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Case Analysis

Israel's natural gas discoveries:

Strategic value and regional repercussions

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Israeli leaders have recently expressed feelings of great relief following the announcement of the discovery of large deposits of natural gas off the coast of Israel, to the extent that some officials predicted Israel may soon become an exporter of natural gas. On the other hand, it is evident that this announcement carries with it immense repercussions for the Lebanon/Israeli conflict, following Lebanon's affirmation that some of these newly discovered gasfields fall inside Lebanese national waters. I will try to address two main questions. First, what is the economic and strategic value of these new gas discoveries for Israel? And second, what is the fate of the Israeli-Lebanese conflict in light of these discoveries?

New Israeli natural gas discoveries

The Israeli authorities announced in the summer of 2009 the discovery of several fields containing large amounts of natural gas off the country's coast, identifying them as follows[1]:

1. The Tamar field: located roughly 90 kilometers west of Haifa, with estimated natural gas reserves of 184 billion cubic meters and approximate total cost of development about USD 2.8 billion. It is expected that production from this field will begin within a few years, and that Tamar will provide approximately 30 percent of Israel's gas needs for the next 20 years.
2. The Dalit field: located about 60 kilometers west of the city of Khudaira, with estimated reserves of 14 billion cubic meters. It appears that the relatively small amount of gas in this field reduces its economic value, but Israel's Ministry of National Infrastructures (MNI) will most likely start investing in its development before doing so with Tamar because Dalit is in shallower water and closer to shore.
3. The two Leviathan fields: the Amit field lies directly west of Tamar, while the Rachel field is southwest of Tamar. Preliminary explorations indicate that Amit contains approximately 453 billion cubic meters of gas, while geological scanning of the Rachel field indicates something less than half as much.
4. The Alwan field: located north of Tamar, this is believed to be the field that lies closest to the Israel-Lebanon border, as has been stated by the Lebanese government. No scanning measures have been taken as of yet, but Israeli estimates indicate that it contains large amounts of gas.
5. The MNI says it believes that there are immense amounts of natural gas belonging to Israel that fall within Lebanese maritime borders.[2]

[1] Ishmael Evan, "Natural Gas Sector in Israel – Economic and Strategicimplications", Adcon Strategy Magazine (Institute for National Security Studies), Volume 13, Issue 1, June 2010.
http://www.inss.org.il/upload/(FILE)1277212967.pdf

Previous sources of natural gas in Israel prior to the new discoveries

Previously, Israel depended on two main sources for natural gas, whether to produce energy or for industrial purposes:

1. The Yam Tethys fields: These were discovered off the coast of Ashkelon between 1999 and 2001, with gas production beginning in 2004. Some 15 billion cubic meters of gas have been extracted from these fields to date, and in 2009, they provided Israel Electric Corporation (IEC), the country's main power provider, with 67 percent its gas needs. Geological estimates indicate that these fields will stop producing gas by approximately 2014.[3]
2. Egyptian gas: IEC signed an agreement in 2005 with Egypt's East Mediterranean Gas Company, securing approximately one-third of its annual gas needs. The gas is transported via an undersea pipeline from the Arish marina to the gas collection point off the coast of Ashkelon. The agreement calls for the Egyptian company to provide IEC with 25 billion cubic meters of gas over a period of 15 years, meaning roughly 1.7 billion cubic meters a year. The agreement also grants the Israeli company the possibility of extending the arrangement, under the same conditions, for an additional five years after it expires.[4] Israelis acknowledge that they are getting the Egyptian gas at a much lower rate than that available in international markets, even with a new agreement between the two companies in 2009 that factored in recent price rises.[5]

The economic value of Israel's natural gas discoveries

A: Answering the call of growing demand for natural gas

The recent gas discoveries carry paramount economic value for Israel, for they have come at an opportune time when gas needs have doubled for the energy and industrial sectors. According to the MNI's records, Israel's gas consumption during 2009 reached 4.2 billion cubic meters,

[2] Abby Bar Ellie, "Lebanon's Demarcated Maritime Borders Do Not Conflict with Israel's Natural Gas Exploration Permits", The Marker, 10-07-2010. http://www.themarker.com/markets/1.564259
[3] Avy Bareli, "Israel Turns Into an Energy Empire, Who Are the Big Winners, and How Much Money is in this Fund", The Marker, 20-01-2010
http://www.themarker.com/markets/1.564259
[4] Ishmael Evan, op.cit..
[5] Ibid.

