Geostrategic Importance of East Mediterranean Gas Resources

12

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Abstract

A series of major natural gas discoveries and the prospect of substantial hydrocarbon resources waiting to be tapped beneath the Eastern Mediterranean waters have sparked major international interest. If developed in a timely and successful way, current and future discoveries may significantly change the energy picture of the region. Exploitation and export of these resources will require overcoming numerous challenges with geopolitical implications. As a matter of fact, being perhaps the only common denominator, energy will increasingly become a main component of the geostrategic struggle in the East Mediterranean and its surroundings.

The article discusses the exploration, ongoing and planned field development and production activities, the possibilities of gas exports and trade destinations, the options for export infrastructures, and the effect of recent discoveries in Egypt in the Levant region. It will also give an overview of the potential impact of all these issues on the conflict-laden geopolitical landscape of the region in terms of adding a new dimension to establish the power balance. Whether hydrocarbon resources will be a force that unites or one that fuels conflict is hard to anticipate. The article will argue that if not managed carefully, and unless developed for the benefit of all, those resources may fuel confrontations, add frictions and anxieties to an already volatile region, and will shrink the room of optimism for finding a common ground.

Keywords

Natural gas · Hydrocarbon resources · East Mediterranean · Geopolitics

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12.1 Introduction

East Mediterranean[1] holds large hydrocarbon resources even though the countries in the region, excluding Egypt which has an old history of oil and gas production, have been quite slow in finding them. Four large or world scale gas discoveries in less than a decade in the region have opened up a new deepwater province gas bonanza.

At present, total discovered natural gas resources in the East Mediterranean amount to over 3000 billion cubic meters (bcm), around one-third of which occurred in the Levant Basin and the rest in Egypt (OME 2015). And yet, the region remains one of the world's most under-explored or unexplored areas and has good prospects for additional gas, and perhaps oil reserves.

Two assessments by the United States Geological Survey in 2010 (USGS 2010a, b)—one on the Nile Delta and Mediterranean Sea sectors of Egypt, the other on the Levant Basin Province—confirm this. They indicate nearly 9800 bcm of undiscovered technically recoverable gas resources in the region.

The above mentioned discoveries, the USGS assessments as well as the eye-opening resource potential is estimated by the officials in individual countries have not only significantly augmented hopes for large hydrocarbon potential in the East Mediterranean but also made it a fast rising favorite for international oil and gas companies. The following section will provide an overview of upstream activities by countries in the East Mediterranean region. However, this is one side of the coin.

The other side of the coin is that discoveries make sense if reserves in discovered fields are converted into production capacity. The question whether these reserves find their way to the domestic and/or international markets in a timely manner necessitates the development of discovered fields. Companies will carry on costly exploration and field development endeavors if they predict the ability to commercialize their discoveries with a favorable rate of return.

Exploitation and export of hydrocarbon resources present enormous technical, commercial, administrative, security, legal and political challenges with geo-political implications. How to manage and resolve the disputes in the region, particularly those related to the maritime delimitation and the Cyprus problem, remains as another formidable challenge. Section four will discuss all these challenges and will suggest a possible way forward.

As politics shift so does the configuration of the balance of power in line with the changing geostrategic interest of each actor. Substantial gas resources and the opportunities linked to their exploitation and transport have contributed to the shaping a new regional balance of power in East Mediterranean. Section five will investigate the role of natural gas in shifting alignments and geostrategic dynamics. Finally, the last section will offer some concluding remarks.

[1]In this article, East Mediterranean refers to Turkey, Syria, Lebanon, Israel, Palestine, Egypt and Cyprus. Unless stated otherwise, the word "Cyprus" in this article refers to the name of the Island. The Republic of Cyprus (RoC), which is not recognized by Turkey, is usually mentioned by Turkish officials as the Greek-Cypriot Administration. Turkish Republic of Northern Cyprus (TRNC) is only recognized by Turkey.

12.2 An Overview of Upstream Gas Developments in the Region

After the first offshore gas discovery in 1969 in Egyptian waters, exploration activities in the East Mediterranean region has intensified. However, the wells drilled until 1999 in the other parts of the region either encountered hydrocarbon shows but not in commercial quantities or came out dry. A few modest gas discoveries in 1999 and 2000 at shallow depths in Israel and Gaza Strip raised hopes and promoted the acquisition of geophysical data throughout the entire region, particularly in the Levant Basin. After the large scale discoveries in 2009, the region has become a hot spot. More than 1300 bcm of gas were discovered between 1999 and 2017 in the Levant basin (Table 12.1).

Once a gas exporter, Egypt has become a net gas importer since 2015 due to the declining production and booming domestic demand for gas. However, recent discoveries, particularly the Zohr field,[2] has radically changed the picture. Egypt is now expected to become a net gas exporter again in the early 2020s. The discovery of Zohr, which is regarded as a geological game changer, has stimulated new exploration activity in the region.

Israel never lost hope of finding hydrocarbon reserves even after decades of long virtually fruitless exploration efforts. In June 1999, the first natural gas reservoir (the Noa field) was discovered offshore Israel. The first commercial gas field, Mari-B,

Table 12.1 Natural Gas Discoveries in the Levant Basin Province

Fields discovered	Discovery year	Ultimate recoverable reserves (bcm)
Gaza marine	1999	30
Noa	1999	3.5
Mari B	2000	35
Pinnacles	2012	2.9
Tamar	2009	351
Tamar south-west	2013	28.3
Dalit	2009	15.2
Leviathan	2010	621
Tanin	2010	35
Aphrodite	2011	130
Dolphin	2011	2.3
Shimshon	2012	15.6
Karish	2013	50.3

Note: Ultimate recoverable reserves numbers refer to reserves (2P) and resources (Contingent & Prospective) in the best estimate category, and include produced volumes if any. Data are compiled from various sources, including the annual reports of Noble Energy and Delek Drilling, and OME (2015)

[2]With 845 bcm of gas in place, the field is the largest ever gas discovery in the Mediterranean Sea.

followed.[3] Israel's insistence for exploration brought results with the discovery of two large gas fields (Tamar and Leviathan), which were classified as the world's largest deepwater gas discoveries between 2001 and 2010. Further discoveries, albeit small in size, have paved the way for a new era in Israel's hydrocarbons sector.

