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The S. Daniel Abraham Center
for International and Regional Studies

Angelos Giannakopoulos, editor

Energy Cooperation and Security in the Eastern Mediterranean: A Seismic Shift towards Peace or Conflict?

Research Paper 8

Angelos Giannakopoulos, editor

The S. Daniel Abraham Center
for International and Regional Studies

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The Argentine government awarded him the title of Commander in the Order of the Liberator San Martin for his contribution to Argentine culture.
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Angelos Giannakopoulos, editor

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I. Angelos Giannakopoulos: Introduction
The Eastern Mediterranean in Light of Recent Energy Developments and Their Impact

In recent years, the field of energy policy in the EU has been expanding and gaining increasing attention due to a range of important developments that have been taking place both within and on the periphery of Europe. These include: a) the confrontation of the EU (and the West in general) with Russia and the military struggle in the Ukraine, which jeopardize Russian energy supplies to the EU while at the same time clearly highlighting Europe's over-dependence on these deliveries; and b) recent progress within the EU towards a fully integrated EU energy market (Energy Union), the latest stage of which was marked by a publication of the Foreign Affairs Council on 20 July 2015, entitled "Council Conclusions on Energy Diplomacy."[1] In this important policy field the EU also focuses on recent developments in the Eastern Mediterranean region which, over the last few years, have led to a growing geopolitical shift affecting all bordering countries, especially Israel, Cyprus, Greece and Turkey; Egypt, as well as other Arabic countries, is equally influenced by these developments.[2]

The natural gas reserves discovered during the last decade in the Exclusive Economic Zones (EZZs) of Israel and Cyprus probably constitute a part of much larger resources,[3] with a capacity encompassing the Eastern Mediterranean Basin, also known as the Levantine Basin. Similar offshore resources are believed to exist in the EEZs of other countries in the region, such as Lebanon. These constitute a matter of strategic importance because, if expectations are fulfilled, the total amount of natural gas reserves of the Eastern Mediterranean will comprise significant energy sources, which could partially satisfy the energy demands of the EU for many years. Therefore, based on the above, it may be concluded that already known reserves, as well as expected discoveries in the Levantine Basin, are well placed to become an additional natural gas supply source for the EU, constituting an important alternative (for example, to Russian or Iranian gas) that will provide a high level of energy security for Europe. There are, however, two prerequisites for

1 See more at http://www.consilium.europa.eu/en/press/press-releases/2015/07/20-fac-energy-diplomacy-conclusions/.

2 Pasquale de Micco (2014): "The Prospect of Eastern Mediterranean Gas Production: An Alternative Energy Supplier for the EU?" Analysis for the Directorate-General for External Policies of the European Union, http://www.europarl.europa.eu/RegData/etudes/briefing_note/join/2014/522339/EXPO-AFET_SP%282014%29522339_EN.pdf

3 It should be pointed out that the term "reserves" can only be used after successful exploitation tests of gas or oil have been conducted. Before these tests are carried out one can speak only of "potential resources."

the implementation of the above scenario: first, stability of the region, and second, concurrent drafting of long-term strategic planning on the basis of well-researched techno-economic solutions and coordination of actions among relevant countries.

Furthermore, preliminary indications from studies conducted by the Norwegian company Petroleum Geo Service (PGS) in 2012 and 2013 suggest the existence of extremely interesting probable resources of oil and gas also in Greece (south of the island of Crete and in the Ionian Sea), while further onshore exploration drillings are planned in northwest and central Greece.[4] These developments should be seen against the background of the decision of summer 2013 relating to the construction of the Trans Adriatic Pipeline (TAP) which will transport gas supplies from Azerbaijan via Turkey, Greece, Albania and Italy to the EU, thus making Greece, in particular, an important hub of energy transport to the EU.[5] The role of Greece in this respect is enhanced through the planned construction of further pipelines connecting TAP with Eastern European countries via Bulgaria (Greece–Bulgaria Interconnector—IGB), as well as of gas liquefaction units in Greece. One of the current scenarios (whose feasibility is still to be investigated), foresees gas exports coming from Israel and Cyprus via Greece and the TAP pipeline. TAP, as well as all other planned sub-pipelines, currently constitutes the so-called Southern Gas Corridor to Europe. Finally, further memoranda of understanding (MoUs) signed between Greece, Israel and Cyprus concerning closer cooperation in electricity production and export (Euro–Asian Electricity Interconnector Greece–Israel) heighten their strategic importance in the energy field. Hence, when focusing in this context on energy supplies coming from the Eastern Mediterranean, it should be stated that Israel, as well as Greece and Cyprus as two EU Member States, can critically support the two strategic pillars of EU energy policy, namely, diversification of energy sources and diversification of routes.

A further important player in this region which deserves special attention and whose role in the EU–energy security field cannot be underestimated is Turkey. Since the end of the Cold War Turkey has promoted itself as an indispensable energy hub for Europe. Indeed, Turkey is becoming an increasingly important transit country for energy supplies, especially from the Caucasus (Azerbaijan), to the EU (TAP and Anatolian Transit Gas Pipeline—TANAP, among others). In fact, energy and energy transit are considered to be crucial power instruments in foreign policy. Research in this context argues

4 http://www.kathimerini.gr/790346/article/oikonomia/ellhnikh-oikonomia/h-ellada-sth-gewstrathgikh-skakiera-toy-fysikoy-aerioy.

5 Any assessment relating to the role of Greece as an energy hub, or even energy producer, in the years to come must, of course, take into consideration the financial and political instability of the country.

that it is quite plausible that Turkey may use its strategic position as a transit country, as well as its decisions regarding oil and gas pipelines, to achieve its foreign policy aims, with the ultimate goal of enhancing the geostrategic importance of the country in this region of the world. Besides the construction of pipelines for the transportation of Cypriot and Israeli gas via Greece to the EU, Turkey represents an alternative and probably more affordable route which, however, cannot be currently realized due to its diplomatic and political problems with these two neighboring countries.[6] Over recent years, Turkey has strongly resisted Israeli and Cypriot gas exploration and exploitation plans, especially since the *Mavi Marmara* incident in 2010, which led to a significant deterioration in Turkish–Israeli relations. Turkey regards both Israeli and Cypriot gas and oil explorations in the Eastern Mediterranean as illegal, thus calling into question the demarcation of the EEZs between Israel and Cyprus. It demanded that an agreement be signed among all parties, including Turkey and the Turkish Republic of Northern Cyprus (TRNC), and that resources be shared equally. Thus, Turkey is putting significant pressure on Greek Cypriots (who, de jure, still represent the entire island), in particular, to share profits from energy reserves with Turkish Cypriots. Greek Cypriots argue that future profits from the island's natural resources will benefit both ethnic groups, but only after a unification settlement for the divided island has been agreed upon. Finally, alternative plans to transport Israeli gas to Europe via Cyprus and Greece by connecting it to the main transit corridors under construction in Greece, mainly TAP, also involve Greece in this geostrategic dispute. These problems seemed to undermine any prospect of cooperation in the region; for example, at the end of 2014 Turkey violated the Cypriot EEZ by blocking a part of it for its own research purposes.[7] The situation relaxed somewhat in early 2015 with the two communities, Greek and Turkish, re-starting negotiations to unify the divided island, but security problems with Turkey remain. Against this background it is worth mentioning a common declaration of Turkish and Greek, as well as Greek and Turkish Cypriot business and employers unions, during a meeting in late 2014 which took place, symbolically, in Nicosia, on the demarcation line of the divided island of Cyprus. They demanded a final solution to the Cyprus problem that will bring about economic prosperity to the island and beyond.

Lebanon, too, has also expressed antagonism to the newly discovered natural gas fields in the Israeli EEZ. Beirut attempted to file an appeal to the

6 http://www.hurriyetdailynews.com/PrintNews.aspx?PageID=383&NID=64066.

7 http://www.kathimerini.gr/788754/article/epikairothta/politikh/paixnidia-entashs-sthn-aoz-kyproy; http://www.kathimerini.gr/786794/article/epikairothta/kosmos/pedio-antipara8eshs-h-kypriakh-aoz---h-8esh-toy-ellhnikoy-ype3; http://www.analystsforchange.org/2014/10/blog-post_949.htm; http://www.kathimerini.gr/789599/article/epikairothta/politikh/giati-h-agkyra-epele3e-akomh-mia-fora-ton-dromo-ths-o3ynshs.

UN regarding the current demarcation of maritime boundaries between the two countries, which remain formally at war. The Lebanese authorities claim that at least part of the gas reserves is located in Lebanon's EEZ.

A further player in the region with an undoubtedly immense role in energy security is Egypt, the biggest and (not only symbolically) most important Arab country. Over the last couple of years Egypt has developed from an energy exporter to an energy importer. At present, Egypt is strongly interested in importing Cypriot gas and has already signed agreements to this effect with the island republic. Against the background of the current diplomatic "cold war" with Turkey, during a summit in Cairo at the end of 2014, Egypt, Cyprus and Greece signed several cooperation agreements marking the beginning of a close partnership (or informal alliance).[8] Moreover, it is no accident that not only Egypt but the Arab Emirate of Qatar has engaged over the last few years in strategic planning discussions on transit corridors, especially via the Balkans, that would be advantageous to their supplier role. Qatar's economic activity and investment interests in the Cypriot and Greek economies during the last three years can be better understood against this background. Last, but not least, the offshore Egyptian gas field Zohr, recently discovered by Eni, and allegedly the biggest in the Mediterranean and the twentieth largest in the world, will undoubtedly affect the energy scene in the Eastern Mediterranean for years to come. Since concrete information on this new gas discovery and its exploitation plans are still lacking, only a very cautious estimation can be provided, Egypt is probably heading for energy independence, a fact that is certain to affect its position in the region and relations with its neighbors in the Eastern Mediterranean, especially Israel and Cyprus.

Important developments in the years to come, however, are expected—and not only in the gas and oil exploitation field—which will put relations of all countries around the Mediterranean, as well as in the Caucasus, with the EU on a new track. If we leave aside the merely economic impact of energy supplies from the regions of the Eastern Mediterranean, North Africa and the Caucasus to the EU in the near future and focus more on possible socio-political consequences of current developments, it can be stated that they will probably affect EU integration and enlargement processes in one way or another, as well as European Neighborhood Policy (ENP). Against the background of local political and ethnic conflicts in this world region, existing and future alliances, as well as possible tensions deriving from the energy strategies of all countries concerned, are certain to have an important impact

8 http://www.kathimerini.gr/789815/article/epikairothta/politikh/ey-venizelos-poly-shmantikh-gia-kypro-kai-anatolikh-mesogeio-h-trimerhs; http://english.ahram.org.eg/NewsContent/1/64/115030/Egypt/Politics-/Cairo-summit-between-Egypt,-Greece-and-Cyprus-Satu.aspx; http://www.politis.com.cy/cgibin/hweb?-A=277130&-V=articles.

on unresolved political conflicts in the wider region, such as that of the still divided island of Cyprus and the Turkish-Greek dispute over the Aegean, as well the long-lasting Israeli-Palestinian conflict. Although agreements signed between Israel's Leviathan partners, which are behind the largest Israeli gas field in the Levantine basin, and the Palestinian Authority, as well as with Jordan, have been jeopardized recently due to political developments in the region, one should nevertheless mention the agreement between Israel and the Palestinian Authority for gas exports to the West Bank, which are planned to fuel an electricity plant in Jenin. Significantly, Yossi Abu, chief executive officer of Delek Drilling, the Israeli partner of the Leviathan consortium, stated during the signing ceremony that "natural gas acts as a bridge to peace and Leviathan therefore brings good news to the entire region and the world."

Regarding cooperation prospects in the Eastern Mediterranean and whatever positive signals might be given to this end, one should bear in mind the current state of affairs in the region, which reads simply as follows: Egypt is still undergoing turbulent times and is politically unstable; the Syrian civil war is more destructive than ever; tensions between Israel, the Palestinian Authority, Gaza and Jordan continue to exist; the protracted dispute between Turkey and Cyprus is not yet solved; and the maritime borders between states in the region are in dispute.

Against this background, two central questions may be asked:

- What kind of energy strategies in this fragile world region could produce structural inequalities and thus additional conflict lines between states from the Eastern Mediterranean to the Caucasus?
- Under what conditions could multilateral cooperation support regional solutions to both political and ethnic conflicts and boost economic prosperity?

Although to the central question, "Can Energy Supplies Bring Peace,"[9] some researchers give a negative or pessimistic answer, reviving this debate repeatedly by considering new developments in this unstable world region is of utmost importance. This, in fact, is the very purpose of the present volume.[10] Moreover, it is obvious that cooperation, conflict resolution and peace, and conversely, conflict and military confrontation, depend on what is going on in the energy field in the region. Energy has become over the last few years an additional factor of peace or confrontation. In this respect, the issues to which

9 The title of a policy paper by Brenda Shaffer, published by the German Marshall Fund of the United States, Mediterranean Policy Program, Eastern Mediterranean Energy Project, at: http://www.gmfus.org/publications/can-new-energy-supplies-bring-peace.

10 The contributions to this book derive from a workshop organized by the S. Daniel Abraham Center for International and Regional Studies of Tel Aviv University on 4 June 2015, supported by the government of the German Federal State of North Rhine-Westphalia.

the singular contributions to this book try to provide answers are as follows:

1. the extent to which recent developments in the energy field, as described above, have furthered the fulfillment of the two strategic pillars of EU energy policy, namely, diversification of energy sources and diversification of energy routes; and thus the extent to which they have really contributed to energy security for Europe.
2. in addition, and against the background of the ongoing financial crisis in the EU, the implications of energy field developments in EU Member States Cyprus and Greece in regard to both the strategic role of these two countries in EU energy supplies in the future, and their struggle to successfully overcome their current domestic problems (although it is, of course, well known that monetization of hydrocarbon reserves takes many years).
3. the necessity of estimating the extent that energy resources in these two countries will boost economic prosperity and thus European integration in general, should expectations about their development be fulfilled in the next decade.
4. consideration of the prospects of unifying the still divided EU member Cyprus and its potential impact on EU integration (and enlargement, if one focuses on the role of Turkey in this context).
5. on the geo-strategic level, asking whether the gas potential of both Cyprus and Israel, apart from giving them energy independence, could also help strengthen their relations with neighboring countries, especially by creating historic diplomatic breakthroughs with one of the most important nations, Turkey,
6. the extent to which European efforts towards energy security contribute to and influence economic prosperity and socio-political progress in countries that are either suppliers of energy to the EU or important transit countries in the EU's close neighborhood (Egypt, Israel, Turkey, Azerbaijan).

At the same time, the central aspects outlined above address important geostrategic developments on the European periphery, thus challenging EU foreign policy in terms of a proactive and constructive contribution towards peace and prosperity on Europe's periphery in general. Prosperity and social progress can, however, only be achieved if well-functioning, democratic structures are already in place and a free market economy guaranteed. EU foreign policy should, in this respect, be considered an important lever for the establishment of these crucial preconditions, attached to the EU's policy area of enlargement and to the ENP.

Whatever developments unfold in this field in the years to come, there is

no doubt that they will prove exciting not only for the countries of the region but for all international players involved.

Contributions to the Book

Theodoros Tsakiris argues that less than four years after initial drilling in Cyprus's EEZ a sense of helplessness and pessimism pervades the divided island republic. A series of unfortunate developments have, since December 2014, undermined the strategic significance of natural gas in the public eye, while several power centers in Nicosia are trying to push the government in the direction of an ill-fated linkage that could render the development of Aphrodite and the continued exploration of the republic's EEZ hostage to the resolution of the intractable Cyprus Question. Contrary to the irrational exuberance of the early years of Cypriot exploration (2011–13), a new pragmatic approach is needed in order to unlock the potential of Aphrodite and Cyprus's EEZ by *disassociating* hydrocarbon developments from the prospects of resolving the Cypriot Question. As a result of diminished reserves estimates, high LNG (Liquefied Natural Gas Plant) construction costs and the continued coercive policy of Turkey, which is preventing the construction of an Israeli-Cypriot pipeline to Ceyhan, Cyprus is left essentially with only one realistically attainable export market, Egypt, and in particular Egypt's two LNG facilities in Idku and Damietta.

Thanos Dokos points out in his brief that concerns about Greece's economic survival have overshadowed the importance of foreign policy issues over the past five years. Perhaps the only positive foreign policy developments during that period have been the cultivation of strategic ties with Israel and the realistic prospects for a more visible energy role for Greece. Energy-related projects can be instrumental in Greece's effort to repair its image, re-acquire a leading regional role, increase its influence, accumulate "diplomatic capital" and, in the medium to long term, "fuel" its economy. In addition to TAP and IGB, Greece will try to enlarge its footprint in the energy map through other projects, including the exploitation of potential hydrocarbon deposits in various parts of the country, notably in western Greece and the maritime areas southeast of Crete, and increased participation in energy cooperation schemes in the Eastern Mediterranean involving Cyprus and Israel. Israel's energy choices—and the results of additional energy explorations in all three countries involved—will shape to a considerable degree the nature and depth of the strategic relationship between this country and Greece and Cyprus. The strategic value of Greece and Cyprus for Israel is still relatively high, but these three countries will have to define the parameters of their strategic

cooperation on the basis of common interests and realistic expectations. In the context of evolving sub-regional cooperation between Greece, Cyprus, Israel and Egypt, the common link is concern about regional stability. Those four countries should try to promote sub-regional cooperation with the U.S., NATO and with key European states, as well as regional ones (such as Jordan). Areas of security cooperation should include, among others, maritime security, protection of energy facilities (on land or at sea), and cooperation among intelligence agencies against the threat of jihadist terrorism.

Turning to one of the most important players in the Eastern Mediterranean in this field, namely Turkey, Jörn Richert underlines that the idea of leadership in general plays an important role in Turkish foreign energy policy. The Turkish Ministry of Energy and Natural Resources has declared its ambition to become "the leader in its region in energy" affairs. However, although regional energy leadership is at the heart of Turkey's energy strategy, the concept lacks both a clear definition as well as empirical analysis. Hence, Richert defines regional energy leadership, evaluates Turkey's leadership performance in the so-called Southern Corridor, and concludes by outlining future options for Turkey's energy strategy. Three potential energy strategies derive from this discussion: leadership, economization, and securitization. The analysis shows that Turkey has so far not managed to become a proper energy leader. Instead, the country's actual foreign policy behavior is closer to a securitization strategy. It is less interested in gathering followers to work towards a shared objective than in exploiting the leverage gained from energy governance for other political purposes. Regarding energy governance in the Eastern Mediterranean, Richert argues that general Turkish energy strategy affects energy governance also in this sub-region. Indeed, the interconnection of energy and other political goals is even stronger in the Eastern Mediterranean than elsewhere. As a consequence, while other states in the region have fostered cooperation, Turkey appears to be increasingly isolated.

By focusing on Israeli energy strategies in general, Shaul Zemach points out that discoveries of significant volumes of natural gas at the end of the last decade have brought Israel to a decision-making crossroads. Paradoxically, the more plenteous the gas discovered, the more complex the decisions that have to be made. The current equilibrium, which enables some degree of compromise on security of supply, tends towards stagnation and de facto adoption of a "business-as-usual" frame of mind, which hampers further development. The outlook for the future, based on interpretations of the current structure of offshore Israeli fields and exploration activities offshore Cyprus, which have failed so far to locate potential drilling targets, except for Block 12, may indicate that the outskirts of the basin contain small to

medium fields, different in scale than the mega-fields Tamar and Leviathan found in the Israeli EEZ in 2009–10. The large-scale Israeli gas reserves, the unique geology of the basin, the dispersal of potential traps in the region and limited Israeli domestic demand, combined with the complex geopolitics of the Eastern Mediterranean, all go to shape an uncertain future for the development of the Levant Basin. The unstable investment climate, caused by vibrating global oil markets and global trends toward lower hydrocarbon prices, has injected more uncertainties into that ever complicated scheme. Regional economies will need to create forms of cooperation and be more self-reliant instead of depending upon distant export markets, which have yet to respond effectively to this unfamiliar terrain. Under these conditions, the State of Israel has to adopt its own unique and flexible policies regarding the natural gas economy in order to utilize the resources to their full potential.

Ariel Ezrahi argues that the changing dynamics of supply and demand among Egypt, Jordan, the Palestinian Territories and Israel, as well as among other players (such as Cyprus), render this an apt moment to examine the existing and potential synergies in the hydrocarbons sphere. Ezrahi focuses on the strong potential for regional cooperation in the hydrocarbons sphere among these countries. Initially, he provides a brief overview of the current state of hydrocarbons in each country. Given the ample supply and demand of gas regionally, he then explores whether the region can cooperate in developing, producing and supplying gas to demand centers, or alternatively, whether this may be a source of conflict. Ezrahi assumes that the current alignment of interests creates a rare window of opportunity for regional cooperation in the energy sphere, which in the first stages entails gas sales alongside the development of the requisite gas infrastructure. This is a very rare opportunity since circumstances will likely shift again, and countries that need each other now may not need one another in a few years. In a situation of failed states such as Syria and Iraq, and groups like ISIS that are destabilizing the region, it is precisely at this time that moderate regimes—such as the Palestinian Authority, Israel, Egypt and Jordan—can and should work together to create a connectivity that is based on long-term cooperation and mutual interests. Obviously, cross-border economic projects, including in the energy sphere, are no substitute for a political process to resolve the underlying disputes in the region, especially the Israeli-Palestinian conflict. However, there is certainly a lot that can be done in the energy field which would serve to alleviate some of these tensions. If handled in the right way by the respective leaders, energy policy can create important geopolitical synergies, which can serve not only to mitigate conflict but to actually provide a solid basis for long-term cooperation and economic development in the region.

Sergio Matalucci first focuses on possible developments regarding Israeli gas, underlining that *t*here are too many variables in this equation to make any reasonable forecast. Just to mention a few: Israeli gas prospects depend on internal political dynamics, diplomatic activity with countries in the region, political developments within neighboring countries, economic patterns in Europe, gas markets in Southeast Asia and conflicts between the so-called West and key players like Russia and Iran. Economics matter too. In a nutshell, the abovementioned complexities add to the usual financial considerations, where buyers and investors are equally necessary. That is also why it is so difficult to shed light on the prospects for cooperation and the conflict lines stemming from Israeli gas reserves: it is not a conventional business environment and things can change quite quickly. Regarding cooperation prospects in the region in general, Matalucci argues that conflict could turn into cooperation, but cooperation could easily backfire into an even worse conflict. The major elements to keep in mind are the power transition in Egypt and political developments in Turkey. In a sense, the complexities characterizing the energy field in the Eastern Mediterranean provide us with answers to still open questions: since investors and stakeholders need a degree of certainty to take decisions, the current difficulties seem to indicate that Israeli gas will be just a limited, regional phenomenon. This will be even more the case if national politics do not manage to create a stable regulatory environment by the end of 2015. If this does not happen, says Matalucci, not even the most refined Game Theory will suffice to forecast the future. It will be an ambiguous mathematical problem which nobody will be willing to tackle. On the other hand, a political process leading to cooperation among countries would be the main achievement, the only one that could be long lasting.

Simone Tagliapietra's contribution seeks to provide a clear answer to the important question: Can Europe represent an export option for potential Eastern Mediterranean gas exports? To tackle this issue, Tagliapietra illustrates how, due to declining domestic production, European gas import requirements will continue to grow in the future, independently of the evolution of Europe's gas demands. This fact, together with the EU strategy to diversify its gas supplies away from Russia, reveals a good market opportunity for Eastern Mediterranean gas in Europe. Although a pipeline connecting Israel, Cyprus and Greece (the so-called East-Med pipeline) is unlikely to be seriously evaluated because of a number of commercial and political barriers, Eastern Mediterranean gas (and most notably Israeli gas) could easily be shipped to Europe via LNG at a competitive cost. Taking these factors into consideration, Tagliapietra concludes that the European market theoretically represents the best export option for Eastern Mediterranean gas. However, in order to convert theory into practice, availability will have to be translated

into deliverability. On the one hand, this signifies that—notwithstanding the current situation of stagnant gas demand—the European market will need to demonstrate its interest in potential imports from the Eastern Mediterranean. On the other hand, potential Eastern Mediterranean gas exporting countries will need to demonstrate the concrete availability of gas for export. While in the case of Israel this prospect seems to be feasible, in that of Cyprus it continues to look very uncertain until additional evidence from exploration activities offshore is provided by 2016.

Finally, Igor Taranic focuses on the relationship between EU energy policies and the Eastern Mediterranean. The purpose of his contribution is to explore the wide range of EU energy policies and identify those that are relevant to the Eastern Mediterranean. Taranic argues that under the current EU policy framework, Eastern Mediterranean natural gas reserves could enhance the EU's security of supply by diversifying routes and countries and bringing natural gas to Europe. Acknowledging the role of the Eastern Mediterranean as its potential gas supplier, the EU has available financial instruments and an energy diplomacy framework to impact future Eastern Mediterranean energy developments. This will provide a significant boost to the EU's relations with all countries of the region, regardless of whether they are EU members, candidate countries or countries participating in the ENP. Accordingly, he concludes the following: A few years ago it would have been difficult to predict that relatively modest Eastern Mediterranean gas reserves would attract so much attention in Brussels. There were two main developments that led to the intense policy debate on the Eastern Mediterranean. First, continuous diplomatic tensions with Russia have enforced a European quest for diversification from Russia's gas supplies. Second, internal changes in the structure of the European Commission and the introduction of the post of Commissioner for Energy Union have triggered the publication of an Energy Union Package Communication and Energy Diplomacy Action Plan, emphasizing the role of energy security and mentioning the Eastern Mediterranean as a potential natural gas supplier to Europe. As a first step to strengthening its role in energy developments in the Eastern Mediterranean, the EU has launched a Euro-Mediterranean gas platform in the framework of the Union for the Mediterranean (UfM) to facilitate dialogue among parties. The European Council's endorsement of the Energy Diplomacy Action Plan has given the European Commission a solid framework for intensifying its diplomatic efforts and utilizing relevant financial mechanisms. These changes in Brussels might begin having an impact on East Mediterranean energy developments in the coming months and beyond.

II. Theodoros Tsakiris

The Gifts of Aphrodite: The Need for Competitive Pragmatism in Cypriot Gas Strategy

The results of the first exploratory drilling (Cyprus-A) at the Aphrodite prospect in December 2011, which came up with an estimate of 5–8 tcf (trillion cubic feet) were greeted in the Republic of Cyprus (RoC) with unprecedented enthusiasm. The success of the initial drilling followed three years of surprising successes for Noble and its Israeli partners in the Israeli EEZ, culminating in the discovery of two major fields, Tamar and Leviathan.

Aphrodite was considered by many as the "natural" continuum of these discoveries, which would, in turn, herald the emergence of Cyprus as a major exporter of natural gas to Europe and beyond. Elaborate and not so elaborate multibillion USD projects were immediately presented as the most competitive monetization options, lobbied for by a plethora of "experts" who had little or no understanding of the fundamental risk parameters of the upstream (exploration and production) sector in the oil and gas industry.

Less than four years since the drilling of Cyprus-A, a sense of helplessness and pessimism is pervasive in the divided island republic, which constitutes the easternmost country of the European Union. A series of unfortunate developments have, since December 2014, undermined the strategic significance of natural gas in the public eye, while several power centers in Nicosia are trying to push the government in the direction of an ill-fated linkage that could render the development of Aphrodite and the continued exploration of the RoC's EEZ hostage to resolution of the intractable Cyprus Question.

This essay claims that this widespread feeling of pessimism is both entirely unfounded and directly analogous to the illogical expectations cultivated in the 2011–2013 period. Contrary to the irrational exuberance of the early years of Cypriot exploration, a new pragmatic approach is needed in order to unlock the potential of Aphrodite and Cyprus's EEZ by disassociating hydrocarbon developments from the prospects of resolving the Cypriot Question. Cypriot hydrocarbons should be exploited for the benefit of the island's entire population *with or without* resolution of the Cypriot problem, since Turkish Cypriots living in the Turkish occupied North of the island can still take advantage of Cypriot gas by either buying it or bartering it (against water or electricity, for example) from the RoC.

Continuous attempts by members of the UN Security Council, among others, to link resolution of the Cyprus Question to Greek-Cypriot concessions over the division of future state profits from gas sales, or an immediate moratorium on all upstream activities in the Cypriot EEZ, are unbalanced,

counter-productive and misleading. They are unbalanced and counter-productive because the acceptance of a moratorium on the part of Greek Cypriots will ipso facto result in de facto recognition of the illegal "Turkish Republic of Northern Cyprus—TRNC" as a co-decider over sovereign Cypriot policies in the absence of a solution.

They are also misleading because there will be no state revenues whatsoever to be divided before 2020 at the earliest, when production is expected to begin. Moreover, it will take several years before the state acquires a sizable revenue flow from the exploitation of Aphrodite, since under the initial cost gas phase of the field's production, the majority of gross revenues will be given, under the terms of any Production Sharing Agreement, to the developers in order to allow them to recapture their initial investment dating back to the pre-drilling exploratory activities Noble conducted from 2008.[1] Future profits from gas sales, and more importantly, significant future profits, are too remote to affect immediate negotiations. It should be noted in this context the "breakneck" speed with which Turkey reportedly wants to "resolve" the Cypriot issue—within a matter of months.

This essay will first explain the reasons behind the current state of pessimism over Cypriot gas developments and then analyze them. Subsequently, it will assess the status quo of the Cypriot upstream sector by evaluating its reserves potential, review the reactions of Turkey and the so-called TRNC, and weigh the realistic export options available to Cyprus for the monetization of Aphrodite's probable reserves.

From Irrational Exuberance to Irrational Pessimism

During the period 2011–13, extravagant statements confirming the transformation of Cyprus into the Mediterranean equivalent of Qatar were considered to be the norm. Most of these misperceptions emanated from the results of Aphrodite's exploratory drilling. Initial estimates of an unproven resource basis were considered to be final proven reserves that could well exceed 8 tcf, although mathematically this was quite unlikely. When a range of potential reserves is announced, such as 5–8 tcf for the Cyprus-A drilling, the statistical possibility of a final reserve basis of 5 tcf is 75%; the mean estimate of 6 tcf has a statistical possibility of 50%; and the highest estimate of 8 tcf is only 25% statistically possible. This means that anything higher than 8 tcf would have had a statistical possibility close to 10–15% of being verified.

Even more important from the facts that were missing from the public debate of 2011–2012 was that a potential reserve acquires real money value

1 Kirsten Bindemann (1999): "Production-Sharing Agreements: An Economic Analysis," Working Paper 25, Oxford Institute for Energy Studies (OIES), Oxford, pp. 48–58.

only when it is 90% certain that it could be economically developed under current prices and with current technology; 90% of commercial probability (P90%) turns probable (2P) reserves into proved or known (1P) reserves.[2] More seriously, the initial results of a single exploratory drilling operation were not only misinterpreted but were also used to make extrapolations for the entire demarcated Cyprus EEZ. Undrilled estimates based on non-exclusive 2D and 3D seismic studies were presented as near certain reserves of natural gas that would even have justified advanced planning of an LNG export facility.

Several "experts" went so far so as to criticize the "delay" in starting the construction of an LNG facility, or invented conspiracy theories regarding the postponement of a Final Investment Decision (FID) on the Vassilikos facility. According to them, it would have been advisable to start building the facility and Cyprus would almost certainly find the reserves along the way, although some of them acknowledged that Aphrodite's initial reserve estimates were not sufficient alone to justify an economically viable two-train LNG facility, which requires at least 8–10 tcf of proven reserves in order to become bankable.

Bankable here is the key word: 50–70% of project finance in all mega-infrastructure projects, such as LNG terminals, or for that matter, pipelines and any other export oriented facilities, is provided by private banks, international financial institutions and government controlled export credit and political risk insurance and re-insurance agencies,[3] which would ask any potential applicant the following three questions: (i) What is your 1P proven reserves estimate and what is the concomitant field development plan for actually producing the gas? (i) Where are your final Sales and Gas Purchasing Agreements? and (iii) What is the cost estimate of your monetization/export option?

