



Summary: The discovery of large gas fields off the shores of Israel and Cyprus could bring great benefits in terms of energy security and economic gains but also geopolitical dilemmas. A number of factors complicate the situation, including the state of war between Lebanon and Israel, the conflict between Israel and the Palestinians, the Cyprus question, and the fact that Turkey contests existing maritime boundary demarcation agreements. The exploration and development of gas reserves poses challenges in terms of infrastructure, financing, security, environmental protection, revenue sharing, and political relations among the parties concerned. The Republic of Cyprus, Turkey, Israel, and Lebanon have staked claims, some of which conflict. The EU and the United States have an interest in preventing escalation and in ensuring that new energy resources are developed for the benefit of the region as a whole.

Energy Resources in the Eastern Mediterranean: Source for Cooperation or Fuel for Tension

by Michael Leigh and Charlotte Brandsma

The discovery of large gas fields off the shores of Israel and Cyprus has drawn attention to new opportunities and risks in the eastern Mediterranean region. For the countries in the region — historically heavily dependent on energy imports — the development of these fields offers great benefits in terms of energy security and economic gain. It also raises a number of geopolitical dilemmas, which are examined in this paper.

When the resources come on stream, Israel will no longer depend on vulnerable lines of supply across Sinai from Egypt, now subject to frequent terrorist attacks, and will be independent in its overall energy balance. Lebanon, too, could have improved access to energy supplies, reducing its economic dependence on Syria. The Palestinians could potentially benefit from resources off Gaza, which are huge in proportion to their economy. The discovery of significant reserves in “Block 12” off the coast of Cyprus, close to Israel’s very large Leviathan field, could transform the island’s economy and greatly improve its precarious capacity to generate electricity.

The countries concerned will aim for export markets if the amount of gas available exceeds their growing

domestic needs. At a time of increased demand for oil and gas, the eastern Mediterranean could become an important new source of hydrocarbons for potential partners in the Middle East, Europe, and Asia.

Under the 1982 United Nations Convention on the Law of the Sea (UNCLOS), coastal states have the right to explore and exploit natural resources in their exclusive economic zone (EEZ), extending 200 nautical miles from their coastal baselines. When states have coasts that generate overlapping zones, they must delimit their EEZ bilaterally by applying the principle of the median line and drawing the line at the midpoint between the two states.

However, in the eastern Mediterranean a number of factors complicate the situation, including the state of war between Lebanon and Israel, the conflict between Israel and the Palestinians, the Cyprus question, and the fact that Turkey (not a signatory of UNCLOS) rejects the principle of the median line, preferring the principle of equity.

The exploration and development of gas reserves raises questions in terms of infrastructure, financing, security, and political relations

among the parties concerned. The Republic of Cyprus, Turkey, Israel, and Lebanon have staked claims, some of which conflict.

The situation is further complicated by the division of Cyprus. Recent energy discoveries have added another contentious issue to efforts to find a comprehensive solution to the Cyprus question. Any escalation of conflict over resources would cast a shadow over Turkey's faltering EU accession process. Throughout the region, the question of ownership of resources and the demarcation of maritime boundaries has become an additional source of tension, shaping new alliances and fueling old conflicts.

Resources

Egypt was the first country in the region to begin to develop its gas reserves early in the 20th century. It is now an important source of gas for Israel and Jordan, though supplies are frequently interrupted. A gas field was discovered off the coast of Gaza over a decade ago. But it has not been developed because neither Israel nor the Palestinian Authority is ready to give its approval under current political circumstances.

The stakes are high: according to the 2010 U.S. Geological Survey (USGS), the Levant Basin Province (stretching from the Jordan River out to sea from Israel, the West Bank, Gaza, Lebanon, and Syria) may contain 122 trillion cubic feet (tcf) of recoverable gas, equivalent to a year's annual global consumption, and 1.7 billion barrels of recoverable oil (worldwide consumption of petroleum was about 31 billion barrels in 2008). The amounts of gas likely to become available will not change Europe's overall energy balance significantly but could raise important strategic and energy issues for the United States, the EU, and certain of its member states.

