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Marika KARAGIANNI

Egypt and the East Med gas reserves

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Dr. Marika Karagianni is a legal and international relations expert, specialized on international energy issues. She has served as special advisor on energy diplomacy to Ministers and Deputy Ministers of Foreign Affairs of the Hellenic Republic and as energy expert at the Hellenic Government Administration. She is a visiting lecturer and external research associate at: PSIR (Department of Political Science & International Relations), University of the Peloponnese, Department of Economic Studies-University of Thessaly (Volos) and International University of Greece-Department of Oil & Gas (Kavala). Author of two books: “Hydrocarbons: the contracts for offshore field development” (Nomiki Vivliothiki, 2018) and “Does energy cause ethnic war?” Cambridge Publishing Scholars, 2019.

Egypt and the East Med gas reserves

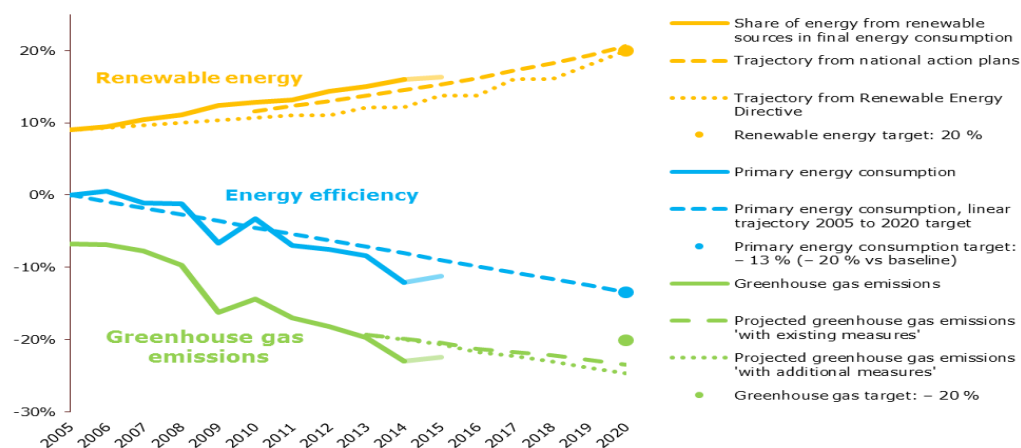
Executive Summary

The geopolitical and economic significance of the Eastern Mediterranean region has significantly increased in the last decade due to the new gas discoveries in the EEZs of Egypt, Cyprus and Israel. Greece has also farmed out its own offshore blocks and moves forward with energy development. The region has the potential to become a gas supply source for the EU in the future, which is why it has been identified by Brussels as a future gas diversification source. Along with field development, the key issue is the gas export routes towards Europe, with two main options on the table: either by pipeline, through the East Med project, or with LNG carriers through the Egyptian terminals. This paper analyses these two options and arguments in favour of sending LNG to Europe first through Egypt, this being the more imminent and market favoured solution, and at a second stage, through the East Med pipeline, when field development will have progressed and more discoveries will be available. Constructive, multilateral energy diplomacy via the reinforcement of the EMGF (East Med Gas Forum) is considered as the optimum solution to any destabilizing factor in the region.

Introduction

The Levant Basin, covering the offshore sectors of Israel, Lebanon, Cyprus, Syria and Gaza- approximately 80.000 square kilometres- is considered one of the most underexplored areas of the world, energy wise. In 2010, the USGS (United States Geological Survey) published a survey stating that the Levant Basin could hold as much as 120 tcf (trillion cubic feet) or 3.4 bcm (billion cubic meters) of recoverable gas and 1.7 billion barrels of recoverable oil (USGS, 2010). The USGS also estimated that the Mediterranean with its existing or assumed oil and gas reserves, might contain more than 340 tcf. The region has the potential to become a gas supply source for the EU in the future, which is why it has been identified by Brussels as a future gas diversification source (Szoke, 2016). The prospective resources could secure an additional energy source for Europe and increase the diversification options for countries dependent on a single supplier, i.e. Russia.