compared to 2.7 billion cubic meters in 2007, and 1.6 billion cubic meters in 2005.[6] In 2009, 40 percent of Israel's electricity consumption was supplied by natural gas, the same ratio as Great Britain, and IEC expects to produce 60 percent of its power output with gas within two decades. This percentage may be surpassed in the event that no other unit for the generation of electricity using coal is established off the coast of Ashkelon.[7]

This sharp increase in the consumption and use of natural gas in Israel points to a shift in dependency on sources of energy at the expense of oil. In 2010, natural gas replaced 4.5 million tons of oil by-products, and it was supposed to power 60 percent of IEC's production units by the end of 2010.[8] According to MNI forecasts, demand for natural gas is expected that the need for natural gas will reach 6.4 billion cubic meters by the end of 2011, with 78 percent of this dedicated to producing electricity, and the rest going to industrial uses; demand will grow to 11 billion cubic meters by 2015, with a third of that going to power generation; and it is expected that demand for natural gas will reach 17 billion cubic meters by 2030.[9] IEC's forecasts indicate that overall Israeli consumption of natural gas in the period between 2014 and 2030 will reach approximately 197 billion cubic meters.[10]

In addition to the needs of the Ashkelon unit for electricity production, many of the country's large industrial actors have become mainly dependent on natural gas, including Israel Chemicals, the Dead Sea factories, and the cement producers. Internal pipelines transporting natural gas reach a length of approximately 400 kilometers, transporting it from the main collection station off Ashkelon to users in other parts of the country.[11]

B: Economic perks

The gas sector produces strong returns for Israel's treasury. According to a report published by the Ministry of Finance, taxes imposed by the government account for 40 percent of the value of the gas extracted. It is expected that revenue from the gas tax will reach USD 16 billion in just a few years.[12] Sources familiar with Israel's energy economics say natural gas extraction will improve Israel's balance of payments considerably, saving the government hundreds of millions

[6] Ibid.
[7] Israeli Electric Corporation, Annual Report 2009, April 2010.
http://www.israel-electric.co.il/Static/WorkFolder/Investors/caspy032009.pdf
[8] Expectations of Natural Gas Consumption in Israel until 2030, official MNI website, http://www.mni.gov.il/mni/he-il/Gas/NGDemand/
[9] Ibid.
[10] Ibid.
[11] Ibid.
[12] Zvi Zrahia, "Ministry of Finance: the Total Value of the Taxes Imposed on the Companies Working in the Gas Field has increased by 40% of the Total Cost of Gas", The Market, 22-05-2010http://www.themarker.com/markets/1.578558

of dollars that are paid annually to import oil, and that inflows of hard currency will also be among the perks if and when the country becomes a gas exporter. The discovery of natural gas also has led to increased investment, with Israeli companies having injected some USD 1.3 billion in the exploration effort.[13] Moreover, the lower long-term costs associated with using gas to generate electricity, compared to other fuels, represent another tempting factor. IEC estimates that using natural gas to produce electricity saved it USD 6.4 billion in the period between 2004 and 2009.[14] On average, the value of fuel represents 50 percent of the cost of producing electricity in Israel; therefore, the lower the price of natural gas, the lower the cost of generating power, which is what allowed IEC to reduce its rates by 9.3 percent for home usage and by 16 percent for industrial usage.[15]

According to IEC, the new gas discoveries will lead to a reduction in the annual energy import bill of USD 500 million, and to a decrease in electricity prices of 20 percent. The discoveries also have improved Israel's negotiating stance, for the mere announcement of the gas discoveries led the East Mediterranean Gas Company to drop its demand for a significant price increase continuing instead to provide IEC with gas at lower rates than those charged by the companies operating Yam Tethys.[16] This development is extremely important, because when Egypt hinted in 2009 at the possibility of raising the price of its gas, some feared it would cause many factories to shut down, especially those in the advanced technology sector, not to mention a 14 percent increase in household electricity rates.[17] The new finds also could help prevent the company from having to raise the price of electricity after the expected depletion of the Yam Tethys fields, Israel's main source of gas, in 2014. Analysts view these discoveries as an opportunity for major competition among gas providers which would lead to a reduction in the cost of power produced by private investors, due to the fact IEC's access to Egyptian gas has strengthened its ability to monopolize the electricity market. The company's use of inexpensive Egyptian gas gives it a major competitive advantage over private generators' reliance on more costly fuel supplies. Also, , it is expected that the discovery of gas will lower the need for imported oil because it will help the transportation sector to rely more on liquefied natural gas.

