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Geopolitics, Gas and Grand Ambitions: The Outlook for Petroleum Production in the East Mediterranean

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Geopolitics, Gas and Grand Ambitions: The Outlook for Petroleum Production in the East Mediterranean

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Introduction

News of mass migration, terrorism and civil war in the Mediterranean has dominated the headlines in recent months. This has overshadowed another potentially game-changing development in the region, namely the consequences of major recent natural gas discoveries off the coasts of Israel, Cyprus and Egypt. Over the past decade, vast offshore hydrocarbon reserves have been uncovered in the so-called Levant Basin, raising hopes that the region may enjoy a new economic boom, and potentially even start exporting gas in the future. Nonetheless, there has been much debate over the viability of substantial gas production and exports from the East Mediterranean, ranging from questions pertaining to the geopolitical dynamics of the region to the effects of lower global oil and gas prices, or the technological feasibility of these projects.

This paper wishes to strike a balance between the overly optimistic projections of a future gas bonanza in the East Mediterranean and a negative view that completely dismisses the importance of these developments. The following study therefore aims to provide an interdisciplinary assessment of the outlook for petroleum production in the Levant Basin, focusing on five key areas: geopolitics, economics, legal issues, environmental concerns, and technological constraints. In order to present a comprehensive view, the analysis covers the domestic, regional and international dimensions of each aspect. In its conclusion, this piece highlights the possible future scenarios for hydrocarbon production and exports, and provides a summary of the overall outlook for the petroleum industry in the East Mediterranean region.

Geological Potential in the East Mediterranean

The geographic region of the Mediterranean (and the wider area of the Middle East and North Africa in general) holds substantial petroleum reserves and has a long-standing history of hydrocarbon production. In this respect, the waters of the East Mediterranean were not considered equally rich in crude oil and natural gas – that is, until recent years. The offshore East Mediterranean generally covers two major geological formations, the so-called Levant and Nile Basins. The following sections will, however, primarily focus on the Levant Basin, as this is the location of the majority of large-scale gas discoveries of late.

The Levant Basin covers a territory of over 80,000 sq km (Zemach, 2016, p. 3); to put that into perspective, this is roughly equivalent to the size of the Czech Republic or the United Arab Emirates. The Levant Basin is among the most underexplored and prospective territories in terms of oil and gas potential globally (Butler, 2015). Recent deep offshore, sub-salt discoveries from 2007 onwards have already located many hydrocarbon-rich targets. Although most of the finds made so far are of natural gas, studies suggest the region holds significant geological potential for oil deposits too. In 2010, the US Geological Survey estimated that the Levant Basin may contain up to 1.7 billion barrels of crude oil and as much as 122 trillion cubic feet (Tcf) of technically recoverable natural gas (Butler, 2015; Blanche, 2013, p. 34). This is of course yet to be confirmed, and experts warn that reserve size forecasts should be handled with caution (Zemach, 2016, p. 3), since not all of these amounts are likely to be both technically recoverable and economically viable. The reserves actually confirmed to date remain quite small by global standards, underscoring the skepticism of some market actors with regards to potentially developing these fields. The following section looks at these recent discoveries in greater detail.

Overview of Recent Hydrocarbon Discoveries

Before the first major discoveries made in the Levant Basin, Libya and Algeria were considered to be the energy powerhouses in the Mediterranean region (Blanche, 2013, p. 34). Since then, major discoveries have been made offshore Israel, Cyprus and Egypt (see Table 1).

Israel

The Israeli Tamar field, located in 2009, is said to hold reserves amounting to 10 Tcf. A year later, an even larger prospect was drilled: the aptly named Leviathan field, similarly off the coast of Israel, has a potential of 22 Tcf. Leviathan has been a major discovery over the past years even by global standards (Yergin, 2011, p. 282). This has also led to a heated debate in Israeli domestic affairs on the economic and political implications of these finds, the potential for exports, and what this may all mean for Israel's role in the wider Middle East.

Cyprus

The offshore Aphrodite field, somewhat smaller, was discovered in Cypriot waters in 2011; experts estimate it could hold up to 7 Tcf. It is considered a unique find, especially given how oil and gas exploration offshore Cyprus has not provided very fruitful results over the past decades. The government is now attempting to identify and delineate other potential targets for hydrocarbon exploration in Cyprus' territorial waters and exclusive economic zone (EEZ). Since the Cypriot domestic market is very small ("Egypt: The Eastern Mediterranean's Next Natural Gas Hub?", 2016), the discourse tends to focus on the prospects of Cyprus becoming either an exporter nation or a center point of energy production-export infrastructure – a so-called "energy hub" – within the region. This is of course overshadowed by myriad legal and political hurdles (such as the disputed status and divided nature of the island), which will be discussed in greater depth in the coming passages.