Gas flow from the Tamar field[4] has started in March 2013. Except for a small quantity of exports to Jordan since January 2017, almost all production from the field has gone to the domestic market. So far 167 bcm of Tamar gas is already contracted to Israeli Electric Corporation and other buyers (Friedman 2017). The Tamar partners are examining the option of expanding the Tamar project to increase the current annual production capacity from 11.5 bcm to over 20 bcm (Delek Group 2017).

Developments of the other fields have been considered necessary for Israeli national security because only one field and one pipeline supply gas to domestic market. However, their development have been jeopardized or unable to proceed as a result of numerous political and regulatory obstacles.[5] Progressively these uncertainties have been lifted. A new gas framework acceptable to companies and Israeli government was finally agreed on 22 May 2016 and the so-called Natural Gas Framework has been established.

In February 2017, the Leviathan partners[6] have taken the final investment decision for the first stage development the Leviathan field. The plan has a proposed budget of $3.75 billion and foresees an annual production capacity of 12 bcm starting by the end of 2019. In the second stage the annual production capacity is planned to be further increased by 9 bcm (Noble Energy 2017; Friedman 2017). A part of the production from the field will have to be used for the Israeli domestic market, as set by the government. To fulfil this obligation the Leviathan partners have signed several preliminary agreements with customers in Israel.[7] However, most of those deals are on "paper only," insufficient to obtain further financing needed for the development of the field. Besides, the Leviathan gas will have to compete with the gas from the Karish and Tanin fields. The situation helps to understand the necessity of binding agreements for amounts of production with potential customers in foreign markets.

[3]Discovered by the US based Noble Energy, gas production at the Mari-B field began in 2004, and at Noa in 2012.

[4]The partners in the Tamar field and the rate of their holdings are: Noble Energy (32.5%), Isramco Negev 2 (28.75%), Avner Oil Exploration (15.625%), Delek Drilling (15.625%), Dor Gas Exploration (4%), Everest Infrastructures Ltd. (3.5%).

[5]Such as the allocation of discovered resources into exports and domestic market, taxation and administrative uncertainties, and an anti-trust ruling stemming from the concerns that Noble Energy and Delek Group constitute monopoly.

[6]The Leviathan consortium is composed of Noble Energy Mediterranean Ltd., operator with a 39.66% interest, Avner Oil Exploration (22.67%), Delek Drilling (22.67%), and Ratio Oil Exploration (15%).

[7]Details on these agreements are provided in Delek Drilling (2017).

Energean Israel, a subsidiary of Greek company Energean Oil & Gas,[8] aims to begin producing gas at the Karish and Tanin by early 2020s. Before making the final investment decision on developing the fields, the company signed with Dalia Power Energies and its sister company Or Power Energies in Israel two agreements to supply 23 bcm gas in total.

The approval of the new Israeli gas sector framework has also paved the way for a resurgence of exploration activity. In 2016 the Ministry of Energy announced to hold successive rounds for new exploration areas in its EEZ (Exclusive Economic Zone). In the first round, 24 blocks that are located in the central part of the offshore area are offered for bidding.[9] However, the ministry has postponed the deadline for submitting proposals twice, probably due to limited interest by foreign companies. The results are expected to be announced in 2018, if everything goes according to plan.

Republic of Cyprus (RoC) held three offshore hydrocarbons exploration licensing rounds. The first round held in 2007 resulted in awarding Block 12, which located on the south eastern side of Cyprus, to Noble Energy in October 2008. In December 2011, Noble Energy discovered the Aphrodite field.[10] However, the field has not yet been developed due mainly to the lack of gas infrastructure and the pending unitization agreement with Israel.[11] In June 2015, the Aphrodite partners[12] submitted an outline development plan for the field, estimated to cost around $4 billion, excluding the building of a pipeline. The Aphrodite partners hope to take the final investment decision in the near future and start production—with an estimated capacity of 8.2 bcm/year—by 2020, if everything goes smoothly. Majority of the production will be exported.

In the second licensing round held in 2012, five blocks were awarded to French, Italian and Korean companies.[13] The well drilled by the Eni-Kogas consortium in block 9 came out dry in December 2014. Afterwards, the consortium drilled another well in the same block but commercially exploitable volumes of hydrocarbons were not encountered. Another bad news came in 2015, when Total gave up its interest in Block 10.

[8]Energean holds a 100% interest in both the Karish and Tanin licenses, acquired from Delek Group in 2016. The estimated cost of developing the field is $1.3–$1.5 billion. For details, see, Energean (2017), Energean Oil and Gas Press Releases dated 20 June 2017 and 30 May 2017, available at the Energean website.

[9]For more details, see a dedicated website by the Ministry of National Infrastructure, Energy and Water Resources at http://www.energy-sea.gov.il/. Accessed 13 May 2017.

[10]When discovered the field was estimated to contain 140 bcm to 200 bcm of gas. In 2014, its estimated resource base was revised downwards to 128 bcm.