A new phase of exploration in the Mediterranean Sea started in 1998 off the coast of Israel. Since then, there have been considerable discoveries, notably by the U.S. company Noble Energy.

In 2004, production started at the small Mari-B field, the first offshore natural gas production facility in Israel. The Tamar field was discovered in 2009, the world's largest deep water natural gas discovery of the year, with an estimated 9 tcf of reserves. A very large gas field, Leviathan, was discovered at the end of 2010, with estimated resources of 17 tcf. Israel's latest discovery at Tanin (1.2 tcf) was announced on February 4, 2012. In 2011, Noble Energy announced a discovery off the coast of Cyprus

('Block 12'), located 34 kilometers west of Leviathan, with estimated resources of 7 tcf.

Mari-B is the only field under production at present, providing gas for the Israeli market. Recently, supplies from this field have begun to dwindle. Noa, a nearby field, is being developed and expected to be ready for production by September 2012. Development drilling at Tamar is underway, but the flow from this field will not begin until key investment decisions have been taken.

The Cypriot government has announced a second round of tenders for 12 offshore blocks, which could hold a total 100 tcf of natural gas as well as considerable quantities of oil. It is expected that significant reserves will be found off the coast of Lebanon and, perhaps, Syria. Lebanon, however, has been slow to begin the process leading to the granting of licenses for exploration and production.

Israel-Lebanon

Lebanon contests the maritime boundary agreement concluded by Cyprus and Israel in 2010, delimitating the two countries' EEZs. Lebanon considers that the zone attributed to Israel absorbs part of its own EEZ. A disputed area covering 850 square kilometers may well contain considerable resources. In September 2010, Lebanon submitted an outline of its southern maritime boundary with Israel and its southwestern boundary with Cyprus to the UN Secretary-General. Israel responded by proposing its own line, 17 kilometers north of Lebanon's claim. Israel has demanded that any efforts by the UN to resolve the issue should also include the Lebanon-Israel land border, a demand that Lebanon rejects.

In present circumstances, it appears unlikely that the two parties, who are in a state of war with each other, would accept mediation under UN auspices. It would require much diplomatic ingenuity and political will to find a way to resolve this dispute through third party mediation. Current drilling in the Israeli EEZ does not involve blocks that overlap the disputed area, and Lebanon has yet to issue licenses for exploration. Nonetheless, this dispute has the potential to provide another source of tension between the two neighbors.

Turkey-Cyprus-Israel

Turkey also challenges the maritime boundary agreement between Israel and Cyprus. In response to the signing of the agreement in 2010, Turkey declared that the government of the Republic of Cyprus should not sign international agreements or start exploratory drilling without a

solution to the division of the island. Turkey considers that any offshore resources should benefit both island communities. The government of the Republic of Cyprus shares this view but is unwilling to suspend exploration and development until a solution to the Cyprus question, that has long proved elusive, is found.

When the Republic of Cyprus started exploratory drilling in September 2011, Turkey protested and concluded an agreement with northern Cyprus authorizing Turkey to explore for gas in sea areas adjacent to Cyprus. Turkey sent its own research vessel to conduct explorations in the area, threatening to deploy naval vessels to protect it. Turkey does not recognize the EEZ established by the Republic of Cyprus and itself lays claim to economic rights in sea areas both north and south of the island. In November 2011, Turkey announced an agreement between TPAO, the national oil company, and Royal Dutch Shell, to start exploration off Turkey's Mediterranean coast, very close to the Levant basin.

Cyprus's publication of a new international tender in February 2012 led to a strong reaction from Ankara. The foreign ministry issued a statement challenging the entire basis for Cyprus' establishment of an EEZ and the legality of the tender. It gave severe warnings to companies responding to the tender that they could be brought into confrontation with the northern Cyprus authorities and with the Turkish Petroleum Company. Turkey also warned about an escalation of tensions in the region.

There is a risk of incidents at sea and of other escalations. There has been a rapprochement between Israel and the Republic of Cyprus, and, indeed, Greece, following the deterioration of each country's relations with Turkey, especially after the Gaza flotilla incident.

