



The East Mediterranean Basin: A New Energy Corridor?

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On June 5, 2012, the INSS Center for Strategic Research conducted a conference on east Mediterranean basin energy discoveries and their influence on regional economies, political relations, and U.S. energy policy. Regional energy experts, U.S. government officials, private sector companies, and academics examined the opportunities and constraints in developing offshore energy sources in the Exclusive Economic Zones (EEZ) of Israel and the Republic of Cyprus (RoC), as well as in the Levant Basin. One of the key findings is that alongside opportunities for regional cooperation and mutual benefit, east Mediterranean energy resources are bedeviled by legal, diplomatic, and geopolitical issues within and between neighboring states, including ownership rights, demarcation lines, and access to export routes. These issues could spark new tensions and aggravate existing problems between regional states, while undermining east Mediterranean energy potential.

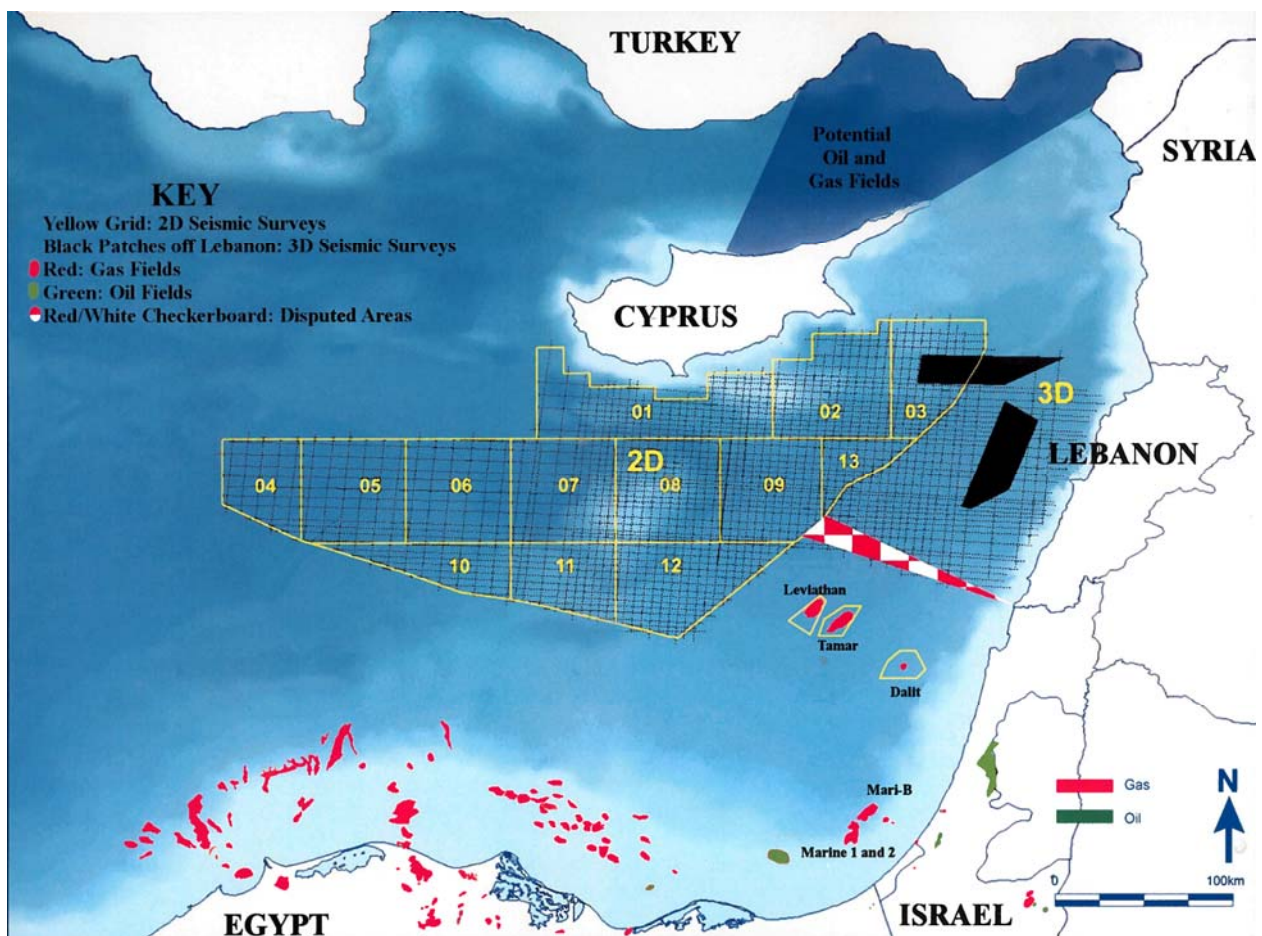
New Energy Opportunities. The discoveries of two offshore natural gas fields in northern Israel (Leviathan and Tamar) since 2009 have important implications for Israeli and regional energy security. Estimated at 25 trillion cubic feet (tcf), the total natural gas finds represent about 100 years of Israel's gas usage, at an annual domestic gas consumption rate of about 5 bcm. Israel also has the