[11]Since a small part of the Aphrodite field lies within the area of the Ishai license on the Israeli side, a unitisation agreement is necessary to develop the field. The RoC and Israel have been negotiating a framework agreement since 2014 but no tangible progress has yet been reported.

[12]Noble Energy is operator of Block 12 with a 15% interest, while the Delek Group subsidiaries (Delek Drilling and Avner Oil Exploration) have 15% each, and Shell 35%.

[13]Blocks 2, 3 and 9 were awarded to Eni-Kogas consortium, and Blocks 10 and 11 to Total.

Above-mentioned Zohr discovery in Egypt, just 6 km from Block 11, motivated the RoC to open its third licensing round in 2016. In 2017, three blocks were awarded to winning bidders: Block 6 (Eni/Total), Block 8 (Eni) and Block 10 (ExxonMobil/Qatar Petroleum). In addition, ENI Cyprus Limited has finalized a farm-in agreement with Total to acquire a 50% participating interest in Block 11.

Exploration activities in the Turkish Republic of Northern Cyprus (TRNC) has been rather slow. Turkey signed a continental shelf delimitation agreement with the TRNC on 21 September 2011.[14] A day later the TRNC and Turkey's state-owned Turkish Petroleum Corporation (TPAO) signed a production sharing agreement for one onshore and six offshore blocks around the island of Cyprus (see Fig. 12.1). In 2012, TPAO drilled a well (Turkyurdu-1) onshore, near the town of Iskele, to acquire geological data of the area (TPAO 2013) and TPAO has performed seismic surveys over the offshore blocks.

In Palestine the exploration activities were very limited. Only one small field, the Gaza Marine field, located 36 km offshore Gaza, was discovered by BG (now Shell) in 1999. To date the field could not be developed due to the resistance and blockage of Israel as well as political divisions on the Palestine.

Lebanon and Syria are still considered as frontier exploration areas given that no wells have so far drilled offshore. Lebanon launched its first offshore licensing round in 2012. A total of 46 companies were pre-qualified in 2013 to enter the licensing round. However, the deadline for submitting the bids was postponed five times due to the absence of a well-functioning government, which couldn't approve two constitutional decrees to carry out the licensing round.[15] After their ratification in January 2017, the Lebanese Petroleum Administration (LPA) reopened the licensing round. Five blocks are offered. Meanwhile, in a second pre-qualification round, organized in early 2017, 8 more companies have been designated as prequalified to bid for exploration and production licenses in the licensing round.[16] The winners in the bidding round are expected to be announced in late 2017.

Syria has been keen to attract foreign companies for offshore hydrocarbon exploration activities in order to offset its declining oil output and reduce gas imports. An offshore exploration licensing round for three blocks was announced in 2011 but no bids were submitted due to the crisis in the country. In December 2013, however, the Syrian government signed a 25-year agreement with SoyuzNefteGaz assigning the Russian company an exploration license for Block 2. No progress has been made since then. With the conflicts still raging in the

[14]See, Press Statement No: 216 dated 21 September 2011 (on The Continental Shelf Delimitation Agreement Signed Between Turkey and TRNC), on the website of Turkish Ministry of Foreign Affairs, www.mfa.gov.tr/.

[15]The first one divides the Lebanese Exclusive Economic Zone into ten blocks and sets their coordinates, while the second one adopts the Tender Protocol that defines the conditions for participating in the bid round, the criteria used in the bids evaluation and the model Exploration and Production Agreement.

[16]For more on this, see, http://lpa.gov.lb.

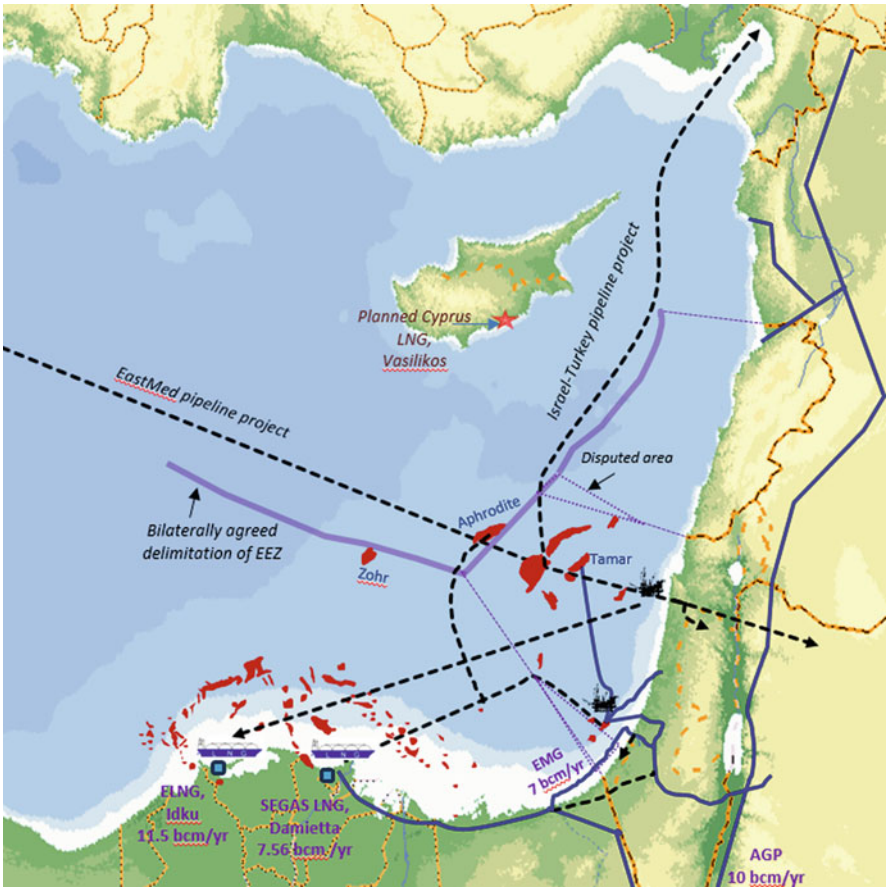

Fig. 12.1 Exploration blocks of Turkey, TRNC and RoC (source: Author's elaboration)

country, any significant development of upstream activities seems unrealistic in the near future.