Cooperation in the energy field could be beneficial for both countries: Israel offers the military capacity to protect offshore facilities and a capital market for investments. Cyprus, as a member state of the European Union could establish a link between Israel and EU energy networks; it has land, which could be used for onshore liquefied natural gas (LNG) facilities, and an attractive tax regime. Both countries have a strong interest in desalination, which is highly energy intensive, and is a field in which Israel has considerable experience.

During a visit to Cyprus by the Israeli Prime Minister Benjamin Netanyahu in February 2012, cooperation on the development of their respective resources was high on the agenda. An agreement was signed on defense

cooperation, giving Israeli aircraft and ships access to Cypriot airspace and territorial waters. Israel is ready to provide military support, if necessary, to protect Cypriot gas installations. Turkey reacted sharply stating that it would not allow foreign oil and gas companies to drill in the area and that it would take all necessary action to protect its rights and interests.

There has been considerable speculation about the further development of energy-related cooperation between Israel and Cyprus. Gas from the two countries' fields could be processed for export at LNG facilities to be built on-shore either in Israel or in Cyprus. This would require a pipeline to be built from the gas fields to either country. Alternative suggestions have included electricity cables from Israel to Cyprus and from Cyprus to Greece. This would, however, require large-scale investments. It is not clear whether the private sector would be ready to finance such investments.

The gas issue has further contributed to political realignment in the region, which began with Israel's operation Cast Lead in Gaza in January 2009. The marked deterioration in relations between Israel and Turkey has encouraged Israel to develop its relations with Cyprus and Greece, in many fields including energy. Nonetheless, despite present difficulties, observers in Israel and Turkey consider that the two sides still have reasons to restore good relations in the medium term.

The threat of a militarization of rival claims to the zone around Cyprus has abated, at least for the present. It is to be seen whether Israel's close relations with Cyprus and Greece create an additional obstacle to eventual rapprochement between Israel and Turkey. Turkey may be concerned that any such alignment could reduce its own role as a potential energy hub, which planners in Ankara see as a key part of its power projection in the region.

Opportunities and Dilemmas

The prospect of at last achieving a high degree of energy security has sparked debate in the different countries concerned about the best use of the resources once they are available. In **Israel**, Noble Energy, which has pioneered exploration and development, making a considerable investment, is eager to bring the gas to market as soon as possible. Meanwhile it faces a number of hurdles in terms of Israeli policy on taxation, revenue sharing, and market competition.

Politicians, officials, and observers in Israel have put forward different visions concerning the exploitation of the resources. Some argue for a slow rate of exploitation and production, in anticipation of future shortages and price increases, citing Norway's approach as a model. Others point to the coming abundance of natural gas on international markets and counsel against delay. There is also speculation about whether regional, European, or Asian markets are most promising, often linked to geopolitical considerations. Industry specialists are frustrated by this speculation and consider that future exports should be directed to those markets most ready to commit to long term contracts at favorable prices.

Israelis are considering large scale conversion of transport, agriculture, and electricity generation to a more intensive use of natural gas in the future. While this will enable the country to use more of its own gas supplies domestically, Israel needs to consider its future energy mix carefully, in terms of energy security, the security of installations, environmental impact, and the promotion of renewables. Israel will also need to give careful consideration to the infrastructure necessary for export, whether based on LNG or involving the construction of pipelines.

Cyprus, too, is attracted by the prospect of greater energy security. It is unwilling, however, to postpone exploration and development until the Cyprus question is resolved. Cyprus's new gas resources may support the status quo on the island and work against efforts to find a solution. If there are further clashes with Turkey over drilling, this could play into the hands of opponents of a settlement and of Turkey's stalled EU accession process.

Cyprus may well seek support from various international actors including Russia. The Cypriot president and the vice president of Russia's Chamber of Commerce and Industry said recently that Russian energy firms, including Gazprom, may be interested in participating in Cyprus's new tender. Gazprom is also actively seeking involvement in the development of Israel's resources.