potential of approximately 1.9 billion barrels of oil.¹ These discoveries could meet rising domestic gas consumption and provide a reliable supply of electricity for power generation, particularly since Egypt cut its gas exports to Israel in April 2012, which comprised 40 percent of the country's energy needs.

The RoC also has realized new energy potential. Most important is the discovery of the Aphrodite field in its EEZ in December 2011, which totals about 5-8 tcf of natural gas and is approximately 34 kilometers west of Israel's Leviathan field. With a current gross national product (GDP) of approximately \$25 billion, banking sector problems, 0 percent expected growth in 2012-2013, and continued exposure to the European economic crisis, the RoC could significantly benefit from this new energy wealth. Abundant natural gas would source domestic energy demand and add tens of billions of dollars to the RoC economy over the next two decades. To better realize economies of scale and develop its fields, the RoC has been reaching out to Israel through cooperative agreements with international oil companies (IOCs). Additionally, as a member of the European Union (EU), the RoC has received international support for its offshore exploration.

¹ Ratner, Michael. "Israel's Offshore Natural Gas Discoveries Enhance Its Economic and Energy Outlook", Congressional Research Service, January 31, 2011; pp. 1-2.

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Source: INSS East Mediterranean Basin energy conference, June 5, 2012

These natural gas discoveries also have export potential and could create a “fourth energy route to Europe” by 2030. An alternative energy market could enhance European energy security by diversifying its natural gas supply, 40 percent of which is currently imported from Russia, with Norway, Qatar, and Algeria as secondary sources.

Geopolitically, the energy finds could help shift the regional balance of power. They could give Israel and the RoC a new role as leaders in an emergent regional gas market, challenge Turkey’s political and energy ambitions, and shift influence away from regional gas exporters such as Egypt (which are likely to become importers) to new gas producers.

Key Challenges. Despite these opportunities, Israel’s and the RoC’s energy ambitions are, according to one expert, “part of a very complicated project in need of a settlement”. Significant technical and political issues need to be resolved before east Mediterranean natural gas can be further developed and exported to European markets. The key challenges include:

- **Accessing the fields.** Israel’s offshore fields are located 100 kilometers from the coast and in 6,000 feet of water. The natural gas itself is an additional 5,000 feet under the sea bed. These geographical realities make the process of exploitation and development technically challenging and financially demanding.

- **Exporting Gas.** Israeli and RoC gas finds will vastly surpass domestic needs and necessitate exportation. The challenge; however, is where to export and how.
 - *Building pipelines.* Building a pipeline infrastructure and developing a regional export market is fraught with difficulties. Israel's existing energy infrastructure is not equipped for gas exports, but rather, for oil and coal imports. New pipelines would therefore have to be built to accommodate the domestic transit of gas and gas exports.² Also, while piping Israeli gas to the Palestinian Territories and Jordan is a possibility, these markets are too small to absorb extra supply. Pipelines built in the RoC and then onto Greece would be technically difficult because of the distances involved. Further, piping Israeli gas to the RoC and then onto Turkey, which could be the gateway to the European market, is unlikely due to current tensions between Ankara, the RoC, and Tel Aviv.
 - *Developing liquefied natural gas (LNG).* Natural gas has to be liquefied in order to be pumped through a pipeline or loaded onto ships for export. To liquefy the gas will require large, expensive structures and investments close to the coast line. A typical plant, for instance, is made up of several ½ to 1 mile long "trains" which together can cover 40-50 acres.