Turkey has drilled 13 wells in the Mediterranean waters. None of them contained commercial quantity of hydrocarbons. However, Turkey plans to be more active in offshore oil and gas exploration with regular seismic studies and drilling operations in the Black Sea and Mediterranean Sea as outlined in the new "National Energy and Mine Policy," which is presented by Turkish Minister of Energy in April 2017.[17]

[17]See, Turkish Ministry of Energy and Natural Resources (2017).

12.3 Options for Gas Exports and Possible Export Routes

The already discovered gas potential in Israel and Cyprus is more than enough to meet domestic needs for decades. This makes large amounts of gas exports possible. However, the absence of any gas export infrastructure presents a challenge to be overcome.

There are three possibilities to export gas –by pipeline, via LNG (Liquefied Natural Gas), and a combination of both (Fig. 12.2). Exporting gas in the form of compressed natural gas might also be viable in the longer term if it becomes technologically mature and commercially feasible. All these options have been directly linked to the negotiations with potential customers in foreign markets.

12.3.1 Potential Gas Export Routes from Cyprus

Building an LNG plant at Vassilikos on the south coast of Cyprus seemed to be best option to export gas from the RoC to international markets. However, downward revisions of Aphrodite's resource base and disappointing drilling results in other blocks have led to fading away of this option. Bringing the Leviathan gas in Israel would make the LNG project viable but it is not any more discussed. It seems that further gas discoveries offshore Cyprus is the only way to bring the project on the surface again. This is why, the attention has turned to pipelines.

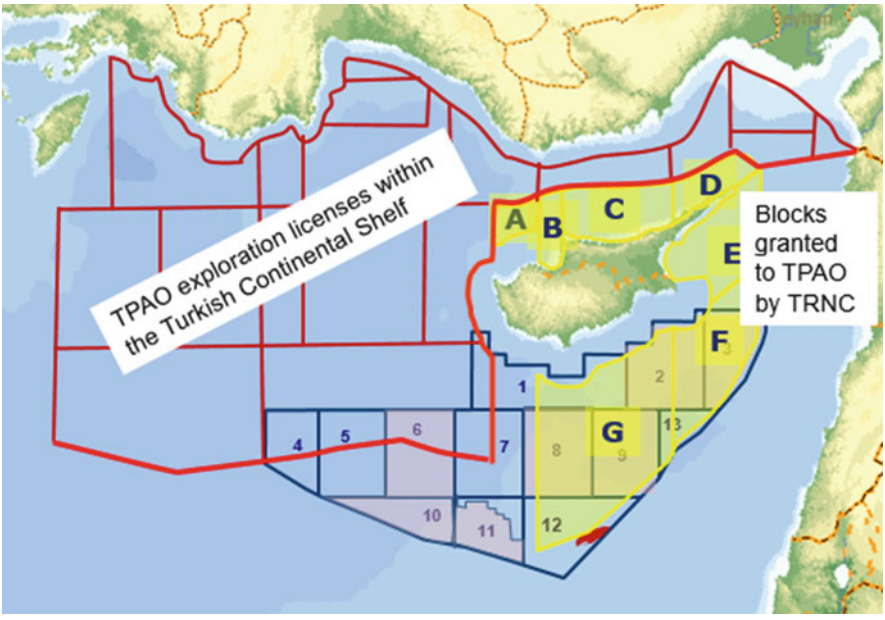

Fig. 12.2 Natural gas export options in East Mediterranean (source: Author's own illustration)

Two pipeline projects are considered—a subsea pipeline linking the Aphrodite field to Europe, and the other to Egypt. East Mediterranean Pipeline (Israel-Cyprus-Greece-Italy), known as EastMed gas pipeline, project with a capacity of 8 bcm/year aims to link Israel and Cyprus to European gas markets. The project has been approved by the EC as a project of common interest, making it eligible for EU funding. The pipeline is estimated to cost over $6 billion.[18] Several high level meetings have taken place to give political support for the project. Lastly, in April 2017, during the Ministerial Summit held in Tel Aviv, in the presence of European Commissioner Miguel Arias Canete, the Ministers for Energy of Italy, Greece, Cyprus and Israel signed a Joint Declaration to reaffirm their support to the swift implementation of the Project. A final investment decision for the project is expected to be taken by 2020.

The other pipeline project aims to bring the gas to Egypt either to be consumed in domestic market or to feed the LNG plants for further exports. In 2014, energy ministers of the RoC and Egypt expressed their readiness to accelerate talks on the potential export of Cypriot gas to Egypt by pipeline, once the resources come on stream. The two countries signed a memorandum of understanding on energy cooperation in February 2015 to explore technical options for the transportation of gas to Egypt. In March 2015, they signed another memorandum of understanding (confirming the previous agreement) that provided for a pipeline feasibility study and for gas exports to Egypt, among other things. Furthermore, in August 2016, RoC's Energy Minister and Egypt's Petroleum Minister signed a deal to build a pipeline to supply gas to Egypt once production starts from the Aphrodite field. Despite the questions about the economic and commercial viability of the project as well as the increasing possibility of Egypt becoming a gas exporter again, negotiations on the issue continue.