These questions appeared to be beyond the comprehension of the proponents of an early LNG solution or any other monetization plan, and are still impossible to answer *even* today since:

i. We do not yet have a final reserves estimate for Aphrodite, although we know that Noble and Delek announced in November 2014 a 2P (50% probability) reserve estimate of 4.5 tcf by notifying the Tel Aviv

2 U.S. Department of Energy, Energy Information Administration (E.I.A.): "U.S. Crude Oil and Natural Gas Proved Reserves," Washington DC, 19 December 2014, http://www.eia.gov/naturalgas/ crudeoilreserves/#1.

3 Albert Thumman and Eric Thumman (2009): Energy Project Financing: Resources and Strategies for Success, Lilburn, GA: Fairmont Press, pp. 139-145; Andrew Inkpen and Michael Moffett (2011): The Global Oil and Gas Industry: Management, Strategy and Finance, Tulsa, OK: PennWell, pp. 286-294. For the role of political risk insurance as a risk mitigation mechanism in energy project finance, see Clive Tobin: "The Future of the International Political Risk Insurance Industry." In Theodore Moran and Gerald West (eds.) (2005): International Political Risk Management: Looking to the Future, Washington DC: World Bank Group, pp. 128–138.

Stock Exchange (TASE). Cypriot Energy Minister George Lakkotrypis echoed Delek's TASE announcement in a public speech in Limassol on 7 November 2014, but has yet to provide us with his own estimate of Aphrodite' proven reserves. By early August 2015, Cyprus had yet to announce its own 1P estimate although, counter-intuitively, in March 2015, it declared that the publicly unknown 1P estimate of Aphrodite's gas reserves was commercially exploitable.

ii. As late as June 2015 the government began negotiations on proceeding with a Field Development Plan for Aphrodite with the Noble-Delek consortium (hereafter Block 12 partners), which would provide Nicosia with a more concrete evaluation of costs, production phases and output over a field that is very difficult to develop, since Aphrodite's reserve is divided into four separate reservoirs that are not necessarily connected.

iii. We have not yet started to negotiate a sales and gas purchase agreement because we do not yet have the answers to the two questions above. The negotiation of a sales agreement is not a matter of weeks or months, but sometimes of years, and it predates the FID in project development since the value of the sales contract would be used as collateral by the banks to finance the actual development of the gas field and the construction of its associated production and export infrastructure.

So far talks between the RoC, the Egyptian government and companies engaged in the commercial side of the potential sale of Cypriot gas to Egypt are confined to estimating the cost of alternative export options. In this context, on 31 July 2015, Enppi, the engineering subsidiary of the Egyptian national gas company (EGAS) completed a feasibility study of a pipeline that would connect Aphrodite to Egypt's National Gas Transmission System (NGTS).[4]

The second (Cyprus-B) appraisal well drilled at the Aphrodite discovery in September 2013 re-evaluated the potential reserves at 3–6 tcf, with a mean average of 5 tcf, which was closer to Delek's P50% probability estimate of 4.5 tcf, announced in November 2014. In addition to this setback, the hopes of a major discovery at the Onasagoras prospect in December 2014 were disappointed when the ENI/Kogas exploration came up with a dry hole, while in late January 2015 Total announced that it had not found enough evidence to support the cost of drilling an exploratory well.

Moreover, Eni's second drilling on Block 9, the Amathousa prospect, also ended in failure in March 2015, leading to a re-evaluation of the company's geological research model and the withdrawal of this company from the Cypriot EEZ for an unspecified period of time. This development has effectively halted all exploratory activities in the Cypriot EEZ; moreover, it

4 "Egypt Completes Feasibility Study into Cyprus Gas Imports, 31 July 2015, http://www.cyprusgasnews.com/ archives/8654/egypt-completes-feasibility-study-into-cyprus-gas-imports/.

coincided with the election of Mustafa Akinci as leader of the Turkish-Cypriot community and the restart of inter-communal talks in April 2015.

No plans for Eni's return have been announced so far, although the Italian company has not drilled in either Block 2 or 3 and only fulfilled half of its 2013 contract. Eni's first exploration license expires in January 2018, but clearly indicating that neither Eni nor the Anastasiades government would favor the resumption of exploratory activities in the short term, the Italian major announced in March 2015 that it would seek an extension of its first exploratory permit.[5]

These events were all significant setbacks but are the norm of the upstream industry, where the global success rate for exploratory wells is 20–25%, even in relatively mature provinces. The fact that Eni's geological model failed does not prejudice its future drilling, since two very promising blocks (2 and 3) have yet to be explored. The cumulative effect of these setbacks, though, is that the bonanza mentality of the early years of the Cypriot gas experience is over.

Competitive Pragmatism as an Antidote to Over-Pessimism

The era of over-optimism is over but this should not result in the destruction of the country's gas potential. These negative developments do not in any way justify the shift to an equally damaging sense of over-pessimism or defeatism. There are several reasons why Cyprus should not go down this self-destructive path in spite of Turkey's continued aggressiveness as it shifts towards a policy of competitive pragmatism:

i. Even if the P90% estimate of Aphrodite proves to be below 3 tcf, a P50% estimate of 4.5 tcf is quite encouraging. What needs to be made clear is that these P90% and P50% estimates have a dynamic nature.[6] You can go from a low P90% estimate to a higher P50% estimate by investing in more appraisal wells once your revenue streams permit this, in order to maximize the use of your reserves. This cannot happen automatically and it takes time, but such an eventuality is within the macro-economic logic of project development and production in upstream oil and gas investment, which is phased over a period of at least 15–20 years, especially for more difficult to develop offshore fields.[7]

5 "Gas Searching Ship Finds Nothing in Amathousa," 26 March 2015, http://in-cyprus.com/gas-searching-ship-finds-nothing-off-cyprus/.

6 International Energy Agency: "Resources to Reserves" (2013), Paris, OECD/IEA, pp. 31–33.

7 http://www.protothema.gr/economy/article/424814/upourgeio-energeias-kuprou-uparhei-fusiko-aerio-alla-kratame-mikro-kalathi/ (Cypriot energy minister: "There is gas but we keep a low profile"), 8 November 2014.

In this context, it is notable that almost seven years have passed since the signing of the Production Sharing Agreement in 2008 and the Block 12 partners have drilled in only two out of Aphrodite's four reservoirs. The Block 12 partners should also be pressed by the government to do a third appraisal well at Aphrodite, while also focusing on the development of prospective neighboring targets, starting with the nearby Adonis gas prospect that could hold up to 1 tcf. The government needs to put more pressure on Block 12 partners to fulfill their drilling obligations, especially the one referring to Adonis, in view of the expiration of the consortium's second exploratory license by the end of 2015.

ii. A 3–4.5 tcf reserve may not suffice for an LNG facility, but it is a very sizable reserve basis that can cover the domestic gas needs of the RoC for the next 20–30 years; moreover, the country can still export significant volumes to Egypt, and possibly Jordan. However, no export option to either Egypt or Jordan can be realized *without the simultaneous supply of gas to Cyprus for covering its domestic energy needs.* This should be non-negotiable for any Cypriot government. At the same time, Nicosia needs to understand and make clear to the public that it is extremely unlikely that Aphrodite's gas will arrive in Cyprus unless there is also a concomitant export option for selling gas to Egypt, which is emerging as the primary—if not only—export destination for Aphrodite's reserves.

The cost of monetizing Aphrodite just for the needs of the still non-existent Cypriot gas market is too high for any upstream developer to undertake since, as Energy Minister Lakkotrypis acknowledged in November 2014, Cypriot needs will not exceed 1 tcf over the next 30–35 years. Besides undertaking that both of these developments— domestic sales to Cyprus and exports to Egypt and secondarily, Jordan—occur almost simultaneously, the Anastasiades government needs to ensure that prior to the probable (2019–2020) monetization of Aphrodite currently under negotiation with Vitol, it does not commit to import high-cost LNG compared to its own low-cost gas, which could cut the existing price of electricity by up to 50%.

At present there seems to be a significant discrepancy between the start of Aphrodite's supply to Cyprus, which Minister Lakkotrypis forecast for the end of 2019, and the duration of the LNG delivery contract negotiated with Vitol, which is set for a minimum of seven years, starting in 2016. This means that Cyprus would still cover its entire gas needs, estimated at 0.7–0.95 bcm/y (billion cubic meters/year) by the year 2023, although Aphrodite's gas would arrive in Cyprus three to four years *prior* to the expiration of Vitol's contract. It is highly unlikely that Vitol's LNG price, which would at least be partially linked to oil prices, will be lower than

the cost of shipping gas to Cyprus from the Aphrodite field provided, of course, that Aphrodite's gas is also exported to another destination (most probably Egypt).[8]

iii. The combined profits for Cyprus from the direct sales of gas to regional markets, and the substitution of its oil import products for electricity generation will amount to several billion euros over a decade. Oil import savings and direct sales profits both to the domestic market and via exports, could, in the long run (10–15 years), amount to about one-third of the country's current GDP of €18 billion. Most of the profits will come from savings and investment on new gas infrastructure as DEFA's (Cyprus Public Gas Co.) network expands throughout the island. It is indicative that the Cypriot Electricity Authority Company—EAC paid between 2009 and 2013 €2,457 billion for fuel oil and Green House Gas emissions rights, an average of €491 million per year. Even if the introduction of Aphrodite's gas could reduce that annual bill by half it could generate annual savings of up to €245 million, or €2.45 billion over a decade, almost 30% of the €8.5 billion Cyprus borrowed from the IMF/EU/ECB program in 2013.[9]

iv. The development of the domestic gas market in Cyprus would generate, directly and indirectly, thousands of jobs especially during the construction phase of the import infrastructure and the national and regional distribution network of pipelines, compressor stations, metering stations, domestic use applications and boiler conversions. These developments would also boost the entire services sector of the Cypriot economy by helping transform Cyprus into a regional hub for oil and gas services companies. Already two of the largest service providers to the global oil and gas industry, Halliburton and Schlumberger, have chosen Cyprus as their regional base of operations since 2014.[10]

v. Eni's exploration program is only 50% complete at this point. It still has two more planned exploration wells to drill and no one can or should pre-judge their outcome, especially if they are motivated by political reasons. Apart from Block 12 and Aphrodite, the potential of the Cypriot EEZ remains considerable. Despite recent disappointing results we are only beginning to scratch the surface of what could prove to be a sizable "iceberg." In an area of more than 51.000 km^2, which covers the demarcated EEZ of the RoC, we have had the experience of only three exploratory wells over a period of four years, generating a success rate of 33%. It is notable that the average global success rate for an unknown

8 Charles Ellinas: "What Price for Cyprus Interim Gas," 28 June 2015, http://in-cyprus.com/what-price-cyprus-interim-gas/.

9 For EAC's annual reports, see: https://www.eac.com.cy/EN/EAC/FinancialInformation/Pages/AnnualReports.aspx.

10 http://www.abacus.com.cy/nqcontent.cfm?a_id=5814&tt=graphic&lang=l1.

territory is 20–25%. By comparison, in the Israeli EEZ, where exploration has been ongoing for more than 15 years, more than 25 exploratory wells have been drilled, covering about 50% of the EEZ area.

vi. Total will remain engaged in continuous exploration in the Cypriot EEZ until 2016 and may move to areas, such as Block 7 and Block 8, which were outside its original mandate of Blocks 10 and 11. The data it will collect and their interpretation may reverse its original decision not to move forward with an exploratory drilling well in 2016 in Block 10.

Geopolitical Risks and Linkage to the Cyprus Question

The discovery of Aphrodite and the prospective potential of Cyprus's EEZ could provide a very positive incentive for the resolution of the Cyprus Question, provided that Nicosia is able to partly offset Ankara's geostrategic dominance and to simultaneously encourage Turkish Cypriots to follow a more conciliatory approach towards the stagnant peace process. The election of Akinci as leader of the so-called TRNC offers some hope, although little or no actual progress has been made so far at the negotiating table. If Turkey continues to have a geostrategic stranglehold over the isolated EU island it will have no incentive whatsoever to reach a compromise over Cyprus in ways that would also be acceptable to Greek Cypriots and to Greece. The latter has publicly clarified that it demands the unequivocal withdrawal of all Turkish soldiers occupying the northern half of the island since 1974 and the termination of any and all interventionist or guarantor powers rights[11] that existed in the 1960 constitution. The challenge for Cyprus is to find the appropriate mix of incentives for Turkey and for Turkish Cypriots that would generate the impetus for a compromise without: (a) endangering its sovereignty, (b) legally recognizing the so-called Turkish Republic of Northern Cyprus, or (c) freezing its hydrocarbon development if resolution of the Cypriot Question is not reached.

This is a delicate balance. Most of the major Greek-Cypriot parties have formulated a zero-sum game approach with regard to Turkey and its control over the puppet regime that ostensibly governs the TRNC. This position is hardly unjustified given Turkey's maximalist position and outright hostility towards Cypriot attempts to monetize the republic's energy potential within its demarcated borders, set in the EEZ agreements Nicosia signed with Egypt (2003), Lebanon (2007—yet to be ratified) and Israel (2010). Turkey has not recognized any of the three EEZ agreements and has long supported Lebanese

11 "Kotzias Talks Cyprus at the UN," Kathimerini, 24 April 2015, http://www.ekathimerini.com/169438/article/ekathimerini/news/ kotzias-talks-cyprus-at-un.

claims against Israel's northern EEZ boundaries.[12] Ankara does not recognize the existence of the Republic of Cyprus, much as Hamas and Islamic Jihad do not recognize Israeli borders and sovereignty. Turkey also claims the near entirety of Cyprus's EEZ either directly (Blocks 1, 4, 5, 6, & 7) or on behalf of Turkish Cypriots (Blocks 1, 2, 3, 8, 9, 12 & 13), and has attempted to use its military might in order to deter Nicosia and Noble Energy from carrying out the exploratory drilling that discovered Aphrodite in 2011. Turkey considers all Cypriot actions illegal and unilateral over the blocks it claims on behalf of the TRNC because it thinks that the latter should have veto powers over all of RoC's decisions since Turkish Cypriots are a co-constituent community under the 1960 constitution. The fact that Turkey violated the 1960 constitution by its 41-year-old military occupation of the northern half of the island seems to have escaped President Erdogan's attention. In June 2013 Turkish ships tried to stop a Noble exploratory vessel from reaching Block 12. Ankara is also claiming large areas that fall within Greece's continental shelf around the island of Castelorizo and questions Greece's future EEZ boundaries with both Cyprus and Egypt. Only Blocks 10 and 11 of the Cypriot EEZ are not claimed by either Turkey and/or Turkish Cypriots.[13]

Possibly, according to the Turkish line of thought, these blocks belong to Egypt; in fact, it is notable that during the short-lived "Islamic rapprochement" (2011–2013) which Erdogan engineered between Turkey and Egypt under President Morsi, several senior Muslim Brotherhood members openly pressed for the abrogation of the 2003 Egyptian-Cypriot EEZ agreement.[14]It is no coincidence that Blocks 10 and 11 were tendered by Nicosia to Total in February 2013 in a move that highlighted Nicosia's defiance of Turkey's threats. In a tit-for-tat response to Erdogan's reaction vis-à-vis Morsi's overthrow, Cyprus and al-Sisi's Egypt quickly moved to consolidate their respective EEZs by signing, in December 2013, a Common Unitisation Agreement (CUA), the first of its kind ever endorsed by both states. It reconfirmed the 2003 agreement and laid down the framework for the mutually beneficial development of potentially joint hydrocarbon fields.[15]

Turkey threatened to impose an investment embargo on any

12 Simon Henderson: "Turkey's Threats to Israel's New Gas Riches," Washington Institute for Near Eastern Policy, 13 September 2011, http://www.washingtoninstitute.org/policy-analysis/view/turkeys-threat-to-israels-new-gas-riches.

13 For the Turkish and TRNC perspective, see Ayla Gürel, Fiona Mullen and Harry Tzimitras (2013): "The Cyprus Hydrocarbons Issue: Context, Positions and Future Scenarios," Prio Cyprus Center Report 1/2013, Nicosia, pp. 53–67.

14 Seth Cropsey: "U.S. Policy and the Strategic Relationship of Greece, Cyprus and Israel," The Hudson Institute. Washington D.C., March 2015, pp. 13–14.

15 "Cyprus and Egypt Sign Unitisation Deal on the Joint Exploitation," *Cyprus Mail*, 13 December 2013, http://cyprus-mail.com/2013/12/13/cyprus-and-egypt-sign-unitisation-deal-on-the-joint-exploitation/.

International Oil Companies (IOCs) active in Cyprus's EEZ and carried out this threat against Eni's 50% participation in the Samsun-Ceyhan oil pipeline project. TPAO, Turkey's state oil and gas company, also commenced its own exploratory drilling (April 2012) onshore in the occupied territories of Northern Cyprus and plans to drill offshore within the blocks awarded by Turkish Cypriots to TPAO in 2012. In late 2013, it announced that it would dispatch its recently acquired oceanographic vessel *Hayrettin Barbarossa* to conduct 3-D seismic surveys within the Cypriot EEZ, a move perceived as highly provocative by Greek Cypriots.

Turkey eventually deployed *Barbarossa* in Cyprus' EEZ from October 2014 to March 2015, a step that was planned to coincide with Eni's unsuccessful exploratory drilling in the Onasagoras and Amathousa prospects, and which forced President Anastasiades to walk out of the inter-communal talks in October 2014. The cumulative effect of Turkish actions has removed from the negotiating table the option of constructing a gas pipeline that would export Aphrodite's resources to the Turkish market, including the possibility of a Turkish-Israeli gas pipeline from Leviathan to Ceyhan, which would need to traverse Cyprus' EEZ. A pipeline route bypassing Cyprus is unrealistic since it would have to either cross Syria onshore or the undefined EEZ between Israel and Lebanon. Both options have now become dependent on the resolution of the Cypriot problem.[16]

Cyprus would have a real incentive to send its gas north only in the context of a comprehensive solution of the Cyprus Question, but it should not overestimate the importance of its current "gas card" in its ongoing negotiations with Turkish Cypriots, especially since they effectively remain under the sway of Ankara. In geostrategic terms, the gas card does not mean that Nicosia could turn the tables on Turkey as a result of its potential hydrocarbon discoveries, but it could mean that Cyprus may *in the medium term* become important enough to get a settlement that is significantly better than that attained in 2004 through the so-called Kofi Anan Plan, which was overwhelmingly rejected by 75% of Greek Cypriots.

This dynamic has nevertheless been magnified by the irrational diplomacy of Erdogan, who has succeeded in alienating both Israel and Egypt, the twin pillars of the post Camp David Accords security framework in the Eastern Mediterranean. Turkey's perceived neo-Ottoman revisionism is pushing both Israel and Egypt into building parallel strategic relationships with both Cyprus and Greece, as illustrated by the trilateral meetings between

16 For a comprehensive review of these pipeline options, see Theodoros Tsakiris (2014): "The Leviathan-Ceyhan Pipeline: Political & Commercial Arguments against the Construction of a Turkish-Israeli Pipeline." In Sami Andoura and David Koranyi (eds.): *Energy in the Eastern Mediterranean: Promise of Peril?* Egmont Institute and U.S. Atlantic Council, Brussels: Academia Press, pp. 47–58.

the heads of government of Greece, Cyprus and Egypt in November 2014 and March 2015, as well as the ongoing strategic dialogue between Israel, Cyprus and Greece.[17]

This geopolitical realignment could multiply the effectiveness of the Cypriot gas card. Turkey understands this potential shift in the bilateral balance of power and that is part of the reason why it wants to conclude the proximity talks between Turkish Cypriots and Greek Cypriots as soon as possible, provided that it would get a solution that legitimizes the presence of its troops, its interventionist rights and its settlers in the occupied North of Cyprus.

Despite its bravado and coercive behavior, Ankara is finding it increasingly difficult to dissuade major IOCs from investing in the emerging Cypriot natural gas market. This does not mean that the risk of heightened tensions will be eradicated. A political risk will always exist and is inherent to the oil and gas business. What is pertinent, though, is that this risk is not likely to paralyze the development of Cypriot hydrocarbons as long as their development remains independent of resolution of the Cyprus Question.

The possibility of a Turkish military strike against Cypriot LNG facilities or against the IOCs developing the republic's hydrocarbon resources is not perceived as a serious risk by the interested state parties, the EU and the IOCs that are involved (or are willing to get involved) in Cyprus. That is why Turkey is more likely to increase its diplomatic and economic pressure on major Anglo-Saxon companies, such as Shell, Exxon and BP, which are already active in its own territory in order to keep them out of Cyprus if further major discoveries are made by Eni/Kogas and Total. In addition, Turkey is also likely to step up its own exploration efforts in the occupied territories and waters of northern Cyprus in an attempt to counterbalance diplomatically the progress already made by the RoC since 2011. If exploitable reserves are discovered in the self-proclaimed TRNC, or in the yet undetermined Cypriot EEZ with Syria and Turkey, Nicosia will be faced with an additional diplomatic headache: it will be forced to block the export of these resources outside the TRNC and hinder Turkish attempts to utilize international assistance in their development since Turkey does not own a drilling platform.

TPAO may eventually buy its own drilling platform and attempt to drill next to Aphrodite. Such a move, which has been proposed by several Turkish diplomats over the years, will constitute a highly dangerous and provocative act that is most likely to be countered by Israel and Egypt since: (a) the Aphrodite field is probably a reserve shared by Israel and Cyprus, and

17 Efraim Inbar: "The New Strategic Equation in the Eastern Mediterranean," Mideast Security and Policy Studies No. 109, BESA Center for Strategic Studies, Tel Aviv, September 2014, pp. 13–15, 20–24.

(b) Egypt will be the primary consumer of Cypriot gas.[18]

Apart from the political impossibility of a Turkish pipeline option in the absence of a comprehensive settlement, Cyprus simply does not have enough reserves at present to build the Vassilikos LNG or a major pipeline to Greece or anywhere else outside the immediate vicinity of Cyprus and the Aphrodite gas field. If more gas reserves are discovered in Cyprus and Israel over the next few years, a pipeline option to Greece and via Greece to Europe could become more realistically attainable after 2022, although such a project would still have to overcome major technical challenges due to the depth and distance between the East Mediterranean, Crete and the Greek mainland, which will not be the primary market for East Med gas, since the project's final destination will be the Italian market.[19]

On the other hand, LNG liquefaction plants have become extremely costly to develop even for Israel, which has the necessary reserves to build a commercially viable two-train LNG export facility, if it decides not to supply regional markets with any of its gas export quota, which is set at 16 bcm/y over a 25-year period. Unless new discoveries are made, a combination of pipeline and LNG exports is no longer a viable option for Israel or, for that matter Cyprus, or Cyprus and Israel together. Israeli developers do not have the necessary financial capacity and technical expertise to shoulder the costs of a major LNG export project that could easily surpass the $10–12 billion price tag, on top of the $5–7 billion they need in order to produce the first phase of gas from Leviathan.

The loss of Woodside's partnership for the Leviathan developers in May 2014 has apparently ended the debate for an Israeli LNG, at least in the medium term, probably until 2020–22. Given current costs and construction delays/overruns, even if the Leviathan partners get a FID in 2016, they would need five to six years to export LNG.[20]

The Egyptian Challenge

Since Cyprus no longer has enough reserves to build an LNG export facility and cannot target, albeit for different reasons, either the Turkish or the Greek/

18 Ariel Cohen: "Turkey Threatens the Major Prospects for East Med Gas Supply, Journal of Energy Security, 23 June 2015, http://www.ensec.org/index.php?option=com_content&view=article&id=579:turkey-threatens-the-major-prospects-for-eastern-med-gas-supply&catid=146:cenrg&Itemid=439.

19 Theodoros Tsakiris: "Greece and the Energy Geopolitics of the Eastern Mediterranean," Strategic Update 14.1, LSE Ideas, London School of Economics, October 2014, pp. 14–16.

20 Brian Songhurst: "LNG Plant Cost Escalation," OIES Paper: NG 83, Oxford Institute for Energy Studies, Oxford, February 2014, pp. 14–17.

Italian market, it is left essentially with only one realistically attainable option which did not even exist as late as 2013. In February 2015, Cyprus and Egypt signed a MoU to explore the possibility of exporting gas to Egypt from Aphodite's probable reserve, and in July 2015 the Egyptian side completed a pre-feasibility study on the cost of a potential pipeline connecting Egypt with Aphrodite. Unfortunately for Cyprus, exporting gas to Egypt is easier said than done. It is undoubtedly a very complex undertaking since it needs to align Israeli, Cypriot and Egyptian commercial interests over a period of at least 15 years. This alignment is not automatic and cannot be taken for granted for several of the following reasons:

i. The first pre-condition for any commercial exploitation of Aphrodite is to clarify whether Aphrodite is a joint reserve with Israel. This, in turn, requires the prior signing of a Common Unitization Agreement with Israel, which is long overdue, with negotiations ongoing since 2012. As of early August 2015 negotiations were continuing.

ii. Cyprus has very little room for manoeuver. It can only take initiatives to bridge differences and hammer out a common approach, but it cannot go it alone since it has signed a Joint Marketing Agreement[21] with the developers of Block 12. This means that Noble and Delek must also agree with and approve any commercial export option favored by Cyprus.

iii. Noble and Delek which also control the majority of shares in the Leviathan consortium may choose to prioritize the development of Leviathan gas instead of Aphrodite gas, or may opt to wait for final approval of their export license for Leviathan, denied to them by the December 2014 decision of Israel's Antitrust Authority, which characterized them as a monopoly.

iv. It is not certain that Egypt will continue to need Cypriot, or for that matter Israeli, imports for the duration of the life of the prospective sales contract, which usually extends anywhere from 10 to 20 years. Egypt's net import dependency is not the result of depleting reserves. On the contrary, despite the revolution of 2011 and the counter-revolution of 2013, Egypt has made new discoveries *increasing* its *proven* natural gas reserves from 59 tcf in 2010 to some 77 tcf in 2014, far more than the *combined* reserves of Cyprus and Israel.[22]

   Egypt's supply/demand imbalance, which is expected to last until 2025 is the result of very high subsidies underpinning domestic gas/electricity prices which have swollen demand and forced the government to oblige

21 Interview with Dr. Mike Efthymiou, member of the Board of Directors of CHC-Cyprus Hydrocarbons Co., "By 2020 we expect the first gas to reach Cyprus," *Philelefθeros*, 16 March 2015, http://www.philenews.com/el-gr/koinonia-anthropoi/443/246799/maik-efthymiou-to-2020-anamenetai-to-proto-fysiko-aerio-na-ftasei-stin-kypro.

22 U.S.E.I.A, *Country Analysis Briefs: Egypt*, Washington D.C.: November 2014, p. 7.

foreign oil/gas companies to redirect exports to Egypt's domestic market. Total energy sector subsidies amounted to 25% of budget expenditures in 2013 and 24% in 2014/15.

In 2014, oil and gas subsidies alone accounted for one-sixth of the budget, amounting to some $14.3 billion. Until July 2014 domestic gas prices were as low as $2.65/MMBtu (million British thermal units), making production uneconomic even for some existing Egyptian fields.

Since July, Egypt has introduced an increase in domestic gas prices by lowering subsidies by 22%[23] and also negotiated, in May 2014, special prices for domestic gas supply, ranging from $3.95 to $5.88 MMBtu, in order to promote new production from discovered but as yet undeveloped fields, such as the West Nile Delta Project, which could add 1.2 bcf/day by 2019.[24] Despite these changes Egyptian production is still lagging far behind domestic consumption, leaving considerable room for imports.

Egypt is already importing very expensive spot-market LNG via two contracts that are expected to expire in 2020, the year Cypriot and Israeli exports are anticipated to begin. What would happen, though, to those pipeline imports if the Egyptian economy stabilizes and new subsidy cuts are introduced, leading to a reversal of the existing trend sometime in the mid-2020s, merely five years after the potential initiation of Cypriot/Israeli gas sales?

v. There is no unitary Egyptian buyer. Essentially, Israeli and Cypriot developers have three major export options: the underperforming LNG export facility in Idku, the essentially inactive LNG facility in Damietta, and the Egyptian domestic market. These three market options have very different characteristics and can offer very different prices to sellers, as well as very different levels of assurance that the agreed upon prices will be observed.

   If the buyers are the primarily European IOCs that own the Damietta and Indku LNG facilities, the guarantee of payment would live up to any international expectations. Unfortunately, this is not the case for Egypt which, as a result of its economic crisis and the forced redirection of gas exports to cover domestic demand, has accumulated a debt to the IOCs which reached $7.5 billion by June 2014.[25]

   If we hypothesize that the upstream cost of $5–6/MMBtu for Aphrodite gas, as estimated by the former president of Cyprus's National Oil & Gas Company is accurate,[26] then Cypriot gas would reach Egypt at a *minimum* price of $6–7/MMBtu, provided that the delivery cost for the construction

23 Ibid, p. 3.
24 "Egypt Rethinks Pricing," World Gas Intelligence, 21 May 2014.
25 E.I.A, Country Analysis Briefs: Egypt, p. 2.
26 Ellinas, op cit.

of the underwater pipeline would not raise the price by more than $1/MMBtu.[27] This means that unless Egypt increases its domestic sales price, Cypriot gas could only be sold at a loss in Egypt.[28] If this is the case, then Cyprus—and for that matter Israel—have only two other options: the LNG export facilities in Idku and Damietta, where the primarily European (BG/Shell, Eni, Gas Natural) owners can sell Cypriot/Israeli gas on the global LNG market at prices higher than the above mentioned $6–7/MMBtu margin.

27 Nikos Tsafos: "Egypt: A Market for Natural Gas from Cyprus and Israel?" German Marshall Fund of the United States (GMF), Washington D.C, July 2015, p. 9.

28 Ibid, p. 12.

III. Thanos Dokos

Energy Geopolitics in the Eastern Mediterranean: The Role of Greece

The Eastern Mediterranean and its adjoining regions remain an extremely turbulent and unstable neighborhood, and the security environment continues to be "Hobbesian." There is a long list of frequently interacting security problems, including civil conflicts, the emergence of fragile, dysfunctional or even failed states, the possibility of de facto (or even de jure) border changes, the dangers of political Islam and sectarian tensions, Jihadist terrorism, extreme income distribution inequalities, a dearth of democracy, population flows, the proliferation of nuclear weapons, as well as of small arms and light weapons (SALW), unresolved regional conflicts, the ambitious agendas of regional powers (including Iran, Turkey, Saudi Arabia and Israel), competition for energy resources, the lack of a regional security architecture, a relative decline in U.S. interest and presence in the region, and a deep, structural European crisis which also affects the EU's global and regional influence and policies.[1] All those factors combined create a situation of extreme uncertainty in the Mediterranean and the Middle East. Due to the complexity of these issues and the strong interaction between many of them, there are no easy, quick or one-dimensional solutions to regional problems. There is also considerable uncertainty regarding the evolution of the regional security environment, as a result of several unknown variables in the related security equation.

Greece, a member of the EU and NATO, is an important regional player in the Eastern Mediterranean. Even before the current crisis, however, Greece did not pull its weight on most foreign and security policy issues, consequently losing some of its regional role in Southeast Europe and the Mediterranean and weakening its position within the European Union. An inward-looking and passive foreign policy mentality led to very few foreign policy initiatives and no exploitation of opportunities for multilateral initiatives or the establishment of tactical and strategic alliances. Furthermore, concerns about economic survival have overshadowed the importance of foreign policy issues during the past five years. Perhaps the only positive foreign policy development during that period was the cultivation of strategic ties with Israel and the realistic prospects for a more visible Greek footprint

1 The global energy landscape is constantly changing, shaped by shifting demand patterns, new deposits and fields entering the production stage, and new players, alignments and evolving rules. The energy dimension will remain extremely important in the wider Middle East geopolitical landscape. Of course, shale gas and oil-related developments in the U.S. and its predicted transformation into an energy exporter (in combination with other developments. such as the pivot to Asia and a possible rapprochement with Iran) may have a profound impact on American perceptions and policies vis-à-vis the Middle East.

in the regional energy map. Greek foreign policy makers will function for the foreseeable future under the Damocles sword of the country's economic crisis, which entails a number of constraints and limitations. Greek foreign policy needs to re-adjust to a changing regional and global security and economic environment and make a contribution to the national effort to re-build the economy; moreover, it has to achieve these goals with limited resources and under pressure of time.