The use of gas in the EU is changing, though, in the framework of the decarbonisation strategy and the EU Green Deal. As domestic gas production is declining, imports are bound to increase even further. The EU is well placed to benefit from the rapid expanding global market of LNG. In 2019, LNG imports to the EU accounted for 115 bcm/y and 25% of total imports, with new import sources, like the US. Accordingly, the gas infrastructure creates prospects to accommodate the uptake of low-carbon gases in the EU. Furthermore, the upcoming EU hydrogen strategy and system integration are an opportunity to reduce barriers and promote a European hydrogen market. Although electricity production is set to generate all the more from Renewable Energy Sources (RES), natural gas will remain the cornerstone of the EU energy mix (IEA, 2020).



Source: European Environment Agency.

In the Eastern Mediterranean, the prospect of discovering new gas reserves progressively pushed the countries of the region to define their EEZs (Exclusive Economic Zones), in order to invite the global energy companies to invest in the prospective blocks. As a result, Israel signed an EEZ delimitation agreement with Cyprus, in 2010, without having declared such a zone prior to the conclusion of the agreement and having only partially acceded to the 1982 United Nations Law of the Sea Convention (UNCLOS). In 2003, the Republic of Cyprus delineated its EEZ with Egypt and in 2007 with Lebanon. The Lebanese Parliament has not so far ratified this agreement. Instead, the Council of Ministers adopted on May 21, 2009 a new delineation, which is different from the 2007 agreement, and in July 2010 the Lebanese government sent a new list of geographical coordinates to the UN, contradicting the 2007 agreement. Recently, Greece signed an agreement of partial EEZ delimitation with Egypt, whereby it is foreseen that a second one will follow.¹ Turkey has not signed any EEZ agreement in the region, as Ankara has not signed and therefore does not apply the UNCLOS. As a latest development, we should note the signature, in November 2019, of the Memorandum on setting maritime boundaries in the Mediterranean between Turkey and the Tripoli-based Government of National Accord (GNA)².

So far, major discoveries³ in the Levant Basin include the Tamar and Leviathan fields, offshore Israel (discoveries in 2009 and 2010 respectively), the Aphrodite field offshore Cyprus (discovery in 2011) and the Karish and Tanin fields, also offshore Israel (discoveries in 2011 and 2013 respectively). Also, Calypso and Glaukus 1 fields in Cyprus EEZ (discoveries in 2018 and 2019 respectively). The major discovery, however, in the Eastern Mediterranean was realized in 2015, when ENI announced the finding of a huge offshore block in the Shorouk concession, with the name Zohr, holding 850 bcm or 30 tcf in place (Ellinas, 2019). First gas from Zohr came in December 2017, whereas ENI states that in August 2019, gas production from the field reached more than 2.7 billion cubic feet per day (bcf/d), roughly five months ahead of the development plan⁴. Egypt has also other smaller, albeit significant, gas fields: Balteem, 9B, Raven, East Obayed and South Disouq, all

¹ Reuters, <https://www.reuters.com/article/us-egypt-greece-idUSKCN252216>, accessed October 8, 2020.

² AP News, “Turkey: UN registers maritime deal reached with Tripoli”, <https://apnews.com/article/turkey-libya-middle-east-mediterranean-sea-united-nations-c3b58ad6c45eb97ea64fe48813257a76>, Accessed November 19, 2020.

³ A discovery is made when a reserve is found, following a first drilling on a specific spot. The term “reserves” defines hydrocarbons that are certified but it is not yet clear whether and how much of them can be extracted and produced on commercial terms. The term “deposits” defines the asserted quantities of hydrocarbons, which can be extracted and can be subject of commercial production. As a result, the term “reserves” includes the term “deposits” (Stergiou and Karagianni, 2019; Narimanov and Palaz, 1995).

⁴ ENI webpage, <https://www.eni.com/en-IT/operations/egypt-zohr.html>, accessed September 29, 2020.

of them accounting for 15 bcm/y production.⁵ Furthermore, in late June 2018, ENI announced the future development of the offshore Noor gas field from August onwards, with probable reserves of around 90 tcf, which is three times the size of Zohr. With this new discovery, it becomes evident that Egypt holds massive gas reserves, as well as the key for the future gas export options towards Europe, as Cairo will be able to develop its own viable and commercially attractive LNG export strategy, using the two large existing LNG terminals in the Mediterranean, Idku and Damietta.⁶



Source: Middle East Economic Survey.