12.3.2 Potential Gas Exports Options and Routes from Israel

Several options for export markets and possible export routes have been considered. A Floating LNG facility was a preferred option in the beginning due to its flexibility, but it is not a priority any more due the changing dynamics in global LNG markets.

Building an LNG plant in Israel would be quite a challenge due to security, environmental and suitable space grounds. Alternatively, taking the gas to the Israeli coast and sending it by pipeline to Eilat in Israel and then onward to Jordan's special economic zone at Aqaba (where an LNG facility could be constructed) would be too cumbersome and costly.

Routing the gas from Israel to Egypt and hence the use of Egypt's two idle LNG export terminals could be a cost-effective option but political tensions between Israel

[18]A preliminary engineering study, partly funded by the EU, was undertaken by IGI-Poseidon, a joint venture between Italy's Edison and Greece's Depa. For more on the project, see the website of its promoters - http://www.igi-poseidon.com

and Egypt made access to these plants difficult until the ouster of former Egyptian President Mohammed Morsi in July 2013. Afterwards, the Tamar and Leviathan partners signed several agreements to export gas to Egypt—both for the domestic market and re-export by using the LNG plants located in Idku and Damietta, which have a combined capacity of 19 bcm/year:

- In May 2014, the Tamar Partners signed a non-binding letter of intent with the Spanish company Union Fenosa Gas (UFG) for the provision of 4.5 bcm of gas annually from the Tamar field to UFG's liquefaction plant in Damietta.
- In June 2014, a non-binding letter of intent was signed between the Leviathan partners and BG (now Shell), for the purpose of feeding BG's (now Shell) liquefaction plant in Idku. The estimated scope of the agreement is for the supply of approximately 7 bcm/year.
- In March 2015, Tamar partners concluded a gas sales contract with Egyptian company Dolphinus Holdings Limited to supply a minimum cumulative volume of 5 bcm of gas.[19]

However, currently the prospects of exports to Egypt for domestic market or for re-export activities are weak because of three main reasons:

- First, by the time Leviathan field start producing, Egypt may no longer require gas imports for domestic use. Egypt may start exporting gas again in the early 2020s when production from Zohr and other fields catches up with domestic demand for gas.
- Second, importing gas from Israel would, most likely, be more expensive than importing LNG, if the expected gas glut in LNG markets is taken into account (LNG prices are likely to remain rather stable and low at least over the next 5 years);
- Third, if liquefaction, transport and regasification costs are added, landing price of gas from Idku or Damietta LNG to Europe or Asia would be much higher than importing LNG from any other destination. Moreover, it is highly doubtful that the markets in Europe would be willing to pay a high security premium for diversifying gas supplies.

Those three points also apply to the prospects of exports from the RoC to Egypt, for domestic market or for re-exports.

The Tamar and Leviathan partners have also worked hard to export their gas to other immediate neighbors—Jordan and the Palestine. The following deals have already been signed or are in the making:

[19]This deal faces two major problems: First, it has to be approved by the Egyptian government. Second, the gas should be transported from Ashkelon to Egypt through the existing East Mediterranean Gas pipeline (EMG), one of the provisions of the deal. This, however, has been rejected by EMG's principal shareholders.

- In January 2014, the Leviathan partners and Palestine Power Generation Company (PPGC) signed a deal to sell up to 4.75 bcm of gas, once Leviathan starts production, to feed a 200 MW power plant that PPGC intends to build near Jenin in the northern West Bank.
- In February 2014, a sale and purchase agreement with two companies in Jordan (Arab Potash Company and Jordan Bromine Company) was signed to supply a total of 1.86 bcm gas from the Tamar field. Sales commenced in January 2017.
- In September 2014, Noble Energy Mediterranean Ltd. signed a non-binding Letter of Intent with the National Electric Power Company of Jordan (NEPCO) for the supply of an overall amount of 45 bcm gas from the Leviathan Project to NEPCO.

Gas sales to Palestine and Jordan's NEPCO would surely bring some economic benefits since the use of gas would reduce costs of power generation. Politically, however, gas deals with Israel are not so popular in Jordan and Palestine—they consider these energy deals as a threat to their sovereignty and independence, and a tool to finance Israel's occupation of the Palestinian territories. This is why protests often have taken place against those deals. In March 2015, PPGC cancelled the above mentioned contract due to the delays in development of the Leviathan field, but perhaps politics is weighed more in reality.

Selling gas to distant markets such as Turkey and Europe, has been gaining more importance recently. This is also in line with Israel's multiple gas export strategy. The future of gas demand and hence gas import needs in Turkey is quite bleak. Despite that there has been a considerable commercial interest for buying Israeli gas on the ground because bringing gas from Israel could allow Turkey to further diversify its supply sources and routes, and hence improve its gas supply security. Building a pipeline from the Leviathan field to the southeastern Mediterranean coast of Turkey[20] could allow Israeli gas to target the Turkish market and even access to the European markets, through the Southern Gas Corridor[21] or through the existing infrastructure owned by the Turkish state owned company Botas.

As a matter of fact, in pipeline business politics often comes before economics. Therefore, it was only after the normalization of political ties in June 2016, and particularly during the visit of the Israeli Minister of Energy to Turkey on 13 October 2016 (the first visit of an Israeli minister to Turkey since 2010), Turkey and Israel agreed to enter talks to examine the possibility of such a pipeline project. The negotiations on the pipeline, gas supply terms and other related issues, between

[20]The pipeline, with a capacity of around 8 bcm/yr., is estimated to cost around $2 billion by various sources.