European Energy Security and Eastern Mediterranean Hydrocarbons

The question of European energy security and the need to diversify Europe's natural gas sources of supply has drawn attention to the strategic significance of Southeast Europe as a transport hub of natural gas from the Caspian region and, potentially, from the Eastern Mediterranean. To meet increasing natural gas demand and reduce East and Southeast Europe's high levels of energy dependency on a single exporter, namely Russia, European authorities have been keen to promote projects contributing to the diversification of natural gas supply.[2]

In this context, the Southern Gas Corridor can play an important role. Since the Trans Adriatic Pipeline (TAP)—which will cross Greece and Albania on its way to Italy—has been selected for the transportation of natural gas from Azerbaijan, it will contribute to European energy security, as well as provide a major boost to Greece's economy, its regional standing and its ability to emerge as a leading transit hub on the southern-northern axis by joining TAP with a series of interconnecting pipelines that could link the Aegean with the Baltic Sea, starting with IGB (Interconnector Greece-Bulgaria).[3]

Europe's Southern Gas Corridor Strategy is founded on the necessity to maximize the import of non-Russian gas via non-Russian controlled territory, in order to establish a fourth—after Russia, Norway and North Africa (Algeria, Libya, Egypt)—route of supply diversification. The European Commission has recognized as potential sources of supply for the Southern Gas Corridor not only Caspian (Azerbaijan) and Central Asian (Uzbekistan,

2 The EU's primary energy security goals should be to reduce the strategic dependence of individual Member States on single external suppliers and to ensure that energy markets are liquid, open and functioning according to stable market rules rather than power logics. Of course, energy security requirements also need to be balanced against environmental and economic competitiveness concerns. Iana Dreyer and Gerald Stang: "Energy Moves and Power Shifts: EU Foreign Policy and Global Energy Security," Report No. 18, 14 February 2014, EU Institute for Security Studies, Paris, p. 5.

3 Thanos Dokos and Theodoros Tsakiris: "A Strategic Challenge: The Role of Greece in Europe's Southern Gas Corridor Strategy," Policy Paper No 17, February 2012, ELIAMEP, Athens, p. 5.

Kazakhstan and primarily Turkmenistan), but also Middle East gas from future Iraqi production, as well as from potential expansion of Egyptian net exports, although the political instability that has plagued Iraq, Syria and Egypt has neutralized their export potential in the short to medium term.[4]

The discovery of significant natural gas deposits in the EEZs of Israel and Cyprus and the prospective deposits in the Levant Basin may provide an additional energy source outside the former Soviet space and the Middle East proper, therefore contributing to the diversification of Europe's natural gas suppliers. Although the deposits discovered so far in Israel and Cyprus are not expected to be a game changer in Europe's energy situation, they can hardly be ignored as long as the EU continues to voice concerns about its energy security (and especially in light of the evolving crisis in Ukraine). In any event, the picture may change in the future as additional exploratory efforts are under way in Cyprus, Israel and Greece.

Although Greece is not currently a central player in this energy-focused power game, it is certainly more than just an interested party. Cyprus, and especially Israel, will, of course, make the key decisions regarding energy matters in the Eastern Mediterranean as they own resources, whereas Greece is not a producer. (This may change in the future but there is obviously no certainty about that). For the time being it can only hope to be a transit country. Potentially, there are significant indirect economic stakes if the choice for an export route is an LNG plant, as there are several Greek ship owners that have invested heavily in LNG carriers.

In addition, LNG terminals, either the existing one in Revythousa, near Athens, or either of the planned ones in northern Greece, may become part of a natural gas network that will link with a number of Balkan and Central European interconnectors, thereby making a substantial contribution to the energy security of several European countries. Finally, if technological and financial conditions (such as the market price of hydrocarbons) allow, and if more reserves are confirmed, Greece could also benefit from the construction of a pipeline (East Med Gas Corridor) to transport natural gas from the Israeli and Cypriot deposits (and even the potential inclusion of Lebanon) in the Eastern Mediterranean through Greece to Western European markets, especially if combined with prospective Greek hydrocarbon production.

4 See inter alia, Gulmira Rzayeva and Theodoros Tsakiris: "Strategic Imperative: Azerbaijani Gas Strategy and the EU's Southern Corridor," SAM Center for Strategic Studies under the President of Azerbaijan, SAM Review #5, Baku, June 2012, pp. 613.

Energy and Greek Foreign Policy

Energy-related projects can be instrumental in Greece's effort to repair its image, re-acquire a leading regional role, increase its influence, accumulate "diplomatic capital" and, in the medium to long term, "fuel" its economy. In addition to TAP, Greece will try to enlarge its footprint in the energy map through other projects, including the exploitation of potential hydrocarbon deposits in various parts of the country, notably in western Greece and in the maritime areas southeast of Crete.

In the context of its deep economic and political crisis, Greece underwent a phase of hydrocarbon hysteria, during which the Greek people, exhausted by the austerity policies, were looking for a magic formula, an easy way out of the economic crisis, and energy resources seemed to be the perfect answer. Expectations are more realistic now, and the Greek government has taken all the necessary preliminary steps for research and exploitation of hydrocarbons by tendering exploration and production licenses in three areas of western Greece (February 2012–July 2013) and issuing, at the end of 2014, a mega-tender for 20 offshore blocks which cover an area of 220.000 km^2, extending from north of Corfu to southeast of Crete.[5] Initial interest by energy companies has been rather limited, due to low hydrocarbon prices, but also, to an extent, to the country's political and economic instability.

Although there have been no official statements or documents outlining a clearly articulated and comprehensive Greek hydrocarbons exploration policy, an analysis of the Greek debate leads to the following rough conclusions:

i. Greece would prefer to avoid any turbulence in relations with neighboring countries. Athens needs stability on the foreign policy front in order to facilitate recovery from its economic crisis. It should not be concluded from this that Greece would not react to an aggressive move by another country which attempted to change its bilateral status quo. Greece will play strictly by the rules of the international law of the sea, including bilateral consultations with countries with which Greece shares maritime zones. Talks have been held with Egypt, Albania and Libya, although the domestic situation in the latter country is rather chaotic, thereby leaving little room for substantive negotiations.

   It is highly unlikely that such talks will take place anytime soon with Turkey, although there have been more than 60 rounds of consultations between senior diplomats of the two countries. While it seems reasonable to assume that all the main ideas, options and scenarios for addressing issues of a bilateral nature have been discussed in the context of such

5 http://www.ypeka.gr/Default.aspx?tabid=875&language=en-US.

deliberations, Turkey has been adamant in opposing any discussion about delimitation of the respective EEZs of the two countries. Also, both sides presently have other domestic and foreign policy priorities (including the arc of crisis extending from Ukraine to the Mashrek, and from sub-Saharan Africa to the Af-Pak region). Moreover, the relative stability and predictability of their bilateral relations during the past few years has allowed them to put the resolution of bilateral differences temporarily on the back burner.

ii. The perceived importance of potential hydrocarbon deposits for economic recovery and national energy security for Greek decision makers should not be underestimated. Greece will claim any substantial deposits in its maritime zones, as defined by the international law of the sea, and no Greek government, irrespective of its ideological orientation, can afford not to pursue fully that course of action. In order to achieve that goal, Greece will use a variety of political and diplomatic means, including cooperation with countries and companies with common interests. In this context, the concept of common EU maritime policy and maritime zones may also be used, despite their—currently—mostly symbolic value. But Greece will also emphasize the importance of potential hydrocarbon discoveries, along with existing and possible new discoveries in the EEZs of Cyprus and Israel for strengthening European energy security.

iii. Problems with neighboring countries regarding the exploration of hydrocarbons may arise if substantial deposits are discovered in disputed areas. Even in that event, however, the international law of the sea offers solutions which could adequately satisfy the objectives of the sides involved and, more importantly, allow them to "sell" such an agreement to their respective public opinions. A necessary precondition, of course, would be adherence of the interested parties to the provisions of the United Nations Convention on the Law of the Sea (UNCLOS). Greece may not, in principle, be opposed to "win-win" solutions, even including joint exploitation of resources, provided, of course, that issues of borders and ownership have been settled in advance.

iv. As noted earlier, Greece will try to enlarge its footprint in the energy map with the projects mentioned above, including TAP and IGB, and increased participation in energy cooperation schemes in the Eastern Mediterranean involving Cyprus and Israel. Athens is also interested in improving relations with Russia. In this context, it is not, in principle, opposed to the idea of the Russian-proposed "Turkish/Greek Stream" which will replace existing pipelines through Ukraine to bring Russian gas to Central Europe via Greece and the Balkans. Theoretically, such a pipeline would have a neutral impact on European energy security and obvious economic and

political benefits for Greece. There are, however, serious obstacles, such as the legal dispute between the European Commission and Gazprom and, more importantly, the current state of EU-Russian relations. Finally, as already mentioned, the East Med Gas Corridor, involving Greece, Cyprus, Israel and, perhaps, Lebanon, is another interesting idea. Even Turkey could somehow be included, were it to adopt a substantially more constructive approach to the Cyprus problem.

Prospects for Sub-regional Cooperation in the Eastern Mediterranean: The Greek-Israeli Dimension

The early 1990s witnessed a visible improvement in Greco-Israeli relations, although the further strengthening of those relations was hampered by the development of a strong strategic partnership between Israel and Turkey. Unfortunately, at that time (mid-1990s) Athens adopted a zero sum game approach, forcing Israel to choose between Turkey and Greece. It was hardly surprising that Israeli interests with Turkey were perceived then by Israel as more important than those with Greece.

It wasn't until 2010 that the situation changed, with an impressive thaw in bilateral relations, resulting from three factors: (a) rising tensions in relations between Turkey and Israel, which forced Israel to seek, if not a replacement, then at least an alternative regional partner, in an effort to increase its strategic depth in the Eastern Mediterranean; (b) the rapprochement with Greece was useful for Israel also in the context of Israel's increasing isolation in Europe as a result of the Netanyahu government's policies vis-à-vis the Palestinian problem[6]; and (c) Athens' urgent need to re-acquire a role in its southern neighborhood, boost Greece's strategic value and seek a range of potential benefits (bilateral cooperation in the economic, defense/security, and tourism sectors, as well as support from the Jewish lobby, which is perceived as quite influential not only in Congress but also in Wall Street). Developments in Egypt and the prospect of a government in Cairo that may have been less accommodating to Israeli security needs and concerns, as well as the civil war in Syria, the rise and territorial expansion of Salafist groups in Syria and Iraq, the possibility of instability in Jordan and Lebanon, and Iran's nuclear program, have reinforced the perception of a deteriorating regional security

6 Greece remains critical of the Netanyahu government's policies on the Palestinian issue but its related statements have become more nuanced. Keeping in mind its traditional good ties with the Palestinians, Athens has tried to maintain a balanced position, for example by voting in favor of Palestinian membership in UNESCO and for Palestinian observer status at the United Nations, but in 2011 it also prevented the departure from Greek ports of a flotilla to Gaza.

environment for Israel and the need for extra-regional alliances. (It should be noted that Israel has been implementing a so-called peripheral strategy from the early years of its existence). As noted, Greece and Cyprus are also viewed by Israel as important links to Europe.[7]

The deterioration of relations with Turkey was considered a most undesirable development for Israel; the latter felt that, despite their differences, they had significant common strategic interests and Israel had no wish to add this country to its already long list of active enemies. For these reasons, it sought to improve relations with Turkey,[8] although it was well aware that a return to the status quo ante was almost impossible.[9] However, in addition to Prime Minister, and subsequently President, Erdogan's and much of the Turkish population's strong feelings about Gaza and the Palestinian question in general,[10] Ankara apparently perceived a political clash with Israel as beneficial and even necessary in order to increase its popularity and influence in the Arab/Muslim world.[11] As a result, Israeli decision makers have been feeling increasingly uneasy with Turkey's AKP government. The discovery of substantial natural gas deposits in Cyprus's EEZ, and energy cooperation between Cyprus and Israel, have further complicated relations between Turkey and Israel.[12]

Although with both Erdogan and Netanyahu remaining in power in their respective countries, normalization of relations appeared quite difficult, the fence-mending efforts became a more realistic prospect after direct

7 Thanos Dokos: "The Prospects for Greek-Israeli Relations: A View from Athens," ELIAMEP Briefing Notes 11/2013, April 2013, p. 1.

8 Galia Linderstrauss: "Spring Is in the Air? On the Thawing of Turkey-Israel Relations," INSS Insight No. 415, April, 3, 2013, p. 1.

9 According to Michael Leigh, "Turkey and Israel are unlikely to return to the halcyon days of diplomatic and military cooperation." Michael Leigh: "Cyprus Bailout and Israel-Turkey Détente Present New Opportunities," Transatlantic Takes, German Marshall Fund of the United States, 26 March 2013, p. 2. Bulent Aras also argues that "there is no prospect for a honeymoon between Turkey and Israel in the foreseeable future, but there is reason for hope of a working relationship in the short run," Bulent Aras: "Turkish-Israeli Relations after the Apology," On Turkey Analysis, German Marshall Fund of the United States, 12 April, 2013, p. 3.

10 Ibid., p. 2; see also "Turkey's Crises over Israel and Iran," International Crisis Group Report, September 2010, pp. 2–3.

11 According to Alexander Murinson, "…Turkey emboldened by the ouster of pro-Western leaders in the region … envisions itself as a revitalized master of the region once ruled by its Ottoman predecessors prior to the dissolution of the empire … As the fall of the Alawite regime in Syria seems imminent, Syria and Lebanon are likely to join the Turkey-inspired [Sunni] bloc," Alexander Murinson: "Strategic Realignment and Energy Security in the Eastern Mediterranean," Perspectives Papers on Current Affairs, The Begin-Sadat Center for Strategic Studies, 9 January 2012, p. 1.

12 Simon Henderson: "Energy Discoveries in the Eastern Mediterranean: Source for Cooperation or Fuel for Tension? The Case of Israel," Policy Brief, Eastern Mediterranean Energy Project, German Marshall Fund of the United States, June 2012, p. 1.

American involvement at the highest level. This was to be expected as there are important regional security concerns but also economic interests that require some form of cooperation between Israel and Turkey.

It should come as no surprise that Netanyahu's apology to Turkey for the death of Turkish citizens in the *Mavi Marmara* incident, and the expected gradual improvement of Israeli-Turkish, caused disappointment to those in Athens and Nicosia who believed that an alliance between Greece, Cyprus and Israel, based on the perception of a common enemy, would constitute a "shield" vis-à-vis Turkey's aggressive actions in the Eastern Mediterranean. According to another, more pragmatic school of thought, this trilateral cooperation could have substantial benefits for all sides involved but would not in itself provide an answer to all foreign policy challenges with which Greece and Cyprus are currently faced. To be viable, such cooperation should move away from any notion of an axis against a specific country and the logic of a zero sum game situation, and be based on common interests that the three sides involved should define as soon as possible.

If one accepts the inherent logic of the second school of thought, the reasons for strategic cooperation between Israel, Greece and Cyprus remain important, despite the serious economic problems and the resulting weakened position of Greece and, to a somewhat lesser extent the RoC, and the efforts towards at least a partial improvement of Israeli-Turkish relations.[13] In any event, Israel's foreign policy and security institutions are characterized by a certain—not completely unjustified— "paranoia" and strong mistrust towards third parties in general, and Islamic regimes in particular, which will probably prevent the full normalization of relations with an Islamic Turkey (despite strong encouragement by the U.S.). Furthermore, the nascent Turkish-Israeli rapprochement process will be tested by the next crisis in Gaza.[14]

According to a knowledgeable observer of regional dynamics, "trade between the two countries is booming. As a result, with a diplomatic détente, the export of Israeli gas to and through Turkey might become feasible."[15] Indeed, Israeli foreign policy is highly pragmatic on most issues and, despite its unequivocal statements re-affirming energy cooperation with Cyprus, it could conceivably accept some kind of compromise regarding hydrocarbons in the Eastern Mediterranean, provided its basic objectives are satisfied to a

13 Michael Leigh agrees with that assessment but offers a slightly more pessimistic view, arguing that "Turkey's détente with Israel need not be at the expense of Israel's energy cooperation with Cyprus … Israel, Cyprus and Greece will continue to work together but are unlikely to form an alternative energy corridor or strategic alignment in the Mediterranean," Leigh, "op. cit.," p. 2.

14 As Bulent Aras points out, "if the Netanyahu government wants a durable normalization with Turkey, the foremost condition is to adapt a constructive attitude in Israeli policy toward the Palestinians," Aras, op. cit., p. 2.

15 Leigh, op. cit., p. 2.

considerable extent. It is difficult to imagine, however, that Israel will entrust its central energy corridor to Europe to a country like Turkey, with a dynamic and rather controversial (at least from an Israeli perspective)[16] regional agenda, and will make its energy exports conditional on good relations with Ankara, stability in Syria and Lebanon—in the case of a land-pipeline—or the resolution of the Cyprus problem, in the case of an underwater pipeline. That is not to say, of course, that the possible positive impact of Cypriot natural gas discoveries in efforts to resolve the Cyprus problem should not be explored (although the issue should not be formally linked to inter-communal negotiations). Seeking cooperative solutions with the participation of Turkey should not be perceived as a taboo subject. However, there are a number of important preconditions that must be met.[17]

In any event, Israel's energy choices—and the results of additional energy explorations in all three countries involved—will shape to a considerable degree the nature and depth of the strategic relationship between Israel, Greece and Cyprus. The strategic value of Greece and Cyprus for Israel is still relatively high, but those three countries will have to define the parameters of their strategic cooperation on the basis of common interests and realistic expectations.

Security Cooperation in the Eastern Mediterranean

The Arab revolts have already caused an exponential increase in the region's volatility and unpredictability and may lead to a far more heterogeneous and fragmented region, and possibly to an increasingly polarized Mediterranean. The understandable—in view of their recent record—reluctance of the U.S. and Europe to participate in military intervention in Syria, and a more general trend towards an increased U.S. presence ("pivot to Asia") in the Asia-Pacific region make the need for active regional partnerships and allies in the Eastern

16 According to a leading Israeli analyst, "A combination of Turkish nationalism, neo-Ottoman nostalgia and Islamist-Jihadist impulses has placed Turkey into an aggressive stance on several regional issues [*sic*]." Ephraim Inbar: "The Threats in the Eastern Mediterranean Sea," Perspectives Papers on Current Affairs, Begin-Sadat Center for Strategic Studies, 24 November 2011, p. 2.

17 Obviously, resolution of the Cyprus problem would open the way for the construction of an underwater pipeline to Turkey, although again Israel would probably prefer to have additional options for economic and security reasons.

Mediterranean even more crucial.[18] In view of the inherent limitations of the Turkish-Israeli rapprochement, also as a result of Turkish own regional ambitions, the U.S. needs additional partners that would be acceptable interlocutors between the parties involved in various regional conflicts. In addition to its geostrategic location and the facilities offered (especially Souda Bay, arguably the most important—and dependable—Allied military facility in the Eastern Mediterranean), Greece, a traditional U.S. ally, has what could be described as a privileged relationship, of various degrees, with Israel, the Arab world, Iran, Russia and China, and could play, under specific circumstances, the role of an additional bridge or pathway, in addition to being a reliable regional partner.[19]

In the context of the evolving strategic rapprochement between Greece, Cyprus, Israel and Egypt, the common link is concern about regional stability. Those four countries should try to promote sub-regional cooperation with the U.S., NATO, and key European states, as well as with like-minded regional ones (such as Jordan). Areas of security cooperation should include, among others, maritime security, protection of energy facilities (on land and sea), and cooperation of intelligence agencies against the threat of jihadist terrorism. The relationship should be nurtured by all sides involved, which should try to build upon common interests, not perceived common adversaries, as the latter would be rather shaky ground for strategic ties. These four countries face a complex security equation, with a number of known variables, but also multiple unknown ones. The regional security matrix involves several influential regional and extra-regional actors, with bilateral and multilateral relationships changing, shifting and evolving on an almost continuous basis; hence the need for sound planning, readiness, flexibility, caution and pragmatism.

18 Changes in the global balance of power will be reflected in the Middle East as well. China has adopted a policy of close relations with resource-rich states in Africa and the Gulf region. Russia has also been trying—rather successfully, one might add—to regain some of its past influence in the region, and India is expected to make its presence more felt in the future. For the time being, China has limited its regional involvement to the economic sphere, satisfied with a U.S. guarantee for the safety of supply lines. But this will probably change given their growing energy dependency. The EU appears to be losing some of its regional influence. The other trans-Atlantic partner, the United States, is gradually shifting its strategic attention to Asia and has been trying to reduce its military presence in the Mediterranean by delegating responsibility for the Western Mediterranean and parts of Sub-Saharan Africa to the EU and for the Eastern Mediterranean to regional partners and allies, such as Israel and Turkey.

19 For example, Greece could host confidential meetings between Israel and the Palestinians, or between Israel and Iran, should those two states decide to explore the basic elements of a new modus vivendi after the agreement between Iran and the P5+1 on Tehran's nuclear program.

IV. Jörn Richert

Turkey's Energy Leadership Ambitions and Their Implications for Energy Governance in the Eastern Mediterranean

The idea of leadership plays an important role in Turkish foreign energy policy. Indeed, the Turkish Ministry of Energy and Natural Resources has declared its ambition to become "the leader in its region in energy" affairs.[1] However, although regional energy leadership is at the heart of Turkey's energy strategy, the concept lacks both a clear definition as well as empirical analysis. This essay therefore defines regional energy leadership, evaluates Turkey's leadership performance in the Southern Corridor, and discusses future options for Turkey's energy strategy.

Three potential energy strategies derive from this discussion: leadership, economization and securitization. The analysis shows that Turkey has so far not managed to become an energy leader proper. Instead, the country's actual foreign policy behavior is closer to a securitization strategy. It is less interested in gathering followers to work towards a shared objective than in, at times, exploiting the leverage gained from energy governance for other political purposes.

After making these points, the discussion turns to energy governance in the Eastern Mediterranean. It shows how the more general Turkish energy strategy affects energy governance also in this sub-region. Indeed, the interconnection of energy and other political goals is even stronger in the Eastern Mediterranean than it is elsewhere. As a consequence, while other states in the region have fostered cooperation, Turkey appears to be increasingly isolated.

Regional Energy Leadership—What Is a Leader? What Is a Region?[2]

In the debate on Turkish energy policy, key concepts such as energy hub, energy bridge and regional energy leadership are frequently used but rarely defined in a clear and consistent manner. Without such definitions, empirical argumentation and analysis remain imprecise. A first step in analyzing

1 Energy Ministry (2010): The Republic of Turkey Ministry of Energy and Natural Resources Strategic Plan (2010–2014), http://www.enerji.gov.tr/yayinlar_raporlar_EN/ETKB_2010_2014_Stratejik_Plani_EN.pdf.

2 This and the following two sections have been published as Jörn Richert (2015): "Is Turkey's Energy Leadership Over before It Began?" Istanbul: Istanbul Policy Center.

regional energy leadership is therefore to define it. To do so, I start by asking what a region is. From there on, I elaborate on other concepts, such as interdependence and power. All this will finally lead to an understanding of leadership, too.

Already the definition of the quite straightforward term *region* is a challenging task. Turkish energy officials and experts rarely present the country as situated within a region. Instead, they highlight Turkey's quality as a bridge between Europe and the Middle East/Central Asia. From this perspective, claims to regional energy leadership—that is, leadership within a region—appear self-defeating from the start. To make sense of the Turkish energy vision, therefore, a definition of region is needed that goes beyond commonsense understandings of entities such as the Middle East or Europe. Such a definition is found in the new regionalism literature, in the discipline of International Relations. The work of Barry Buzan and Ole Wæver on regional security complexes, in particular, is helpful in this regard. Buzan and Wæver define these complexes as "durable patterns of amity and enmity taking the form of subglobal, geographically coherent patterns of security interdependence."[3] Besides a geographical component, this definition highlights interdependence and relations between actors (amity and enmity). These aspects can help to develop an understanding of regions that goes beyond historically formed geographical areas.

Since the focus of this policy brief is on energy and not on security per se, this definition must be adapted. Taking the focus on energy into account, I define a region as a regional energy governance complex, defined by durable, sub-global, and geographically coherent energy interdependencies and the political patterns that form around them. Substituting security for energy governance is not to say that energy cannot be a security issue—it might always be securitized.[4] In such a case, the patterns of amity and enmity that are highlighted by Buzan and Wæver might dominate politics as actors perceive each other in terms of friends and foes. However, the focus on energy governance acknowledges that energy might also be governed differently.

In a regional energy governance complex actors are connected by interdependence. This means that their choices are systematically interlinked.[5] Taken by itself, interdependence is non-political and involves no relations

3 Barry Buzan and Ole Wæver (2003): *Regions and Powers: The Structure of International Security*, Cambridge: Cambridge University Press.

4 Barry Buzan, Ole Wæver, and Jaap de Wilde (1998): *Security: A Framework for Analysis*, Boulder/London: Lynne Rienner; Solveig Richter and Jörn Richert (2009): "Kooperation Oder Eskalation? Warum Rohstoffknappheit Nicht Zwangsläufig Zu Konflikten Führt," *Internationale Politik* 64: 10–16.

5 Helen Milner (1991): "The Assumption of Anarchy in International Relations Theory: A Critique." *Review of International Studies* 17: 67-85; Robert O. Keohane and Joseph S. Nye. (1977): *Power and Interdependence: World Politics in Transition*, Boston: Little, Brown.

of power.[6] However, actors might interpret interdependence as relative dependence and thus in terms of power relations.[7] Power is thus an important feature of energy regions. Joseph Nye defines power as "the ability to affect the behavior of others to get the outcomes you want."[8] He highlights three main ways in which power can work: by threats or coercion, by payment, or by attraction.[9] Coercion and payment constitute forms of hard power, while attraction is understood as soft power. Soft power, Nye argues, derives from an actor's "culture (when it is pleasing to others), its values (when they are attractive and consistently practiced), and its policies (when they are seen as inclusive and legitimate)."[10] Combinations of hard and soft power are called smart power.[11]

This understanding of power also helps clarify what regional leadership means. Leadership, Nye maintains, is a relation of power. Being a leader, however, does not simply mean to be a great power. There are two concrete leadership conditions that need to be fulfilled. First, says Nye, leadership cannot be built on hard power alone.[12] This implies at least some degree of soft power. Second, a leader needs followers. For Nye, a leader is "someone who helps a group create and achieve shared goals."[13] A great power might exist regardless of patterns of enmity and amity. It might even reinforce them. Leadership, in contrast, demands transcendence of such patterns and making a group of actors work towards a common goal. With this conceptual discussion in mind, I next turn to the second task of this article, the evaluation of Turkish energy leadership performance.

The Southern Corridor—Leadership in an Emerging Region

Now that the definitions have been provided, it is possible to pose a set of guiding questions that must be answered in order to properly analyze Turkish energy leadership: What kinds of interdependence exist within the

6 Stefano Guzzini (2005): "The Concept of Power: A Constructivist Analysis. Millennium," Journal of International Studies 33: 495–521.

7 Kenneth N. Waltz (1979): Theory of International Politics, New York: Random House.

8 Joseph S. Nye (2008): The Powers to Lead, Oxford: Oxford University Press.

9 Ibid.

10 Joseph S. Nye (2009): "Get Smart: Combining Hard and Soft Power," *Foreign Affairs* 88: 160–163.

11 Ibid. See also Suzanne Nossel (2004): "Smart Power: Reclaiming Liberal Internationalism," *Foreign Affairs* 83: 131–142.

12 Nye, op. cit., p. 25.

13 Ibid. See also G. John Ikenberry (1996): "The Future of International Leadership," *Political Science Quarterly* 111: 385-402; Alexandra Lindenthal (2009): *Leadership Im Klimaschutz: Die Rolle Der Europäischen Union in Der Internationalen Umweltpolitik*, Frankfurt-am-Main/New York: Campus.

energy governance complex? What kind of power emerges? Which actors are engaged? Do actors share a common objective that transcends patterns of enmity and amity? What power position does Turkey find itself in? What are its objectives and how do they relate to overarching goals? Does Turkey contribute to achieving the latter? In this section, I analyze energy leadership in the Southern Corridor along the lines of these questions. I first discuss the characteristics of the Southern Corridor in terms of interdependence and power, and how this region can be understood as the one most relevant to Turkish energy political ambitions. In this context, I introduce four distinct historical phases that led to the corridor that exists today. Thereafter, I analyze these phases to find out about leadership and the performance of Turkish energy policy.

The Region and the Turkish Power Position

The region most relevant to Turkey's energy policy is the so-called Southern Corridor.[14] It connects European energy consumers with resources in Central Asia, and potentially the Middle East, while bypassing Russian territory. The corridor's origins lie in the latter days of the Soviet Union. At the time, IOCs such as BP and Chevron were looking for new resources in Central Asia.[15] Their efforts resulted in a series of oil contracts, including the so-called 1994 Contract of the Century with Azerbaijan. The Southern Corridor emerged when these new resources had to be transported to consuming markets.

The history of the Southern Corridor can be divided into three phases. The first phase is associated with the so-called Early Oil that originated from updated Soviet production facilities. Two pipelines were built in the late 1990s to transport this oil—one from Baku to the Russian port of Novorossiysk and the other to the Georgian port of Supsa.[16] In the second phase, growing oil production necessitated additional transport capacities. These were provided, finally, by the Baku-Tbilisi-Ceyhan (BTC) pipeline that became operational in 2005. A third phase began in the early 2000s when political attention shifted from oil to gas. The BTC pipeline had been built with an associated gas one, the Baku-Tbilisi-Erzurum (BTE) pipeline, which began transporting

14 European Commission. (2008): "Second Strategic Energy Review."

15 Steve LeVine (2007): The Oil and the Glory: The Pursuit of Empire and Fortune on the Caspian Sea, New York: Random House; Daniel Yergin (2011): The Quest: Energy, Security and the Remaking of the Modern World, New York: Penguin Books.

16 Jennifer Delay (1999): "The Caspian Oil Pipeline Tangle: A Steel Web of Confusion." In Michael P. Croissant and Bülent Aras: *Oil and Geopolitics in the Caspian Sea Region*. Westport, CT: Praeger, pp. 49-54; John Roberts John (2001): "Energy Reserves, Pipeline Routes and the Legal Regime in the Caspian Sea." In Gennadii I. Chufrin: *The Security of the Caspian Sea Region*, Oxford, New York: Oxford University Press, pp. 44–54.

gas in 2007.[17] In this phase, actors sought to expand the gas infrastructure towards Europe, ultimately resulting in several agreements concerning the abovementioned TANAP/TAP duo. The duo are scheduled to bring 6 bcm/year from the second phase of the Azerbaijani Sah Deniz field to Turkey and 10 bcm/year to Europe by 2018 and 2019, respectively.[18]

As this overview shows, the Southern Corridor has long been an energy governance complex in the making. Throughout the corridor's history, interdependence was not constituted by actual energy flows. Rather, the region was held together by common interests in prospective flows of oil and gas. From this interdependence, a specific kind of power emerged. Politics was conducted by resorting to a mix of future payments, geographical potential, and demonstration of expertise. Also, attraction, political commitments and, to a lesser degree, coercive strategies played a role.

Turkey's power position was characterized by the fact that it was "sitting on the only transit route substantially free of Russia."[19] However, as Temel argues, soft power was also important. Turkey was an attractive partner thanks to the country's "stability, her solid links to Europe and [the] United States, [and] her ever deepening relations with the countries in the region."[20]

Early Oil, a New Objective, and U.S. Leadership

From the beginning, the objective shared by most actors in the Southern Corridor was to transport energy resources to consuming markets. When the challenge to convey these resources came up for the first time in the context of Early Oil, two main options were discussed: a pipeline crossing Russian territory and, alternatively, a route to the Georgian Black Sea coast. The IOCs favored the former option as it was expected to be substantially cheaper.[21] Azerbaijan was leaning towards the Russian option as well, because it was wary about the potential demands of its northern neighbor.[22]

After the IOCs had signed the Contract of the Century, however, the U.S. Department of State became increasingly interested in the region's

17 Bülent Aras (2014): "Turkish-Azerbaijani Energy Relations," Global Turkey in Europe Policy Brief 15, p. 3.

18 Simone Tagliapietra (2014): "Turkey as a Regional Natural Gas Hub: Myth or Reality?" Turkish Policy Quarterly 12: 92.

19 Richard E. Ericson (2012): "Eurasian Natural Gas: Significance and Recent Developments," *Eurasian Geography and Economics* 53: 639.