Egypt

Egypt is not a major energy producer or exporter by the regional standards of the petroleum-rich Middle East, but it has an existing oil and gas industry that has been in place for decades. Most of its infrastructure and facilities are located onshore, and the country even boasts two liquefied natural gas (LNG) terminals in Damietta and Idku.

The major breakthrough came just last year, when the Italian oil company, ENI, made headlines with its successful natural gas find in the Zohr field. ENI officially confirmed

the Zohr discovery in August 2015 ("ENI in Egypt: Euregas!", 2015), which is among the world's twenty largest gas fields according to initial estimates (Butler, 2015). With reserves of approximately 30 Tcf, Zohr field is the single biggest hydrocarbon discovery ever made in the entire Mediterranean Sea, and contains enough natural gas to meet Egyptian domestic demand for a whole decade. In effect, Zohr could potentially nearly double Egypt's petroleum reserves ("ENI in Egypt: Euregas!", 2015). It is no wonder that Zohr is now considered the "crown jewel" of Egypt's petroleum sector ("Egypt: The Eastern Mediterranean's Next Natural Gas Hub?", 2016). Original plans targeting a start of production in 2017 now seem overly optimistic ("ENI in Egypt: Euregas!", 2015) from both a technical as well as from a business point of view. Nonetheless, Egypt's 80+ million population, economic potential and rising energy demand all underscore the government's commitment to developing this field (Reed, 2015).

Other Areas

Although exploration has not begun in earnest in Syrian and Lebanese waters, geological formations suggest these territories could also be rich in hydrocarbons. Exploration in Lebanon is complicated by a divided political system and the lack of policy consensus on how to proceed, whereas the current security environment in Syria is obviously not conducive to foreign investment, to say the least (Khadduri, 2012, p. 116).

As is clear from the foregoing, the waters of the East Mediterranean certainly have significant petroleum potential (see Figure 1). The spread of deep offshore drilling (and its decreasing costs) in this region has helped pinpoint several highly promising targets and fields over recent years. To place the importance and size of these discoveries into context, the forecast prepared by experts at the Atlantic Council states that Israel and Cyprus could produce up to 25 billion cubic meters (Bcm) per annum together over the next 20 years. This would be equivalent to approximately half of current domestic Turkish demand, or a sixth of the quantity of current Russian natural gas imports to Europe (Ellinas, 2016, p. 2).

The aim of this study is to assess the implications of recent discoveries for domestic economies, regional markets, as well as the global oil and gas industry as a whole. Many questions need to be answered over the coming months and years: Is production technically and economically viable? How and when could exports from the region potentially start? How will the current seismic shifts in global energy markets (i.e. low commodity prices) affect the outlook for the East Mediterranean? What are the chances of resolving the many interconnected geopolitical and legal issues complicating the

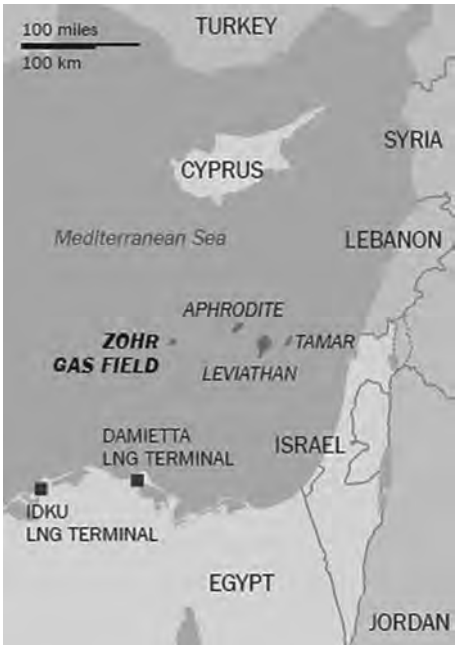
situation in the region? The following chapters attempt to analyze these myriad issues from five different aspects, namely geopolitics, economics, legal concerns, environmental issues and technological feasibility.