[21]The Southern Gas Corridor is the EU's one of the few non-Russian pipeline gas supply sources and routes. Its current version is composed of the Trans Anatolia Natural Gas Pipeline (TANAP), which will bring gas from Azerbaijan to the Turkey-Greece border, and the Trans Adriatic Pipeline (TAP), which will allow gas to reach the southern coasts of Italy via Greece and Albania. TANAP will have an initial annual capacity of 16 bcm, 6 bcm of which will be supplied to Turkey and 10 bcm will be transported to the European markets -through TAP- from 2019 onwards.

Turkish companies and Leviathan partners on the one hand, and between the Turkish and Israeli governments on the other, continue.

12.4 Challenges with Geopolitical Implications and Possible Way Forward

Exploitation and export of hydrocarbon resources present enormous technical, commercial, administrative, security, legal and political challenges with some geopolitical implications (Karbuz and Baccarini 2017). Technical challenges are centered on infrastructure and financing. For instance, although all the export options mentioned in the previous section are technically feasible, when the costs involved, the complexity of negotiating the necessary deals as well as overcoming political barriers pose serious obstacles to the development of discovered gas resources. Commercial challenges are mainly about the competitiveness of the gas at export destination. Landing price of the East Mediterranean gas at European and Turkey markets are projected to range anywhere from $6 to $8/million Btu (MBtu) which is more expensive than the Russian gas and perhaps LNG. It is doubtful that the importers would accept paying a premium for East Mediterranean gas for the sake of gas supply security.

Administrative challenges include the governments' ability to have the long-term vision for making best use of hydrocarbon resources. Unfortunately, no country in the region has yet developed a comprehensive and successful policy that takes into account of these challenges combined with the region's geopolitical changes.

Security challenges come along with perturbed political relations between the countries in the region. These include the persistent conflicts such as between Israel and its neighbors (the state of war between Lebanon and Israel and decades long conflict between Israel and the Palestinians), the unresolved Cyprus problem, and finally the ongoing unrest in Syria and its impact on Lebanon. As a matter of fact, many of these conflicts are not any more a regional issue, but an international one.

Legal and political challenges are being manifested in the debate and dispute over conflicting claims about the ownership of resources as well as the demarcation of maritime borders. The latter is arguably the most pressing challenge. Disputes can also arise about the delimitation of the geological structures of gas fields in which they are very close to the EEZ borders and possibly overlapping them. The existence of reservoirs overlapping the EEZs could imply a joint exploitation of the field, which would require a unitization agreement between the involved countries.

Maritime borders between Lebanon and Israel have never been agreed upon or delimited officially, so they are an ongoing source of tension. The unresolved demarcation of maritime borders has heightened the diplomatic dispute between Israel and Lebanon since the discovery of the Tamar field in 2009. The disputed area covers 850 km^2. The Lebanese government has offered the area to international companies for oil and gas exploration in its first international bidding round. Later on, in March 2017, Israel made a claim to the UN that the disputed area is "Israeli territory." Today, both Lebanon and Israel argue that they would use force if

required to protect their claims. Considering the fact that both countries have never signed a peace treaty makes the situation even more problematic. So far, attempts by the UN and the U.S. to resolve the dispute between the two countries have failed ultimately.

Another complicated case is the one between the RoC, Turkey and the TRNC. Turkey's disagreement concerns the overlapping claims in offshore areas located in the west and south east of the island. Turkey claims that maritime demarcation agreements signed by the RoC with countries of the region are null and void due to several reasons. First, Turkey does not recognize the RoC and hence its proclaimed EEZ. Second, Turkey argues that the Greek Cypriot government does not represent the Turkish Cypriot population. Third, Turkey asserts that unilateral exploration activities are hurting the reunification negotiations. This is why Turkey has been insisting that the RoC halt all exploration activities until a settlement between the two communities in the island is found.

Turkey has no continental shelf claim in the south and east of the island of Cyprus but she has a claim on the west which has been registered before the UN. This is why Turkey opposes to the drilling program in the western part of the island because certain sections of some of RoC blocks (namely, 1, 4, 5, 6, and 7) overlap with Turkey's continental shelf areas in the Eastern Mediterranean. The Turkish Council of Ministers Decrees, dated 30 July 2008, allow the state owned Turkish Petroleum Corporation (TPAO) to conduct geological research and hydrocarbons exploration/exploitation activities in the Eastern Mediterranean. Those areas for which research and exploitation permits were issued entirely fall within the limits of the Turkish continental shelf in the Eastern Mediterranean, according to Turkey.[22] For this reason, Turkey continues to protest the exploration contract for Block 6, awarded in the third licensing round by the RoC, and drilling activities there.

The disagreement on maritime boundaries has immense importance for the Israel-Turkey pipeline project which has to go through the proclaimed EEZ of the RoC (Karbuz 2014). Building such a pipeline would not need a formal permission, but the RoC government must agree on the route of the line, according to the UN Law of the Sea. Moreover, the pipeline project has to fulfil the Submarine Pipelines Regulations of RoC (No.579/2014).[23] The RoC may reject the application or terminate the license for many reasons, including national security and/or public interest. It may also impose terms and conditions into the license. This means that any political friction with Turkey may have impact on the destiny of the pipeline. Seen from this perspective, the EastMed gas pipeline faces a similar problem since it has to cross an area which Turkey regards as a part of its continental shelf.

[22]See, for instance, the Letter dated 12 April 2017 from the Permanent Representative of Turkey to the United Nations addressed to the Secretary-General, available at http://www.un.org/depts/los/LEGISLATIONANDTREATIES. Accessed 11 June 2017.

[23]This requires a license to be granted for laying, construction, operation of the pipeline from the relevant RoC authority; conformity with the Geological Surveys Law of RoC and the Convention for the Protection of the Mediterranean Sea against Pollution and Related Protocols; and an environmental approval.