20 Iskit Temel (1996): "Turkey: A New Actor in the Field of Energy Politics," *Perceptions: Journal of International Affairs* 1: 58–82.

21 John Roberts (2001): "Energy Reserves, Pipeline Routes and the Legal Regime in the Caspian Sea." In Chufrin, op. cit., pp. 44–58.

22 Nasib Nassibli (1999): "Azerbaijan: Oil and Politics in the Country's Future." In Croissant and Aras, op. cit., pp. 104–107.

energy politics and the fate of the newly founded post-Soviet states.[23] It took over leadership and changed the objective of regional energy governance by underlining that transport should not be dependent entirely on Russia. The United States exerted leadership by means of smart power. The Department of State altered the position of the companies by refusing hard assistance in the event of future problems with Russia.[24] Azerbaijan President Heydar Aliyev, on the other hand, was ultimately persuaded by the attraction of being personally addressed by then U.S. President Bill Clinton.[25]

While the United States exerted leadership, Turkey's attempts to direct regional energy governance in a favorable direction remained, as Bilgin puts it, rather awkward.[26] Turkey had supported a pipeline to Georgia.[27] However, in early 1996, the project partners rejected a Turkish proposal to build a pipeline to the Georgian port of Batumi.[28] Turkey had offered to finance the project under favorable conditions, but in return it demanded a 51% majority share and a commitment to building a main pipeline from Baku to the Turkish port of Ceyhan. The project partners refused.[29] Further, in the spring of 1998, Turkey failed to gain approval for a significant capacity expansion of the pipeline to Georgia. While this would have increased Turkey's chances of transporting supplies in the second phase of oil production, other actors refused to pay the additional cost.[30]

The Main Oil Pipeline and Turkey's Growing Role in Regional Energy Governance

Ongoing oil exploration in Azerbaijan quickly called for a grander pipeline. Already in early 1993, Azerbaijan had revealed its plan of building a main export pipeline from Baku to Ceyhan. It quickly found common ground with Turkey.[31] In the face of the more pressing challenge of transporting Early Oil, however, the debate over the main export pipeline lost momentum. It was

23 Amy M. Jaffe (2001): "US Policy towards the Caspian Region: Can the Wish-List Be Realized?" In Chufrin op. cit., p. 137; Raphael, S. and D. Stokes (2014): "US Oil Strategy in the Caspian Basin: Hegemony through Interdependence," International Relations 28: 183-206, pp. 192–194.
24 LeVine, op. cit., p. 305.
25 Süha Bölükbaşı (1998): "The Controversy over the Caspian Sea Mineral Resources: Conflicting Perceptions, Clashing Interests," *Europe-Asia Studies* 50: 404.
26 Mert Bilgin (2003): "The Emerging Caspian Energy Regime and Turkey's New Role." *The Turkish Yearbook of International Relations*, Ankara: Ankara University Press, p. 22
27 Nassibli, op. cit., pp. 119.
28 Croissant and Aras, op. cit., pp. 231.
29 Bölükbaşı, op. cit., pp. 404–405.
30 Roberts, op. cit., pp. 53–54.
31 Sabit Bagirov (2001): "Azerbaijan's Strategic Choice in the Caspian Region." In Chufrin, op. cit., p. 190.

only after Turkish plans to establish a Baku-Batumi pipeline failed that the Baku-Ceyhan project became the country's major focus.[32] In early 1995, the United States endorsed the Turkish plan,[33] and the two countries became its most active promoters.[34]

In the subsequent political struggle, the objective to bypass Russia was unanimously accepted by all relevant actors. Differences emerged nevertheless. The oil companies favored what they saw as the cheapest option—constructing a pipeline to the Persian Gulf via Iran. It was only when they realized that the United States would block any Iranian involvement[35] that they started to back expansion of the Baku-Supsa pipeline. A pipeline to Ceyhan, on the other hand, was perceived as a political project and too expensive.[36]

The IOCs found support from Georgia. However, then Turkish President Suleyman Demirel convinced his Georgian counterpart Eduard Shevardnadze to support both a Baku-Supsa expansion and a Baku-Ceyhan pipeline passing through Georgia.[37] Turkey pushed for a Baku-Ceyhan solution on another front as well, when it introduced additional safety and environmental regulations for passage of the Turkish Straits.[38] In the meantime, the United States tried to convince regional governments of the BTC plan. As a consequence of U.S. and Turkish activism, the heads of state of Azerbaijan, Georgia, Kazakhstan, Turkey and Uzbekistan signed—in the presence of then U.S. Energy Secretary Bill Richardson—the so-called Ankara Declaration in October 1998 regarding the establishment of the BTC oil pipeline.[39]

The companies remained reluctant. They were only convinced when the governments agreed to support financing of the pipeline. Turkey guaranteed a $300 million payment in the event of cost overrun.[40] The United States secured the participation of institutions such as the World Bank, convincing commercial banks of the viability of the project. Finally, a crucial factor in the realization of BTC was the relationship between the United States and BP,[41]

32 Bölükbaşı, op. cit., p. 403.
33 LeVine, op. cit., p. 299.
34 Roberts, op. cit., p. 51.
35 Delay, op. cit., p. 64; Oscar Pardo Sierra (2010): "A Corridor through Thorns: EU Energy Security and the Southern Energy Corridor," *European Security* 19: 651.
36 LeVine, op. cit., pp. 469–471; Roberts, op. cit., pp. 52–53.
37 Roberts op. cit., pp. 55–56.
38 While the Montreux convention of 1936 guaranteed free passage of the Straits, the new regulations meant a setback for any pipeline solution that would necessitate the shipping of oil out of the Black Sea. See Bölükbasi, op. cit., p. 403.
39 Jaffe, op. cit., p. 139.
40 Zeyno Baran (2001): "The Baku-Tbilisi-Ceyhan Pipeline: Implications for Turkey." In Chufrin, op. cit., p. 108; Ali Karaosmanoğlu (2001): "Turkey's Objectives in the Caspian Region." In Chufrin, op. cit., p. 157.
41 See LeVine, op. cit., Ch. 20.

the British oil company which had bought two U.S. competitors—Amoco for $55 billion in 1998 and Arco for $39 billion only a year later.[42] These mergers not only made BP the principal operator in the Baku oil endeavor, it also put the company on a collision course with U.S. anti-trust laws. Anxious not to jeopardize its U.S. mergers, BP agreed to the BTC plans and managed to convince the other companies to follow suit.

While Turkey played a much more active role in this phase, it remained "subordinate to [that of] the USA."[43] To a certain degree, its role was itself the result of conscious U.S. policy to get Turkey more involved in regional energy politics.[44] Again, Washington exercised smart power in achieving the objective of circumventing Russia (and Iran). In addition to declining the companies' demands to interact with Iran, the United States used its attraction vis-à-vis local rulers, including those of Turkey, and its influence on the World Bank, to steer regional energy governance.

From Oil to Gas and towards Volatile Leadership

In the 2000s, the regional energy political focus moved increasingly from oil to natural gas. As with oil, interdependence and power resources were not a matter of material transactions but were primarily political. Struggles revolved around prospective instead of actual flows of gas, and the planning of new pipelines was more important than existing ones. A new actor began to assert leadership: the EU.[45] The EU managed to make realization of the Nabucco pipeline project, which was designed to bring Central Asian gas to Baumgarten, Austria, the main objective of regional energy governance.[46] It supported Nabucco because the pipeline allowed, among other things, for third party access and thus actual competition among suppliers.[47] In 2003, the European Commission contributed to a feasibility study of the project. Support was reinforced after the first Russian-Ukrainian "gas war" of 2006.[48]

42 Ibid.

43 Lena Jonson (2001): "The New Geopolitical Situation in the Caspian Region." In Chufrin, op. cit., p. 20.

44 Jaffe, op. cit. pp. 469, 139, 299.

45 Richard Youngs (2009): Energy Security: Europe's New Foreign Policy Challenge, New York: Routledge.

46 The project was initiated by the Austrian company OMV, the Turkish Botas, the Hungarian MOL, the Rumanian Transgaz, and the Bulgarian Bulgargaz in 2002 (Nabucco, 2010).

47 Brendan Devlin and Katrin Heer (2010): "The Southern Corridor—Strategic Aspects for the EU." In Kristin Linke and Marcel Vietor (eds.): *Beyond Turkey. The EU's Energy Policy and the Southern Corridor*, Berlin: Friedrich Ebert Stiftung.

48 Vladimir Socor (2011): "Azerbaijan and Its Gas Consortium Partners Sign Agreements With Turkey." Eurasia Daily Monitor 8, http://www.jamestown.org/single/?tx_ttnews%5Btt_news%5D=38603&no_cache=1#.U_dZwVY_FD9.

In 2008, the Commission made the Southern Gas Corridor one of its energy security priorities,[49] after which then Energy Commissioner Andris Piebalgs called Nabucco "the flag project of the diversification efforts of the EU."[50] In March 2009, the EU deepened its commitment by allocating €200 million of seed capital to Nabucco.[51]

Other actors initially followed the European lead. The United States, Azerbaijan, Georgia and Turkey all supported Nabucco.[52] However, after "a decade without real progress,"[53] several developments between 2011 and 2013 slowly brought about the end of Nabucco. While the developing Euro-crisis made financing increasingly problematic, Nabucco cost updates were missing, and pressure from the Shah Deniz production consortium in Azerbaijan grew.[54] In early 2012, the Nabucco consortium downgraded its plans to a Nabucco-West pipeline, designed to bring gas from the Turkish-Bulgarian border to Baumgarten. In 2013, the project was shelved altogether.[55]

These events signaled a shift of leadership from the EU to Azerbaijan. While, in principle, Azerbaijan had supported Nabucco, the prospect of increasing domestic gas production demanded a timely solution. In October and December 2011 respectively, BP and SOCAR suggested alternative pipeline projects.[56] It was TANAP, the Azerbaijani option that finally replaced Nabucco as the project that would transport natural gas to Europe. Azerbaijan had quickly managed to engage Turkey and both countries signed a series of agreements that paved the way for the new pipeline in late 2011.[57]

In the end, it was the EU's inability to combine the attraction of a European solution with the hard dimensions of financing and gas supplies that signaled the end of EU leadership.[58] Azerbaijan, on the other hand, was capable of overcoming the monetary hurdle by using revenues generated

49 European Commission (2008): *Second Strategic Energy Review*, p. 2.

50 Pavel K. Baev and Indra Overland (2010): "The South Stream versus Nabucco Pipeline Race: Geopolitical and Economic (Ir)rationales and Political Stakes in Mega-Projects." *International Affairs* 86: 1077.

51 Vladimir Socor (2009b): "Turkish Government Stalling on Nabucco Project Ahead of Critical Deadlines," Eurasia Daily Monitor 6, http://www.jamestown.org/single/?tx_ttnews%5Btt_news%5D=34902&no_cache=1#.U_dUdVY_FD9.

52 Michael Ratner, Paul Belkin, Jim Nichol and Steven Woehrel (2013): *Europe's Energy Security: Options and Challenges to Natural Gas Supply Diversification*, Washington, D.C.: Congressional Research Service.

53 Ericson, op. cit., p. 636.

54 Vladimir Socor (2012): "Post-Nabucco Era in Caspian Pipeline Business and Politics," *Eurasia Daily Monitor* 9, http://www.jamestown.org/single/?tx_ttnews%5Btt_news%5D=38972&no_cache=1#.U_dXQlY_FD.

55 Olgu Okumuş (2013): "What Did Turkey Lose When EU Lost Nabucco?" *Eurasia Daily Monitor*, http://www.al-monitor.com/pulse/originals/2013/07/eu-nabucco.html##ixzz3A0mhNQKo.

56 Socor (2012), op. cit.

57 Ibid.

58 Aras, op. cit., p. 15; Youngs, op. cit., pp. 100–125.

from its oil production.[59] Azerbaijani leadership was also reflected in the agreements it reached with Turkey. Azerbaijan initially took an 80% share in the TANAP project, while Turkey's energy companies would hold only 20%.[60] This ownership structure, finally, also transformed the objective of energy governance. While the overarching aim of transporting Azerbaijani gas to Europe remained the same, the EU's ambition to allow for third party access vanished from the scene.

The Turkish position in this phase oscillated between following and active foot dragging. While, in principle, Turkey supported the cause of bringing Azerbaijani, and potentially other gas, to Europe, Turkish officials repeatedly tried to exploit their country's strategic position in energy politics for other political objectives.[61] In 2007, Turkey vetoed the entry of Gaz de France into the Nabucco consortium in retaliation for political decisions made by the French National Assembly that were unrelated to energy issues. In the run-up to the signature of the Intergovernmental Agreements on Nabucco in 2009, then Turkish Prime Minister Erdoğan linked Turkey's support for Nabucco to his country's EU accession process. At the same time, Turkey demanded that Azerbaijan accept overly demanding terms for energy transit, including the right to resell 15% of gas going to Europe, higher taxes and extraordinarily high transit fees.[62] Turkish action, in the end, resulted in a two-year delay of Nabucco, thereby contributing to the project's failure.[63] Turkey only moved from foot dragging to following when Azerbaijan took over leadership.

Summary: Leadership in the Southern Corridor and Turkey's Questionable Performance

As the analysis has shown, leadership in the Southern Corridor has moved repeatedly from one actor to another. It has also become clear that it was U.S. leadership that forged the common objective of bypassing Russia (as well as Iran). When the focus moved from oil to gas, the EU took over the leadership

59 Roberts, op. cit., pp. 77–85.

60 Ericson, op. cit., p. 637. In the meantime, these shares changed, with Turkish companies holding 30%, BP holding 12%, and Azerbaijan's SOCAR holding the remaining 58%. Aynur Jafarova, (2014): "Turkey Buys SOCAR's 10 Pct Share in TANAP Project," Azernews, 2 June 2014, http://www.azernews.az/oil_and_gas/67608.html.

61 Erkan Erdoğu (2014): *Turkey's Energy Strategy and Its Role in the EU's Southern Gas Corridor*, Rome: Istituto Affari Internazionali.

62 Vladimir Socor (2009c): "Turkey's Stalling on Nabucco Hurts Europe, Azerbaijan, and Itself: Part One," *Eurasia Daily Monitor* 42, http://www.jamestown.org/single/?tx_ttnews%5Btt_news%5D=34657&no_cache=1#.U_daK1Y_FD-.

63 Socor, Vladimir (2009a): "Turkey: A Bridge or Bottleneck for Caspian Gas to Europe?" *Eurasia Daily Monitor* 6, http://www.jamestown.org/single/?tx_ttnews%5Btt_news%5D=35628&no_cache=1#.U-tt4VY_FD8.

role. Its objective to allow for a gas pipeline from Azerbaijan to Europe governed by EU energy law, however, was not realized. The EU was lacking hard power components—particularly financing. These were provided only when Azerbaijan took over leadership by initiating TANAP.

The empirical evaluation of leadership in the Southern Corridor has furthermore clarified the varying role that Turkey has played. When the Early Oil pipeline to Georgia was discussed, Turkey's proposals were declined. While more successful in the case of the BTC pipeline, Turkey mainly followed the United States. Particularly in the case of Nabucco, Turkey's demanding stance contributed to the failure rather than to the success of a common objective. In the case of TANAP, Turkey finally moved from being a foot dragger to a follower, this time by supporting Azerbaijan. Turkey, in short, has not managed to assert a leadership role in the Southern Corridor. As I will show in the following section, regional energy leadership will probably also be out of reach for Turkey in the future.

Strategic Options for Turkey and the Impossibility of Leadership in the Southern Corridor

The construction of TANAP/TAP will fulfill the major objective of two decades of regional energy governance: it allows Azerbaijani resources to reach Western markets while bypassing Russia. Although the construction of TANAP/TAP appears to be good news for Turkey, it has unpleasant consequences for the country's leadership ambitions. As I will illustrate in this section, the construction of TANAP/TAP results in a situation in which Turkey will most likely not become a regional energy leader. Instead, there are two potential paths ahead for it: to either securitize energy and become an energy power or economize energy and become an energy hub. While each of these strategies calls for further in-depth analysis, I limit myself to discussing their respective relations to Turkish energy leadership.

New Interdependencies and Turkey's New Power Resource

With TANAP/TAP in place, regional interdependence will be generated increasingly by physical infrastructure and resource flows. Importantly, the shift from prospective to actual pipelines and resource flows is likely to go hand-in-hand with a shift in perceptions of Turkey. What once appeared attractive—Turkey's stability, solid links to Europe and the United States and close relations with countries in the region—will be perceived progressively as the normal state of affairs. At the same time, the construction of TANAP/

TAP adds a harder power source to Turkey's portfolio. At least in principle it seems to give Turkey the power to "decide how much gas reaches EU markets and when it is delivered" and thus to "[use] its natural geographic leverage against the EU"[64] and other actors.[65] Producers and consumers, as well as companies, will follow closely how Turkey uses this new "transit power." The way in which Turkey utilizes it will result in either the securitization or the economization of regional energy governance. Neither of these scenarios entails energy leadership.

Securitization—Turkey as a "Not-So-Important" Energy Power

Turkey might strive to actively employ the "ability to manipulate gas flows and tailor it to its political and economic [*sic*]" agenda.[66] As seen above, the incumbent AKP government has already tried to exploit its position in energy politics for other political purposes. In the future, this strategy might turn Turkey into a relatively important regional power in energy affairs[67]; however, it will not result in energy leadership. Energy leadership requires followers. Applying "transit power" means driving away such followers. It means exercising influence over producers by not letting their resources pass, or over consumers by hindering the resources from reaching their destination. Wielding transit power, in other words, means securitizing regional energy governance and reinvigorating patterns of enmity and amity. As a consequence, leadership becomes impossible. Instead of followers, Turkey will encounter increasing mistrust. When aspiring to use its "transit power," Turkey might find that Europe, as well as energy producers, increasingly perceive it more as a problem than a solution. In the medium and long term, moreover, this strategy is likely to be self-defeating, since it erodes the comparative advantage Turkey has over Russia. Only if Turkey is seen as a more attractive partner than Russia will the extension of transit routes via Turkey seem sensible politically. Greater attractiveness might appear self-evident in the context of the ongoing Ukrainian crisis. However, given the substantial interdependence of Russia and Europe, their relations are likely

64 Erdoğu, op. cit., pp. 9–12.

65 Temel, op. cit., p. 77.

66 Erdoğu, op. cit., p. 9.

67 Although this issue cannot be discussed in detail here, contractual agreements and the ownership structure of joint ventures with Azerbaijan (Okumuş, op. cit.), the general uncertainty regarding additional energy sources to fill the Southern Corridor (Tagliapietra, op. cit.), Turkey's own growing gas demand (Rzayeva, op. cit.), the potentially game-changing character of unconventional gas production (Richert, op. cit.) and the growing role of energy efficiency and renewable energy in Europe, as well as the relative unimportance of traded volumes in comparison with the overall European market, make it unlikely that Turkey will emerge as a *great* energy power.

to normalize in the medium and long term. At the same time, confrontational behavior by Turkey will decrease substantially Turkey's attractiveness as a partner for Europe.

Economization—Profit but No Leadership

Another possible future strategy for Turkey is to remove power from its approach to energy interdependence in the Southern Corridor. This would entail transforming energy interdependency into an exclusively economic matter. In order to pursue this strategy, Turkey would have to foster integration into European markets towards "a single transit regime."[68] It would also have to push for the liberalization of the emerging transit regime with Azerbaijan (that is, third party access).

By pursuing an economization strategy, Turkey could become an energy hub. Economization also appears to be a viable strategy since it implies substantial economic benefits for Turkey.[69] Moreover, in contrast to securitization, this strategy is not self-defeating but self-enforcing. If Turkey manages to prove its reliability and stability in the energy sector—mainly by abstaining from political interference—and at the same time expands infrastructure and expertise in energy trade, it could become an increasingly attractive energy partner. However, despite all these advantages, economization and becoming an energy hub leave no room for leadership. By taking energy out of the realm of politics and power, leadership, as a relationship of power, becomes impossible.

Turkey's Energy Strategy and Energy Governance in the Eastern Mediterranean

Based on the preceding analysis, there are three strategic options that Turkey might pursue in the Eastern Mediterranean. A *leadership* strategy would mean that Turkey would strive to find followers and work with them towards a common goal, such as the extraction of East Mediterranean energy resources and their transport via Turkey. *Economization* would involve treating energy as an exclusively economic issue in which politics should not interfere. To follow this strategy Turkey should work to remove political barriers that impede the

68 Ayla Gürel and Fiona Mullen (2014): "Can Eastern Mediterranean Gas Discoveries Have a Positive Impact on Turkey-EU Relations?" In Senem Aydin-Düzgit, Daniel Huber, Meltem Müftüler-Bac, E. Fuat Keyman, Jan Tasci and Nathalie Tocci (eds.): Global Turkey in Europe II. Energy, Migration, Civil Society and Citizenship Issues in Turkey-EU Relations, Rome: Istituto Affari Internazionali, p. 54.

69 For respective numbers regarding the BTC pipeline, see Baran, op. cit., pp. 108–109.

exploration and transport of energy resources in the region. The third strategy of *securitization* implies an understanding of energy primarily as a security issue. Following this strategy, Turkey would aim to lever its own strategic position in energy governance in order to secure political goals unrelated to its governance as such.

Gas Exploration and Politics in the Eastern Mediterranean

Before turning to the question of Turkey's strategy, it seems pertinent to take a brief look at the regional context more generally. While initial attempts at offshore gas exploration in the region date back several decades, major discoveries were made only after the turn of the century. In particular, discoveries of the Tamar (2009) and Leviathan (2010) fields in Israel's EEZ and the Aphrodite field (2011) in Cyprus's EEZ raised the energy profile of the region.[70] However, the development of these resources has been complicated by a series of contentious political issues, such as the Israeli-Palestinian conflict, the current situation in Syria, and uncertainties and disputes over maritime borders. Moreover, with regard to the Turkish role, the most defining aspect of Eastern Mediterranean politics is the ongoing Cyprus conflict.

It was Cyprus that took the initiative to de-couple the energy issue from political complications by negotiating and signing border delineation agreements with Egypt (2003), Lebanon (2007, not yet ratified by Lebanon), and Israel (2010). Other border issues remain contested, such as those between Israel and Egypt and between Lebanon and Israel.[71] In the latter case, Cyprus has reportedly been facilitating solution by mediation.[72] Nevertheless, cooperation has progressed on several fronts. Talks between Israel and Cyprus have intensified over time.[73]

And Greece has recently pushed for agreement on maritime borders with Cyprus and Egypt.[74] Moreover, in trilateral talks, Greece, Cyprus, and Israel started a dialogue in 2012 about potential transport routes of natural gas out of the region, and the leaders of Greece, Cyprus and Egypt agreed on

70 Simon Henderson: "Israel's Developing Relationship With Cyprus. Breaking Energy," 29 July 2015, http://breakingenergy.com/2015/07/29/israels-developing-relationship-with-cyprus/.

71 Hakim Darbouche et al. (2012): "East Mediterranean Gas: What Kind of a Game-Changer?" Oxford Institute for Energy Studies, Oxford, p. 7. Also available at http://www.oxfordenergy.org/wpcms/wp-content/uploads/2012/12/NG-71.pdf.

72 Pasquale de Micco (2014): "The Prospect of Eastern Mediterranean Gas Production: An Alternative Energy Supplier for the EU?" Analysis for the Directorate-General for External Policies of the European Union.

73 Roby Nathanson and Roee Levy (eds.) (2012): "Natural Gas in the Eastern Mediterranean: Casus Belli or Chance for Regional Cooperation?" IEPN and INSS, Tel Aviv, p. 25.

74 Michele Kambas and Dominic Evans: "Greece Seeks to Define Sea Boundaries with Egypt, Cyprus," Reuters, 29 April 2015, http://breakingenergy.com/2015/07/29/israels-developing-relationship-with-cyprus/.

enhanced cooperation on a variety of issues, including energy, in 2015.[75]

Turkey's Position in the Region

Turkey's position in the region, on the other hand, appears more complicated. Relations with both Israel and Egypt have deteriorated significantly in recent years. Before the large natural gas finds were made, energy relations with Israel were indeed on the rise. In 2008, Turkish and Israeli officials decided to explore the feasibility of a so-called MedStream project envisaged to connect Turkey and Israel by five pipelines which would carry water, electricity, fiber optics, natural gas and oil respectively.[76] However, relations deteriorated in 2010 after the Israeli navy's raid on the Turkish *Mavi Marmara*. Despite a formal Israeli apology in early 2014, relations soured again as a result of the Israeli military campaign in Gaza in the same year. Turkey's Energy Minister Yildiz made clear that no pipeline plans with Israel would be pursued as long as Israeli aggression continued. Turkey's relations with Egypt suffered following the ousting of Egyptian President Morsi in 2013- a move criticized severely by Turkey- and remain problematic.[77]

The most far-reaching rift in the region, however, is the conflict between Turkey and Cyprus, dating back to the Turkish invasion that followed the Greek-inspired coup in 1974. Today, the island is de facto separated into the Republic of Cyprus, a member of the European Union, and the so-called Turkish Republic of Northern Cyprus, which is not recognized internationally except by Turkey. Talks between the two sides led to a referendum in 2004 in which, however, Greek Cypriots in particular declined the option of reunification. As a consequence of these events, the claims of Turkey and Cyprus regarding the waters surrounding the island are grossly conflicting. Furthermore, Turkey has opposed any Cypriot move towards offshore resource development as long as it does not also benefit Northern Cyprus. While, in principle, Cyprus is open to discussing involvement of the island's northern part, it has refused formal negotiations before resources are actually developed.

Consequently, Turkey has criticized and counteracted the above mentioned moves toward regional cooperation. It submitted a complaint, for example, to the UN about the delimitation agreement between Cyprus

75 de Micco, op. cit.; Karen Ayat (2015): "Turkish Officials React to Cyprus, Greece and Egypt's Trilateral Agreement," *Natural Gas Europe*, http://www.naturalgaseurope.com/turkish-officials-react-cyprus-greece-egypts-trilateral-agreement-23686.

76 "Turkey-Israel Agree to Start Works on Pipeline Project," *Hurriyet*, 2008, http://www.hurriyet.com.tr/english/finance/9460948.asp?scr=1.

77 Murat Tinas: "Turkey Closes Its Doors to Israeli Gas," *Natural Gas Europe*, 6 August 2014, http://www.naturalgaseurope.com/turkey-closes-its-doors-for-israeli-gas-for-now.

and Egypt which, it claims, affects its sovereign rights.[78] Also, in the case of the rapprochement between Cyprus, Greece, and Egypt in 2015, Turkey has hastened to declare "invalid" any agreement concerning natural gas exploration offshore Cyprus and, also more generally, the country remains uncompromising in its posture.[79] The Turkish position is manifested also on a more practical, and indeed military, level. After the first licensing round in 2007, Cyprus conducted a second round for offshore resources in February 2012. Turkey vigorously opposed this move, threatening to blacklist any company that engaged in the licensing process and banning their participation in energy projects in Turkey. Moreover, the Northern Cypriot government granted a concession to Turkish Petroleum for offshore exploration in areas claimed by the RoC government. These show substantial overlap with areas claimed by Cyprus. Furthermore, Turkey repeatedly dispatched ships (such as the *Piri Reis* in 2011 and the *Barbaros* in 2014), accompanied by navy vessels, to Cypriot waters for seismic exploration and the Turkish navy repeatedly harassed ships conducting research missions in those waters.[80]

Through its behavior, Turkey has established itself as an actor thwarting regional cooperation and endangering resource exploration through its military moves. The rationale behind this behavior is clearly political. In the cases of relations with Israel and Egypt, the Islamic orientation of Turkey's AKP government outweighs the urge to make energy exploration in the region work. By supporting the Hamas in Gaza and the Muslim Brotherhood in Egypt, Turkey has been willing to forego potential profits from energy cooperation.

In the case of Cyprus, the situation is more complex. Here, energy interests are combined with a longer-standing dispute. However, while some observers had hoped that cooperation on the energy issue might indeed speed up the reunification of Cyprus, the events over recent years make this scenario—in the short term, at least —appear unrealistic. Rather, the prospect of natural gas production in Cypriot waters has intensified the conflict between Cyprus and Turkey. Again, the Turkish government has mixed its broader political agenda with the issue of energy governance.

In conclusion, then, and in the relatively new energy governance context of the Eastern Mediterranean, Turkey has not managed to assume leadership; nor has it managed to formulate a common objective in the region. Moreover, other actors are not inclined to follow its interpretation of regional energy governance. Indeed, its relations with other important actors

78 Nathanson and Roee, op. cit., p. 25.

79 Ayat, op. cit.; Murat Tinas: "Erdogan Opposes Compromise on Turkey's Position on Gas Resources in Cyprus," *Natural Gas Europe*, 26 May 2015, http://www.naturalgaseurope.com/turkey-position-cyprus-gas-resources-23881.

80 De Micco, op. cit.

have deteriorated continuously over the last decade, creating new patterns of amity, and particularly of enmity. In the Eastern Mediterranean, Turkey's strategy is best described as one of securitization.

Policy Implications—Reconsidering Turkey's Energy Vision

As this policy brief has shown, the Ministry of Energy's strategic vision of becoming an energy leader has so far not been realized. Moreover, the transformation of interdependencies in the Southern Corridor will substantially complicate future Turkish attempts to become an energy leader. In fact, Turkey's current energy policy seems to actively counteract such leadership by creating doubt about the country's reliability as an energy partner.

Similar patterns have also been observed in the Eastern Mediterranean, and as in the larger context of the Southern Corridor, the securitization strategy appears to be self-defeating. Turkey's position has encouraged other actors—Greece, Israel, Egypt, and particularly Cyprus—to forge increasing regional cooperation and lay the groundwork for future resource trade, while leaving Turkey isolated. In this constellation, Turkey holds merely veto power in the Eastern Mediterranean. It can block progress; however, its power is not of a productive kind which would allow it to foster successful energy governance in the region.

V. Shaul Zemach

Israel's Exploitation of Hydrocarbons: *Status Quo* or *Quo Vadis?*

Introduction

Discoveries of significant volumes of natural gas at the end of the last decade have brought Israel currently to a decision-making crossroads. Paradoxically, the more plenteous the gas found, the more complex the decisions that need to be made. While the Tamar field, with its 280 bcm reserve and five production wells, suffices the Israeli market with an annual flow of 8 bcm, future developments are unclear. This equilibrium, which allows for some degree of compromise on security of supply, tends towards stagnation and de facto adoption of a "business as usual" frame of mind, which hampers further developments. The outlook for the future, based on interpretations of the current structures of offshore Israeli fields and exploration activities offshore Cyprus, which, except for Block 12, have failed so far to attain potential drilling targets, may indicate that the outskirts of the basin contain small to medium fields that differ in scale from the mega-fields Tamar and Leviathan found in the Israeli EEZ in 2009–10.

The large-scale Israeli gas reserve, the unique geology of the basin with its dispersal of potential traps in the region, and limited Israeli domestic demand, combined with the complex geopolitics of the Eastern Mediterranean, will all go to shape the future development of the Levant Basin. Even though the Tamar reserve will satisfy domestic demand for more than 25 years, Israel's unique constraints limit further domestic use of natural gas in the domestic economy. Abnormally, regional markets have not responded accordingly and spontaneously filled the demand gap, a situation attributable to geopolitical impediments and vulnerable, limited cross-border trade. The dynamics of global and regional gas markets are changing as they become increasingly multi-polar and dispersed. The unstable investment climate caused by vibrating global oil markets and global trends towards lower hydrocarbon prices inject more uncertainties into this complex scenario. Regional economies will need to create forms of cooperation, and be more self-reliant instead of depending upon distant export markets which have yet to respond effectively to this unfamiliar situation.

In light of these factors, the State of Israel must adopt its own unique and flexible policies regarding the natural gas economy in order to utilize its resources to their full potential. To break through the inertia, further development of the Israeli gas market must be defined by decision makers as a national target. The Israeli government should then set clear priorities and

portray a clear vision in terms of export markets, technologies, infrastructure, a timeline, the extent of regional cooperation, and obligatory domestic market consumption according to sector.