Sources in the energy industry state that without Israel's discovery of gas in Tamar, the state would have had to resort to burning diesel and fuel oil to produce electricity after the depletion of Yam Tethys. This means that the cost of producing electricity would increase fourfold, while

[13] Ishmael Evan, op.cit..
[14] Israel Electric Corporation, Annual Report 2009, official IEC website, http://www.israel-electric.co.il/Static/WorkFolder/Investors/caspy032009.pdf
[15] Ibid.
[16] Abv Bareli, Israel Turns into Energy Empire, op.cit..
[17] Ibid.

for strategic and security reasons Israel would not be able to depend on Egyptian gas in light of the monumental transformations that country is currently experiencing.

The Israeli government also hopes that the gas discoveries will improve its ability to face the water crisis by allowing the installation of more desalination capacity powered by cheap energy. According to MNI plans, within four years half of the country's potable water and 25 percent of that prepared for the industrial sector will be produced by desalination plants. Since these stations require a great deal of energy, a source of affordable energy is a prerequisite for cost-effectiveness; and the gas discoveries should provide that source.[18] Energy represents between 30 percent and 60 percent of the cost of producing drinkable water, and it is expected that the exploitation of the new gas reserves will lead to a reduction in such costs of 40 percent.[19] The Water Authority has a plan to increase the production of water through desalination stations to 1.5 billion cubic meters till 2040, where 85 percent of citizens will rely on drinkable water from these stations.[20]

Gas-fired desalination stations fit Israel's geographical conditions, for these facilities require relatively small amounts of land compared to stations using other fuels – especially coal – and costal land is already crowded and expensive.

Strategic value

Israeli sources see great strategic value to the new gas discoveries, especially in light of the developments that the Arab world has seen in the throes of democratic revolutionary change. Israelis realize that they cannot rely on a steady supply of Egyptian gas with the Egyptian Revolution raging on investigations continuing into former President Hosni Mubarak and his rule, not to mention the sabotage operations aimed at the pipeline that delivers gas to Israel. At the same time, they realize that importing natural gas from other nations does not fit well with Israel's strategic circumstances. In general, for security and strategic reasons, the Israeli state prefers not to import biomaterials like water, food, and energy sources. This stems from the assumption that in the event of a war breaking out, the ships that are supposed to deliver such products to Israel might hesitate to do so, fearing an attack during military operations. Moreover, the supply of fuel to Israel could be affected by war in other areas, especially when the source nations are experiencing states of political instability, such as what happened when the Islamic Revolution exploded in Iran in 1979. Israel also fears that the Arabs could go back to using fuel

[18] Ibid.
[19] Ishmael Evan, op.cit.
[20] Avy Bareli Israel Turns Into Energy Empire, op.cit.

as a weapon, which was the case after 1973, taking into consideration that, together, Iran and the Arab states control 60 percent of the world's oil reserves. Undoubtedly, the deterioration in relations with Turkey could also negatively impact Israel's ability to import gas from abroad. Turkey has a central role in gas economics, despite it's not being one of the producer countries it, because its position makes it a connecting link between those producing gas and those consuming it, for one of the pipelines that transport Russian gas to Europe passes through Turkey. Israel had been betting on buying gas from Russia via a pipe passing through Turkey, and discussed the proposal with Russian leaders, to the excitement of Russian Prime Minister Vladimir Putin. In 2009, the idea of establishing a pipeline through Turkey to Israel and other countries in the area was proposed, but Turkey was not enticed by the idea, even though relations between it and the Israeli government were not facing any conflicts at the time.[21] Turkey's energy minister stated that his country would not develop any regional projects with Israel until its relations with the rest of the surrounding nations had been normalized.[22] Following the deterioration of Turkish-Israeli relations, the possibility of Turkey's cooperation with Israel to obtain Russian gas is looking very slim.

