companies that contracted to purchase Egyptian gas have stepped up their purchases of gas from Yam Tethys, which operates Israel's depleting Mari-B field. Noble Energy, the operator of Mari-B, reported that sales in Q1 2011 rose to 3.9 million cubic meters per day (mcm/d) from 2.4 mcm/d a year ago. This has come at the cost of a faster depletion of the field. The Mari-B well, which had estimated gas reserves of 11.4 Bcm at the end of 2010, is expected to be depleted in 2013 and is therefore not a long-term alternative to Egyptian gas. On this basis, it is increasingly important for Israel to bring forward the dates in which the Tamar and Leviathan gas fields begin production, estimated at 2013 and 2016-17 respectively.

In the short term, Israel faces economic and environmental costs resulting from the cutoffs of Egyptian gas. To make up for lost capacity, the IEC relies on diesel oil, heavy fuel oil, and coal to meet power demand. Not only are these sources more polluting, they are more expensive. The cost of additional purchases from Mari-B, along with the use of dirtier alternatives, costs Israel approximately US\$1.5 million a day according to the Ministry of National Infrastructure.

In the medium term however, there is an opportunity for Israel to speed up the development of the Tamar and Leviathan fields and to pursue alternatives to Egyptian imports such as liquefied natural gas (LNG). Once the Tamar and Leviathan fields are on-line, production will outstrip domestic consumption. There are a variety of ways in which Israel can allocate these assets, including reducing (or eliminating) dependence on Egyptian exports. In order to increase the development of Israel's offshore energy sector and speed-up projects, industry experts have noted the importance for Israel to reduce barriers to investment and create a more transparent and accessible decision-making process regarding permits and regulatory issues. Israel can also begin to connect the Tamar field to its onshore gas distribution network and make plans for protecting critical energy infrastructure. Though Israel has taken steps in this regard, the incentive to pursue these measures more aggressively has increased.

Even if the timelines for the Tamar and Leviathan projects are shortened, production from Tamar is highly unlikely to begin before 2012. Given the depletion rate of the current Mari-B field, Israel would have to pursue other options for meeting lost Egyptian exports in the interim. One option would be to construct a floating re-gasification and storage unit, which would allow Israel to purchase liquefied natural gas on the world market most likely from Europe or the US. Qatar, the world's largest LNG producer, has also reportedly offered to sell Israel gas.

Another option would be for Israel to develop its offshore Noa field, located off the coast of Ashkelon. Noa, discovered in 1999, contains reserves of between 6.2-7.6 Bcm, but was not

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developed given its size compared to the larger Mari-B, which contained 32 Bcm. The development of the Noa field could supplement Mari-B gas before Tamar comes online. Given its return on investment relative to Israel's larger offshore fields, the government would need to provide tax and other financial incentives for the field to be developed.

### **Conclusions: short-term upside, medium-term downside to the energy relationship**

In the short-term there are compelling reasons—economic and energy-security related—for Egypt and Israel to continue their energy trade. In the medium-term however, there is greater downside risk as Egypt faces its own rising domestic energy needs while Israel develops domestic sources of gas and seeks to move away from an unreliable provider. The outcome will also largely be influenced by the trajectory of the broader Israeli-Egyptian relationship. It seems unlikely that Egyptian popular opposition to exporting gas to Israel will wane, though a price hike could assuage some critics.

Egypt has a short-term economic incentive to secure and continue its supply of gas to Israel. In 2010, gas exports yielded around US\$300 billion for Egypt and were a reliable source of foreign currency generation. Securing access to foreign currency is especially important for Cairo given its Central Bank's latest interventions in the currency market to support the Egyptian pound amid recent instabilities and a widening fiscal deficit which could reach double digits next year. Between January 2011 and March 2011 Egypt's foreign currency reserves fell from US\$36 billion to US\$28 billion, a decline of 22%. The paralysis of the tourism sector along with a near standstill in foreign direct investment (FDI) makes Egyptian gas sales an important macroeconomic stabilizer.

In the medium-term, there is greater downside risk to Egypt's continued exports of gas to Israel. First, Egypt faces greater demand for energy domestically, which could reduce its ability to maintain exports at current volumes. Domestic consumption of gas is government subsidized, which makes the country's per capita energy use higher than if gas prices were market driven. Currently around 40% of Egypt's gas is exported, though this could fall given any new government's reluctance to reduce subsidies.

Second, unlike during the Mubarak era, large-scale domestic political opposition to Egypt's relationship with Israel poses risks to the energy relationship. The thirty-eight day halt in gas exports to Israel in April 2011 was longer than the time it took to repair the pipeline, suggesting that political opposition may have played a role. As Egypt's kingmakers continue to go after elements of the Mubarak regime and as a new president is elected, a reassessment of the country's relationship with Israel is likely.

For Israel, there are limited short-term alternatives to Egyptian gas, which increases the likelihood that Jerusalem will seek to continue imports, even at a higher price. The transition to coal, or oil-based alternatives, which Israel has an official policy of reducing dependence on, is an unlikely alternative for supplanting Egyptian gas in events other than short-term cut-offs. On this basis, Israel may be prepared to pay a higher price for Egyptian gas on the condition that prices, and not the contract itself, remain the topic of negotiation. Israel will also seek guarantees that prices remain fixed for a period of time before they can be renegotiated.

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Uncertainty over prices and pipeline security will mitigate against these short-term considerations and could lead Israel to pursue the few alternatives it has to Egyptian exports. Indeed, certainty is a salient feature of energy security. Companies also need to know the rate and price at which they will obtain energy. On this basis, Israeli companies are prepared to pay higher prices for greater certainty. This can be seen by the recent deal concluded between partners in the Yam Tethys consortium and Israel's Hadera Paper, in which gas was contracted for sale from the Mari-B field at a new high, around US\$8.50 per million Btu. Domestic sales have been around US\$5- US\$6 in the past. The fact that Mari-B could be depleted at a faster rate could also lead Israel to pursue an LNG alternative, especially if there are delays with Tamar. Indeed, in May 2011, Israel awarded a tender to US-based Excelerate Energy to provide LNG tankers to Israel which can link up with a gasification ship for transport to land. The short timetable for the project, 18-months, suggests that Israel is serious about alternatives to Egyptian gas.

In the medium and long-term, there are fewer compelling reasons for Israel to continue to import gas from Egypt. The Tamar field, which is expected to yield initial volumes around 8 Bcm/y when production begins by 2013, will be able to produce sufficient volumes to cover most, if not all of Israel's domestic consumption. As domestic demand rises, production from the Leviathan field, which could reach 11 Bcm/y, will cover the difference, along with additional volumes for export.

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