Table1. Major hydrocarbon discoveries in the East Mediterranean

Year	Country	Field	Estimated reserve size
2009	Israel	Tamar	10 Tcf
2010	Israel	Leviathan	22 Tcf
2011	Cyprus	Aphrodite	7 Tcf
2015	Egypt	Zohr	30 Tcf

Source: open source intelligence.

Figure 1. Overview map of the Levant Basin and its key energy industry locations



Source: Reed (2015).

Analysis

Amid rising industry buzz and political interest in the region, the question of whether large-scale gas production is technologically and commercially viable has come to the fore. The following chapter attempts to examine the outlook for petroleum production and exports from the East Mediterranean from five different perspectives.

Geopolitics

The first, and perhaps most obvious, dimension of this complex situation is that of geopolitics. Future gas production in the Levant and Nile Basins could clearly have significant political repercussions both within the East Mediterranean region and beyond. All this begs the question: How will the prospect of hydrocarbon production and exports change the internal dynamics of this turbulent part of the Middle East?

The East Mediterranean itself is currently in a state of political turmoil, with a long list of unresolved issues often dominating global news headlines. This is compounded by a complicated history and bitter ethnic/religious divides between various social groups.

The key concern for the time being is the Syrian civil war, which has been raging for some five years; its spill-over effects (i.e. political discord, an influx of refugees, a rise in terrorist attacks and sectarian violence) have also endangered the stability of neighboring countries. The involvement of several international actors has only exacerbated the Syrian situation. The ongoing violence precludes any meaningful attempt to ascertain the hydrocarbon potential of the country's territorial waters, and thus of possibly reaping the economic benefits of its natural resources.

The Israel-Palestine conflict constitutes the second core geopolitical issue in the East Mediterranean region, one of the longest-standing, most high-profile disputes. While recent finds off the coasts of Israel (i.e. the Tamar and Leviathan fields) are located within Israeli territorial waters, the legal status of certain other discoveries is far from clear. For instance, the Gaza Marine field, uncovered by the British company BG in 2000, lies close to the Gaza Strip, and its development has therefore been hindered by questions of sovereignty. Given the bitter ethnic and religious undertones to the Israel/Palestine question, a solution to the conflict does not seem to be on the cards in the near future. This means that any medium- to long-term strategic thinking on the future of hydrocarbon production and exports in the East Mediterranean will have to factor the ongoing nature of this crisis and its political implications into its outlook.

Third, the disputed nature of the island of Cyprus should be taken into consideration. The roots of this issue stretch far back in history, constituting a sensitive topic from the points of view of both Turkey and Greece (and, consequently, the European Union as a whole). The contentions surrounding petroleum output are already apparent: since the discovery of the Aphrodite field in 2011, numerous debates have unfolded over the legality and the political legitimacy of the offshore licensing rounds organized by the (Greek) Cypriot government.

Another, more general, problem lies in the security concerns directly related to petroleum production itself. Onshore production in the East Mediterranean region can already prove quite troublesome in terms of security. To cite a specific regional example, natural gas export flows through the Sinai Peninsula have recently been seriously compromised by a lack of governmental and military control on behalf of Cairo. Offshore production, on the other hand, necessitates even higher security requirements to protect both the personnel at the sites as well as the expensive infrastructure used to bring crude oil and natural gas to the surface. Piracy, hijacking and the kidnapping of both foreign and local staff are therefore valid security concerns. Rising risks of potentially hostile naval incidents taking place in the future have driven several littoral East Mediterranean countries to start building up their maritime defense capabilities. It is not yet clear whether the potential guarantors of the security of the offshore petroleum industry in the region will be traditional national armies (i.e. coast guards) or perhaps even private military companies contracted by oil and gas companies and other business stakeholders. A lack of institutionalized conflict management and resolution mechanisms within the region further complicates the situation. This once again highlights how establishing a substantial offshore hydrocarbon industry off the coasts of the East Mediterranean would be very difficult from a political standpoint.

Of course the geopolitics of future oil and gas production are not merely some sort of risk or curse on the region; instead, it offers new avenues for economic influence and diplomatic leverage to the countries at hand. This holds particularly true in the cases of Israel and Cyprus, two small states in a volatile Middle East, who could potentially use energy as a tool to pursue their national interests more effectively (Panayiotides, 2014, p. 154). Some countries seem to be missing out on the opportunities this presents, at least for the time being. Lebanon and the Palestinian Authority, for instance, do not have much influence on events for now (Ellinas, 2016, p. 3), although this may be subject to change in the future.