The alternative energy debate

The massive amounts of gas that have been discovered have not led to an end of conflicts among the parties related to the economics of energy in Israel. The subject of conflict revolves around the following question: will Israel, after discovering these gas deposits, abandon its attempts to obtain energy from other sources, like coal? The MNI and IEC both enthusiastically support the continuation of investment in opportunities for producing energy by using coal because of their belief that dependence on natural gas alone would lead to strategic risks related to the substantial depletion of the fields, especially with geological estimates indicating that the Tamar Field will dry up by 2040.[23] The electric company and the ministry also point to the possibility of a chain of problems arising with the functionality of the undersea pipes that would transport the gas to Israel, leading to waning trust in the possibility of steady supplies. On the other hand, it is possible to obtain coal from countries that are friendly to Israel, and to store it in a safe and relatively inexpensive way. This is why both IEC and the MNI insist on the necessity of establishing a new station to generate electricity from coal despite the positive developments in the discovery of gas. The company predicts that if no more coal-fired plants established, dependence on power generated by gas will rise to 70 percent by 2018, leading to more rapid depletion of newly discovered fields.[24] IEC's vice president believes that despite the massive

[21] Ora Coren, Turkish Deputy Prime Minister says diminished military and economic cooperation with Israel, 04-06-2010, The Markerhttp://www.themarker.com/consumer/1.569255
[22] Ibid.
[23] Abby Bar Ellie, Israel Turns Into Energy Empire, op.cit.
[24] Ibid.

amounts of gas that are produced in the world, only 20 percent of electricity is generated using gas.[25]

In contrast, those opposing investments in coal-fired plants believe that until the necessary advances are developed in clean-coal technologies or nuclear generating stations are established, the government should invest in renewable energy, especially solar and wind generation, in addition to increasing the effectiveness of institutions that produce energy, which would lead to a reduction in demand for electricity, while also using the newly discovered.

The conflict between coal and gas falls within a struggle of interests between IEC, which employs 12,000 people, and the gas companies' lobbying groups. If the company were not allowed to built more coal-fired power plants, it would harm the opportunities for work for many of the company's workers; on the other hand, it is natural that the gas lobbies would seek to the prevent the building of more coal-fired stations because it would lead to a reduction in the amount of gas that these companies sell to the electricity sector. The postponing of establishing more coal-fired plants would lead to an annual increase gas purchases for the purpose of generating electricity to 1.4 billion cubic meters, amounting to 300 million dollars.[26]

The Maritime Border: The Shebaa farms syndrome

The moment the Israeli government announced the discovery of gas in the Tamar and Leviathan fields, the Lebanese authorities hurriedly confirmed that these fields lie partly in their national waters. This stance was held by President Michel Sleiman, Speaker of Parliament Nabih Berri, and then-Energy Minister Jibran Basil. Israel did not delay its response to the Lebanese position, and its right-wing extremist infrastructure minister, Uzi Landau, warned that his country would use force to defend what he called "its right to use the natural energy sources that were discovered in its territorial waters". The case gained another dimension when the secretary general of Hezbollah, Sayyed Hassan Nasrallah, warned that the resistance would not sit idly by and allow Israel to exploit the gas deposits lying beneath Lebanese waters. It seemed as if the new gas discoveries would represents yet another source of conflict between Lebanon and Israel. Things got more complicated when the United Nations denied Lebanon's request for UN intervention in the dispute, which Israel interpreted as a practical adoption of the Israeli position. In an effort to undercut attempts by the Lebanese to bring international bodies to its cause, the Israeli government swiftly demarcated its maritime borders with Lebanon, and presented a map of its borders to the United Nations and the United States, along with the maps submitted by Lebanon to the United Nations. As expected, Israel's maps included within its supposed

[25] Expectations of Natural Gas Consumption in Israel until 2030, official MNI website, http://www.mni.gov.il/mni/he-il/Gas/NGDemand/
[26] Ibid.

maritime boundaries not only the newly discovered gasfields but also other areas which the MNI believes contain additional deposits. An Israeli expert in the field of maritime border demarcation, Professor Gideon Biger, suggested that the main criterion guiding the demarcation of Israel's maritime borders with Lebanon was that these borders should include a map of Israel's vital interests.[27] However, what really threatens the credibility of the map submitted by Israel are the results of the investigation that the Israeli newspaper *Calcalist* performed, which confirmed that since the declaration of independence in 1948, the Israeli government has deliberately avoided producing a map that clearly displays its maritime borders to evade any requests for compensation from neighboring countries, especially Cyprus, because such a map would have shown that Israel had been silently exploiting areas of the sea that do not fall under its jurisdiction over a period spanning many decades.[28]