The Levant Basin

The Eastern Mediterranean region includes eight significant basins (Cyprus basin, Eratosthenes High, Latakia basin, Levant basin, Judea basin, Nile Delta basin, Western Arabian province and Zagros province), with the majority of historical hydrocarbon production occurring in the Nile Delta Basin, the Western Arabian Province and the Zagros Province. Most of the Nile Delta Basin lies within Egypt's territorial waters.

The Levant Basin encompasses approximately 83,000 square kilometers (km^2) of the Eastern Mediterranean. The area is bounded in the east by the Levant Transform Zone, in the north by the Tartus Fault, in the northwest by the Eratosthenes Seamount, in the west and southwest by the Nile Delta Cone Province boundary and in the south by the limit of compressional structures in the Sinai. In terms of geopolitics, the Levant Basin Province represents the subsea area that runs from Egypt northward to Turkey, including Israel, Cyprus, Lebanon and Syria.

Geology

According to the U.S. Geological Survey (USGS), the mean of distribution for undiscovered oil in the Levant Basin Province is about 1,689 MMBO (million barrels of oil), ranging from 483 MMBO to 3,759 MMBO. For undiscovered gas, the total mean volume is 122,378 billion cubic feet of gas (BcfG), (approx. 3,400 bcm), ranging from 50,087 BcfG, (approx. 1,400 bcm), to 227,430 BcfG,[1] (approx. 6,300 bcm). In response to those data, the U.S. Energy Information Administration (EIA) announced that if an additional 1.7 billion barrels of oil are discovered, they would meet regional demand for roughly 20 years at the current level of consumption, while 122 tcf (approx. 3,400 bcm) of natural gas could meet current demand almost indefinitely.[2] Those resources are not spread equally in the region.

An important aspect of the Levant Basin hydrocarbon potential is the distribution and maturation level of source rocks. Producing fields

1 U.S. Geological Survey (2010): "Assessment of Undiscovered Oil and Gas Resource of the Levant Basin Province, Eastern Mediterranean."

2 U.S. Energy Information Administration: "Overview of Oil and Natural Gas in the Eastern Mediterranean region." Updated 15 August 2013.

and hydrocarbon shows found in the basin and on its margins indicate the existence of two types of petroleum systems: biogenic and thermogenic, which point to the significant potential of resources in the region. A survey of composite geophysical data, conducted by the Geological Survey of Israel, in 2008 yielded information about the structure and stratigraphy of the offshore Levant Basin. The integration of these data with information from the Levant margin and the mainland of Israel has enabled the reconstruction of a regional geologic scheme.

Shallow gas discoveries in Pliocene sands and high-grade oil shows in the Mesozoic section indicated the presence of source rocks and appropriate conditions for hydrocarbon generation in both biogenic and thermogenic petroleum systems. The size, depth and trapping potential of the Levant Basin supported the conclusions that large quantities of hydrocarbons, in the form of either natural gas or crude oil, could be found offshore Israel.[3]

Four basement structures associated with the Early Mesozoic extension were found in the deep parts of the Levant Basin (from east to west): the Yam, Jonah, Leviathan and Eratosthenes highs. The variety in tectonic styles and depositional patterns may provide favorable trapping conditions for hydrocarbons in the Levant Basin. Potential structural traps are associated with extensional rift structures and contractional Syrian Arc folds. Stratigraphic traps are associated with Triassic-Middle Jurassic shallow-marine, carbonate and siliciclastic reservoirs and Cretaceous and Tertiary deep water turbidite systems.

The origin of the gas found in the Noa, Mari and Gaza Marine fields is considered to be Miocene and Pliocene organic rich shale (as well as Miocene Gas Play in Cyprus[4]). The southern Nile Delta province is thought to represent the main source of sediments that could explain the abnormally thick Oligo-Miocene in the Levant Basin.

Recently, Eni made a mega gas discovery at its Zohr Prospect, in Block 9, in the deep waters of Egypt's EEZ. This location puts it within the larger Eastern Mediterranean Basin area, which previously yielded other massive deep gas discoveries. Zohr 1X NFW was drilled to a total depth of 13,553 feet (4,131 meters) and hit 2,067 feet (630 meters) of hydrocarbon column in a carbonate sequence of Miocene age, with reservoir characteristics (400 meters

3 Michael Gardosh, Yehezkel Druckman, Binyamin Buchbinder and Michael Rybakov: "The Levant Basin Offshore Israel: Stratigraphy, Structure, Tectonic Evolution and Implications for Hydrocarbon Exploration." Prepared for the Petroleum Commissioner, Ministry of Infrastructure, April 2008.

4 Keith Elliott, Senior Vice President Noble Energy, ANALYST CONFERENCE, 17 December 2013. http://www.nobleenergyinc.com/Operations/International/Eastern-Mediterranean-128.html.

plus of net pay).[5]

The good sandstone reservoirs of Tamar, and the new Karish discovery in the southern Levant Basin, are expected to be driven through the Nile deep-sea drainage system. Distal turbidities and basin floor fans could extend as far as the northern Levant Basin offshore Lebanon.[6]

In summary, a wide spectrum of biogenic and thermogenic petroleum systems, ranging in age from Paleozoic to Plio-Pleistocene has been found in the Levant Basin. The situation offshore Israel is probably similar to that offshore the Nile Delta where deep structures serve as focal points for vertical hydrocarbon migration, resulting in a mix of biogenic and thermogenic gases at shallow structural levels.[7] While previous expectations regarding natural gas deposits offshore Israel were validated, the range of the potential remains uncertain.

What Can We Learn from Disappointing Drillings?

Drillings conducted during 2012 in Mira and Sara licenses offshore Israel, about 30 kilometers southeast from the Tamar field, found dry holes. Estimations made in 2013 for contingent and prospective gas resources attributable to the Aphrodite Field (which is a direct offset of the lower tertiary—Miocene-Oligocene—Aphrodite discovery found by Noble Energy offshore Cyprus in 2011), revealed negligible amounts of gas. Drilling for oil targets in the Shemen license at the end of 2013 found dry holes and led to abandonment of the well. As of February 2015, previous estimates made for Israeli Shimshon Miocene J Sand, located in the Shimshon License offshore Israel on the southern margin of the Israeli EEZ, have resulted in reclassification of the resources from development pending to development unclarified.

On 19 December 2014, Cyprus's Energy Ministry announced that drilling at the Onasagoras play in Block 9 by the SAIPEM 10000 rig, belonging to the Eni-Kongas consortium, which reached a depth of 5,800 meters (19,000 feet), had failed to find significant quantities of gas.[8]Eni was planning to move 55 km to its next target in Block 9 at the Amathusa field, where preliminary data suggest that the geological probability for gas is lower than it was for

5 Eni Press Releases: "Eni discovers a supergiant gas field in the Egyptian offshore, the largest ever found in the Mediterranean Sea," 30 August 2015, http://www.eni.com/en_IT/attachments/media/press-release/2015/08/PR_EniEgypt_eng.pdf.

6 Nicolas Hawie, Christian Gorini, Remy Deschamps, Fadi H. Nader,, Lucien Montadert, Didier Granjeon, François Baudin (2013): "Tectono-Stratigraphic Evolution of the Northern Levant Basin (Offshore Lebanon)," ELSEVIER—Marine and Petroleum Geology 48: 392–410.

7 Gardosh et al., op. cit.

8 http://www.foxnews.com/world/2014/12/19/cyprus-says-initial-eni-kogas-offshore-drilling-finds-no-natural-gas-more/#.VMEY9fuqDic.mailto.

Onasagoras.[9] Total recently completed geological surveys of Blocks 10 and 11 in Cyprus's EEZ without locating any potential drilling targets. According to Cyprus media sources, the Cypriot Energy Ministry considered the possibility of coming to an arrangement with Total at that time as "remote."[10] Interpretations of the current structures of offshore Israeli fields and exploration activities offshore Cyprus, which have failed so far to locate potential drilling targets, except for Block 12, may indicate that the outskirts of the Israeli offshore basin contain small to medium fields that differ in scale from the mega-fields Tamar and Leviathan found in the Israeli EEZ in 2009–2010.

Potential Reserves

Based on USGS estimates and current rough calculations, Israel has approximately 1,000 bcm, and an additional potential of 400 bcm. Lebanon has a potential of 750 bcm; Syria, 230 bcm and an additional potential of 170 bcm; and Cyprus, 120 bcm and an additional potential of 960 bcm. These estimates should be re-evaluated in light of the last surveys made by Total in Blocks 10 and 11 in Cyprus's EEZ which failed in early 2015 to find tangible evidence of reserves.

Changing Gas Dynamics

The Eastern Mediterranean gas scene is being affected by dominant crosswinds. Facts and assumptions that were fundamental for policy planning back in 2013 are no longer valid.

The 2013 picture was the following:

- International LNG trade was limited.
- The pre-Fukushima Asian gas market was willing to pay a premium for the reliable long-term supply of natural gas.
- Oil prices reached $100 per barrel of Brent crude.
- Australian Woodside Energy Ltd. was negotiating a deal to purchase a major share of the mega Leviathan discovery offshore Israel, bringing along its own floating LNG knowledge, modular liquefaction technologies and a range of subsea processing and seismic processing technologies.
- The sudden termination of the gas flow from Egypt via the Trans-Arabian Pipeline left Jordan and Israel with a supply gap that needed to be filled urgently.

9 http://cyprus-mail.com/2014/12/23/gas-finds-always-hit-and-miss.
10 http://cyprus-mail.com/2015/01/22/total-unlikely-to-stay.

- Israel was over-optimistic about its domestic gas demand, painting a rosy picture of its potential gas growth over time. The image for 2015 is fundamentally different:
- Oil prices have reached only $40 per barrel of Brent oil.
- An oil shale boom has flooded the North American hydrocarbon market, creating a global effect; international LNG trade is growing fast, triggering a decline in natural gas prices.
- After Woodside's disengagement, significant players failed to show interest in involvement in offshore Israel discoveries.
- The Kingdom of Jordan has invested in the necessary infrastructure in the Port of Aqaba to import LNG from Qatar; the first delivery was scheduled for July 2015.
- Actual Israeli market demand has grown more slowly than expected.
- Further rebalancing of domestic demand across regional countries would be desirable both from the individual perspective as a means of sustaining growth and for easing regional disequilibria.

The Path from Potential to Proven Reserves

An adequate policy begins with accurate definitions of the major components. In the hydrocarbon sector, where an accurate measure of resources is at the core of the decision-making process, they are essential. In the Eastern Mediterranean, where gas markets are still emerging and regional relations are fragile, they are crucial. Therefore, it is essential to specify best industry standards and practice regarding the terms "reserves" and "proven reserves," and to put them in the current Eastern Mediterranean context.

In March 2007, the Society of Petroleum Engineers (SPE) released new guidelines to address this need (PRMS). The assessment of quantities of petroleum that exist in the subsurface and which can be economically recovered is a multi-disciplinary effort involving a series of interpretations of technical and commercial issues. PRMS established a framework in which sales quantities can be consistently classified based on attributes of applied development projects and categorized according to the range of associated technical and commercial uncertainties. PRMS is primarily designed to support internal resources projects and portfolio evaluations. PRMS guidelines and SEC rules both set a probabilistic definition of proven reserves at 90% confidence (or having, at least, that proven amount).

It has been recognized for some time in the oil and gas and mineral extractive industries that a set of unified standard definitions is required that can be applied consistently by international financial, regulatory and

reporting entities**.** Although the system encompasses the entire resource base, it focuses primarily on estimated recoverable sales quantities. Since no petroleum quantities can be recovered and sold without the installation of (or access to) appropriate production, processing and transportation facilities, PRMS is based on an explicit distinction between: (1) the development project that has been (or will be) implemented to recover petroleum from one or more accumulations and, in particular, the probability of commerciality of that project; and (2) the degree of uncertainty regarding the petroleum quantities that are forecast to be produced and sold in the future from that project.[11]

Each project is categorized, according to its maturity or status (broadly corresponding to its chance of commerciality), into three main classes, with the option to subdivide further using subclasses. The three classes are Reserves, Contingent Resources and Prospective Resources. Separately, the range of uncertainty in the estimated recoverable sales quantities from a specific project is categorized based on the principle of attaining at least three estimates of the potential outcome: low, best and high. For projects that satisfy the requirements for commerciality, Reserves may be assigned to the project, and the three estimates of the recoverable sales quantities are designated as 1P (Proved), 2P (Proved plus Probable) and 3P (Proved plus Probable plus Possible) Reserves. The equivalent categories for projects with Contingent Resources are 1C, 2C and 3C, while the terms low estimate, best estimate and high estimate are used for Prospective Resources. The system also accommodates the ability to categorize and report Reserve quantities incrementally as Proved, Probable and Possible, rather than using the physically realizable scenarios of 1P, 2P and 3P.[12]

In the case of the Levant Basin gas play, the chance of commerciality is a critical element in turning Contingent Resources into Reserves. According to the U.S. Energy Information Administration, the Eastern Mediterranean region's natural gas market is continuing to mature, and even without additional exploration and development the region's reserves will suffice to meet current demand levels for over 40 years.[13]

In the Israeli case, based on official (most optimistic) estimations, domestic demand for 25 years will be no more than 540 bcm (75% of which will go to power production), while Israel's potential discoveries are estimated at 1,000 bcm. With unpredictable additional markets, some 500 bcm of Israeli discoveries cannot be defined as reserves according to international

11 "Guidelines for Application of the Petroleum Resources Management System," November 2011. http://www.spe.org/industry/docs/PRMS_Guidelines_Nov2011.pdf.

12 Ibid.

13 http://www.eia.gov/countries/analysisbriefs/Eastern_Mediterranean/eastern-mediterranean.pdf.

standards. Nevertheless, it is not only a matter of technical definition. Without additional markets, the development of Leviathan in the near future is doubtful, and further exploration and development in the basin will be postponed indefinitely. Compared to other premature global hydrocarbon basins, the Levant Basin rates fairly as a start; nonetheless, its commerciality is a vulnerable point. In order to be able to exploit the resources in a timely manner, efforts must be made by governments, along with the private sector, to create long-term sustainable domestic and regional demand. Otherwise, resources may remain contingent for an unforeseeable period.

Domestic Demand Forecasts

Current estimations of Israel's natural gas demand indicate a short-run gap between expected and actual natural gas consumption. Electricity consumption was unexpectedly 2.8% less in 2013 than in 2012, and 6.7% less in 2014 than in 2013. There are also delays in the deployment of the natural gas distribution grid. Of the 1,000–2,000 potential industrial consumers of natural gas in Israel, 10 were connected to the natural gas distribution grid by June 2015. In addition, the conversion of the transportation sector to natural gas is progressing more slowly than projected.

Based on projections from 2012, gas consumption would exceed 10 bcm in 2016 and 13 bcm in 2020. Updated gas consumption forecasts indicate a 10–20% reduction in demand in the short run. However, it is of greater importance to identify long-term trends in domestic demand.

According to the Zemach Committee ("the inter-ministerial committee for examining government policy regarding natural gas in Israel"), electricity consumption would grow by 3.1% annually and industrial demand for natural gas would increase by 1.3% annually. If current demand parameters can be used to characterize future demand, policy measures should be taken. While short-term demand signifies uneasiness, the long-term demand gap represents a substantial threat to the Israeli natural gas economy, including the future development of gas reserves and an appropriate balance between domestic demand and export.[14]

14 "The Recommendations of the Inter-Ministerial Committee to Examine the Government's Policy regarding Natural Gas in Israel—Executive Summary, September 2012, http://energy.gov.il/English/Subjects/Natural%20Gas/Documents/pa3161ed-B-REV%20main%20recommendations%20Tzemach%20report.pdf .

Long-Term Supply-Demand Imbalance

Israel's natural gas economy is in a unique position. While its reserves will cover domestic demand for more than 25 years of consumption (among OECD countries only the U.S., Canada and Australia are in the same position), regional (natural gas hungry) markets have not responded accordingly, due to geopolitical impediments and limited, vulnerable, cross-border trade. As a result of a temperate climate, domestic demand for heating energy is low; the market structure does not support heavy industry and thus limits industrial demand for energy; and small-scale transportation mileage limits the transportation sector demand. Bearing these characteristics in mind, the State of Israel must adopt its own unique and flexible policies regarding the natural gas economy in order to utilize resources to their full potential.

Filling the Demand Gap

Responsibly filling the demand gap requires a detailed analysis of feasible alternatives. By definition, filling it involves the introduction of additional markets, either in the form of domestic or export markets. Domestic market oriented activities means creating a new market demand for natural gas, such as a petrochemical derivatives industry and fuelling the transportation sector. Creating new markets for natural gas takes a long and uncertain lead time and should thus play a secondary role, in preparation for the long term.

Another way to boost domestic demand is by making power production more natural gas-intensive, which means pushing toward 80% power production from natural gas. This alternative involves a higher risk, especially given the current natural gas infrastructure and the low redundancy in gas market structure. Although there is no doubt that the major domestic discoveries have the capacity to supply the growing domestic demand, the supply infrastructure is inadequate. Infrastructure is considered to be more valuable than domestic gas deposits to maintain security of supply since, unlike domestic deposits which can be complemented or switched by importing gas, transmission and distribution grids have no substitutes as a result of their natural monopoly nature in relevant cases.

As a consequence of the gap between growing demand and an inadequate supply infrastructure, as the sole domestic source of supply (at least until Leviathan or another field is developed and connected), the level of security of supply is decreasing. On the other hand, there are two types of export for natural gas: distant international markets and regional markets. International export requires high capital investment in liquefied facilities at the place of origin, and long-term solid bankable contracts. Therefore,

due to the reduction in oil and oil-related prices and the expected U.S. and Australian export boom, as well as environmental sensitivities in the Eastern Mediterranean region, this alternative can be defined as remote. Eventually, the only viable alternative for Israeli gas in the short- to mid-term is the regional one. Such export markets are desired in order to attain early monetization, to raise funding and to gain the technologies required to develop the distant, ultra-deep and deep water offshore reserves that characterize the Levant Basin.

Within the regional context, for reasons of careful risk management, Egypt should be considered only in the short to medium term as a potential Israeli export destination, either for domestic Egyptian consumption or as a transit point for Israeli gas targeting European markets. The reason is the 56 agreements on exploration activities, with minimum investments of more than $13 billion and the drilling of 254 wells that the Egyptian government has signed so far with foreign companies during the last 18 months.[15] These agreements will result in more discoveries in Egypt's EEZ. The discovery by Eni at the Zohr prospect may be a harbinger of Egypt's recovery.

Since it refers to a different time frame, the discovery at the Zohr field will not necessarily preclude future exports from Israel to Egypt, especially from the Tamar field, which has a target date of 2017. But, in general, Eni's discovery, and those that will follow, may prompt a demand for the modification of certain terms and conditions in regard to future regional gas supply contracts, including gas prices and contract duration.

Conclusions

The emergence of significant hydrocarbon resources in the Israeli EEZ at the beginning of the decade injected a new dimension into the economy, requiring that new policies be planned and implemented. On a global scale, Israel's potential hydrocarbon resources are considered to be moderate, but within the Eastern Mediterranean context they could have a significant impact. The development of such resources could influence the economic and geopolitical reality substantially, by raising the level of energy security and generating public and private sector revenues, as well as augmenting Israel's regional influence.

In terms of geology, the situation offshore Israel is probably similar to that offshore the Nile Delta, where deep structures serve as focal points for vertical

15 Arab Republic of Egypt, Ministry of Petroleum: "Shorouk is the largest natural gas discovery ever, discovered offshore Egypt, in the Mediterranean," 30 August, 2015, http://www.petroleum.gov.eg/en/MediaCenter/LocalNews/pages/mop_30082015_1.aspx.

hydrocarbon migration, resulting in a mix of biogenic and thermogenic gases in shallow structural levels. While previous expectations regarding natural gas deposits offshore Israel were validated, the range of the potential remains uncertain. Interpretations of the current structures of offshore Israeli fields and exploration activities offshore Cyprus, which have failed so far to locate potential drilling targets, except for Block 12, may indicate that the outskirts of the basin contain small to medium fields that differ in scale from the mega-fields Tamar and Leviathan found in the Israeli EEZ in 2009–2010.

The dynamics of global and regional gas markets are changing as they become increasingly multi-polar and dispersed. Regional economies will need to create forms of cooperation, and be more self-reliant instead of depending upon distinct export markets which have not yet responded effectively to unfamiliar terrain.

Compared to other premature hydrocarbon basins around the globe, the Levant Basin has a fair start; nonetheless, its commerciality is vulnerable. In order to be able to exploit the resources in timely fashion, efforts must be made by governments, along with the private sector, to create long-term sustainable domestic and regional demand. Otherwise, resources may stay contingent for the unforeseeable future.

The long-term demand gap represents a substantial threat to the Israeli natural gas economy, including the future development of gas reserves and the appropriate balance between domestic demand and export.

Natural gas is usually traded regionally via pipelines, or to some extent, in the form of compressed natural gas (CNG). As mentioned above, the only way to trade natural gas globally is in the form of LNG, in which heavy investments and strong financial backup are required. Furthermore, the extent to which the global industry sustains the current supply growth momentum will depend upon how it responds to the current reduction in commodity prices.

The only viable alternative for Israeli gas for the short- to mid-term is the regional alternative. New export markets are desired in order to achieve early monetization, raise funding and gain the technologies required to develop the distant, ultra-deep and deep water offshore reserves that characterize the Levant Basin.

In order to break through the inertia, further development of the Israeli gas market must be defined by decision makers as a national target. The Israeli government should then set its priorities and portray a clear vision in terms of export markets, technologies, infrastructure, timeline, the extent of regional cooperation, and obligatory domestic market consumption according to sector. Otherwise, there is a clear and present danger that the Israeli gas scene will become a passing episode.

VI. Ariel Ezrahi

Cooperation Prospects and Conflict Potential around Hydrocarbons in the Middle East: Israel–Egypt–Palestinian Territories–Jordan[1]

Israel

In 2005, Egypt and Israel signed an agreement for the supply of 7 bcm of gas annually to Israel for 20 years. The gas began to flow in 2008 and accounted for some 40% of Israel's gas consumption. Major disruptions in the supply began in 2011, following sabotage of the pipeline, as well as increasing political tensions between Egypt and Israel. Following numerous attacks on the pipeline (no fewer than 14!), the agreement was ultimately terminated in 2012 and the gas supply ceased that year.

Meanwhile, in 2009 Israel discovered the Tamar gas field, followed by the Leviathan field in 2010. This was in addition to earlier gas discoveries in Israel, which although of more limited quantities (Yam Thetis field), enabled Israel to generate electricity using natural gas, thus avoiding complete reliance on Egypt for its gas needs. Gas from the Tamar gas field began to flow in April 2013.

However, as of the end of 2015, an agreement had still not been reached between the Government of Israel and interest holders in the gas fields of Leviathan and Tamar[2] over the development of the former and further development stages of the latter. The delay raises the question of availability of natural gas in significant quantities for export from Israel, for example, to Egypt and Jordan and other local markets, in the near future. In the absence of a clear and timely program for development of the Leviathan field, the main source of gas for Israel in the near to medium term is likely to be the Tamar field. Israel's current capacity for supply of gas is at its maximum, however, due to infrastructural limitations. Additional development of the Tamar field and a swift solution to the regulatory constraints facing the Leviathan field are needed in order to meet growing demand both in Israel and abroad.

Jordan

Jordan and Egypt signed an agreement in 2004 for the annual supply of some 2.4 bcm of natural gas to the former until 2019. In 2011 Egypt amended this

1 This article is dedicated to my children Lina and Yariv, may they live in a region of peace, security and prosperity.

2 Other smaller gas fields exist, such as Tanin and Karish, as well.

agreement by raising gas prices from $2.5 to $5 per mmBtu for the quantities agreed until 2019. The gas was used to generate some 80% of Jordan's electricity needs when the supply was regular. Attacks on the gas pipeline in Sinai resulted in reduced supply, and ultimately an inability to rely on this source of fuel.

The reduction of gas supply meant that Jordan's energy bill skyrocketed, reaching about $1.5 billion annually, as Jordan had to resort to generating electricity using expensive diesel. It was reported that Jordan's minister of finance announced in July 2011 that the country's electricity companies lost $899 million due to the disruption of Egyptian gas supplies that year.[3]

Jordan, in fact, is so much in need of natural gas that it even began importing LNG. Under this deal, from 2015 until 2020 (with an apparent option to continue beyond), Jordan will import some 1.5 bcm of gas annually for a period of five years from international markets. Jordan is clearly in need of cost-efficient natural gas, and with the Syrian and Iraqi refugee problem continuing, the pressure on Jordan's energy bill is only increasing. The Jordanian potash and bromine companies have entered into a gas supply agreement with the Tamar partners for the sale of some 2 bcm of gas from the Israeli field. In addition, NEPCO is in negotiations for the purchase of some 45 bcm from the Leviathan partners and is looking also at purchasing gas from the Palestinian Gaza Marine field. Clearly, the recent increase in Egyptian reserves may mean that a resumption of supply to Jordan will eventually become an option.

Egypt

According to the U.S. Energy Information Administration (EIA), substantial natural gas discoveries in the deep-water Mediterranean Sea and in other areas have been undeveloped because the price that Egypt's government was willing to pay foreign operators for natural gas was too low, making some investment projects commercially unviable. In recent years, however, Egypt has signed deals to pay foreign operators a higher price for natural gas that they produce as an incentive to increase production.

The EIA further notes that Egypt's economy suffered during and after the 2011 revolution as the country experienced a sharp decline in tourism revenue and direct foreign investment. The EIA also reports that annual gross domestic product (GDP) growth in Egypt dropped from 5.1% in 2010 to 1.8% in 2011 and still remains below the pre-revolution level, averaging 2.1% in 2013. As a result of this economic decline, not only was Egypt unable

3 http://english.ahram.org.eg/NewsContent/3/12/18992/Business/Economy/Jordan-agrees-to-raise-Egyptian-gas-prices,-Israel.aspx.

to continue to export gas to neighboring countries such as Israel and Jordan due to a shortage in its own supply, as mentioned above, but Egypt has had to resort to importing gas, despite the fact that it has proven reserves of some 77 tcf of natural gas.[4]

Egypt appears to be hedging its bets on stop-gap measures for gas imports until it manages to further develop its own resources to a sufficient level so that imports from neighboring countries will no longer be necessary. In June 2014, for example, the Leviathan partners signed a MoU to supply the British energy giant BG with some 105 bcm for their LNG facilities in Idku (Egypt). In addition, in May 2014 the Tamar partners signed a MoU with Union Fenosa for 70 bcm of natural gas to be supplied to their LNG facilities in Damietta (Egypt). The Tamar partners also signed an agreement with Dolphinus (Egypt) for the sale of some 5 bcm of gas. As noted later in this brief, Egypt has signed a deal for the import of gas from Cyprus as well. However, the recent discovery made by Eni of a reported 30 tcf of gas offshore Egypt may alter this supply and demand matrix.

Whichever additional fields produce gas first in the Eastern Mediterranean (and are perceived by the markets to be the ones coming to the market next) will have a first mover advantage with respect to regional gas sales.

The Palestinian Territories

In 2000, some 36 kilometers off the Gazan coast, the Gaza Marine gas field was discovered. Mainly for political reasons, however, the field has not been developed to date. As will be discussed in this paper, there is a particularly strong basis for assuming the field could and should be developed in the near future due to a myriad of political, economic and regional opportunities. Although a small field compared to the large Israeli reserves, the Gaza Marine offshore gas field could transform the Palestinian energy sector and boost the economy. According to conservative estimates, the field, at 603 meters deep, is said to contain some 1.3 tcf of natural gas. The structure and location of the field renders its development relatively straightforward and economically viable, generating, potentially, at least $2 billion in revenues for the Palestinian Authority, and could thus play an important role in boosting stability.

Palestine's maritime borders are not yet settled, but are likely to be greater than the 20 mile nautical limit set under Oslo. The final borders will be determined in future negotiations between the Israelis, Palestinians and

4 http://www.eia.gov/beta/international/analysis.cfm?iso=EGY.

Egyptians. It is also worth noting that Israel currently respects Palestinian hydrocarbon exploration rights in the area granted under Oslo (including Gaza Marine), although the area is under Israeli military control.

Once the Gaza Marine field is developed, additional hydrocarbon resources may also be explored. Gas extracted from the field is of particular importance considering the major energy crisis faced by the Palestinian Territories, especially the Gaza Strip. Gaza suffers from daily electricity outages, and as of late 2015 was suffering power cuts of up to 12 hours a day. A supply of cost efficient fuel such as natural gas would go a long way towards alleviating this problem.

The Palestinian Territories currently spend over $100 million annually on power generation fuel costs. Gaza relies on generating electricity using expensive diesel fuel, which has a major impact on private consumers and essential infrastructure projects, and hinders any meaningful long-term development of sustainable industry in the Strip. Gas is required not only for the Gaza Strip but also for the West Bank. In Jenin, a power plant generating several hundred megawatts is planned and will require a constant and reliable gas supply. There will be other consumers of gas in the West Bank as well (including additional Palestinian power plants planned further down the line).

Cyprus

Cyprus's Aphrodite Field has reported proven reserves of 3.6–6 tcf. Recently, Egypt signed a deal with Cyprus for the import of some 3.6 tcf of gas from Cyprus. The deal is due to be completed in the coming months. However, as noted above, the recent Eni discovery may change Egyptian thinking regarding its pre-existing import deals, including this one. On the international front, Cyprus and Egypt demarcated their maritime EEZ in 2003, and Cyprus concluded zones with Israel in 2010 and with Lebanon in 2007.

The synergy of Cypriot gas reserves with the Israeli ones is particularly noteworthy considering that Noble Energy (which holds interests in the major Israeli fields) is the operator of Aphrodite and owns 70% of the field, while 30% is owned by the Israeli Delek company. The Aphrodite field is the only reserve discovered in Cyprus to date. However, the amount of gas it contains does not justify exporting it as LNG.

Ample Regional Supply and Demand

Israeli gas is already fueling its domestic power generation and industry, while

its immediate neighbors are spending a fortune on far more expensive fuels. Israel has plenty of gas to offer its neighbors, and the Palestinians have gas which can be used for domestic power generation and perhaps some export regionally, although they may need to import some gas as well, depending on the timetable for development of the Gaza Marine field. Cyprus has some gas which it already plans to export to Egypt. While Egypt has enormous reserves, it is actually in dire need of gas in the short-to-medium term until it manages to develop the fields discovered (certainly the recent discovery by Eni will alleviate its gas shortage in the long term). Jordan, with its high energy costs and increasing demographic pressures, is more sensitive than ever to the high costs of generating electricity from expensive fuels, and therefore requires significant amounts of natural gas from its neighbors (in particular, as long as LNG prices are higher than regional pipeline gas prices). To summarize, there is ample supply and demand of gas regionally.

Cooperation Prospects

The key question then is: Will the regional players therefore cooperate in developing, producing and supplying gas to demand centers, or will this opportunity be missed or even become a source of conflict?

The answer, first and foremost, would be the need for speedy development of the gas fields offshore Gaza, Israel and Cyprus. The long delays in resolving the regulatory environment in Israel, the removal of the maritime blockade on Gaza and Israeli support for developing the Gaza Marine field would serve to increase supplies to the region's benefit, thus meeting the regional demand for gas. Likewise, development of the Aphrodite field in Cyprus would serve to enhance connectivity between European Union gas and non-European countries of the Eastern Mediterranean. As for Egypt, if President el-Sisi continues with his reforms in the gas sector, reducing subsidies and raising the price of natural gas, thus enabling the energy majors invested in Egypt and those interested in entering it to undertake comprehensive development of untapped resources in the country, Egypt will return to being a gas exporting country within several years; the recent Eni find substantiates this forecast in this regard. There is a rare window of opportunity for regional gas suppliers like the Palestinian Territories, Israel and Cyprus to meet their own domestic needs, as well as those of other regional gas consumers such as Egypt and Jordan. This is especially true where LNG prices remain higher than regional gas pipeline prices. In the coming years Egypt will likely join this group as well when it is able to resume its major gas exports.