So far, the internal regional geopolitical dynamics of future East Mediterranean petroleum output have been assessed. Nonetheless, the potential geopolitical implications beyond the Levant Basin are similarly multifaceted. Any exports from the region would increase global hydrocarbon supply, despite the global market already being saturated, and in

spite of the fact that commodity prices are rather low. A rise in exports from Israel, Cyprus, Egypt, etc. could further undermine the positions of major existing Middle Eastern gas exporters. A truly in-depth analysis of all the possible geopolitical ramifications goes beyond the scope of this study, but the roles and interests of just some of the key external actors are worth taking into consideration.

The European Union, as a principal player in the East Mediterranean, has a fundamental stake in both stabilizing the region as well as enhancing its ongoing import diversification efforts to ensure security of supply. Although the probability of East Mediterranean gas reaching European markets in the near future seems slim, the consequences of this could be widely felt. For instance, it may galvanize regional governments into action on resolving long-standing issues to maximize the potential benefits of petroleum production, thus possibly changing the dynamics of EU-Turkey relations or overturning the current stalemate regarding the status of Cyprus (De Micco, 2014, pp. 21-22).

The Russian Federation is another core player worth mentioning. It currently maintains positive ties with Israel and Cyprus, playing an interventionist role in favor of the Assad government in the Syrian civil war, whereas its relations with Turkey have been quite turbulent of late. Its main strategic concern is to remain a dominant player in European markets. This includes plans to build the so-called Turkish Stream pipeline, while Gazprom has already shown interest in LNG projects in the region (De Micco, 2014, pp. 18-19).

Thanks to unconventional hydrocarbon production, the United States is nearing its long-held dream of energy independence, and is consequently currently more of a passive onlooker when it comes to the petroleum industry of the East Mediterranean. Nevertheless, it has a vested interest and a strong political commitment to stability in the wider Middle East: while its attention focuses more on Syria, Iraq and the dangers posed by the so-called Islamic State, the US also remains well-informed of petroleum-related developments in the Levant Basin (De Micco, 2014, pp. 19-20).

Overall, the case of crude oil and natural gas in the East Mediterranean touches upon several sensitive geopolitical issues; potential exports could unleash many uncertain and complex political and economic processes. In fact, it is precisely this uncertainty that holds back many industry players from entering the energy scene of these countries, since hydrocarbon-related investments tend to be long-term, strategic and highly costly projects. In this regard, the complicated geopolitical situation in the East Mediterranean clearly clouds the region's energy outlook.

Legal Issues

The second set of issues affecting the future of hydrocarbon output in the Levant Basin countries is legal in nature, and primarily stems from the unresolved nature of certain border conflicts in the region. These maritime border disputes greatly undermine efforts to develop the East Mediterranean's natural resources.

As mentioned in the previous sub-chapter, the disputed status of Cyprus has both political and legal implications. Questions surrounding sovereignty, the potential reunification of the island and the effects of this on petroleum exploration and production are unlikely to become clearer in the medium term.

Specific maritime boundary disputes also abound in the region. The most straightforward one is the case of Israel and Palestine, where the exact extent of the territorial waters of the Gaza Strip tie into the whole debate over Palestinian sovereignty and statehood. In addition, passions have ridden high over the alleged intentions of the Israeli government to control the natural gas export revenues accrued by the Palestinian Authority. There is a long-running maritime border dispute between Israel and Lebanon, and their respective exclusive economic zones (EEZs) similarly overlap; this is further exacerbated by the fact that the two countries officially remain in a state of war. Furthermore, Israel and Egypt are yet to agree upon a precise EEZ boundary recognized by both parties.

Still, there are some positive signs suggesting that the prospect of reaping the benefits of hydrocarbon wealth may catalyze consensus in this area. Greece, Cyprus and Egypt decided to accelerate diplomatic talks in delineating their joint maritime borders in December 2015 (Koutantou & Maltezou, 2015). Israel and Cyprus have similarly settled their exclusive economic zone dispute in 2010, just a year after the discovery of Israel's Tamar field.