Geographically, Israel will be hard pressed to find enough available land

near its coastline to accommodate an LNG plant. Moreover, Israel insists on maintaining full control over its energy sector, which prevents building an LNG plant in the RoC or elsewhere to process and export Israeli gas.

- **Financing and securing offshore sites.** Even if Israel had empty coastal areas, financial, security and environmental concerns would pose further impediments. For instance, a floating LNG plant costs \$10 billion and is four times the size of a Nimitz Class aircraft carrier, making it an attractive target for potential terrorists. Even though the Israeli Navy will assume responsibility for protecting its offshore rigs (while drilling companies provide security within the rigs) the mission will require thousands of hours of missile boat operations hours and expenses, annually.³
- **Determining and respecting demarcation lines.** Each country has delineated its own EEZ but without a commonly agreed understanding of maritime borders by neighboring states or formal bi-lateral agreements. Israel's boundaries are disputed by Lebanon and Turkey. Maritime boundary disputes also may emerge between Israel and Egypt, which has many fields off its coast and is expected to find more natural gas reserves between its already-discovered fields. Gaza has a few small fields off its coast, which have gone untapped due to concerns by the Palestinian Authority (PA) and the Israeli government that they would give Hamas additional power. Lebanon disputes Israel's maritime borders and has

³ Cohen, Gili. "Israeli Navy to devote majority of missile boats to secure offshore drilling rafts", *Haaretz*, January 9, 2012.
<http://www.haaretz.com/print-edition/news/israel-navy-to-devote-majority-of-missile-boats-to-secure-offshore-drilling-rafts-1.406203>

² Ratner, Ibid. p. 4

also not ratified the delimitation agreement with Cyprus.

Further, Turkey does not recognize the RoC, its right to negotiate maritime boundaries and its contracts with Israel and IOCs. Thus far, no IOC will drill in the disputed areas partly because of the political risk. The potential to develop a field near or within the boundaries remains as a potential source of tension between states who claim sole ownership and rights to the field and its revenues.

- **Attracting Foreign Expertise.** To develop the gas fields, Israel needs an IOC partner that is technically and financially capable of engaging in offshore drilling. The Houston-based energy company, Nobel Energy, which discovered the Israeli and Aphrodite fields, and its Israeli and Greek Cypriot partners, do not have the expertise nor the finances to conduct deep-water drilling or downstream activities. Many of the potential and capable large IOCs are invested in the Arab world and do not want to jeopardize their other contracts by engaging in the Israeli market.
- **Domestic political support.** Israeli environmentalists and other groups are highly critical of developing Israeli coastlines for energy production or LNG plants. Similarly, the RoC public and political parties do not appreciate the scale and difficulties of exploiting possible energy resources. The country's poor economic performance most likely means that Nicosia will be unable to invest in the fields until after the February 2013 presidential elections.

Regional Responses: Turkey. Ankara's response to east Mediterranean energy development reflects its main concern with the reshuffling of traditional

alliances in the region. Specifically, Turkey views the agreement between Israel and the RoC, and the tri-partite alliance with Greece, as challenging the regional balance of power and Turkey's regional leadership position. According to one expert, this sense of leadership "is a matter of national pride and a main plank in Prime Minister Recep Tayyip Erdoğan's government platform". In response to RoC energy development, in September 2011 Turkey deployed gunboats and fighter planes to escort a Turkish seismic ship to the Mediterranean. Ankara also threatened to blacklist companies that conduct business with the RoC from the Turkish market.

The east Mediterranean issue also has become part of Erdoğan's attempt to assert political influence through the use of soft power. To this end, Ankara is concentrating on energy sources and seeking to turn Turkey into a regional energy hub. Turkey also needs regional energy because it has insufficient resources to supply its rising domestic demand, is close to resource-rich states, and has an extensive pipeline export infrastructure in place.