But can Israel sell gas to its neighbors in the current political climate? And where does the Palestinian dimension fit into this regional gas supply

matrix? Israeli Prime Minister Netanyahu has mentioned several times his desire to improve Israel's relations with its neighbors. The demand for gas in countries such as Jordan and Egypt could afford Israel a unique geopolitical opportunity to meet this demand, even if only partially, in the right circumstances. However, Israel's neighboring Arab countries face internal resistance to such deals due to the Israeli-Palestinian conflict.

The geopolitical significance of the Palestinian energy dimension is that the Palestinians can play an important role in this regional opportunity matrix by ensuring speedy development of Palestinian natural gas reserves and full access of gas pipelines to both Gaza and the West Bank, thus removing some of the hurdles facing Israeli-Jordanian and Israeli-Egyptian gas deals (and indeed any Israeli-Palestinian gas deals).[5] It will be important, especially in light of the experience of the Egyptian pipeline to Israel and Jordan, that proper security measures are put in place to protect these regional pipelines. Although the Egyptian-Israeli gas deals were meant to supply gas from Israel to Egypt, pending development of further Egyptian reserves, judging by the recent discovery in Egypt one can also foresee Egyptian export of gas to Israel, for example, pending the Leviathan field coming online (as well as exports to Jordan and the Palestinian Territories). Either way there is scope and logic in interconnectivity by way of gas pipelines between these countries (including enabling the East Mediterranean Gas Company (EMG) pipeline between Egypt and Israel to flow in both directions).

Although regional tensions will remain as long as the Israeli-Palestinian conflict persists and as long as there are other regional threats to peace and security, these regional energy synergies can certainly contribute to reducing some of these tensions and creating a system of sustainable inter-dependency driven by common interests. The Palestinian energy dimension can constitute Israel's bridge to the Arab world. This energy connectivity can begin with gas, continue with electricity, and so on. [6]

To this end, as gas pipelines are being built between Israel and Jordan and between Israel and Egypt, it is crucial to ensure that the Palestinian Territories are not left behind, and are connected to any regional gas network both into Gaza and the West Bank. It is for this reason that the Office of the Quartet[7] has designated the Gas for Gaza pipeline project a key priority project.

A cost efficient way for Gaza to solve its energy crisis in the long term would be through the availability of natural gas for power generation by the

5 Clearly, there is a need, first and foremost, for a resolution to the regulatory uncertainty facing the Israeli gas market before neighboring countries are willing to progress with any gas deals with Israel.

6 http://www.haaretz.com/business/.premium-1.627655.

7 www.quartetrep.org.

Gaza Power Plant, water infrastructure projects (including an essential large-scale water desalination facility) and heavy industry. The potential impact—both humanitarian and economic—on the Gazan economy of having a 24-hour supply of electricity, and of generating electricity using natural gas, as opposed to more expensive fuels, would be enormous. Similarly, a gas pipeline transporting natural gas to the West Bank would enable Palestinians to generate their own electricity, reducing dependence on Israeli electricity and constituting an important step towards addressing future energy needs.

Areas of Potential Risk of Conflict

While the logic for regional gas sales and interconnectivity is overwhelming, we must remember that there are potential risks as well:

- Further discoveries offshore Israel and Gaza in disputed areas, or the development of Israeli fields but not of Gaza Marine. Considering current delays in the development of the Leviathan field, there is no reason why the Gaza Marine field should not come online before the Leviathan field, injecting much needed gas into the regional gas market. If, for some reason, the field is not developed, however, this may turn into a source of conflict between the Palestinians and Israel and also become a source of tension between Jordan and Egypt, on the one hand, and Israel, on the other.
- Other potential areas of conflict, including Lebanon versus Israel. As Lebanon moves to exploiting its offshore natural gas resources, there may be added tensions with Israel over such reserves. Both Lebanon and Israel claim a maritime area of some 1,400 square kilometers that is thought to contain offshore hydrocarbons. Specifically, Block 9 field is some 4 kilometers from Lebanon's territorial waters and Israel claims it as part of its EEZ. According to a US Geological Survey in 2010, the field may contain up to 123 tcf of gas (and 1.7 billion barrels of oil).
- The Turkish-Cypriot angle. While Cyprus has reached an agreement on its EEZ with Israel, Egypt and Lebanon, Turkey contests Cyprus's claim to offshore gas fields. As Cyprus moves to develop the Aphrodite field, we may witness an increase in tensions between Turkey and Cyprus, and indeed between Turkey and other countries doing business with Cyprus, such as Egypt and Israel.
- Iranian gas coming online in international markets and the impact this may have on relations, prices and consumption patterns of countries such as Turkey. The eventual availability of Iranian gas on international markets upon successful implementation of the accord achieved over its nuclear program, could have an impact on Eastern Mediterranean supply

opportunities to the European market, as well as on Turkey. Indeed, Turkey has been seen as a possible export market for Israeli gas, but political tensions between the two countries and the likelihood of Iranian gas coming online creates challenges in this regard (once again, developing the Palestinian energy sector in a meaningful way could mitigate some of these challenges).

A Rationale for Cooperation

Looking at conflict literature, it is useful to consider Bannon and Collier, who state that "close to 50 armed conflicts had a strong link to natural resource exploitation, in which either licit or illicit exploitation helped to trigger, intensify, or sustain a violent conflict."[8]

Nonetheless, although there are potential areas of conflict, and certainly the absence of any settlement of issues between Israel and the Palestinians renders conflict possible, the rationale for cooperation in the hydrocarbons sphere is compelling. To repeat, the current alignment of interests creates a window of opportunity for cementing regional gas trade and infrastructure connectivity, and demand can be met by regional supply on a cost-efficient basis.

In addition, the "stars are aligned" such that moderate regimes in the region are inclined to cooperate on energy, especially in the face of failed neighboring states and increased threats from groups such as ISIS.

Bassem Awadallah, former finance minister of Jordan, said at the World Economic Forum in Jordan in May 2015 that the region desperately needs new trade opportunities. He stated that a new economic order

> will therefore be necessary to create and sustain a stable new political order in the region. Such a scenario might appear to be a distant dream today, given the region's myriad conflicts. But the ruthless logic of survival is already pushing many in the region toward cooperation with their neighbors on issues such as water, energy,9 and trade.

Awdallah continued: "MENA countries spend only 5% of GDP on infrastructure. With oil prices low, governments in the region can divert money that would normally go on energy subsidies to infrastructure development instead."

8 Ian Banon and Paul Collier (2003): "National Resources and Violent Conflict: Options and Actions," World Bank, Washington.

9 Emphasis added.

Indeed, these new trade opportunities can be achieved largely through a robust hydrocarbons regional infrastructure providing natural gas from supply centers to demand centers, building on the existing Arab Gas Pipeline and the Egyptian-Israeli EMG pipeline, and extending to the Palestinian Territories and Jordan. Over the mid- to long term, a regional hydrocarbons trade system could yield powerful political benefits to the parties' concerned and major economic benefits to the peoples of the region. This entails exploiting the opportunities that lie in regional hydrocarbons trade, not as a potential source of conflict but as a basis for reducing political tensions and improving people's lives.

The European Model

Inspiration can be found in the European model:

> The creation of the single European market for gas, and a reliable and safe transmission network that is capable of meeting Europe's current and future needs, requires enhanced cross-border access and the promotion of cross-border trading, increased interoperability of existing regional transmission systems, and the development of a Europe-wide legislative framework to support the market and the security of the gas supply.[10]

Importantly, European nations are indeed interested in working closely with the countries of the Eastern Mediterranean (including non-EU members) in the hydrocarbons sphere, as exemplified by the recent launch of the Union for the Mediterranean (UfM) Gas Platform.[11]

The objectives of the UfM Gas Platform, as stated in its terms of reference, are:

> bring[ing] together policymakers, industry representatives, regulators, energy stakeholders, traders and shippers, representatives from financing institutions—all from across the Euro-Mediterranean region to develop shared viewpoints and proposals on natural gas issues in order to reinforce the security of gas supply and the regional gas exchanges … The platform is designed chiefly to act as a conduit for dialogue and exchanges of views

10 European Network of Transmission System Operators for Gas, http://www.entsog.eu/.

11 The UfM is a multilateral partnership of 43 European and Mediterranean countries, aimed at "increasing the potential for regional integration and cohesion among Euro-Mediterranean countries," http://ufmsecretariat.org/who-we-are/.

> and information between the various public and private stakeholders concerned. Over time, it is expected that this role will become more active, with the platform providing advice and consultation to stakeholders with a view to identifying projects of Euro-Mediterranean interest and concrete partnership actions, and following up on their implementation.[12]

Although a major rationale for this new platform from the EU's standpoint is securing a gas supply for Europe from the Eastern Mediterranean, the Europeans are clearly also keen to play a constructive role in this region. This strong interest provides an opportunity for the Palestinian Territories, Israel, Egypt, Jordan, Cyprus and others to cooperate with the EU and other countries in the region and to learn from the European experience.

Conclusion

It is important to stress once again that the current alignment of interests creates a rare window of opportunity for regional cooperation in the energy sphere which, in the first stages, entails gas sales alongside requisite gas infrastructure. This is a unique opportunity, because the situation is likely to shift again and countries that need each other now may not need one another in a few years' time.

In a situation where failed states such as Syria and Iraq, and groups like ISIS are destabilizing the region, it is precisely at this time that moderate regimes—such as the Palestinian Authority, Israel, Egypt and Jordan—can and should work together to create a connectivity that is based on long-term cooperation and mutual interests. Obviously, cross-border economic projects including in the energy sphere, are no substitute for a political process to resolve the underlying disputes in the region, especially the Israeli-Palestinian conflict. However, there is certainly much that can be done in the energy field which would serve to alleviate some of these tensions. If done in the right way by the respective leaders, energy policy can create important geopolitical synergies, which can serve not only to mitigate conflict but to actually provide a solid basis for long-term cooperation and economic development in the region.[13]

12 docs.petform.org.tr/docs/terms_of_reference_08062015.docx.

13 http://www.naturalgaseurope.com/ariel-ezrahi-gaza-marine-gas-field-24103.

VII. Sergio Matalucci
Cooperation Prospects and Conflict Lines in the Eastern Mediterranean: Outlook for the Future

Introduction[1]

There are too many variables in the Israeli gas equation. Before giving any reasonable forecast, there are countless uncertainties to enumerate. Just to mention a few: Israeli gas prospects depend on internal political dynamics, diplomatic activity with countries in the region, political developments within neighboring countries, economic patterns in Europe, gas markets in Southeast Asia and conflicts between the so-called West and key players like Russia and Iran. In a nutshell, the abovementioned complexities are compounded by the usual financial considerations, where buyers and investors are equally necessary. That is also why it is so difficult to shed light on cooperation prospects and the conflict lines stemming from Israeli gas reserves. It is not a conventional business environment, and things can change quite quickly.

The conclusion of this paper is that conflict could turn into cooperation and cooperation might easily reverse into even worse conflict. The major elements to bear in mind are the power transition in Egypt and political developments in Turkey. In a sense, these complexities provide the answer: since investors and stakeholders need a degree of certainty to take decisions, the current difficulties seem to indicate that Israeli gas will be just a limited, regional phenomenon. This will be even more the case if national politics do not manage to create a stable regulatory environment by the end of 2015. If this doesn't happen, not even the most refined Game Theory will suffice to forecast the future. It would be an ambiguous mathematical equation, which nobody would be willing to tackle. On the other hand, a political process leading to cooperation between countries would be the main achievement, the only one that could be long lasting.

Variables in the Short-, Medium- and Long-Term Scenarios

Israeli gas raises more questions than answers. That is why it is necessary to consider different time frames in order to understand how the situation might evolve.

In the short term, Israel needs to find companies—possibly European—

1 This article was written in the period June-July 2015 and therefore does not consider developments in the hydrocarbons field of the Eastern Mediterranean that took place after this period.

to buy its gas. At the moment, it fears a seismic collapse of countries around it, with regional cooperation opportunities eroding fast, especially if the situation in Egypt becomes explosive. That would be a fatal blow to Israeli expectations since, technically, the prospects of exporting Israeli gas in the short term rely mainly on Egypt. The only possibilities are minor gas sales to Gaza, the West Bank and Jordan, which alone would not allow the full development of the Leviathan field.

In the medium term, matters look more complicated. Three scenarios can be envisaged, depicting alternatives for Israel and the region. First, Israel could be surrounded by failed states, which would encounter internal difficulties in finding a way out of their conflicts. It is logical that in this event gas cooperation would not be a major concern for these states, especially in the case of Egypt. In other words, failed states would have more urgent priorities than creating a stable business environment to make Israeli gas exports viable. Second, Israel could find itself in a situation similar to the existing one, in which it enjoys friendly ties with some neighbors and suffers tensions with others, in a region characterized by both stability and instability. Also, in this case, cooperation with Egypt might be thorny. Third, Israel could try, successfully, to promote cooperation opportunities, boosting commercial ties and decreasing hostilities with Egypt and in the region.

The first two scenarios, which are also the more likely, indicate that gas trade opportunities in the region will not increase over time, unless drastic changes occur in the regulatory framework or in the market structure. Regional pipelines would not be an easy solution, and floating LNG would probably pose a problem, too. A FLNG project would come with significant risks, but using LNG terminals in Egypt could be an even more questionable decision. As noted in June by Ian O. Lesser, senior director for foreign and security policy at the German Marshall Fund (GMF), the situation in the region is deteriorating. In particular, Egypt's political stability remains a question mark.

In the long term, Israel's fortunes will definitely depend on markets. An increase in gas prices could be theoretically good news for Israel. Israeli (ultra)-deep water development is indeed expensive, and the related gas will be expensive, too. Therefore, if gas prices are high, it would make economic sense to produce Israeli gas, and international companies might be willing to take on new risks. In this case, FLNG could be a viable solution. On the other hand, a price increase might come amid difficulties in the neighborhood, as it could be strongly related to serious instability in the Middle East and North Africa (higher energy prices could be due to lower production in the region, and they could also lead to protests there). In this latter scenario, markets might support development, but the broader context could hinder projects.

Therefore, long-term prospects depend heavily on both economic (as in the short term) and on geopolitical factors (as in the medium term). But keep in mind that speculating on prices is a difficult and dangerous business. Energy experts do indeed predict that gas prices will be increasingly more volatile.

The future of the Leviathan field also depends on Israel's ability to come up with innovations, both in technical and political terms. Technically, Israel is already investing in its energy sector and its industries may soon find ad hoc solutions to export gas more cheaply than at present. Technical solutions could change business plans, but would require another round of assessments, analysis and consultation.[2] Politically, Israel could draw up a policy to: i) de-politicize the gas issue, ii) engage with different countries in the region. Engagement, though, would come with hefty responsibilities. If Israel wants to create long-standing ties, it should acknowledge that it cannot treat any country as a junior partner, as most of them are not.

In particular, Egypt and Turkey could be Israel's main partners in the region, but could also be its staunchest opponents. The point here is clear. These two countries are important regional players, which are undergoing a complicated phase.

There is also an additional consideration: *Strengthening economic ties with one of the two countries raises the stakes of a geopolitical partnership*. In the event of a sudden reversal and deterioration after intense efforts to cement ties, the governments (Israeli, Turkish, or Egyptian) would be pushed to resort to some abrupt and risky political rhetoric in order to maintain their internal political visibility and image. In other words, after a failure for which they could be blamed, a country could try to maintain political legitimacy by pointing the finger of blame at the other one involved. This could have negative consequences on relations between the two countries. Political posturing in Israel, Egypt or Turkey could increase the likelihood of serious confrontation. As history demonstrates, political rhetoric can get out of hand. Israeli, Turkish and Egyptian governments could fall into the same trap: their reactions could be disproportional.

Cooperation Opportunities in the Short, Medium and Long Term

To state the obvious: Israeli gas is not particularly appealing for international companies, as they are skeptical about investing in the country. Nonetheless, the current situation gives Israel some room for maneuver. At the moment,

2 Technical solutions would have politicization spillovers. New technologies would be under the spotlight and, given the current politicization of the issue, public debates could erupt as a consequence of new assessments and analyses.

Israel's interests are complementary with Cairo's needs. The first has gas to sell, but limited infrastructure. The second wants to buy gas, has a growing gas market, and facilities to export LNG.

With respect to ties between Israel and Turkey, some similarities and some differences exist. Like Egypt, Turkey wants to buy more gas to diversify its gas supplies. It is a willing buyer. On the other hand, unlike Egypt, Turkey does not have LNG export terminals, and has limited infrastructure at its disposal. All in all, despite its willingness to tap into any opportunity to raise its diplomatic profile, Turkey is not a potential commercial partner for Israel at the moment. As noted, the lack of gas infrastructure, combined with the current diplomatic complexities between the two countries, reduces the scope for collaboration. That is why, in the short term, Egypt is Israel's most important partner in the region.

In the medium term, if the situation in Egypt deteriorates, Turkey will then turn into a potential major partner in the region. Turkey desperately needs energy and, in the event of divergences between Moscow and Ankara emerging, it could be forced to import Israeli gas. This complementarity could pave the way towards strong energy cooperation. This scenario, though, is conditional upon new technologies, such as the development of CNG, or reducing the price of existing technologies, especially if Ankara succeeds in its resolve to expand energy cooperation with Caspian countries and with Iran. Flexible contracts would then be necessary, and technologies would have to accord with commercial preconditions.

For cooperation between Israel and Turkey to work, the two countries would have to enjoy a stable political partnership, promoting better ties despite current negative trends. To be a feasible driver of investment decisions, this political convergence should start now. Positive, extended ties between Turkey and Israel would reassure investors. To sum up, in the medium term, Israel could find a strong partner in Turkey under the following conditions: i) Ankara needs gas, ii) Turkey and Israel start (re)building trust now, iii) Israeli gas is competitive compared to other suppliers.

In the long term, possible cooperation opportunities with Turkey and Egypt depend on even more factors. First, developments would depend on the political willingness of Israel, Turkey and Egypt. Second, they depend on the decisions taken by the Leviathan partners in the coming months. If Noble and Delek do not start working on the field in the next few years, Ankara might not consider this option to be feasible. This would be the case if gas markets look significantly different in the near future. As noted by Mehmet Öğütçü, chairman of the Global Resources Partnership, Ankara might find itself in a preferential position, in which it can capitalize on the energy glut that is likely to emerge after 2018, when producers will intensify competition,

giving buyers more bargaining powers.[3] Third, gas cooperation depends on pipeline projects to Turkey (Turkish Stream, TANAP). New projects create a more competitive business environment. Fourth, opportunities depend on Egypt's ability to increase domestic production, which could leverage it into becoming the third largest owner of gas reserves in Africa after Nigeria and Algeria.[4] Egyptian gas production could dwarf Israeli potential. Fifth, cooperation depends on Egypt's stability and to a lesser extent on Turkey's and Israel's political cohesion. Cooperation requires some form of predictability. Sixth, stronger ties depend on the ability to create trust between the public and private sectors of these countries.

Cooperation Opportunities: Gas Is Potentially Important; Political Convergence Is Key

Considering together the short-, medium- and long-term perspectives, it is possible to conclude that Israel can capitalize on the current situation: Egypt needs gas for its own domestic consumption and tensions in the region make new pipelines unlikely. Israel is in a position of reaping short-term benefits. The long term might be less rosy, as Turkey might be ready to increase cooperation with Asia, while Egypt might be able to increase domestic production or could be in the midst of a civil war.

In other words, the cooperation opportunities game here is a much more complex version of the show "Who Wants to Be a Millionaire"—those who win give the right answer to some extraordinarily difficult questions. The winner of the game could then bring home a series of long-term contracts which, however, are risky—they could easily be upended by more domestic changes, regional crises and external shocks.[5]

Last but not least, it is worth remembering that companies are likely to keep reducing their funds for future deep-water exploration operations. On 16 July 2015, for instance, ConocoPhillips announced it intended to reduce future deep-water exploration spending. "Our decision to reduce spending in deep water will further increase our capital flexibility and reduce expenses without impacting our growth targets. This strengthens our ability to achieve

3 Sergio Matalucci: "EU Needs Turkey for Full Southern Gas Corridor, Say Experts," *Natural Gas Europe*, July 2015, http://www.naturalgaseurope.com/eu-needs-turkey-for-full-southern-gas-corridor-say-experts-24481.

4 http://www.bp.com/content/dam/bp/pdf/Energy-economics/statistical-review-2014/BP-statistical-review-of-world-energy-2014-full-report.pdf.

5 The collapse of the European Union is a drastic example, which would change the rules of the game. In the event of serious problems in Europe, the quiz would not be "Who Wants to Be a Millionaire," but a new scientific reality show, "The Brain," played in a language that would be unknown to most of the participants.

cash flow neutrality in 2017 even if lower commodity prices persist," Ryan Lance, ConocoPhillips' chairman and CEO, commented.[6] This is a natural break for gas developments.

Thus, after this brief analysis intended to point out some of the complexities, what are the chances of cooperation? Gas trade opportunities are rather limited, given the intrinsic uncertainties and commercial risks in all possible time frames. Thus, while gas trade would not bring about great results, the political process leading to the stabilization of ties would be per se a remarkable achievement.

The argument is quite straightforward. Setting up political cooperation mechanisms would surpass gas cooperation opportunities. That is because, once found, ways to work together might be applied also to other sectors. If Israel finds a format to cooperate with Egypt and/or Turkey, this achievement would be way more valuable than gas trade, and possibly more long lasting. These countries could find self-reinforcing mechanisms that could lead to long-term partnerships. Hence, while gas cooperation opportunities look dubious, political cooperation could produce landmark results. Gas itself will not change the dynamics of existing Turkish-Israeli or Egyptian-Israeli ties, but the ability to understand each other's needs will: the political process would be more important than the monetization of the complementarity of their present needs, as this gas complementarity could easily fade away. *Stronger diplomatic cooperation would be a positive regional factor for an extraordinarily long span*.

That is why—when speaking about cooperation opportunities related to gas—the main opportunity is not trade, but positive knock-on effects. Through gas, it might be possible to increase contacts and communications which are required to create trust, which in turn is necessary to pave the way for the right business environment in the region. Still, this cooperation opportunity, too, requires prodigious efforts on the part of the interested parties (and not only).

From Cooperation Opportunities to Conflict Lines

As noted, conflict lines could easily be the result of poorly planned, unstable collaboration. For example, stronger ties between Israel and Egypt require cautiousness. For its part, Israel should bear in mind that el-Sisi's leadership could be further endangered by cooperation with Israel (which would not be popular in the streets of Cairo). Therefore, if it does not want a new Egyptian leadership possibly moving closer to Hamas and other organizations

6 ConocoPhillips, press release (July 2015): http://www.conocophillips.com/newsroom/Pages/news-releases.aspx?docid=2561094.

questioning its existence, Israel has to refrain from (open and dubious) political meddling.

On the other hand, though, Israel has an incentive to intervene or to modify Egyptian choices. The Israeli leadership believes that cooperation with Egypt is a short- to medium-term project, which will eventually come to an end. Israel would thus be interested in reaping the benefits of the current situation and not caring about long-term prospects. This approach could further endanger the Egyptian leadership, and the strategy could backfire for two reasons. First, as anticipated, a new government in Cairo could reverse el-Sisi's positions, possibly strengthening ties with Hamas in Gaza. Needless to say, this scenario would be accompanied by an escalation in tensions between the two countries. Second, a short-term approach would hinder the long-term political convergence process previously envisaged. In this sense, Israel should refrain from easy gains to secure long-term collaboration with Cairo.

Similarly, in regard to Turkey and Israel, the two countries could easily make the mistake of interfering in each other's domestic politics, with instruments ranging from media campaigns to online hacking, via military provocations or a lack of diplomacy. These errors would not create the conditions for mending strained ties, severely hit by tensions since the 2008–9 Gaza War. The results of a deterioration in relations between the two countries would then be unpredictable, also because there could be serious global repercussions.

Conflict Lines: Domestic Problems, Border Issues, Unbalanced Trade

As recent developments have shown, *conflict lines are primarily and consistently related to domestic politics*. The different views in Israel on how to create a level playing field, opposing political interests in Lebanon, and the divergences between government and public opinion in Cairo and Amman, are symptomatic of how fossil fuels and geopolitics are delicate issues everywhere. Politicization of these issues is normal, but could create internal dynamics that might easily catch fire. Conflict lines between countries due to gas are less likely, but still possible. Conflict lines could take the form of an outright confrontation or more subtle bickering. Two examples: *An outright confrontation could easily occur between Lebanon and Israel*. To avoid such an outcome, both sides should refrain from offering blocks in the disputed 850 square kilometer triangle both countries claim.[7] In the event that one of the

7 Bassam Fattouh and Laura El-Katiri: "Lebanon: The Next Eastern Mediterranean Gas Producer?" *GMF*, February 2015, http://www.gmfus.org/publications/lebanon-next-eastern-mediterranean-gas-producer.

two sides decides to do so anyhow, a diplomatic crisis could be triggered and escalation would be more than likely. A second example of bickering could come from Israel and Cyprus. The two countries know that the Aphrodite and the Leviathan fields are somehow competing for the same market. At the moment, they are enjoying positive relations, but this could change if one of them pulls the rug from under the other.

Additionally, there is a third cause for conflict, which is not directly linked to resources in the Eastern Mediterranean. From a diplomatic point of view, Turkey and Israel are the two elephants in the room; their clout is remarkable. Nonetheless, their future is, in different ways and for different reasons, connected to Iran: both countries' foreign policies are likely to change in light of the ratification of the nuclear deal. Following the lifting of sanctions, Tehran will flex its economic muscles, and Turkey and Israel will be required to understand the opportunities and the risks. Turkey and Israel will at some point react, but the "how" remains unclear. Future gas ties between the two countries will create another incentive for Israel to oppose Tehran's growing weight, while Ankara's reaction will be more complex to foresee: a thaw of ties with Israel could be one of the outcomes, while stronger coordination with Tehran could be the opposite, but equally possible scenario. The Israeli position and interest are clear; the Turkish approach will depend upon a series of domestic and international factors.

Still, future Israeli-Iranian and Turkish-Iranian ties could easily be branded pure fantasy and superficial over-interpretation. Indeed, once more, there are too many variables in the equation, and possible changes are too far down the road to be understood. Political consequences could be unexpected. For instance, Iran's prospects will impact on Turkish-Israeli relations, but many conjectures are likely to be proven wrong by future developments.

Another conflict line is related to Gaza. The Gaza Marine field could indeed be a reason to work together and create communication channels that could be used in other political contexts to promote better ties between Palestinians and Israelis. On the other hand, the development of Gaza's gas would be a difficult issue for several reasons. The Israeli government would probably argue that part of the money would be channeled to "extremists,"[8] while other countries in the region might prefer to buy gas from Gaza rather than from Israel. In other words, the Gaza Marine field is probably economically feasible, but it is a source of tensions, too. It is a business opportunity and a threat at the same time: there is room for clashing interests that could foster fresh new tensions between Gaza (and countries supporting Hamas) and Israel (and countries supporting its position).

8 Joseph Paritzky, former Israeli minister of energy and national infrastructure, interview with Sergio Matalucci for *Natural Gas Europe*, July 2015, http://www.naturalgaseurope.com/joseph-paritzky-former-minister-of-energy-of-israel-24653.

Concluding this section, Gaza and the West Bank could be a source of further complications for another reason: in the long run, *energy prices will be central to the stability of Gaza and the West Bank. Indeed, high energy prices will commodity prices*,[9] and high gas prices will lead to high food prices, which could further undermine any stabilization efforts in the Palestinian territories. In other words, if Israel does not help Gaza and the West Bank to acquire energy at reasonable prices, there could be additional frictions between the Palestinian Territories and Israel.

A Parenthesis: Egypt—the Heavyweight between Resurgence and Deterioration

In May 2015, Egypt issued a Call for Tenders for a second LNG import terminal. It wants to lease it for just five years, suggesting that it expects it will need it till 2020–21. In other words, Egypt hopes it can decrease energy imports in the next five years. Data and events could prove el-Sisi right. Major companies are returning to the country, which holds the third largest proven gas reserves in Africa, after Nigeria and Algeria. The country has more resources than Libya and, as long as there is some form of stability, can easily ramp up production. If you have 65.2 tcf of proven reserves[10] and other promising regions still unexplored, the math is not particularly difficult. On the other hand, as noted, the situation could easily deteriorate. All in all, Egypt is an important part of the jigsaw, and the prospects of Israeli gas depend greatly on its role.

Opinion of Experts: A Questionnaire

In order to prepare for this brief, after the conference in Tel Aviv in June 2015,[11] I prepared a questionnaire about conflict lines and cooperation opportunities in the region concerning gas reserves. I selected ten actors with direct or indirect interests in Israeli gas reserves (the US, Russia, Turkey, Germany, Italy, France, the UK, Cyprus, Greece and the EU). For each, I selected a journalist, a researcher/analyst and a politician. In all, I asked 30 experts to fill out the questionnaire. Following are some points made by 18 respondents:

9 Shamshad Akhtar, former vice president, Middle East and North Africa, World Bank, March 2011, http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTHEALTHNUTRITIONANDPOPULATION/0,,contentMDK:22864816~menuPK:282516~pagePK:64020865~piPK:149114~theSitePK:282511,00.html.

10 http://www.bp.com/content/dam/bp/pdf/Energy-economics/statistical-review-2015/bp-statistical-review-of-world-energy-2015-full-report.pdf.

11 Link to presentation: https://prezi.com/k7o0mvnloyou/edit/#181_24309637.

- Demarcation of maritime borders between Cyprus, Turkey, Lebanon, and Israel will not happen soon.
- It is unlikely that "oil and gas resources will trigger a convergence of interests, which would then make geopolitical tensions less evident and less dangerous."
- Multilateral cooperation does not create risks per se.
- Sharing expertise between Israel, Greece, Cyprus, Egypt and Lebanon could lead to better results for both the gas industry and the peace process.
- Sharing the benefits of energy should also be an element in any settlement between Israel and the Palestinians.
- The European Union should support development in the region with its expertise.
- Fluctuations in basic commodity prices can create additional instability, which could lead to a backlash against gas production activities in the region.

Conclusions: Please Focus on the Political Process

The complexities are so numerous and diverse in nature that it is difficult to say what will happen. Only time will tell whether gas will be an instrument of peace or war. *In a region where there is more than one election every year, equilibria can change fast*. Gas and related environmental issues (which have not been discussed in this paper for reasons of space) could trigger further tensions or contribute towards the pacification process. As pointed out above, the gas trade is unlikely to be a catalyst of stability. On the other hand, gas opportunities could trigger more constant and continuous contacts between key regional actors, which could then promote trust. Regional governments and the international community at large could take advantage of these circumstances. Strengthening communication between key actors could come in handy in the event of a deterioration of the situation in the MENA region, where threats from ISIS and similar groups would require a coordinated response.

Focusing on gas trade opportunities only, cooperation opportunities depend on the time frame. In the short term, most options on the Israeli table are not feasible because of current or prospective tensions with its neighbors. The only tangible possibility is to export significant quantities of gas to Egypt. This is not a long-term choice, as Israeli gas exports to Egypt will be viable only if there are no drastic changes in the Arab country (a double-digit increase in its gas production, or a civil war). At the moment, though, the government led by el-Sisi is the only option.

In the medium term, things could change soon and Israel could be forced

to look at Turkey. In the long term, then, markets will be an additional element to keep in mind. In this sense, Israel will not be able to fully capitalize on its resources in a region where exceptional political and diplomatic complexities, maritime border disputes, and uncertainties over reserves, coupled with technical difficulties related to ultra-deep-water fields, could easily make the exploitation of the Leviathan field impossible. Additionally, this comes at a time when companies are cutting investments and trying to get closer to their Arab partners.

Nonetheless, Israel's gas has a clear potential in the short to medium term. This potential will be tapped only if Israel promotes better conditions for the Palestinian Territories and, hence, for its neighbors. Alternatively, the country could simply use its resources for domestic consumption. However, this approach, too, could lead to high gas and energy prices within the country. As discussed briefly, this possible outcome would be catastrophic. High energy prices in Israel would also have an impact on the Palestinian Territories, leading to high energy prices there, too, as well as high food prices and resulting instability.