As a member of the European Union, Cyprus will need to consider how its future supplies of gas and electricity can satisfy national needs and contribute to Europe's energy security. The different options for pipelines and electricity cables under very preliminary consideration would all be extremely costly. A model needs to be developed for a possible public-private partnership in building the necessary infrastructure. LNG, which would require

the construction of terminals and processing facilities, remains a more flexible option.

While gas has the potential to transform Cyprus's energy economy, the authorities will need to consider the country's energy mix, taking into account environmental considerations, the use of renewables, and the elusive search for a comprehensive solution to the Cyprus problem.

Lebanon faces other challenges. Its complex political structure, dependence on Syria (now on the verge of civil war), and conflict with Israel make it difficult to reach an internal consensus on the best approach to exploration and development of the gas resources off its coast. Lebanon lacks the administrative and political capacity to take clear and transparent decisions concerning the allocation of licenses and the management of the resulting revenue and hydrocarbon resources. For these reasons it has been slower than Israel or Cyprus to take the first steps toward development of its resources. However, in January 2012, Lebanon's energy minister, Gebran Bassil, said that the first licenses would be issued in the course of 2012. He also indicated that European, U.S., Chinese, and Russian firms had expressed an interest.

At around 150 percent of GDP, Lebanon's public debt is among the highest in the world. Lebanese leaders are looking to revenues from gas and oil to finance infrastructure, diversify the economy, and reduce the debt burden. To realize this potential, the country needs to put its public finances on a sounder basis and to build up its administrative capacity. This poses particular challenges in Lebanon's volatile political environment.

Turkey views developments in the eastern Mediterranean through the lens of its regional ambitions, its position on the Cyprus question, its relations with the parties directly concerned, and its energy needs. It eyes with suspicion the close cooperation that has developed between Israel and the Republic of Cyprus, countries that it now perceives as adversaries.

It is also influenced by the situation in the Aegean, where any approach to maritime border demarcation based on the median line principle would deprive it of access to marine resources and raise fundamental questions touching on sovereignty. Turkey considers that it has extensive continental shelf rights throughout the eastern Mediterranean.

Turkey's position as a transit country gives it a key role in Europe's search for the diversification of energy sources. There may be concerns in Ankara that this role could be diluted if Israel and Cyprus, acting together, become significant secondary suppliers of gas to Europe.

Turkey has a large and growing demand for natural gas, which it needs to satisfy from available sources. It is in Turkey's interest to diversify energy sources in light of its dependence on Russia. Northern Iraq and domestic production are important in this context. Under different political circumstances, gas from the eastern Mediterranean could be used for consumption in Turkey and transported to Europe through Turkish pipelines. This option, however, is unlikely to be realistic for the foreseeable future.

Turkey is eager to explore and develop gas fields off its Mediterranean coast and has signed a contract with Royal Dutch Shell. It remains to be seen whether Turkey will persist in its intention of conducting drilling operations in the exclusive economic zone claimed by the Republic of Cyprus. This would be cause for renewed concern about possible escalation.

Implications for the United States and the EU

United States

The interests of the United States in eastern Mediterranean gas derive from its close relations with several of the parties, the involvement of a U.S. company (Noble Energy), and broader strategic considerations. Eastern Mediterranean gas is a somewhat secondary issue at present, given efforts to restart the Middle East peace process, as well as the political situation throughout the region. Thus, for example, no special envoy has been appointed.

Nonetheless, Israel and Turkey are both key U.S. allies. Despite the downgrading of its relations with Israel, Ankara's links with Washington have improved considerably following Turkey's decision to host an early warning radar system as part of NATO's missile defense shield and its pressure on Bashar Assad to stand down as Syrian president to avoid further bloodshed. The United States has no wish to confront Turkey over Mediterranean energy when there are many other issues higher on its agenda.

Washington provides diplomatic support for Noble Energy, which plays a key role in developing energy resources in the region. But it is wary of becoming

involved in contentious issues between the company and the Israeli authorities.