As far as Greece is concerned, in November 2013, geophysical surveys were carried out in the Ionian Sea and Crete by the Norwegian company, PGS. The data were evaluated by PGS and the French company, Beicip/Franlab. Based on their studies and recommendations, 20 offshore blocks have been farmed out and put forward for tender. Simultaneously, based on previous geophysical research carried out by the Public Petroleum Corporation of Greece in the mid 90's, another 5 onshore blocks and 2 offshore blocks in western Greece and the Ionian Sea were also put forward for tendering. The tender also covered 2 new immense blocks in South and Southwestern Crete, whose area is twice the size of Peloponnese (Foskolos, 2018). So far, the Greek

⁵ Charles Ellinas, "Presentation on the East Med hydrocarbons' potential", IENE 3rd Workshop on Eastern Mediterranean Hydrocarbons' Development, Athens, October 30-31, 2018.

⁶ Oilprice.com, "How important are Egypt's gas discoveries?", <https://oilprice.com/Energy/Natural-Gas/How-Important-Are-Egypt-Gas-Discoveries.html>, accessed October 5, 2020.

government has awarded exploration and exploitation contracts to 4 foreign companies (Exxon-Mobil, Total, Repsol and Edison) and 2 Greek petroleum companies (HELPE and Energean). These companies will explore and develop 5 onshore blocks in western Greece and 8 offshore blocks in the Ionian Sea and west, southwest and south Crete. Drilling has not started yet due to Covid 19 pandemic and the oil prices' crisis. The consortium of Exxon-Mobil, Total and HELPE is due to conduct new seismic and geophysical surveys in blocks south and southwestern Crete as of January 2021.

1. The gas export options

There can be two options to export gas globally: through pipelines and through LNG carriers. In the case of the Eastern Mediterranean, both options are on the table and forwarded by all countries of the region, either unilaterally or on a multilateral level, through regional cooperation schemes. First option considered involves the construction of a pipeline: the fact that the above- mentioned reserves could become an alternative energy source for the EU has made the option of constructing such a long subsea pipeline, very attractive. The approximately 1.900 kilometres long East Med pipeline (700 onshore, 1.200 offshore) with a capacity to deliver up to 20 bcm/y (initially 10 bcm/y), comprises: a) compressor stations in Cyprus and Crete, b) a pipeline from Israel gas fields to Cyprus, c) another pipeline connecting Cyprus to Crete and d) a pipeline from Crete crossing mainland Greece up to the Ionian coast (Thesprotia region). From there, the East Med is scheduled to connect with the offshore Poseidon pipeline (IGI- Interconnector Greece- Italy)⁷. Overall construction of the East Med is expected to cost approximately €6 billion.

In December 2017, Cyprus, Israel, Italy and Greece signed a Memorandum of Understanding “to explore the possibility of the construction of a natural gas pipeline linking Leviathan to European markets”.⁸ In the same year, the European Commission labelled the project technically feasible and economically viable and has therefore included the East Med pipeline in the list of the projects of common interest (PCIs), thus granting potential future financing from EU funds.⁹ Later on, in December 2018, at a meeting in Beer Sheva (Israel), the leaders of Greece, Cyprus and Israel officially stated that they were ready to sign an intergovernmental agreement on the East Med

⁷ The project is being developed by Greece's state gas corporation DEPA's subsidiary company IGI Poseidon S.A in which Edison holds a 50% share.

⁸ European Parliament (July 4, 2017). Parliamentary questions: Answer given by Mr Arias Cañete on behalf of the Commission. <http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=E-2017-003056&language=EN>

⁹ “Projects of common interest”, European Commission, <https://ec.europa.eu/energy/en/topics/infrastructure/projects-common-interest>.

pipeline project. The materialisation of the agreement would be contingent on an EU-funded (\$100 million) feasibility study. The intergovernmental agreement was signed between the leaders of Greece, Cyprus and Israel in Tel Aviv on March 20, 2019 in the presence of US Secretary of State Mike Pompeo, in a sign of strong support from Washington for the project. Finally, on January 2, 2020, another intergovernmental agreement on the realization of the project was signed in Athens by the leaders of Greece, Cyprus, and Israel and on July 19, 2020, the Israeli government officially approved the agreement, thus allowing the signatory countries to proceed with pipeline construction by 2025.¹⁰ The accord also includes provisions for ensuring the security of the pipeline and a common tax regime. The final investment decision (FID) is expected in 2022.¹¹