Some Questions, Not Many Answers

The major focus of the international community is/should be on alleviating diplomatic frictions, in order to overcome mutual hatred and the inability to understand the other's viewpoint. In other words, gas is not a solution for the region, but a testing ground for a more efficient regional (and possibly multilateral) approach to problems. However, if the geopolitical dimension of gas is once more misunderstood, the riches could easily become a source of further inequalities, poverty and violence.

In conclusion, rather than pointing out solutions it is better to note some questions. Each and every answer will then prepare the ground for the final solution. As remarked by 1944 Noble Laureate in Physics Isidor Isaac Rabi, "Every other Jewish mother in Brooklyn would ask her child after school: 'So? Did you learn anything today?' But not my mother. She always asked me a different question. 'Izzi', she would say, 'did you ask a good question today?' Questions are indeed the key to understanding this difficult game. Here are a few:

1. Would Europe be willing to take an active role in this process even if it does not reap the benefits of its diplomatic efforts, with gas being funneled through Turkey (a country that is not forced to comply with the EU Third Energy Package) and/or shipped to Asia via LNG?
2. Will the US-backed "bilateral" approach (Jordan–Israel) work or should a multilateral approach be preferred?

3. Will Turkey accept growing ties between Cyprus–Greece–Egypt and Cyprus–Israel?
4. Will Russia react given de facto exclusion from the political process in the region? Is it already reacting? If so, how?
5. Will Iran have an interest in changing the cards on the table? Could the post-sanction period lead to a consistent increase in exports of Iranian gas from early 2020? Could projects in the East Mediterranean pay the price? Could such an outcome lead to further tensions in the region?
6. Are Cyprus and Turkey ready to reach a settlement?
7. Can Israel strike the right balance between the economic and geopolitical dimension of gas?
8. Will Egypt manage a power transition? Will Cairo manage to significantly increase gas production and avoid imports playing a central role in the gas balance beyond 2025?
9. Will market conditions change abruptly? What will gas markets look like in a couple of years?
10. Is the development of the Leviathan field really feasible?
11. What will happen in Gaza and in the West Bank?
12. Can Israel create a stable regulatory environment by the end of the year?
13. Is there political willingness in Israel, Turkey and Egypt for cooperation?

VIII. Simone Tagliapietra

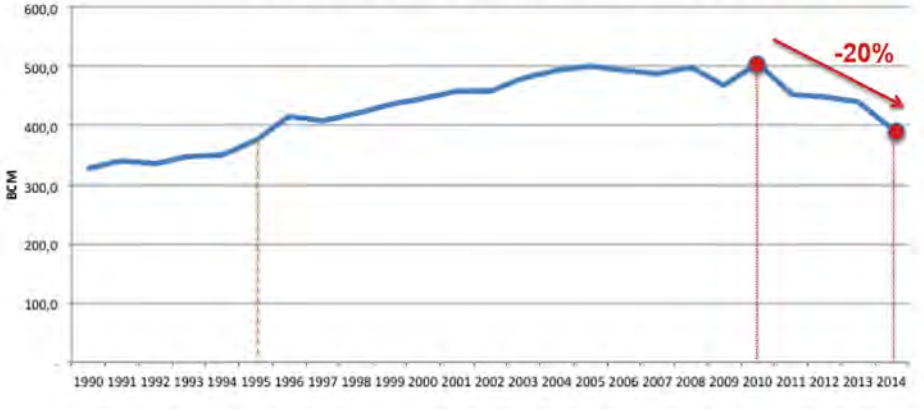
Will the European Market Need East Mediterranean Gas?

The Evolution of European Gas Demand

Gas is an essential component of the energy mix of the European Union (EU), constituting one-quarter of primary energy supply and contributing mainly to electricity generation, heating and fuel for industry and transportation.[1]

When discussing the current situation of European gas demand, energy analysts often use expressions such as nightmare, disaster, disruption. In fact, the upward trend of gas demand experienced in Europe in the 1990s and 2000s has dramatically reversed since 2008, not only due to the economic recession but also to the increasing share of renewables in power generation, the growing level of energy efficiency and intensified competition of cheap coal made available to Europe in the aftermath of the U.S. shale gas revolution (also favored by cheap carbon prices, which fell in the EU ETS system from 28 EUR/tonnes in 2008 to 6 EUR/tonnes). In this context, European gas demand plunged dramatically from a peak of 505 bcm in 2010 to 394 bcm in 2014, the same level recorded in 1995.[2]

Figure 1: EU 28 + CH gas demand, 1990–2014



Source: Author's elaboration of British Petroleum and Eurogas.

1 For a comprehensive analysis of the past evolutions and future trends of the European gas industry, see M. Hafner, M. and S. Tagliapietra (2013): *The Globalization of Natural Gas Markets: New Challenges and Opportunities for Europe,* Deventer, Netherlands: Claeys & Casteels.

2 Unless otherwise stated, all energy statistics presented in this paper come from British Petroleum (2014), *BP Statistical Review of World Energy*.

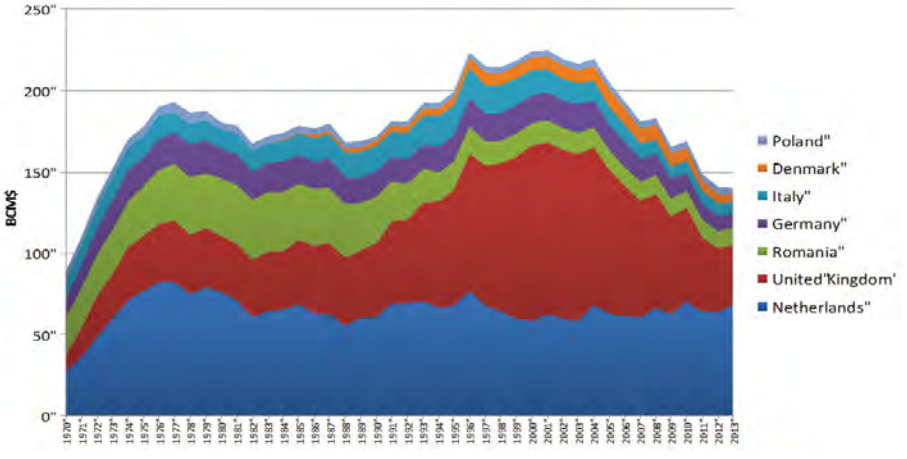
As far as the short-term outlook is concerned, gas for power in Europe does not seem a good prospect, especially considering that the current power market structure does not provide adequate price signals for new and existing fossil plant capacity. Renewables have already taken much or the gas market share and this trend will continue, reducing load factors of gas-fired power stations to an intermittency role.

Notwithstanding the current difficulties, gas can well make a comeback in the post-2020 horizon. In fact, substantial base-load capacity in Europe will need to be replaced due to a progressive nuclear phase-out in several countries and to the continuous shutdown of coal plants under the Large Combustion Plant Directive, and gas might well fill this gap. Furthermore, in the post-2020 horizon gas might well play an increasing role in the transportation sector, not only in terms of CNG but also of LNG for trucks and ships.

Current and Future Trends of European Gas Production

Since the dawn of the European gas industry in 1959, European domestic gas production has grown progressively over time. This trend was due mainly to discoveries in the North Sea, a fact that explains the high domestic production of the Netherlands and the United Kingdom (UK).

Figure 2: Gas production in Europe between 1970 and 2013



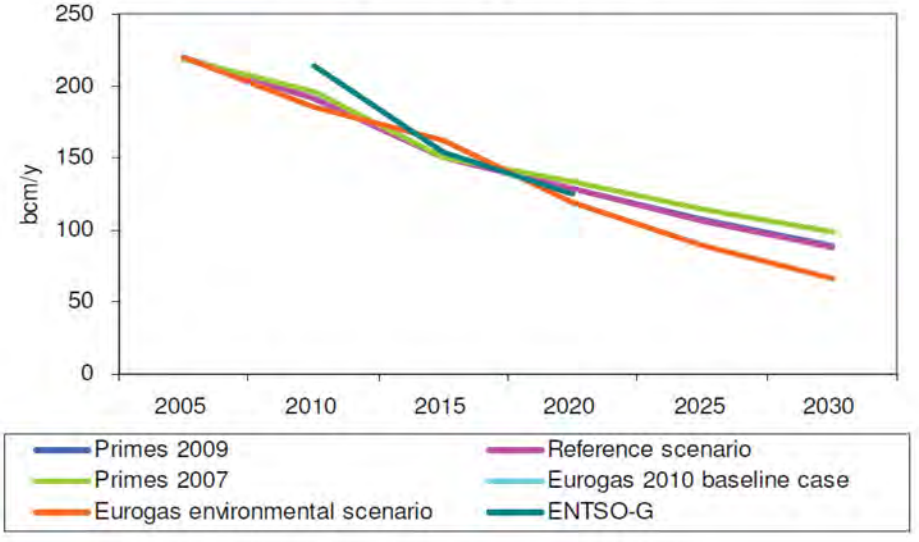
Source: Author's elaboration of British Petroleum.

In particular, European domestic gas production benefited greatly from the mid-1990s to the mid-2000s from the high level of gas production in the UK. However, UK gas production has fallen very dramatically over

the last decade, from 108 bcm in 2000 to 41 bcm in 2012. According to the UK Department of Energy, annual gas production is projected to decline by 2.5% per year between 2012 and 2017, and by 5% per year between 2017 and 2027[3]. In the Netherlands, gas production dropped from 70 bcm in 2010 to 64 bcm in 2012 and, according to the Dutch Ministry of Economic Affairs, the country's production will decline by some 2% per year between 2011 and 2020, followed by a much greater decrease of more than 9% per year from 2020 to 2030.[4]

Looking to the future, it is thus possible to expect that European gas production will continue to decline. However, there is great uncertainty about the steepness of this trend since, among other factors, it will depend finally also on the potential production of shale gas in Europe, and most notably in the UK and Poland.[5]

Figure 3: European Gas production outlook



Source: European Commission (2010).

* Reference scenario = Primes Reference scenario

3 https://www.gov.uk/government/organisations/department-of-energy-climate-change.

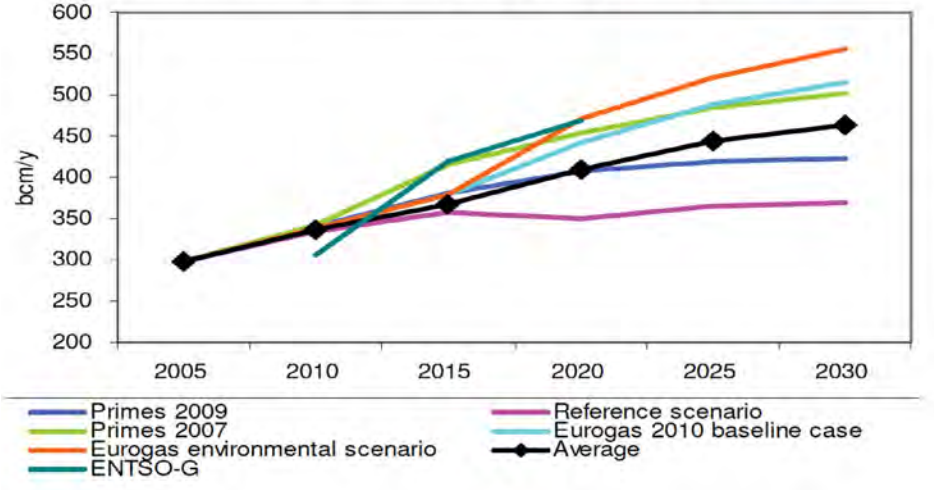
4 http://www.government.nl/ministries/ez.

5 For a multidisciplinary analysis of the European shale gas potential, see C. Musialski, W. Zittel, S. Lechtenböhmer and M. Altmann, M. (eds.) (2013): *Shale Gas in Europe*, Deventer, Netherlands: Claeys & Casteels.

Focus on European Gas Import Requirements

Declining domestic production will obviously have a direct effect on the outlook for European gas import requirements. In fact, even if European gas demand remains stagnant in the future, European import requirements will continue to grow because of declining production. Of course, this trend will be further accentuated if European gas demand recovers from the current stagnation and starts to grow again over the next decades.

Figure 4: Forecasts for European gas import requirements



Source: European Commission (2010)
*Reference scenario = Primes Reference scenario

European Security of Gas Supply Architecture

This scenario of increasing gas import requirements is particularly alarming for Europe, as it relies on a limited number of suppliers. In fact, the EU dependency on external suppliers—represented by the import/consumption ratio—stood at 73% in 2014. In 2014 Europe imported gas mainly from Russia (119 bcm), Norway (101 bcm), Algeria (27 bcm), Qatar (22 bcm), Libya (6 bcm) and Nigeria (4.3 bcm).

This high level of dependency on a small number of suppliers has generated over the years a broad debate in Europe on the issue of security of gas supply. Importantly, in 2008 the EU launched a diversification of gas supplies strategy in response to energy security concerns that emerged after

the first Russian-Ukrainian-European natural gas crisis in January 2006, when after a long-lasting disagreement over natural gas prices, Russia cut off supplies to Ukraine for three days; Ukraine diverted volumes destined for Europe and, as a consequence, natural gas supply to some Central European countries fell briefly.[6] In order to enhance security of the gas supply architecture, the European Commission (EC) thus adopted a double strategy. On the one hand, it targeted enhancement of the EU internal energy market in order to foster natural gas flows between EU Member States. On the other hand, it sought to diversify natural gas sources, including the construction of LNG receiving terminals in Central and Southeast Europe and pursuing the 4th corridor (generally known as the Southern Gas Corridor) in order to bring natural gas from Caspian and Middle East natural gas producing countries to Europe without crossing Russia.

The implementation of this strategy—and particularly of the Southern Gas Corridor—was accelerated after a second major natural gas crisis between Russia and Ukraine occurred in January 2009. In fact, this dispute was even worse than the previous one, as the transit of Russian gas through Ukraine was completely cut for two weeks, resulting in humanitarian crises in several Central and Eastern European countries that were strongly dependent on Russian gas supplies across Ukraine. This conflict has resulted in long-term economic consequences and affected the reputation of Russia as a reliable supplier and of Ukraine as a reliable transit country.

The Rise of the Southern Gas Corridor

The official document on which the Southern Gas Corridor is based is the "Second Strategic Energy Review—an EU Energy Security and Solidarity Action Plan,"[7] issued by the EC in November 2008. The document recognized the Southern Gas Corridor as one of the EU's highest energy security priorities, and outlined the need for cooperation between the EC, EU Member States and the countries concerned (Azerbaijan and Turkmenistan, Iraq and the Mashreq countries) with the objective of rapidly securing firm commitments

6 As Pirani, Stern and Yafimava underline, natural gas conflicts between Russia and Ukraine go back to the immediate aftermath of the independence of the two countries. Regular conflicts broke out as transit usually became a part of the dispute over Russian gas prices for the Ukrainian domestic market. In fact, no separation between the transit gas network and the domestic gas network exists in Ukraine, and Ukrainian customers usually served themselves from the transit volumes, which Russia labeled "theft." See S. Pirani, J. Stern and K. Yafimava (2009): "The Russo-Ukrainian Gas Dispute of January 2009: A Comprehensive Assessment," NG 27, Oxford Institute for Energy Studies, Oxford.

7 European Commission (2008): "Second Strategic Energy Review—an EU Energy Security and Solidarity Action Plan," Brussels.

for the supply of natural gas, and the construction of pipelines necessary for all stages of its development. Uzbekistan and Iran were also mentioned in the review as potential partners, albeit in the more distant future.

After the release of this document, the EC invited representatives of the countries concerned to a ministerial level meeting in May 2009 aimed at securing concrete progress of the initiative. The summit, held in Prague and named "Southern Corridor—New Silk Road," served to express political support for the realization of the Southern Gas Corridor as an important and mutually beneficial initiative, directed at promoting the common prosperity, stability and security of all countries involved. The countries participating in the summit declared that they considered the Southern Gas Corridor concept a modern Silk Road interconnecting countries and people from different regions, and establishing an important framework for encouraging trade, and a multidirectional exchange of know-how, technologies and experience. They agreed to give the necessary political support and, where possible, technical and financial assistance to the construction of the Trans-Caspian energy transportation project and to the development of Nabucco, a project already designated as having strategic importance in the Trans-European Networks —Energy (TEN-E) program.[8]

In reality, preparations for the Nabucco project had started in February 2002 when the first talks took place between the Austrian OMV and Turkish BOTAŞ. In June 2002, five companies (OMV of Austria, MOL Group of Hungary, Bulgargaz of Bulgaria, Transgaz of Romania and BOTAŞ of Turkey) signed a protocol of intention to construct Nabucco, a pipeline with a capacity of about 30 bcm/year. The protocol was followed by a cooperation agreement signed in October 2002. Nabucco is named after the famous Giuseppe Verdi opera, which the five partners attended at the Vienna State Opera after the meeting. In December 2003, the EC awarded a grant to the Nabucco consortium amounting to 50% of the estimated total eligible cost of the feasibility study, including market analysis, and technical, economic and financial studies. On 28 June 2005, a joint venture agreement was signed by five Nabucco partners. In June 2008, the first contract to supply gas from Azerbaijan through the Nabucco pipeline to Bulgaria was signed. The president of Azerbaijan confirmed in early 2009 that Azerbaijan was planning to at least double its gas production in the following five years in order to supply the pipeline. Next, Turkey's minister of energy confirmed that his country was ready to sign a deal, provided that it would get 15% of the natural gas to be carried through the Nabucco pipeline. The intergovernmental agreement

8 Official Journal of the European Union (2006): "Decision No 1364/2006/EC of the European Parliament and of the Council of 6 September 2006 laying down guidelines for trans-European energy networks and repealing Decision 96/391/EC and Decision No 1229/2003/EC, L 262/1," Brussels.

between Turkey, Romania, Bulgaria, Hungary and Austria was signed by five prime ministers on 13 July 2009, in Ankara. In the following months all the countries concerned—Hungary, Bulgaria, Romania and Turkey—ratified the agreement.[9]

In the meantime, a major debate evolved in regard to the various shapes that the Southern Gas Corridor could assume. In fact, many pipeline projects progressively entered the Southern Gas Corridor race (TAP, TANAP; Nabucco West; SEEP; AGRI; White Stream). With the exception of White Stream (a submarine pipeline across the Black Sea linking Georgia–Romania–Ukraine), and AGRI (an idea of Azerbaijan, Georgia and Romania to build an LNG chain across the Black Sea), all these projects shared a common feature: transit through Turkey.

In particular, Azerbaijan was the country most interested in the development of the Southern Gas Corridor, due to the investments already made in its Shah Deniz field and to the need to reach a final investment decision for Shah Deniz Phase II (a decision that was finally made, as will be elaborated in the next section, on 17 December 2013). For this reason, Azerbaijan accelerated the process and rapidly conceptualized the Trans-Anatolian Pipeline (TANAP) project in order to carry future natural gas flows from Shah Deniz Phase II to Turkey; in December 2011 the governments of Azerbaijan and Turkey decided officially to advance the TANAP project.[10]

Moreover, in June 2013 the consortium developing Shah Deniz chose the Trans Adriatic Pipeline (TAP) project to fill the gap between TANAP and the European market. Together with TANAP, TAP will thus complete the Southern Gas Corridor.

TANAP is a projected natural gas pipeline designed to carry natural gas to be produced in Shah Deniz Phase II and other Azerbaijan fields (and possibly those of neighboring countries) through Turkey to Europe, with a capacity of 16 bcm/year. TANAP is planned to begin at the Georgian–Turkish border and to pass successively through the provincial borders of Ardahan, Kars, Erzurum, Bayburt, Gümüşhane, Erzincan, Sivas, Yozgat, Kırıkkale, Ankara, Eskişehir, Bilecik, Kütahya, Bursa, Balıkesir, Çanakkale, Tekirdağ and Edirne. A MoU was signed between the governments of Turkey and Azerbaijan on 24 December 2011 in Ankara. The project is crucially important for Azerbaijan, as it will allow it to have a role in the delivery of gas from its Shah Deniz field further down the supply chain to Europe, rather than

9 For a wider discussion of the Nabucco project, see P. Hofstätter (2011): "The Nabucco-Pipeline: Economic and Political Effects in Relation to the EU, VDM, Düsseldorf; and K. Barysch (2010): "Should the Nabucco Pipeline Project be Shelved?" Transatlantic Academy Paper Series, Washington, D.C.

10 Among other factors, a key element of strength of the TANAP project is related to its financing: because of the considerable oil revenues provided by exports through the Baku-Tbilisi-Ceyhan pipeline, Azerbaijan has indeed been able to ensure direct financing of the infrastructure.

selling it at its border.[11] TAP is a projected 800 km–long natural gas pipeline designed to provide the missing link for gas transportation from Greece to Italy through Albania and the Adriatic Sea. TAP is considered the shortest route in the Southern Gas Corridor, linking Europe to new sources of gas in the Caspian and Middle East regions. The pipeline is planned to start in Greece, cross Albania and the Adriatic Sea and come ashore in Italy, near Brindisi. The initial capacity of the pipeline will be about 10 bcm of natural gas per year, with the option to expand to a maximum of 20 bcm. There are also plans to develop an underground natural gas storage facility in Albania and to offer a reverse flow possibility of up to 8.5 bcm. These features will ensure additional energy security for Southeast Europe. TAP is expected to deliver its first gas to Europe in 2020. Beyond the 10 bcm/year from Azerbaijan, the Southern Gas Corridor is generally expected to be able to carry future additional volumes of gas to the EU from Turkmenistan, Iraq and—in the longer term—Iran. But what should we really expect with regard to this potential development?

A Look at Additional Potential Suppliers of the Southern Gas Corridor

a) Turkmenistan

Given its world–class gas reserves, Turkmenistan could well be in a position to supply gas to the EU—in addition to the major volumes already devoted to the Chinese market. But two major barriers are likely to make such a development unfeasible, at least in the medium term: the first is the current lack of interest of the European gas market due to its stagnant gas demand, and the second is an infrastructural problem related to differences existing between Russia, Iran and Turkmenistan on the legal status of the Caspian Sea and therefore of the construction of the Trans-Caspian Pipeline. Thus, the EU aspiration to bring major volumes of Turkmen gas into the Southern Gas Corridor would probably need to be revised, at least until the dispute on the legal status of the Caspian Sea is finally resolved.[12]

b) Iraq

Iraq's gas scenario is changing radically because of the enormous gas reserves being discovered in the country's semi-autonomous region of the Kurdistan Regional Government (KRG). This northern entity is actually paving the way

11 See: www.tanap.com.

12 For a detailed discussion of Turkmenistan's natural gas market, see S. Pirani (2012): "Central Asian and Caspian Gas Production and the Constraints on Export," OIES Paper: NG 69, Oxford Institute for Energy Studies.

for Iraq's emergence as a world–class gas nation. The development of these gas reserves will initially target the domestic market. In fact, the KRG has already more than tripled its target for gas–fired power generation capacity installed. However, in a second phase the KRG could well export part of its gas to Turkey and the EU. Exports to both Turkey and Europe will be possible after 2020, but such a development will depend mainly on the evolution of the regional geopolitical and security situation.[13]

c) Iran

Iran is the perennial "elephant in the room" of the international gas trade, a country which could one day become a major game changer of international gas markets but whose potential still remains fundamentally untapped for a number of geopolitical and commercial reasons. The main one is clearly linked to the difficult political relations that have evolved over the last decades between this country and the West. Therefore, if the recent interim deal on the nuclear issue will have an effective follow up, great opportunities could open up for Iran also in regard to the gas sector. Considering the geographical location of Iran's gas reserves, such a development will probably first interest the global LNG market before attracting the Turkish and European markets, which would entail a pipeline. Furthermore, the first international pipeline that the country is likely to develop will not target the European market but the Asian one. In fact, Iran is already working on a pipeline to Pakistan, in order to export its gas not only to this country but also to India. Moreover, Chinese interest in the country's gas reserves is also very strong and Iranian gas exports to China will probably take place in the future as well. It thus seems that in the medium term Iran is unlikely to fit into the Southern Gas Corridor concept due to its Asian priorities.[14]

The Southern Gas Corridor: A Limited Alternative for Europe?

To conclude, in the medium term (up to 2020) no more than 10 bcm (from Shah Deniz Phase II) is expected to flow through Turkey to Europe. This amount certainly represents a historical step—as it will be the initial realization of the protracted Southern Gas Corridor odyssey—but it will certainly not change radically the EU gas security of supply architecture. In fact, by 2020–25, 10

13 For a wider discussion on the Kurdistan Region of Iraq's gas market, see S. Elliott and B.L. Elliot (2012): "Natural Gas Development in Kurdistan: A Financial Assessment," Belfer Center for Science and International Affairs, Harvard University.

14 For a detailed discussion of the future prospects of Iran's gas market, see: S. Tagliapietra (2014): "Iran after the (Potential) Nuclear Deal: What's Next for the Country's Natural Gas Market? *Nota di Lavoro* no. 31, Fondazione Eni Enrico Mattei.

bcm will basically represent less than 3% of EU gas import needs, a level equal to that currently covered by Nigeria.

However, looking at the longer term (after 2020), the situation could well change for the better. In fact, in this time framework Azerbaijan *could* well be able to supply greater volumes of gas to Europe; Turkmenistan *could* be in a position to supply a considerable amount of gas to Turkey and to Europe; Kurdistan *could* also be in a position to supply some gas to Europe; and finally, Iran *could* well have the potential to consistently supply large volumes of gas to Europe. However, as illustrated by the hypothetical tone of these sentences, a number of factors (infrastructural, commercial and political) will determine whether the Southern Gas Corridor may or may not become a real game changer for the EU gas security of supply architecture. Taking into consideration that any development regarding the potential further expansion of the Southern Gas Corridor to gas producing countries other than Azerbaijan is likely to take many years, we might expect the EU to make an effort to find new sources of gas supplies elsewhere. At this point the Eastern Mediterranean could well enter the scene.

Towards an Eastern Mediterranean Gas Corridor?

Over the last few years the East Mediterranean region has progressively attracted the attention of the world gas industry due to a series of gas discoveries offshore Israel and Cyprus. In particular, after the discovery of the Leviathan field in 2010 and the Aphrodite field in 2011 a wide debate emerged on the gas export potential of this region and its consequential infrastructure options. But is this debate justified by the geological realities of the region? Looking at the volumes of current proven gas reserves, it seems that the Eastern Mediterranean does not have the potential to become a world–class gas province. The two major gas fields, Leviathan and Aphrodite, are estimated to contain, respectively, 620 bcm and 130 bcm of gas reserves. Taking into consideration that, for instance, the recently discovered gas fields in Mozambique are estimated to contain about 4,000 bcm of reserves, it is clear that with its current volumes the Eastern Mediterranean is unlikely to become a game changer in world gas markets. However, the gas resources being discovered in the region could well represent a game changer for the region itself, as far as gas cooperation is concerned.[15]

As owner of the largest gas reserves in the offshore Eastern

15 For a comprehensive discussion of East Mediterranean natural gas developments, see S. Tagliapietra (2013): "Towards a New Eastern Mediterranean Energy Corridor? Natural Gas Developments between Market Opportunities and Political Risks," *Nota di Lavoro* no. 12, Fondazione Eni Enrico Mattei.

Mediterranean, Israel has a pivotal role in the emerging regional gas architecture. In other words, large–scale development of East Mediterranean gas would seem to be very difficult without a strong commitment on the part of Israel to export a substantial share of its resources. After a protracted debate, the Israeli government decided in 2013 to keep 540 bcm of gas for the domestic market over a 25–year period, leaving 360 bcm—or 40% of projected supply—for export. This development will certainly enhance the discussion on Israel's gas export options in the near future. In fact, many options are currently on the table, even if none of them is yet a frontrunner: a) construction of a pipeline to Turkey (via Lebanon and Syria or via the Republic of Cyprus EEZ); b) construction of a pipeline to Jordan and to the Palestinian Territories; c) utilization of the existing pipeline from Ashkelon to Egypt, reversing the flow, and then using the Egyptian LNG plant in Idku; d) construction of a submarine pipeline from the Leviathan field to the Egyptian LNG plant in Idku; e) construction of an onshore LNG plant on Israel's Mediterranean coast; f) construction of a LNG plant on the Israeli shore of the Gulf of Aqaba; g) development of a FLNG plant in the Mediterranean, offshore Israel; h) development of a CNG solution; i) construction of a pipeline to Cyprus and construction of a joint LNG plant in Vasilikos.

As far as Cyprus is concerned, the great expectations regarding its gas discoveries, together with the urgent need to find a way out of the deep economic crisis affecting the country, led the RoC government to promote an LNG export option in order to quickly monetize its potential. The idea is to develop an LNG plant with an initial export capacity of 5 million tonnes of LNG per annum (one liquefaction train), expandable to 15 million tonnes of LNG per annum (three liquefaction trains) in Vasilikos, an area located on the southern coast of Cyprus, some 40 km from Larnaca and 25 km from Limassol. In June 2013, the RoC signed a MoU with Noble Energy, Delek Drilling and Avner Oil Exploration, stating their intent of developing the LNG plant in Vasilikos. A MoU between the Republic of Cyprus and Total, which is also interested in participating in the development of the LNG plant, was also signed in October 2013. Other options for Cyprus's potential gas exports have been proposed and discussed over the last two years. Some of them are based mainly on commercial considerations, while others center on geopolitical issues. In particular, a pipeline to Turkey is an option currently on the table. This solution would certainly make commercial sense in the event that additional volumes of gas are discovered offshore Cyprus, but it involves a number of geopolitical problems that are currently far from being resolved (principally, the protracted Cyprus Question). Overall, to date, it seems too early to determine which export option will be finally chosen, and when. In fact, in October 2013 Noble Energy downsized the expected gas reserves in

the Aphrodite field from 220 bcm to 130 bcm. Moreover, Total's, Eni's and Kogas's exploratory activities also turned out to be disappointing in 2014, casting even further doubts about the future of the island's gas export plans. These developments suggest the need for more caution in discussing the prospects for Cyprus's gas export options, as any project must be based on certain geological realities that are currently still largely unknown.

Europe: A Market for East Mediterranean Gas?

At this point the question is: could Europe represent an export option for potential East Mediterranean gas exports? As this brief has tried to explicate, because of declining domestic production, Europe's gas import requirements will continue to grow in the future, independently of the evolution of European gas demand. This fact, together with the EU quest to diversify its gas supplies away from Russia (a political goal ultimately confirmed in the first months of 2014, in the aftermath of the Ukrainian crisis), certainly indicates a good market opportunity for East Mediterranean gas in Europe. Although a pipeline connecting Israel, Cyprus and Greece (the so-called East-Med pipeline) is unlikely to be seriously evaluated because of a number of commercial and political barriers, East Mediterranean gas (and most notably Israeli gas) could easily be shipped to Europe via LNG at a very competitive cost. This LNG trade would not only be a positive development for the EU but also for East Mediterranean (current or potential) gas producers as well. In fact, although LNG from the Eastern Mediterranean could technically reach Asian markets, this option would be commercially uncertain because of high shipping costs, and geopolitically vulnerable because of obligatory transit through the Suez Canal.

Thus, the European market theoretically represents the best export option for East Mediterranean gas. However, in order to convert theory into practice, availability will have to be translated into deliverability. On the one hand, this signifies that, notwithstanding the current situation of stagnant gas demand, the European market will need to demonstrate its interest in potential imports from the Eastern Mediterranean. On the other, potential gas exporting East Mediterranean countries will need to demonstrate the concrete availability of gas exports. While in the case of Israel this prospect seems to be feasible, in that of Cyprus it will continue to look very uncertain until additional evidence from exploration activities offshore is provided in the course of 2016.

IX. Igor Taranic
European Energy Policies and Their Relevance to the Eastern Mediterranean

Introduction

Recent discoveries of natural gas in the Eastern Mediterranean have attracted much attention by the media, business, policy makers and scholars. Natural resource discoveries and the political complexity of the region have generated an intensive policy debate about what should and can be done with these discoveries. Over the last few years East Med gas has been an important topic of discussion in Brussels, but mostly within informal frameworks and levels, such as expert dialogues and think-tanks, conferences and publications; European institutions, however, did not take any initiative. This changed in July 2015, when the potential of East Mediterranean gas reserves as a possible resource for Europe was recognized in the European Energy Diplomacy Action Plan.