Some other – more theoretical – legal debates pertain to questions of resource ownership, good governance in natural resource management and precise contract terms. Countries of the East Mediterranean are clearly wary of falling into the trap of many oil- and gas-rich countries where a sudden abundance of petroleum wealth has led to political instability and economic woes (i.e. Dutch disease). A possible route to overcoming this type of legal concern is to encourage the active participation of civil society in the areas of climate mitigation, climate adaptation and natural resource management. A more transparent and democratic process for licensing rounds, field development and production would ensure greater democratic legitimacy and public

support for petroleum output, and hopefully help these societies avoid the so-called "resource curse".

Economic Considerations

One of the main aspects worth concentrating on when assessing the outlook for oil and gas production in the East Mediterranean has to do with economics; namely, can a business case be made for the sustainable, financially viable production and export of hydrocarbons in the region? This economic assessment can be approached from a number of perspectives: that of the petroleum companies operating in the region, that of the local governments, or of the general global trends in the energy sector. The following analysis attempts to provide a birds-eye overview from the point of view of global and regional energy economics.

Concerning the general business environment in the global oil and gas industry, we are clearly experiencing turbulent times. Many long-held tenets of international energy markets have been rewritten over the past decade. The most visible sign of these seismic changes has been the tumbling price of crude oil, natural gas and other key commodities since early 2014. The benchmark price of Brent crude oil has fallen as low as below 30 dollars per barrel. Most industry forecasts suggest that these relatively low prices are likely to remain until (at least) the middle of the next decade (Fischer, 2016, p. 86). The current depressed price environment therefore greatly undermines the commercial viability of energy projects in the East Mediterranean (Ellinas, 2016, pp. 2-3).

The reason for these low petroleum prices lies in the forces of demand and supply. On the supply side, the rise of unconventional oil and gas production in the United States thanks to hydraulic fracturing and horizontal drilling has led to an abundance of supply on global markets. In addition, the rehabilitation of Iran and an increase in output from non-OPEC countries have further pushed prices downwards. On the demand side, slowing growth and changing economic models have held back the powerhouses of global economic growth in the emerging markets of China and India.

All of the above have fundamental consequences not just for the global hydrocarbon industry in general, but also for the role of the East Mediterranean within it in particular. Several strategic trends should be assessed in relation to international energy markets. It seems that access to markets is now becoming more important than direct access to sources of energy. This coincides with greater uncertainty and security risks in supply countries, and the growing clout of consumer/importer states (Fischer, 2016, pp. 97-

100). Natural gas markets are also changing: these fundamental shifts include the emergence of new export routes, greater contract flexibility through the delinking of gas prices from those of crude oil, and an increasingly prominent role for LNG (Fischer, 2016, pp. 91-93).

Related to our specific case study, the abundance of natural gas on global markets means that the relatively small reserves of the East Mediterranean are less likely to find their way to export markets. Low oil and gas prices imply that the large-scale energy investments necessary to drive up even domestic production may not prove fully economical on a business basis. In addition, the major shifts in global market structures described above lead to a higher level of uncertainty, rendering long-term strategic investment decisions yet more difficult.

The economic considerations cited above are more general and global in nature. It is also necessary to analyze the more concrete and direct economic considerations facing the countries of the Levant and Nile Basins. Future gas production could provide a much-needed buffer to East Mediterranean economies. (The exact scale of these revenues, of course, is still a question of debate; it would be wise to handle initial reserve estimates with caution.) Nonetheless, Cyprus and Greece were ravaged by the Eurozone crisis, so any additional income from hydrocarbon output or export duties and taxes would be a welcome boon to the state budget. Israel's main economic concern in this regard would be the easing of its traditional reliance on energy imports, and the corresponding rise in its security of supply (however, questions relating to its exports are very sensitive politically). Despite its strong demographic growth, Egypt's economy is stagnating, and the possible phasing out of wasteful energy subsidies would provide great economic advantages (Reed, 2015). Nevertheless, in order to truly reap the monetary and fiscal advantages their hydrocarbon wealth offers, the countries of the region would do well to work together (i.e. through joint field development and infrastructural projects) in order to exploit the economies of scale (Ellinas, 2016, p. 17).

The economic benefits of oil and gas production for East Mediterranean countries are therefore quite straightforward. But what of the economic potential of exports: are they truly feasible on a purely business basis? Of course, the economic rationale behind a particular business decision of, say, a specific energy company operating in the region is quite complex, but the viability of energy exports can nonetheless be assessed in general terms.