Energy and the Cyprus problem. Unresolved political issues will prevent the transit of Israeli and Cypriot gas to European markets via Turkey. Alongside tense relations between Tel Aviv and Ankara, the Cyprus problem has become further aggravated by what Turkey perceives is the RoC's unilateral energy development operations. Ankara, in turn, is attempting to use the Cypriot gas fields as a bargaining chip to achieve official recognition of the Turkish Republic of Northern Cyprus (TRNC). As a minimal basis of negotiation, Ankara demands that hydrocarbon profits benefit all Cypriots and seeks options to negotiate oil and territorial claims. One proposal is to divide profits along the population ratio of 80:20 (Greek to Turkish Cypriots) and to put profits in an escrow account.

Turkey-RoC relations could become further complicated when the RoC assumes the rotating EU presidency in July 2012 for six months. As the EU

is attempting to sign an integrated energy treaty, Germany and France might use the new gas dispute with the RoC as a further tool to prevent Turkey's bid for EU membership. Turkey is attempting to use its energy potential as leverage for entry into the EU.

The Levant and Arab states: untapped potential.

East Mediterranean gas discoveries also have altered the outlook in the Levant and created a new impetus to exploit the Levant Basin, or the coastal areas off Israel, Lebanon and Syria. These offshore areas are estimated to have about 122 tcf of recoverable gas and 1.7 billion bbl of oil. Like the discoveries in Israel and the RoC, the potential in the Levant far exceeds domestic demand and could become an important source for regional export markets and revenue generation.

Yet, the Levant and Arab countries are not using their resources strategically. Unlike Israel and to a lesser extent the RoC, Lebanon and Syria have not yet exploited their fields. In addition to boundary disputes with Israel, Lebanon has not clearly delineated its own maritime borders, even though it has developed its own EEZ. Also, despite passage of a hydrocarbons law in 2010 and plans to hold a licensing round in 2012, Lebanon has still not formed its Petroleum Administration. The country's precarious political situation has been exacerbated by internal power struggles and the Syrian crisis, causing additional delays in energy sector development.

Syria's energy potential is more uncertain. Although Damascus has about 241 bcm of natural gas and 2.5 billion barrels of proven crude oil reserves, and was until recently producing about 400,000 bpd of oil daily (of which 260,000 bpd are for export), its energy potential has been seriously compromised by international sanctions against the regime of Bashar al-Assad and ongoing internal conflict. The U.S. Energy Information Administration expects production levels in Syria to remain at about 260,000 bpd in 2012, with a slight

increase if the internal conflict subsides.⁴ Even then, plans for an offshore licensing round in late 2011 have been postponed indefinitely, as well as Syria's pipeline infrastructure development proposal with Iraq.



Source: Schlumberger/Petroleum Economist (2009)

Egypt: an energy importer? East Mediterranean discoveries and current economic and political trends in Egypt are likely to challenge Cairo's gas export market. Indeed, Egypt has significant energy potential, with proven gas reserves of 2.2 tcm and 4.4 billion barrels of crude oil, over eighty percent of which is in the Mediterranean Basin (70 percent of Egypt's current production is in the Nile Delta).

⁴ Graeber, Daniel. "Don't Factor Syrian Oil Into Market Jitters", *Oil Price*, <http://oilprice.com/Energy/Oil-Prices/Dont-Factor-Syrian-Oil-into-Market-Jitters.html>.

Unlike Lebanon and Syria, Egypt also has been producing onshore gas since in 1970 and has a more developed infrastructure and regulatory framework to support an export market.⁵ Since 2005, its LNG plants and the Arab Gas Pipeline have permitted exports to Jordan, Israel, Syria and Lebanon. Yet, increasing domestic demand, inefficient facilities and local power outages, and the Muslim Brotherhood's and Egyptian public criticism of existing gas export agreements have added new uncertainties to Egyptian energy supply. If current trends continue, Egypt will be unable to meet its own energy needs and could become a gas importer, possibly from the Maghreb states.