If the sides continue engaging in unilateral actions, tensions will continue to rise. The RoC is unlikely to give up offshore exploration activities. Turkey and TRNC will keep calling these activities "unilateral and provocative actions,"[24] and the RoC officials will keep calling Turkey's countermeasures as 'provocative' and 'aggressive'.[25] At the same time, Turkish Navy will likely continue "situational awareness" missions in the region.

It appears that unless the Cyprus Problem is resolved, exploitation and transport of natural gas can become a source of serious confrontation and increasingly exacerbate complex geopolitical situation in the region.

Unfortunately, no tangible progress has been recorded after numerous plans for reunification and rounds of UN mediated negotiations. The repeated efforts have been proven fruitless. Although there are great expectances for a settlement in the very near future, potential timing remains unclear. Even if a settlement is achieved, the Cyprus dispute will likely remain an obstacle until Turkey and (unified) Cyprus reach agreement on the EEZ, particularly in offshore areas located to the west and southeast of the island. This, however, also requires resolving the maritime delimitation dispute between Turkey and Greece in the Aegean Sea.

How to manage and resolve the disputes in the region remains a formidable challenge. Nevertheless, the risk of accrued tensions fueled by hydrocarbon resources and transportation infrastructure is very real—it has the potential to fuel new conflicts, exacerbate existing ones and add anxieties to an already volatile region and might even escalate into a full scale confrontation (Leigh and Brandsma 2012).

A zero sum-game logic leads nowhere. A genuine mechanism that would lead to joint exploitation of hydrocarbon resources as well as the development of joint export infrastructure may create interdependencies for paving the way for cooperation in the region (Salem 2012). In case of Cyprus, cooperation on the exploitation of gas resources can help build confidence without prejudicing the eventual outcome of reunification talks (International Crisis Group 2012). In this sense, the best way forward could be through a joint administration and an agreement about sharing of revenue between the two communities in Cyprus.[26]

Bringing all the actors together to effectively collaborate and cooperate could produce synergies and optimization of gas developments. A multilateral forum between all countries in the region, such as the Union for the Mediterranean, could be a potential option but it may not function due to its highly political structure. An informal apolitical setting arranged by bringing together energy companies with industry experts and key institutions and academics could be a better start to advocate energy partnership (Ogutcu and Karbuz 2016). If proven fruitful, it could

[24]See, for instance, Turkish Ministry of Foreign Affairs Press Release No 313, 8 October 2014, No: 74, 25 March 2016, and No: 105, 6 April 2017.

[25]See for instance, Press Release of RoC Ministry of Foreign Affairs on 7 April 2017.

[26]This view is supported by Turkey and Turkish Cypriots. Greek Cypriot politicians, however, are reluctant to support any deal on hydrocarbons with the Turkish Cypriots without a settlement.

later bring governments on board and turn into a new regional institutional setting. This seems to be the best way to establish a balanced but a pragmatic approach and to achieve a solid regional energy cooperation that benefits all parties.

12.5 The Role of Gas in Geostrategic Dynamics

As politics shift so does the configuration of the balance of power, in line with the changing geostrategic interest of each actor. The discovery of substantial gas resources in the Levantine basin and the opportunities linked to their exploitation and transport have contributed to shape a new regional balance of power in the East Mediterranean (Karagiannis 2016).

Deteriorations in political relations between Turkey and Israel since Israel's military campaign "Operation Cast Lead" in the Gaza Strip in 2008 and the Mavi Marmara incident in 2010, as well as between Turkey and Egypt since 2013 have played an important role in shifting the alliances in the region.

In the past few years, two tripartite alignments have emerged. One is between Greece, the RoC and Egypt (since December 2015), and the other is between Greece, the RoC and Israel (since January 2016). High-level political and technical meetings have reinforced tripartite summits bringing top officials from Greece and the RoC together with their Israeli and Egyptian counterparts. At the same time, relations between Egypt and Israel have improved. Another triangle—between Greece, the RoC and Lebanon—is in the making, following the visit of RoC President Anastasiades to Beirut in June 2017.

In addition to cooperation on defense and security related issues, natural gas has constituted one of the principal incentives for building these alignments. Deepening relations among the quartet (involving Greece, the RoC, Israel and Egypt) might lead to a bloc that could jeopardize Turkey's interests in the region and change the regional balance of power at Turkey's expense. Opposite might also happen because the foundations of the alliances which are developed by the RoC and Greece with Egypt and Israel may not be robust enough.

Despite all the rhetoric about being a regional and global leader, Turkey appears to be isolated in the region. It is yet to be seen whether Turkey's warming relations with Israel and Russia will change this picture. Tanchum (2017) argues that, in the future, Turkey and Israel's geopolitical agenda might be shaping the parameters of geopolitics, including energy geopolitics of the East Mediterranean. This argument, however, underestimates the role of external actors in the regional energy dynamics.

The European Union (EU) has interest in the region because it has an energy viewpoint that Eastern Mediterranean gas can strengthen the EU's gas supply security, particularly in Southeast and Central Europe, which are almost exclusively dependent on Russian gas. Following the Russian-Ukrainian gas crisis in 2006, lessening the heavy dependence on Russian gas by means of diversification has become a cornerstone of the EU energy policy. Given the modest quantities that the East Mediterranean and Caspian region can provide to Europe, the introduction of East Mediterranean gas into Europe's gas supply portfolio might not substantially

reduce dependence of Russia but at least it could put pressure on the price of Russian pipeline gas.