At the same time, Washington would be concerned if disputes involving Turkey, Israel, and Cyprus were to escalate and especially if they led to military incidents at sea. Under these circumstances, there might be calls for the U.S. navy to intervene. The United States would be alarmed if there were terrorist threats to oil installations. The security of gas installations is, therefore, a subject of considerable concern. Any extension of the role of Russia, or Russian companies, in the region will be monitored closely in Washington. The rapprochement between Israel, Cyprus, and Greece might be of concern if it impeded efforts to bring about reconciliation between Israel and Turkey.

Overall, the United States' goal appears to be to prevent problems linked to eastern Mediterranean energy from spilling over into other Middle Eastern theatres which are of more pressing current concern.

The European Union

The Republic of Cyprus is a member of the European Union and will assume the rotating presidency of the EU Council of Ministers in the second half of 2012. The EU supports the faltering UN process that seeks a comprehensive solution to the Cyprus problem and provides technical assistance to the Turkish Cypriot community. Turkey is a candidate for EU membership and is linked to the EU by an association agreement and customs union. Lebanon and Israel have association agreements with the EU. And Israel is an active participant in the EU's framework program for research and development. Besides these institutional affiliations, EU member states have close political and economic relations with all the countries concerned.

Eastern Mediterranean gas can strengthen the EU's energy security, in the first instance by making a member state, Cyprus, far less dependent on imports. Although gas from the Levant basin will remain marginal to the EU's overall gas consumption, (perhaps representing two to three percent on optimistic assumptions), it could help diversify supply to a number of member states, particularly in Southeast and Central Europe, which are almost exclusively dependent on Russian gas.

In its efforts to create a single energy market, the EU seeks to tie in all member states including those in geographically peripheral locations like Cyprus. Eastern

Mediterranean energy strengthens the EU's interest in connecting Cyprus to EU energy networks. However this will require major private sector involvement. It is not yet clear whether the necessary funds will be forthcoming.

As a member of the Middle East Quartet (along with the United States, the UN, and Russia), the EU supports efforts to restart the Middle East peace process. Mediterranean gas has the potential to exacerbate existing tensions in the short run but could eventually foster economic cooperation between Israelis, Palestinians, and Jordanians.

The EU is seeking to develop a positive agenda with Turkey in the hope that this will strengthen political dialogue, economic cooperation, and efforts to restart the accession talks. The opening of negotiations on the energy chapter, still opposed by Cyprus, would reduce tensions and favor cooperation in this crucial field. In light of Europe's major role in Turkey's trade and investment, and Turkey's influence in encouraging peaceful transition in the Middle East and North Africa, the EU will not wish to see any further deterioration in relations between Turkey, on one side, and Cyprus and Israel on the other. It will, therefore, continue to add its voice to efforts to prevent tensions over the exploitation of mineral resources and maritime boundaries in the eastern Mediterranean from escalating.

Regional Cooperation

The exploitation of gas resources in the eastern Mediterranean raises a number of issues that could benefit from regional cooperation. While it would be desirable for such cooperation to take place at a governmental level, it may be more realistic in the first instance for it to be pursued by representatives of civil society and economic actors.

Among the topics that could be included in such cooperation are the prevention of accidents in offshore gas operations, the reinforcement of the security of energy installations, the environmental impact of gas operations and greater gas use, the prevention of trans-boundary air pollution, the development of renewable energy sources, best practice in the governance of oil and gas supplies and revenues, dispute settlement and mediation, lessons learned from regions where there have been demarcation/ownership disputes (e.g. Timor Leste, Norway-Russia, Croatia-Slovenia), as well as implications of the development of eastern Mediterranean gas for overall energy supplies to the region, Europe and Asia.

The German Marshall Fund has launched a project entitled: "Energy resources in the Eastern Mediterranean: source for cooperation or fuel for tension." The project, which involves research, workshops, convening, and civil society cooperation, brings together experts from several of the countries directly concerned, Europe and the United States. It also addresses geopolitical issues raised in this paper. Its conclusions should be of value to stakeholders with an interest in the implications of the development of gas resources in the eastern Mediterranean. GMF welcomes expressions of interest by participants at the Brussels Forum who would wish to be associated with this project. Please email mleigh@gmfus.org for information.

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