In economic terms, this project is considered as a very expensive export option, as its construction presupposes an average selling price of \$8/BTU. The big number of compression stations will significantly raise construction costs. It is therefore estimated that it would take at least 10 years to recover the initial expenditure. In commercial terms, the gas exports through the East Med pipeline towards Europe (initially 10 bcm/y, later 20 bcm/y) would represent only a mere alternative supply option to the huge supplies from Russia and the increasing LNG share in the European energy mix. The average price of gas in Europe in the last years was around \$5.40-6/BTU, and not much less than that in Israel- \$5.30/BTU. It can become commercially viable if the price of gas in Europe exceeds \$8/BTU and stays high for the longer term, or if it receives a big EU grant. Despite all that, the project enjoys strong political support not only from the countries involved but also from the EU- as mentioned above- and the US. The reason is that the East Med pipeline not only provides for an alternative to Russia supply source for Europe, but also upgrades the geostrategic leverage of the Eastern Mediterranean region, in a period of time when a Mediterranean country, Turkey, has become a factor of instability for the entire area. The pipeline circumvents Turkey and sends gas supplies directly to an EU country- Greece- and on to Italy and potentially Austria, to the large gas storage facility in Baumgarten. As things stand, time is of essence. The ongoing Covid 19 crisis has affected the realization of significant gas infrastructure projects, such as the East Med pipeline. Global energy prices need to increase significantly, in order for the markets to invest in such a big and expensive project and the banks to provide loans for its construction. When market conditions are ripe, then the political support will be translated in the economic realization of the project.¹² The case of the BTC

¹⁰ Al Jazeera. ["Greece, Israel, Cyprus, move to build East Med gas pipeline"](https://www.aljazeera.com/news/2020/10/1/greece-israel-cyprus-move-to-build-east-med-gas-pipeline). www.aljazeera.com. Accessed October 1, 2020.

¹¹ Reuters, <https://uk.reuters.com/article/uk-israel-europe-natgas-idUKKCN24KoFJ>. Accessed October 1, 2020.

¹² Cohen G. "Presentation on Israel's energy sector", 3rd Workshop on Eastern Mediterranean hydrocarbons research and development, IENE, Athens October 30-31, 2018.

(Baku-Tbilisi-Ceyhan) oil pipeline is a fine example of how the global energy market works. The project was first presented at the OSCE Summit in Istanbul in November 1999 and was fiercely promoted by the US, Turkey, Georgia and Azerbaijan as the first real alternative oil route through the Caucasus to the traditional Russian routes of Baku-Novorossisk and Baku-Supsa. The pipeline was considered very long, risky and technically challenging, going through the mountains of Georgia and the Kurdish areas of Southern Turkey. A long debate was held on the bankability of the pipeline, since the ACG (Azeri-Chirag-Guneshli) field in the Caspian had not been explored at the time. Economic uncertainty prevailed and stalled the project for years, until it was finally inaugurated in 2006, 3 years after the ACG field came online. Today, BTC delivers 1 mn barrels to Ceyhan, Turkey, provides Israel and the surrounding markets with Azeri oil, while the operator company, BP, has recovered its initial investment (Stergiou and Karagianni, 2019). Another pipeline project in the Caspian Sea, the Trans Caspian Gas Pipeline (TCGP), although supported and promoted by both the EU and the US for nearly two decades, has not yet come to life. The reason is the negative commercial environment surrounding field exploration in Turkmenistan and the high construction cost in the bottom of the Caspian Sea (Karagianni, CCEE- ADA, 2017).