The United States has interest in the region due mainly to security reasons since Greece and Turkey are part of the NATO and Israel is a key ally. It is also due to the desire to contain the increasing role and presence of Russia in the region. For the U. S., energy security is not only about energy—it's about everything around energy (Hochstein 2016). For this reason, the U.S. has considered some projects that could exclusively bring Russian gas to Europe and bypass Ukraine not only a risk to destroy opportunities for diversification but also a threat for Ukraine's economic stability and independence (Pyatt 2017). This is why, although the U.S. is essentially independent in its natural gas resources, it has expressed interest in the East Mediterranean gas resources, particularly in the development of Israel's resources (Ratner 2016). However, with the Trump administration's America first policy, the fading U.S. interest has created a political vacuum in the region, which Russia has been willing to fill with its growing presence by building friendly relations on many tracks, including energy.

Russia has tried repeatedly to establish a foothold for Russian companies in East Mediterranean gas sector by acquiring upstream assets and by participating in infrastructure or export activities. No tangible results have materialized yet in Cyprus,[27] Israel,[28] Syria,[29] Palestine[30] and Lebanon[31] but the picture is different in Egypt.[32] Russia's intention to create a southern route for Russian gas to Europe by implementing TurkStream pipeline project should not be overlooked either.[33]

[27]Russian companies Novatek and GPB Global Resources had placed bids in the second licensing round but were unsuccessful. However, the RoC is important Russia for several other reasons: it is a military foothold (since 2015, Russian navy has access to ports in Southern Cyprus), a tourism destination, and a banking hub for Russian oligarchs.

[28]In 2012, Gazprom wanted to have a stake in the Leviathan field but preference was given to Australia's Woodside. In 2013, Gazprom signed a letter of intent with the Tamar partners to export LNG, but it did not materialize. It is not clear yet whether Russian companies will express interest in Israel's offshore bidding round.

[29]A Russian state-control company still has the exploration and production license in Syria's offshore Block 2.

[30]In 2014 and 2015, Vladimir Putin discussed with Mahmoud Abbas possibilities for Russian companies to participate in Palestinian energy projects, particularly a potential Russian involvement in the Gaza Marine field, but no concrete steps have been taken yet.

[31]Three Russian companies are pre-qualified for the first licencing round.

[32]Gazprom and Rosneft began selling LNG to Egypt in 2016. Rosneft acquired a 30% stake in Zohr. By buying DEA, Russian-controlled investment fund, LetterOne, inherited a 35% share in BP's West-Nile Delta Project. Lukoil is involved in three upstream projects.

[33]In June 2017, Gazprom, Depa and Edison signed an agreement that formalizes the arrangements on expanding cooperation in the field of gas deliveries from Russia across the Black Sea to Greece and from Greece to Italy in order to set up a southern route for Russian gas to Europe. See, Gazprom press release http://www.gazprom.com/press/news/2017/june/article335060/. Accessed 18 June 2017.

What Russia really wants to achieve with all this is unclear but it is unlikely that Russia would do anything to put its market share in European market in risk. It would not be an exaggeration to argue that in the longer term it may aim to control the direction, timing and volume of gas exports from the region, especially to the markets in Europe and Turkey. When combined with Russia's escalating military and political presence, it becomes clear that energy might be a powerful tool for Russia to spread its political and economic influence in the region.

More countries and companies are likely to be involved in the region's hydrocarbon sector in the near future. The results of Lebanon's offshore licensing round, in which several Asian and Middle Eastern companies including Petropars of Iran have participated, might potentially add another layer to the future geostrategic importance of the East Mediterranean gas resources.

Last but not least, almost all the discovered hydrocarbon resources in the East Mediterranean in the last decade are natural gas with some condensate instead of oil. Any significant oil discovery in the future will surely add a new dimension to the geopolitics of the region and change the geostrategic dynamics.

12.6 Concluding Remarks

Large-scale offshore hydrocarbon discoveries since 2009 and the prospects for substantial amount of yet-to-be discovered resources in the East Mediterranean region have attracted immense international attention. However, several technical, administrative, security, legal and political obstacles have hampered the initial far-fetched ambitions and enthusiastic hype. Due to these obstacles, too much time has been wasted for launching exploration activities and for converting many discoveries into production capacity. As a consequence, various export projects have been delayed and in some cases put at risk. Formidable geopolitical challenges have also played an important role in that.

Hydrocarbon resources will be a dominant factor in the future of the East Mediterranean countries. Whether they will help promote stability, prosperity and energy security, or fuel regional and international conflict is yet to be seen. However, incompatibility of interests and expectations of the actors in the region do not provide a ground for optimism. Unless developed for the benefit of all, exploitation and transport of hydrocarbon resources may escalate confrontations and frictions, which would seriously threaten the stability and security of the region and beyond. It can also transform the region into a strategic battle ground.

The problems in the East Mediterranean, a region where geopolitics and history do matter, are unlikely to be resolved soon. If not managed carefully and wisdomly, currently pursued myopic policies by all the countries will only complicate the possibility of converting the pressing challenges the region already faces into opportunities.

There is a need to look beyond. Converging economic interests could act as a strong motivation, and perhaps a catalyst, for overcoming the differences and creating interdependencies. An informal multilateral framework bringing together

the relevant stakeholders in the region could be a good start. A genuine mechanism of joint exploitation and transport of hydrocarbon resources could pave the way for establishing cooperation and collaboration, and hence potentially redraw the whole political and economic map of the region.

Politicians who lack pragmatism and use hydrocarbon resources for political gains at home are a serious obstacles to bring the prosperity of the people they represent. It is yet to be seen whether or not their commitment to populism will in the future outweigh their attachment to the welfare of their people.

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