The recent finds in the East Mediterranean far exceed the size of local demand (Butler, 2016). Nevertheless, for now the chance of exports to the European Union seem quite

slim. This has to do with the fact that the Levant Basin region almost completely lacks the necessary infrastructure for this, whereas European markets are already saturated with natural gas from traditional export sources such as Russia and the Caucasus. The rise of LNG terminals potentially bringing US and Middle Eastern gas to EU member states would be a further competitor to East Mediterranean exports. Meanwhile, the countries of the Levant Basin are caught in a double bind: exports seem unfeasible, while the size of domestic markets of themselves may prove insufficient to justify the large investments required for building all the necessary infrastructure (thus leaving the option open of only partial development). This holds especially true considering the huge upfront costs characterizing the energy industry (Ellinas, 2016, p. 2). While not overlooking the importance of the already existing infrastructure in the region, difficulties in attracting financial investments for such new, large-scale projects may prove a major hurdle. In a best case scenario, the most significant effect of East Mediterranean gas discoveries would be a decrease in imports to these countries, and their associated economic and social benefits (Khadduri, 2012, p. 117), whereas exports seem less probable for the time being.

Environmental Concerns

A fourth aspect relating to the outlook for the East Mediterranean's fledgling petroleum industry relates to the environment. There is an increasing global awareness of the dangers of anthropogenic climate change, but this seems to be a secondary issue in public debate in countries of the Levant for now. These countries are generally less engaged in the ongoing global transition towards cleaner and "greener" forms of energy (i.e. fossil fuel divestment campaigns).

Nonetheless, climate change poses an entirely new dimension to the region's natural resource development. Global warming and its myriad consequences are a particular threat to the Mediterranean, and the region is exceptionally vulnerable to the socioeconomic effects of climatic shifts, be that on agriculture, access to water, migratory and demographic trends, poverty, etc. The increasingly interrelated subjects of climate and security mean all this could have fundamental implications for the security of the European Union as well. The fact that countries of the Mediterranean are typically characterized by ethnic/religious diversity, weak institutions and/or a crisis of governmental authority exacerbates the threat posed by anthropogenic climate change.

Since climate change amplifies existing fragilities, considerations regarding the future of the East Mediterranean's petroleum industry should take a long-term view. It is important to decide whether the potential economic and political benefits of increased fossil fuel

production (and possibly even exports) from the region are worth the consequences of exacerbating climate change in an already vulnerable region. The answer to this remains unclear for the time being.

Technological Feasibility

A fifth, and final, approach is that of technological feasibility. It is outside the remit of this study to provide an in-depth geotechnical analysis of the Levant Basin fields. Nonetheless, the following section aims to highlight some of the major challenges in this regard, some of which dampen the hopes for a future gas boom in the East Mediterranean.

To date, most of the discoveries made in the region have been located deep offshore, in the geologically difficult, so-called sub-salt terrains of the Levant Basin. This complexity drives up operational costs and associated security needs to a great degree. At the same time, any technical assessment must take into account the substantial uncertainty over reserve sizes: the precise extent of these finds is still being determined. In some cases, large-scale downward revisions have already occurred following more optimistic initial estimates (i.e. with regards to the Aphrodite field in Cyprus).

In general, the energy industry is very capital intensive, meaning that high operational costs may not be justified in light of low oil and gas prices. The current lack of infrastructure (be that subsurface pipelines, gas processing plants, oil refineries or LNG terminals) mean that much development and financing would be needed to establish a large-scale energy hub in the region. In sum, many technological questions remain open regarding the future of the East Mediterranean's hydrocarbon industry.

Future Energy Scenarios in the East Mediterranean

Based on the five aspects detailed above, the outlook for the East Mediterranean is far from clear. Will reserves be developed? Will they only cover local demand, or is there a true feasibility of exports? If so, what economic, social and political consequences will this have for countries of the region? Indeed, there is much uncertainty surrounding the topic, but some of the expert literature has nonetheless already begun to assess the possible energy scenarios in the Levant Basin. The following section presents some of the major options detailed in the literature on the subject.

A number of possible export options and routes have been described (Butler, 2016; Grigoriadis, 2014, pp. 126-127). Most of them tend to visualize grandiose investments, often overlooking the role of existing infrastructure. Nonetheless, the following section will illustrate some of the most widely cited plans.