On the other hand, the LNG export option is also on the table. Egypt is the driving force in the Eastern Mediterranean region as far as LNG is concerned (Ellinas, 2019). The first Production Sharing Agreements (PSAs) were signed back in the 1970s with some of the global energy majors like ENI, Shell and BP. Since then, Egypt has consistently attracted major investments in its vast deposits, either in the Mediterranean or in the Red Sea and the Nile Delta. In present time, Egypt has already succeeded in becoming a net exporter of natural gas, leaving behind its status as net importer. In 2025, the gas surplus is expected to reach 20-25 bcm/y, thus offering the option to export significant amounts of LNG. As things stand today, according with the official announcement of the Egyptian Natural Gas Holding Company (EGAS), the company is finalizing six new gas agreements worth a total of \$731m in investments and a signature bonus estimated at \$14m. The official strategy of Cairo is to develop Egypt's natural gas resources, with the double aim to increase gas production rates and to export significant amounts to Europe. The vast, albeit distant Asian markets are not considered at present time as an export destination for Egyptian gas- or Eastern Mediterranean gas in general- as the price of the LNG, based on current production rates, would be very high, considering the long distance and the big demand. EGAS Chairperson, Magdy Galal, has announced that the company signed five agreements during the fiscal year 2019/2020, and three other agreements in the first quarter of 2020/21. The eight agreements' total value is rated at \$934m, with signature bonuses amounting to \$51m. It is also important to note that Exxon Mobil and Chevron entered into oil and gas exploration, as well as production for the

first time. This comes in addition to the increased investments made by companies such as BP, Shell and Total. Finally, Galal has revealed that Egyptian gas production has now increased to 7.2 bcf/d.¹³

Egypt's natural gas infrastructure is the most developed in the area, with two large LNG terminals- Idku and Damietta- whereas the Suez Canal offers a magnificent trade route for oil and gas. Furthermore, the partially state-owned Egyptian company Sumed is building a new large-scale LNG terminal in the Gulf of Suez. Following the discovery and the fast-track development of Zohr, a private Egyptian company, Dolphinus Holdings, agreed in February 2018 to buy gas from Noble Energy and its partners in Israel's two largest offshore fields, Leviathan and Tamar (Karbuz). The agreement was signed based on purely commercial terms, as it serves multiple purposes. First and foremost, it aims to cover future demand, as growing population, rising household incomes and a growing economy have driven energy demand higher in Egypt during the last decades. Secondly, it provides a more immediate outlet option for Israeli gas, in the form of LNG, as the East Med pipeline is a more distant gas export alternative and the Israeli Ministry of Energy needs immediate net income for the state budget coming from energy exploration and exports.¹⁴ Thirdly, from a security point of view, the agreement solves the issue of onshore gas transit through the vulnerable El Arish area and secures gas imports for energy hungry Egypt in the long- term.

2. Cooperative multilateral energy diplomacy

Apart from satisfying the domestic energy needs, the Egyptian energy strategy aims to render the country the main point of gas exports to Europe in the Mediterranean. Supplying European markets through the LNG terminals in Idku and Damietta, able to accept natural gas from different sources beyond Egypt itself, seems profitable for all parties.¹⁵ Besides the Israeli, the Cypriot gas reserves could also serve this purpose. To this end, Cairo has been engaged in active and constructive energy diplomacy in the past few years, aiming to combine all interests involved: satisfy its own energy needs, upgrade the usage of Idku and Damietta facilities, work together with Cyprus and Israel, as well as with Greece, to implement a cooperative, multilateral energy strategy in the Eastern Mediterranean and thus coordinate the gas exports to Europe both through the LNG terminals and also through the East Med pipeline. In this respect, it is worth noting that Egypt, although not a

¹³ Daily New Egypt, <https://dailynewsegypt.com/2020/09/20/egypt-signs-6-new-gas-exploration-agreements-worth-731m/>, accessed October 8, 2020.

¹⁴ Haaretz, <https://www.haaretz.com/israel-news/.premium-israel-may-need-egyptian-gas-too-says-expert->, accessed September 15, 2020.

¹⁵ Cohen G., "Presentation on Israel's energy sector", 3rd Workshop on Eastern Mediterranean hydrocarbons research and development, Institute for Energy in South Eastern Europe (IENE), Athens October 30-31, 2018.

participant state in the pipeline, it supports fervently the project with the other member states of the East Med Gas Forum (EMGF), the regional energy organization in the Eastern Mediterranean.