Palestine. The Palestinian Territories have a small offshore field (Gaza Marine field) that holds about 1.4 tcf; there are no known gas resources in the West bank. Even though the British Petroleum group signed a 25-year Exploration and Development agreement with the PA to develop the Gaza Marine field, no exploration has occurred due to Israeli state opposition. Instead, Tel Aviv continues to supply the Gaza Strip and West Bank with electrical power, while Jordan supplies the city of Jericho.⁶ Nor does the PA have the structural, technical or legal groundwork in place to support its own energy development plans. No progress has been made on developing an oil law and conducting licensing rounds, despite relative improvement in economic conditions over the past several years.

Regional markets and domestic challenges.

Absence of a developed gas market poses additional challenges for east Mediterranean energy potential. Intra-regional gas trade in the east Mediterranean and Middle East is limited aside from gas exports from Qatar to the United Arab Emirates and Oman, and through the Arab Gas Pipeline from Egypt to Jordan, Israel, Syria and Lebanon. Regional political rivalries, security of supply issues, and unstandardized gas pricing have further prevented

the development of integrated regional and domestic gas markets. Although gas pricing reform is gradually emerging and greater intra-regional trade is possible given east Mediterranean surpluses, there remains significant fluctuation between international benchmarks, low legacy gas prices and high next generation prices. These fluctuations, alongside declining world hub prices for gas and individual country policies that subsidize energy sectors differently, create added disincentives for large-scale investment and unified export markets.

Finally, east Mediterranean gas finds feed into domestic debates between groups seeking to export gas and those who want it to be used locally. Competing interest groups also want to use the energy discoveries as a way of gaining leverage with international actors. Further, there are tensions between IOCs and state companies, underlining emergent issues of resource nationalism and the competition over control and profits of gas markets.

What are the implications for US energy security policy? Although the U.S. domestic energy supply is not directly affected by new finds in the east Mediterranean, the gas fields are strategically important to U.S. partners as a source of more available, accessible, and affordable regional and domestic energy consumption. Cheaper energy sources can help stabilize local and regional economies and encourage new forms of wealth and self-sufficiency. To this end, U.S. energy security policy in the east Mediterranean should focus on enhancing the strategic interests of Israel, the Palestinian Authority, Jordan and its European allies, as well as stabilizing economies and the political climate of the east Mediterranean Basin. The U.S. can engage by:

- *Encouraging diversification of European and regional gas markets.* It is in the U.S. national interest to help diversify and secure European energy sources as an alternative to Russian market monopolization. The

⁵ Brenda Shaffer, "Energy Resources and Markets in the Eastern Mediterranean", German Marshall Fund Policy Brief, June 2012, p. 2

⁶ Schaffer, pp. 6-7

particular vulnerabilities of natural gas to market instability, pricing and demand require a competing energy source that could lessen this dependency and uncertainty. With an existing LNG capacity and underutilized LNG facilities, Europe could be a prime recipient of excess east Mediterranean gas, particularly in light of waning interest in the Nabucco gas project through Europe's southern corridor.⁷

- *Providing technical expertise.* The U.S. can assist Israel and the RoC in developing a regulatory market for gas prices, energy infrastructure and a legal framework. It also can facilitate cooperation with its European counterparts by encouraging technical development agreements and reviewing and advising on contracts that balance national interests and meet commercial norms and expectations.
- *Helping mitigate political tensions.* The U.S.-Turkish relationship is a vital one that helps stabilize the Middle East and the Mediterranean Basin. The U.S. therefore is vested in any issues that might cause tension between Ankara and its neighbors, and that may destabilize the region. This effort can include nudging Turkey toward negotiations with the RoC, encouraging Turkey and the RoC to sign a no use-of-force agreement and bi-lateral regional energy cooperative agreement, clarifying boundaries through multilateral organizations such as the UN, devising means for an equitable distribution of resources in the RoC, and assuring that no IOC or company develops natural gas in disputed waters.

Even with U.S. engagement, east Mediterranean energy potential can only be

fully realized when regional states themselves recognize the need for concessions and the economic loss and political instability that can arise without negotiation. At minimum, this will require that Israel compromise on its demands to control its gas, that Turkey recognize the RoC and its right to develop energy, and that the RoC share energy finds for the entire Cypriot population

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⁷ Rather, Michael, et. al. "Europe's Energy Security" Options and Challenges to Natural Gas Supply Diversification", Congressional Research Service, March 13, 2012, p. 2