The most straightforward solution would be to construct a pipeline to Turkey, through which supplies could then be forwarded to Europe. However, this solution does not overcome the problem that European markets are already saturated with gas, and would raise further contentious issues regarding the status of Cyprus. A second option would be similarly connecting the Levant fields to Europe, but this time circumventing Turkey. In practice, this would entail the construction of an underwater pipeline linking Israeli and Cypriot discoveries to Crete and mainland Greece, and then exporting the finds further to other European Union member states and the Balkans. Third, there seems to be an option for the establishment of an LNG industry in Israel and Cyprus. This would export natural gas to emerging markets, primarily in Asia. However, these plans are undermined by the high costs of LNG infrastructure, security concerns surrounding the offshore fields themselves, as well as the economies of scale (huge quantities of gas would have to be exported to the vast Asian developing markets to justify such investments). An additional possibility recurring in the literature is that of exporting through the Suez Canal.

Whichever – if any – scenario is realized, the two main bottlenecks are the lack of infrastructure and the high associated investment and operational costs of these projects. Still, some infrastructure is already in place; for instance, there is a pipeline between Israel and Egypt ("Egypt: The Eastern Mediterranean's Next Natural Gas Hub?", 2016).

Recent developments signal that the countries of the region understand the necessity of working together and overcoming political grudges to maximize the benefits of their

natural resource wealth (Grigoriadis, 2014, pp. 124-125). A particularly telling case of this is the recent deal signed between Egypt and Cyprus in August 2016 on the construction of an underwater pipeline to connect the Aphrodite field to Egypt. It is too soon yet to tell whether this may herald the start of an era of greater cooperation between the states of the Levant Basin, but the political will to reach an agreement does not seem to be completely lacking.

Conclusion: The Outlook for Petroleum Production in the East Mediterranean

Despite promising discoveries, progress on developing sites rich in gas and putting them into production has been markedly slow. Several unresolved geopolitical, economic, technological and legal issues still cloud the outlook for the East Mediterranean's petroleum industry. Major problems include the general volatility of the region (i.e. the Syrian civil war, the disputed status of Cyprus, the Israel-Palestine conflict), long-running maritime border disputes, relatively low global commodity prices, along with the technological difficulties and high costs of operating in offshore environments.

Hydrocarbon production has wide-ranging political, socioeconomic and environmental consequences. A fundamental question yet to be answered is whether the recently located discoveries will be put to use in domestic markets, or rather exported beyond the Levant Basin region. We are yet to see whether the governments of East Mediterranean countries think in the short-term (i.e. through the lens of the geopolitical disputes in their region) or a more long-term perspective (i.e. recognizing the dangers posed by anthropogenic climate change); for now, the two perspectives often seem contradictory. Furthermore, it is unclear what the basis for policy will be in these countries: will decisions be founded on economic benefits, the security of energy supply, or climatic concerns? Whichever course they ultimately choose to take, it is apparent that the countries of the East Mediterranean must work together to harness the full potential that their petroleum wealth offers.

Overall, this paper has attempted to provide a topical, multi-faceted overview of the current challenges and opportunities posed by the recent discoveries in the East Mediterranean region. It will hopefully assist future policy-makers in understanding the various considerations behind the development of the offshore petroleum industry in the Levant and Nile Basins, and its wide-ranging political, socioeconomic and environmental consequences.

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EuroMeSCo

Comprising 106 institutes from 32 European and South Mediterranean countries, the EuroMeSCo (Euro-Mediterranean Study Commission) network was created in 1996 for the joint and coordinated strengthening of research and debate on politics and security in the Mediterranean. These were considered essential aspects for the achievement of the objectives of the Euro-Mediterranean Partnership.

EuroMeSCo aims to be a leading forum for the study of Euro-Mediterranean affairs, functioning as a source of analytical expertise. The objectives of the network are to become an instrument for its members to facilitate exchanges, joint initiatives and research activities; to consolidate its influence in policy-making and Euro-Mediterranean policies; and to disseminate the research activities of its institutes amongst specialists on Euro-Mediterranean relations, governments and international organisations.

The EuroMeSCo work plan includes a research programme with four publication lines (EuroMeSCo Joint Policy Studies, EuroMeSCo Papers, EuroMeSCo Briefs and EuroMeSCo Reports), as well as a series of seminars, workshops and presentations on the changing political dynamics of the Mediterranean region. It also includes the organisation of an annual conference and the development of web-based resources to disseminate the work of its institutes and stimulate debate on Euro-Mediterranean affairs.

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