The Eastern Mediterranean Gas Forum was launched in 2019 in Egypt, when in January, the Ministers of Energy of Egypt, Cyprus, Greece, Israel, Italy, Jordan, and the Palestinian Authority met in Cairo to discuss the establishment of the Eastern Mediterranean Gas Forum, which would serve as the umbrella for cooperation and dialogue on the development of gas resources in the entire region. While energy is at the epicentre of the forum, there are also broader geostrategic procedures that led to its establishment, reflecting the common perceptions of the countries involved of the importance of the Eastern Mediterranean to their national security. Although officially the Gas Forum is open to other countries, the meeting in Cairo did not include representatives from Turkey, Lebanon and Syria. In September 2020, the Ministers signed the chart elevating the Forum into a full-fledged regional organization, with the aim to jointly develop the gas reserves of all participating countries, draft export routes, both with pipeline and LNG carriers and cooperate on pending legal issues, such as EEZ delimitation and various security threats.¹⁶

Despite the immense political importance of the EMGF, it is evident that it represents the political aspect of energy development in the Eastern Mediterranean. The markets, however, operate on purely commercial terms. Political and geostrategic considerations cast aside, it is ultimately up to the markets and the investing companies to decide if they will engage in a country, and they do so primarily on the basis of commercial factors and risk assessment analysis. If the companies, after they have completed such a process, decide not to invest in the exploration and development of natural resources in a third country or in a major transportation project, no political alliance, directive or axis can force them to do so. Commercial viability and bankability of a project are what really matter for a foreign investing company and global financing institutions (Stergiou and Karagianni, 2019).

This strategy has proved to be both wise and fruitful and has led to close ties with Israel, Cyprus and Greece, as reflected in various tripartite summits, official visits and several cooperation agreements (Eiran and Mitchell, 2018). As a result, in November 2017, the Presidents of Cyprus and Egypt together with the Prime Minister of Greece officially endorsed the option, and in September 2018, Cairo and Nicosia signed a deal for the construction of a subsea pipeline to export gas to Egypt, whereas the terms of the commercial agreement were discussed later between the companies involved in the project - Noble Energy consortium and the operators of the Idku LNG terminal plant.

¹⁶ The Arab Weekly <https://the arabweekly.com/east-med-gas-forum-turns-regional-organisation-blow-turkey>, accessed October 8, 2020.

This deal has been facilitated by the fact that Shell is both the operator of the Idku facility and a partner at the Aphrodite field consortium. Noble Energy¹⁷ and its Israeli partner Delek, along with Egyptian East Gas Company, bought a 39% stake of a disused pipeline connecting the Israeli coastal city of Ashkelon with North Sinai. The consortium will pay \$518 million for their interest in the East Mediterranean Gas Company pipeline.¹⁸ The partners can count on a 10-year \$15 billion deal to sell gas to Dolphinus Holdings for use by large Egyptian users, such as factories, while hoping to win more contracts from foreign companies that now operate the idle LNG plants in Egypt.¹⁹ This route was promoted by both sides also as an alternative to onshore pipeline deliveries to Egypt, as the pan-Arab pipeline is not considered any more a wise option from a security point of view, as discussed above.²⁰

In any case, security and stability are of primary importance for the companies to invest in a region. As ExxonMobil's Vice-President of Europe, Russia and the Caspian, Tristan Asprey, stated at the Economist Summit in Nicosia in November 2018, there is a need to reduce regional geopolitical risk. LNG projects involve multi-billion-dollar investments and the returns take decades to materialise. Such projects and investments need certainties. Among the key challenges is Turkey's effectively untenable position that islands, including Cyprus, are not entitled to EEZs. As Turkey does not recognise the UNCLOS, it supports that mainland continental shelves take precedence over islands. On that basis, Turkish authorities continue to challenge Cyprus's right to develop its own EEZ, disputing all related hydrocarbon activity. However, this is at odds with the EU, the US and the international community who recognise Cyprus's rights to exploit its EEZ for the benefit of all Cypriots (Ellinas, 2018). This does not mean, however, that Turkey does not have a right on its continental shelf, or that the Turkish Cypriots should not participate at the energy development of the island and the future earnings from it.