Washington's attempts at containment

Contrary to the United Nations, Washington rushed to contain the situation and prevent it from escalating into an explosive regional struggle between Lebanon and Israel, and thus adopted two main tactics. On the one hand, Washington adopted the Lebanese position on the specific issue of maritime borders; on the other, it swiftly appointed diplomat Frederic Hof as a special liaison to solve the dispute between the two sides[29], aided a maritime map expert from the US State Department. Hof warned the Israelis against turning the issue into a political one, and recommended that they present their version of the borders to the United Nations, beseeching them to deal with the matter as a technical one that is solvable, with all sides benefitting from a solution.[30]

US intervention came because of two principal factors:

1. The attempt to prevent a regional struggle from exploding, in light of the changes that the Arab world is currently experiencing, which would reflect negatively on America's interests.
2. To maintain America's economic interests, given that most companies that extract natural gas in Lebanon, Israel, and Cyprus are American. The current economic downturn

[27] Tani Goldenstein, "The War on Gas: How Can the Maritime Borders Be Determined?", Yediot Ahranot, 24-06-2010
http://www.ynet.co.il/articles/0,7340,L-3910330,00.html
[28] Revital Hovel, "Calcalist Investigation Uncovers: Israel Forgot to declare its Economic Waters", Calcalist, 10-06-2010.
http://www.calcalist.co.il/local/articles/0,7340,L-3407514,00.html
[29] Barak Ravid, "The United States Stands by Lebanon in the dispute over maritime borders", Haaretz, 10-07-2011.
http://www.haaretz.co.il/news/politics/1.1179899
[30] Ibid.

experienced by the United States has exacerbated Washington's sensitivity towards any development that might negatively influence the American economy.

Lebanon and Israel: Self-restraining factors

American intervention helped ease the tensions between Lebanon and Israel, and the severity of the threats made by the two sides lessened. Landau changed his tone, and instead of continuing to threaten the use of force, began inviting the Lebanese to the negotiating table for proper dialogue. Perhaps the best reason for this calm was the fact that – after both Israel and Lebanon presented their maritime border maps – it was evident that the cause for conflict revolves around a stretch of coast that is just 15 kilometers long. However, it also clearly points to the fact that the borders marked by Israel overlap Lebanese territorial waters, whereas the Lebanese map shows the Tamar and Leviathan fields as being outside its borders.[31] In practical terms, Lebanon and Israel have no interest in getting into a conflict over the gasfields, as Israel's decision-makers realize that despite the balance of powers leaning in their favor, the Lebanese resistance is capable of stopping the exploitation of the discovered fields, especially since the foreign companies that have received permits to extract the gas have expressed sensitivity regarding investment in areas of conflict. On the other hand, Lebanon and its resistance have no interest in armed struggle over the fields because the Lebanese gas discoveries far outweigh those declared by Israel, as was indicated by a report from the American company Noble Energy.[32]

Conclusion

The recent gas discoveries by Israel reinforce its economy's ability to avoid negative repercussions from the worldwide economic crisis. These discoveries coincide with Israel's increasing demand for natural gas for both power generation and industrial.

On the regional front, despite the tensions between Israel and Lebanon (and its resistance) after Israel's declaration of the gas discoveries, the objective conditions compel both sides to be cautious about a slide into armed conflict, for this kind of struggle would threaten both sides' ability to use their respective gas reserves, in addition to America's clear interest in containing any escalation.

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[31] See map below.

[32] "Lebanon – Israel: The Oil and Gas War", Arab Thought Magazine, Issue 75, 10-08-2010. http://www.arabthought.org/%D9%86%D8%B4%D8%B1%D8%A9-%D8%A5%D8%B9%D9%84%D8%A7%D9%85%D9%8A%D8%A9/%D9%84%D8%A8%D9%86%D8%A7%D9%86-%D8%A5%D8%B3%D8%B1%D8%A7%D8%A6%D9%8A%D9%84-%D8%AD%D8%B1%D8%A8-%D8%A7%D9%84%D8%BA%D8%A7%D8%B2-%D9%88%D8%A7%D9%84%D9%86%D9%81%D8%B7-2