Fact is that, as stated in the EMGF Charter, the Organization is open to any potential future member state -as long as all founding members agree unanimously on its participation- and does not position itself against any actor in the region. As long as key countries like Lebanon, Syria or Turkey are

¹⁷ As a recent development, Noble Energy has been bought by Chevron and as a result the latter has acquired all participating stakes of Noble Energy in exploration and transportation projects in the Eastern Mediterranean.

¹⁸ Haaretz, "Israel selling gas to Egypt: mark of the real new Middle East", September 27, 2018, <https://www.haaretz.com/israel-news/.premium-israel-selling-gas-to-egypt-mark-of-the-real-new-middle-east-1.6512663>, accessed September 12, 2020.

¹⁹ Haaretz, "With exports to Jordan and Egypt, Israel becoming key player in Mideast gas market", <https://www.haaretz.com/israel-news/business/with-exports-to-jordan-and-egypt-israel-becoming-key-player-in-mideast-gas-market-1.652944>, accessed October 8, 2020.

²⁰ The Arab Gas Pipeline originating near Arish in the Sinai Peninsula was built to export Egyptian natural gas to Jordan, Syria, and Lebanon, with an underwater branch to Israel and a total length of 1.200 kilometres.

left outside the EMGF, regional security remains elusive. The truth is that the East Med pipeline does not include Turkey, as a result, it may be expected that regardless of the government, Turkey would not hesitate to adopt gun-boat diplomacy to hamper materialization of the project, once construction moves ahead. Furthermore, the signature of the Turkey-Libya GNA Memorandum should be viewed in the same context, i.e. as a response to the launching of the EMGF without the participation of Ankara ²¹.

Conclusions

The effects of the Covid 19 crisis in the global energy market are huge and already visible. Most of the energy companies like Chevron, Exxon Mobil etc. have announced the freezing of all exploration activities until Spring 2021. The Eastern Mediterranean is no exception. Given that the pandemic has a long way to go until it recedes, the downward trend in oil prices is likely to persist for long with immense repercussions on the upstream sector, as well as on exports and marketing of petroleum products worldwide.²² The most immediate effect would be on the East Med pipeline. As analyzed above, despite the strong political support from all parties involved in the realization of the project, the market indicators are not yet ripe for issuing the FID, that will allow the actual construction of the pipeline. On top of that, the pandemic coupled with the oil crisis due to the OPEC production cuts are likely to stall the implementation of big and expensive energy infrastructure projects, such as the East Med, until the global oil prices raise and the balance is restored in the global energy market. As a result, it should be expected that actual realization of the East Med project will take place in the next decade. In any case, such projects are long term projects that will benefit for many decades the generations of the countries involved.

As far as LNG is concerned, Egypt emerges as the key country in the Eastern Mediterranean, as it has the potential to become a gas trading hub. Gas trading hubs are well established in the North-Western states of the EU and are gaining ground in parts of Southern Europe, such as Italy, as well as in Central Europe. In the Eastern Mediterranean, however, there is neither a market mechanism to buy or sell gas in an efficient manner, nor a pricing mechanism to determine spot prices. Gas sales are still based on traditional long-term oil-indexed bilateral agreements. Gas exploration and production is also likely to be delayed in Egypt due to the double crisis, despite the signature of new contracts. Nevertheless, the trend in Egypt is positive. Given the

²¹ Middle East Monitor, "What does the UN registration of the Turkey- Libya maritime agreement mean?", <https://www.middleeastmonitor.com/20201020-what-does-the-un-registration-of-the-turkey-libya-maritime-agreement-mean/>, accessed November 17, 2020.

²² New Europe, <https://www.neweurope.eu/article/the-oil-crisis-and-the-future-of-the-eu-southern-gas-corridor/>. Accessed October 8, 2020

current circumstances, the two LNG terminals in Idku and Damietta will be able to process gas from Israel Cyprus, based on the two agreements mentioned above, in order to cover Egypt's domestic consumption and also export gas as well. Major exports to Europe are expected to come in the next years from Zohr and Noor, provided that investment from the foreign companies will go forward. Based on all the above data and assessments, Egypt is bound to lead gas exports of the Eastern Mediterranean countries and diversification for Europe, through its LNG terminals. The East Med pipeline will follow later on.

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