The first aim of this paper is to present the European Energy Policy framework and point out which parts of it are relevant to the Eastern Mediterranean. The second is to discuss what led the European Commission to a positive shift in its attitude towards East Mediterranean gas reserves. The first section presents a theoretical framework of the development of the EU's energy policies from 1948 until today and the role of shared competences between the Union level and Member States in energy policy. In addition, it outlines the European Energy Policy Triangle and its relevant "angle" to the Eastern Mediterranean—energy security and diversification. The second section focuses on the concept of European Energy Security: theory and the initiatives to enhance European Energy Security after 1990. The third section continues the discussion on the current state of play of the EU and East Med energy relations and makes several proposals on how to strengthen the EU's role in energy developments in the region.

Section I: Development of EU Energy Policies

Historical Development—Six Periods of European Energy Policy

European energy policies have been developing since the beginning of European integration after WWII, in accordance with the changing political and economic landscape. Bozhilova and Hashimoto present a timeline of five

main periods of European energy security.[1]

1945–1957

After the war and the beginning of European integration, the European Coal and Steel Community (ECSC) provided supranational management of coal exploration in order to prevent the possibility of another military conflict. ECSC member states did not focus on, and were not interested in, a common energy policy.

1957–1972

Europe enjoyed cheap oil supply from Arab countries. During that period energy supply security was not a concern for the European Community.

1973–1985

The oil embargo after the October 1973 war made energy security one of the most important topics for more than a decade. Belkin and Morelli highlight three main effects of that oil shock on European energy policy:

- It exposed the need for cooperation between members of the Community and between the EC and producers regarding energy policies.
- It emphasized the need for crisis management mechanisms for possible future energy disruptions.
- Europe understood that it needed to prepare strategies to prevent future usage of energy as a political and economic weapon. One result was the creation of the International Energy Agency (IEA) in 1974, whose aim was to "help countries co-ordinate a collective response to major disruptions in oil supply through the release of emergency oil stocks to the markets" (International Energy Agency, 1974).[2]

Nevertheless, Member States of the EC preferred mainly national solutions.[3]

1985–2000

With the collapse of the USSR, the opposition of Member States to a common energy policy was slightly reduced. The period was also marked by the beginning of liberalization of national energy markets and attempts to

1 D. Bozhilova and T. Hashimoto (2010): "EU -Russia Energy Negotiations: A Choice between Rational Self-Interest and Collective Action, *European Security* 19 (4): 627–642.

2 P. Belkin P. and V. L. Morelli (2007): *The European Union's Energy Security Challenges*, Washington D.C.: Library of Congress.

3 S. Andoura. (2007): "Security of Supply and the External Dimension of a European Energy Policy," *Studia Diplomatica* 60 (2): 27–109.

create a common European energy market.[4]

2000–2015

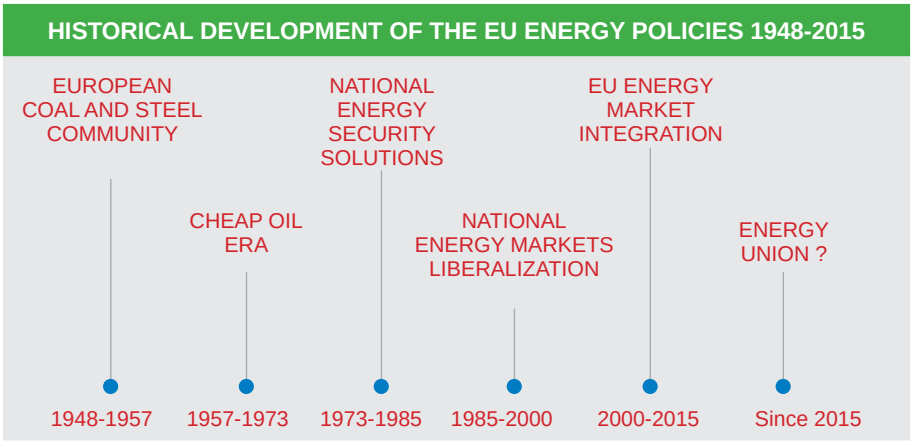
Major interconnected global developments determined European energy policy progress:

- Rapid economic growth in a developing world
- Increasing global demand for energy
- Increasing oil and gas prices

Youngs coins the period since 2000 "the energy boost."[5]

Member states came to an understanding that in order to respond to global energy challenges, they needed more than ever to work together and advance energy integration within the European Union.

Figure 1: EU energy policies 1948–2015



Source: Author's elaboration (Bozhilova and Hashimoto, "EU -Russia Energy Negotiations" and Andoura, "Security of Supply.")

Since February 2015—a Sixth Era in EU Energy Policy

In the last ten years energy has become one of the leading and most discussed aspects of EU policies. At the end of 2014 the new Commission President, Jean Claude Junker, reorganized the College of Commissioners and created the post of Commissioner for Energy Union, sending a strong message regarding the high priority assigned to and urgency of further energy integration and

4 Bozhilova and Hashimoto, op. cit.

5 R. Youngs (2008): *Energy Security: Europe's New Foreign Policy Challenge*, London: Routledge.

the necessity of a common approach. A few months later, in February 2015, the Commission published an Energy Union Package Communication, presenting the idea of a European Energy Union. The communication has five main areas of cooperation.[6]

- Energy security (security of supply)
- A fully integrated internal energy market
- Energy efficiency
- Emissions reduction
- Research and innovation

These areas of energy policies were already covered by EU policies. The novelty of the Energy Union Package is in addressing all those areas altogether, creating high expectations for future development of EU energy integration. Therefore, February 2015 was potentially the start of a new energy era for Europe.

Shared Competence

The Lisbon Treaty was the first European treaty to include an energy provision.[7] The so-called shared competence clause between the Union and Member States regarding energy policies is one of the most important aspects impacting on energy cooperation today.

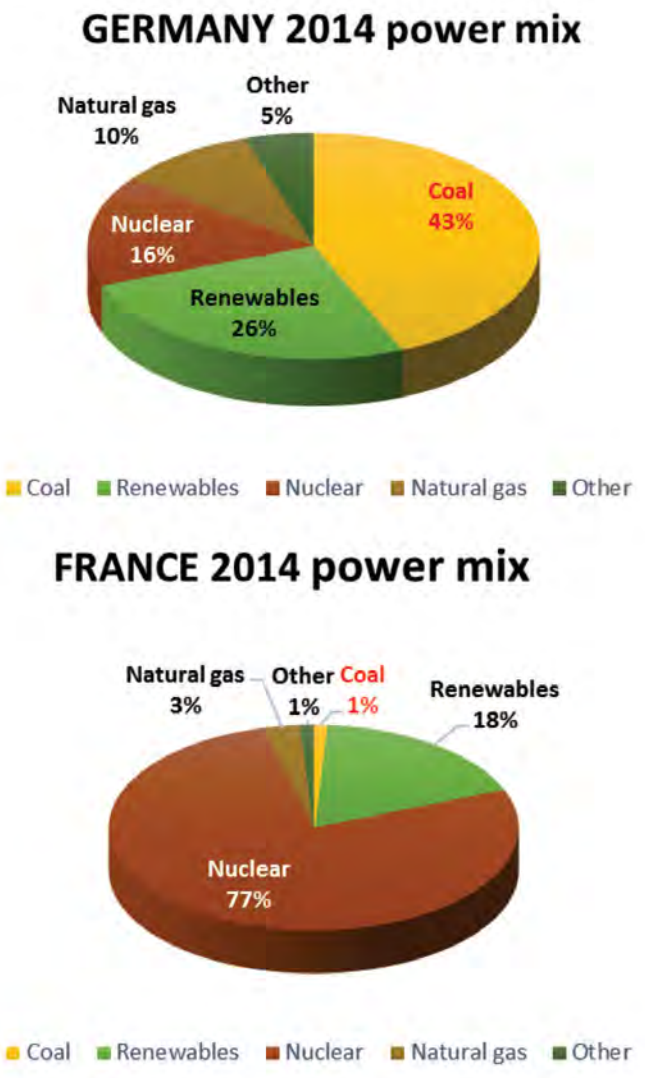
Although, for the first time, the treaty gives the Union authority in the energy field, each Member State still determines its own energy mix. That is the reason for tensions regarding energy issues between the Union level, on the one hand, and Member States, on the other.[8] A good illustration of the effects of shared competence is a comparison between the power (electricity) mixes in France and Germany. While Germany is phasing out its nuclear power generation, France remains the leader in nuclear electricity production in Europe. In the case of traditional energy sources, France hardly uses any coal in its power mix, while Germany's share of coal is above 40%.

6 European Commission (2015a): "Energy Union Package. A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy," http://eur-lex.europa.eu/resource.html?uri=cellar:1bd46c90-bdd4-11e4-bbe1-01aa75ed71a1.0001.03/DOC_1&format=PDF.

7 F. Dehousse, S. Andoura and R. Dehin (2007): "The Internal European Energy Market," *Studia Diplomatica* 60 (2): 25-66.

8 J. Piper (2012): "EU's External Energy Policy," European Commission, Brussels, 26 April 2012.

Figure 2: Power mix in Germany and France in 2014



Source: Author's adaptation from Strom Report 2014 and Deutsch-franzosisches Büro für erneuerbare Energien 2015[9]

9 Strom-Report (2014), "Stromerzeugung in Deutschland. Stromerzeugung 2014 nach Energieträgern," http://strom-report.de/strom-vergleich/#stromerzeugung; Deutsch-franzosisches Büro fur erneuerbare Energien (2015): "Der Französische Stromsector," http://enr-ee.com/fileadmin/user_upload/Downloads/Hintergrundpapiere/2_Statistiken-und-Zahlen/150330_Frz_Stromsektor_2014.pdf.

Article 194 (The Treaty on the Functioning of the European Union 2009)

"In the context of the establishment and functioning of the internal market and with regard for the need to preserve and improve the environment, Union policy on energy shall aim, in a spirit of solidarity between Member States, to:

a. Ensure the functioning of the energy market;
b. Ensure security of energy supply in the Union;
c. Promote energy efficiency and energy saving and the development of new and renewable forms of energy; and
d. Promote the interconnection of energy networks…

Such measures shall not affect a Member State's right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply…

Energy Policy Triangle

European Energy Policy objectives are threefold: security of supply, sustainability, and functioning of the internal energy market. This part will present a short review of the main elements of the three interrelated policy objectives.

Sustainability

The European Union has integrated its energy and climate policies. In 2009 it agreed on the 2020 Climate and Energy Package, which resulted in the so-called 20–20–20 targets[10] by 2020. In 2014 the 2030 package was agreed, with 40–27–27 targets[11] by 2030. All this is part of the process of the EU's transition to a low carbon economy in 2050, with the aim of reducing greenhouse gas emissions by 80%, compared to the 1990 level, in order to address the challenges of climate change.

Internal Energy Market

Integration of national energy markets into the internal energy market began

10 20-20-20 targets by 2020: 20% less Greenhouse Gas Emissions; 20% of renewable energy sources of the European Energy Mix and 20% more energy efficiency.

11 40-27-27 targets by 2030: 40% less Greenhouse Gas Emissions; 27% renewable energy sources in the European Energy Mix and 27% more energy efficiency

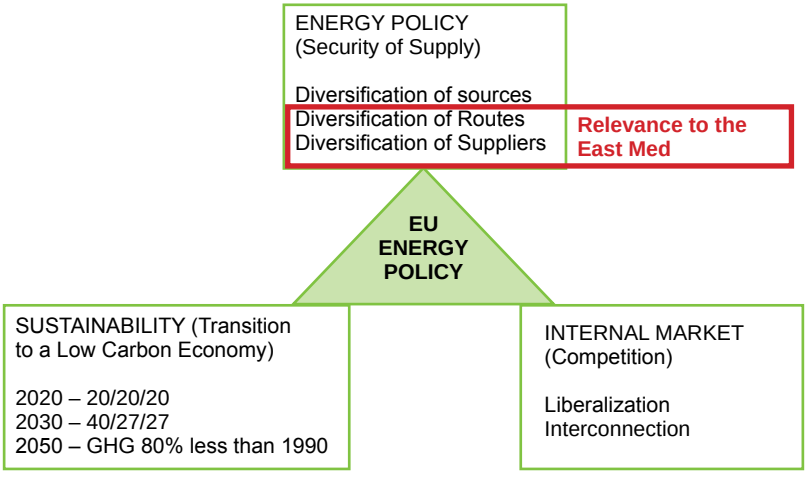
in 1990 with attempts to integrate gas and electricity markets. In 1996–98 the first gas and electricity directives were aimed at liberalizing the national energy markets. In 2003 a Second Energy Package opened the national borders of the EU Member States to gas and electricity trade.

The purpose of the current gas and electricity framework (Third Energy Package, which entered into force in 2009) is to further open gas and electricity markets in the EU. Another instrument for achieving the internal energy market comes in the form of physical interconnections between Member States. For instance, the target for interconnecting electricity by 2020 is 10%.[12]

Energy Security

European understanding of energy security is the security of energy supply (elaborated in Section II below). In the last ten years the notion of diversification became the leading component of European energy security strategy, in order to reduce energy dependence on Russia, the main exporter of energy sources to the EU. The 3Ds of European energy security are: diversification of energy sources, diversification of routes of supply, and diversification of suppliers. The last two are the most relevant to the potential of East Mediterranean gas supply.

Figure 3: EU Energy policy triangle and relevance to the Eastern Mediterranean



Source: Author's elaboration

12 European Commission (2015b): "Energy Union Package Communication: Achieving the 10% Electricity Interconnection Target: Making Europe's Electricity Grid Fit for 2020," COM(2015) 82 final, http://ec.europa.eu/priorities/energy-union/docs/interconnectors_en.pdf.

Section II: Energy Security

This section will present the theoretical framework of the concept of European energy security and European initiatives since the 1990s for enhancing energy security in Europe.

Theoretical Framework[13]

Understanding the theoretical approaches of the term is crucial for analyzing the concept of European energy security. According to Van Kruyt and co-writers, "the concept of energy security is widely used, yet there is no consensus on its precise interpretation."[14] Hadfield defines energy security as "a two-way condition in which actors strive to access 'sufficient energy resources at reasonable prices for the foreseeable future free from serious risk of major disruption of service'."[15]

According to the European Commission, energy security is "ensuring the uninterrupted physical availability of energy products on the market at an affordable price for all consumers, whilst respecting environmental concerns and looking towards sustainable development."[16]

Stern distinguishes between two major dimensions of energy risks.

- *short-term* supply availability versus *long-term* adequacy of supply and the infrastructure for delivering this supply to markets;
- *operational* security of gas markets, namely, daily and seasonal stresses and strains of extreme weather and other operational problems versus *strategic* security, namely, catastrophic failure of major supply sources and facilities.[17]

  Westphal adds two additional factors for energy security: diversification of origin of energy resources and transit.[18] Egenhofer and Behrens state that short-term risks could include supply shortages because of terrorist attacks, extreme weather conditions and technical problems. They present

13 Importers and exporters of energy sources have a different understanding of energy security concept. Importers want to secure supply, while exporters want to secure demand. This essay focuses on an analysis of security of supply, i.e., energy security for importers.

14 B. Van Kruyt, D.P. Vuuren, H.J.M. DeVries and H. Groenenberg H. (2009): "Indicators for Energy Security," *Energy Policy*, pp. 37, 2166–2181.

15 A. Hadfield (2008): "EU-Russia Energy Relations: Aggregation and Aggravation," *Journal of Contemporary European Studies* 16 (2): 231–248.

16 European Commission (2000): "Green Paper—Towards a European Strategy for the Security of Energy Supply, COM/2000/0769 final.

17 J. Stern (2002): "Security of European Natural Gas Supplies: The Impact of Import Dependence and Liberalization," Royal Institute of International Affairs, London, http://www.bgc.bg/upload_files/file/Security_of_Euro_Gas_.pdf.

18 K. Westphal (2008): "Germany and the EU - Russia Energy Dialog." In P. Aalto (ed.), *The EU-Russian Energy Dialogue: Europe's Future Energy Security*, Burlington: Ashgate, pp. 93–118.

a study demonstrating that it is less costly to prevent disturbances in energy supply than to deal with the circumstances of those disturbances.[19] Although the definitions are diversified, they have several common indicators: *availability of energy resources, reasonable prices, elimination of disruptions and long term stability.*

European Initiatives to Address the Energy Security Challenge

Since the 1990s the European Union has been addressing its energy security concerns through multiple initiatives and policies. These can be classified into two main conceptual approaches: 1) developing markets and international institutions; 2) a geopolitical approach. In the 1990s and early 2000s markets and institutions prevailed, but the 2006 and 2009 gas crises and further political tensions with Russia have led Europe to move to the geopolitical approach.

Markets and Institutions

1994—Energy Charter Treaty (ECT)

After the collapse of the USSR, Europe was concerned about declining energy sectors in New Independent States (NIS), especially Russia, with its energy reserves and supply to the EU.[20] The main aim of the treaty was to integrate energy sectors of NIS and East European countries with those of Western Europe, in order to enhance political and economic stability.[21] According to Sodupe and Benito, World Trade Organization (WTO) standards were incorporated into the treaty, which was intended to liberalize the energy trade and to give EU business more access to East European and Russian energy markets. Russia signed but did not ratify the ECT.

Since 2000—EU-Russia Energy Dialogue

The EU-Russia Energy Dialogue was launched on 30 October 2000 at the sixth Summit between Russia and the EU in Paris. According to Cleutinx and Piper, "the underlying objective was to construct an effective energy community

19 C. Egenhofer and A. Behrens (2008): "Energy Policy for Europe. Identifying the European Added-Value. CEPS Task Force Report," Centre for European Policy Studies, Brussels.

20 K. Sodupe and E. Benito (2011): "Pan-European Energy Co-operation: Opportunities, Limitations, and Security of Supply to the EU," *Journal of Common Market Studies* 39 (1): 165-177.

21 R.S. Axelrod (1996): "The European Energy Charter Treaty: Reality or Illusion?" *Energy Policy* 24 (6): 497–505.

between the EU and the Russian Federation."[22] Aalto and Westphal argue that the dialogue was initiated because Russia did not ratify the ECT, and the Commission needed a working energy framework with Russia.[23] The dialogue was helpful for resolving technical issues of cooperation but did not address political aspects. Nevertheless, the dialogue framework had some significant achievements, among them Russia's ratification of the Kyoto Protocol.[24]

2005—Energy Community Treaty

Given the limited scope of the Energy Charter Treaty, the EU and a number of third countries established a new energy community, the main purpose of which was to export the EU's energy *acquis communautaire* to neighboring countries (for example, adoption of the Third Energy package, described in the previous section). Like the Energy Charter Treaty, the Energy Community has limited scope, since Russia is not a part of it.

Geopolitical Approach—A Quest for Diversification

2000—Commission's Green Paper "Towards a European Strategy for the Security of Energy Supply"

The year 2000 was a turning point in Europe's energy security debate. Two important events took place. First, European Commission President Romano Prodi presented a plan under which gas imports from Russia were to be doubled from 120 bcm to 240 bcm a year by 2020, increasing the EU's energy dependency on Russia. Second, the Commission published its Green Paper "Towards a European Strategy for the Security of Energy Supply." The Commission understood that the change in the global energy situation and its impact on Europe's energy security derived from growing global demand and an increase in prices (European Commission, 2000). The paper focused mainly on the demand side as a strategy to reduce the risks of energy supply security, but did not give clear answers to rising energy security questions. The paper was written very cautiously and was aimed at starting a debate rather than proposing concrete solutions.[25] Therefore, the EU continued with other initiatives.

22 C. Cleutinx and J. Piper J. (2008): "The EU-Russia Energy Dialogue." In K. Barysch (ed.), *Pipelines, Politics and Power: The Future of EU-Russia Energy Relations*, London: Centre for European Reform, pp. 25–34.

23 P. Aalto and K. Westphal (2008): "Introduction." In Aalto, op. cit., pp. 1–22.

24 Cleutinx and Piper, op. cit.

25 Andoura, op. cit.

2006—Commission's Green Paper "A European Strategy for Sustainable, Competitive and Secure Energy"

The winter 2006 gas dispute between Russia and Ukraine accelerated the process of Europe's energy security debate and on 8 March 2006, the Commission presented the Green Paper "A European Strategy for Sustainable, Competitive and Secure Energy."[26] The paper discusses managing a coherent external energy policy, especially regarding Russia, "the EU's most important energy supplier," and diversification of EU's energy imports.[27] Diversification of energy supplies is a clear priority of the Green Paper. It talks about independent gas pipelines from the Middle East, North Africa and the Caspian region.

2015—Energy Union

The importance of the diversification of gas supplies was once again strongly emphasized in the Commission's *2014 European Energy Security Strategy* and the subsequent *2015 Energy Union Package Communication*, mentioning the Mediterranean as an important source of future gas supplies to Europe. Finally, in July 2015 the Council's conclusions in the European Energy Diplomacy Action Plan pointed out, for the first time, that the Eastern Mediterranean could be a potential source of gas supplies for Europe.[28]

To summarize, an analysis of the EU's energy security initiatives shows that from the mid-1990s to mid-2000s the approach focused on strengthening international markets and institutions of energy, with the objective of facilitating cooperation with energy suppliers, especially Russia. In the mid-2000s the approach gradually shifted to geopolitics, with a strong quest to diversify from Russia. To date, when EU-Russia relations have reached their lowest point, "the quest for diversification is more relevant than ever."[29] Hence, the recent findings of moderate amounts[30] of gas resources in the Eastern Mediterranean have attracted so much interest in the EU.

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26 European Commission: "Green Paper: A European Strategy for Sustainable, Competitive and Secure Energy," SEC, March 2006, p. 317.

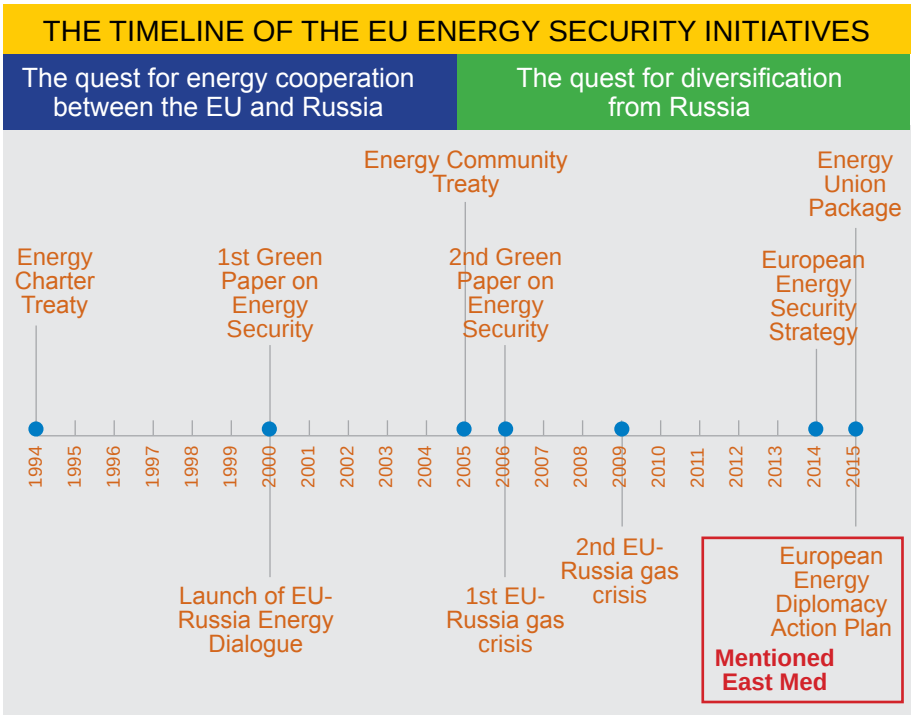
27 Ibid., p. 15.

28 Council of the European Union (Foreign Affairs) (2015): "Council Conclusions on Energy Diplomacy," 10995/15, http://data.consilium.europa.eu/doc/document/ST-10995-2015-INIT/en/pdf.

29 S. Matalucci: "European Funds for Mediterranean Gas Psychologically Important," *Natural Gas Europe*, 2 July 2015, http://www.naturalgaseurope.com/european-funds-for-middle-east-gas-psychologically-important-says-taranic-24448.

30 For information on gas reserve estimates in the Eastern Mediterranean, see, for example, Pascale de Micco (2014): "The Prospect of Eastern Mediterranean Gas Production: An Alternative Energy Supplier for the EU," http://www.europarl.europa.eu/RegData/etudes/briefing_note/join/2014/522339/EXPO-AFET_SP(2014)522339_EN.pdf.

Figure 4: Timeline of EU energy security initiatives since 1990s[31]



Source: Author's elaboration.

Section III: The EU and the Eastern Mediterranean

This section presents the process of the EU's changing attitude towards the East Med as a potential source of natural gas supplies; continues with an introduction to the Euro-Mediterranean Gas Platform; suggests further possible diplomatic initiatives by the EU; and gives a short overview of available EU financial instruments for influencing East Mediterranean energy developments.

31 An exact date of moving from cooperation with Russia to diversification from Russia cannot be given since it is a process; Figure 5 presents the date 2004 only in order to illustrate the process of the EU's changing energy relations approach to Russia.

2015—the Year of a Shift in Attitude towards the Eastern Mediterranean

In March 2014, the Director General for Energy at the European Commission, Dominique Ristori, said that it was too early to discuss possible gas supplies from the Eastern Mediterranean to the EU, for several reasons: political instability in the region, unclear gas reserves, regulatory uncertainty and others.[32] Since then not much has changed in the region, but the EU's attitude to potential East Med gas supplies has changed dramatically. As noted in the previous sections, the new Commission president has created the post of Commissioner for Energy Union, reinforcing the importance of an energy policy agenda in the next five years.

In February 2015 Maros Sefcovic, the new commissioner for Energy Union, presented his strategy for the Union, emphasizing the role of energy security and the importance of diversification. Following the conclusions of the July Energy Diplomacy Action Plan, a number of new diversification options for EU gas supplies were listed, among them the Eastern Mediterranean. Due to these changes in Brussels, in just a little more than a year the attractiveness of East Mediterranean gas has grown significantly in the eyes of EU policy makers.

First Step—Launch of the Euro-Mediterranean Gas Platform

Until recently, the US State Department played the main role in facilitating negotiations between the parties in the region regarding local gas deals, while the EU was an observer. In June 2015, Miguel Arias Canete, commissioner for Climate Action and Energy, launched the Euro-Mediterranean gas platform in the framework of the Union for the Mediterranean. The platform seeks to "deepen energy cooperation between the EU and South and East Mediterranean countries."[33] It is the first attempt of the EU to start playing a more important role in East Med energy policy making, and its impact and effectiveness still need to be measured in the upcoming months.

Further EU Diplomatic Efforts

Taliotis, De Boncourt and co-writers provide an excellent summary for a proposed gas infrastructure project in the East Med, in which we can see there are several countries with a direct interest in gas reserves already found

32 European Energy Policy Chair, lecture by D. Ristori, director general for energy, College of Europe, Bruges, 7 March 2014, https://www.coleurope.eu/events/european-energy-policy-chair-lecture-d-ristori-director-general-energy.

33 European Commission: *Commissioner Launches Euro-Mediterranean Gas Platform*, 6 November 2015 http://ec.europa.eu/energy/en/news/commissioner-launches-euro-mediterranean-gas-platform.

in Israel and Cyprus.[34] The economic viability and business rationale of the companies operating gas fields and importing gas will determine in which project infrastructure investments will be made. But in a region such as the Eastern Mediterranean and on such a highly politicized topic as natural gas, EU diplomatic involvement could have an important impact.

In fact, informal dialogue on East Mediterranean reserves is not new to Brussels. To name a few examples: The German Marshall Fund launched an East Mediterranean project in 2012 within which it frequently organizes events in Brussels with European and East Mediterranean stakeholders.[35] In 2013, the Belgian Ministry of Foreign Affairs initiated a high level expert dialogue in Brussels with representatives of the EU and East Mediterranean officials.[36] And that is to name just a few.

In a 2015 paper discussing a potential EU-Turkey strategic gas partnership, Tagliapietra and Zachman presented the idea of creating a strategic energy dialogue framework between the EU and Turkey, together with several task forces involving Central Asian countries.[37] A similar concept could be applied to the East Med, sending a strong and positive message to all parties, including potential investors. For example:

- EU-Israel-Egypt Task Force, and
- EU-Turkey-Israel-Cyprus Task Force_

This suggestion is also in line with the Energy Diplomacy Action Plan, among others, aimed at establishing and further developing energy cooperation and dialogue, especially in EU neighboring countries.[38]

EU Financial Instruments Available for East Med Energy Projects

The EU can have a significant financial impact. Potential investors in East Med gas fields and infrastructure are seeking buyers for gas and funds for financing infrastructure. European institutions do not buy natural gas or build pipelines and LNG terminals; private companies do that. But the Commission is able to send a strong message to investors by including projects in the region in its list of Projects of Common Interest (PCIs),[39] which may benefit from access to

34 C. Taliotis, M De Boncourt, et al. (2015): "East-Mediterranean Gas Potential: Opportunities and Barriers: Insight_E," http://www.insightenergy.org/system/publications/files/000/000/012/original/HET_7_Final.pdf?1433509207.

35 German Marshall Fund (2015): "Eastern Mediterranean Energy Project," http://www.gmfus.org/forum/eastern-mediterranean-energy-project.

36 S. Andoura and D. Koranyi D. (2014): "Introduction." In S. Andoura and D. Koranyi (eds), *Energy in the Eastern Mediterranean: Promise or Peril?* Gent: Academia Press, pp. 3–8.

37 S. Tagliapietra and G. Zachman (2015): "Designing a New EU-Turkey Strategic Gas Partnership," Bruegel Policy Contribution, http://bruegel.org/wp-content/uploads/imported/publications/pc_2015_10-_01.pdf.

38 Council of the European Union (Foreign Affairs), op. cit.

39 Matalucci, op cit.

financial support, improved regulatory conditions and accelerated licensing procedures.[40]

The Energy Diplomacy Action Plan has a provision for assistance in funding energy infrastructure projects, using relevant EU financial instruments presented in Giamouridis and Tsafos[41]:

- Facility for Euro-Mediterranean Investment and Partnership (FEMIP)
- European Fund for Strategic Investments (EFSI)
- European Investment Bank (EIB)
- European Bank for Reconstruction and Development (EBRD)[42]
- Connecting Europe Facility (CEF)

Overall these public financing mechanisms could reach hundreds of millions to several billion Euros in loans and guarantees.

Summing up, a combination of EU diplomatic efforts and European financial mechanisms has the potential to increase significantly the EU's impact on East Med energy developments.

Conclusions

A few years ago it would have been difficult to predict that relatively modest East Mediterranean gas reserves would attract so much attention in Brussels. Two main developments led to an intense policy debate on the East Med. First, continuous diplomatic tensions with Russia reinforced the European quest for diversification from Russian gas supplies. Second, internal changes in the structure of the European Commission and introduction of the post of Commissioner for Energy Union triggered the publication of an Energy Union Package Communication and Energy Diplomacy Action Plan, emphasizing the role of energy security and mentioning the East Med as a potential natural gas supplier to Europe. As a first step to strengthening its role in energy developments in the East Med region, the EU launched a Euro-Mediterranean gas platform in the framework of the Union for the Mediterranean in order to facilitate the debate among parties. The European Council's endorsement of the Energy Diplomacy Action Plan has given the European Commission a solid framework for intensifying its diplomatic efforts and utilizing relevant financial mechanisms. These changes in Brussels might start having an impact on East Mediterranean energy developments in the coming months and later.

40 European Commission (2015c): "Projects of Common Interest," https://ec.europa.eu/energy/en/topics/infrastructure/projects-common-interest.

41 A. Giamouridis and N. Tsafos (2015): "Financing Gas Projects in the Eastern Mediterranean," German Marshall Fund, http://www.gmfus.org/publications/financing-gas-projects-eastern-mediterranean.

42 EBRD includes Cyprus, Egypt and Jordan, but not Israel.

X. Contributors

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Thanos P. Dokos received his Ph.D. in International Relations from Cambridge University and has held research posts at the Hessische Stiftung Friedens und Konfliktforschung (1989-90) and the Center for Science and International Affairs (CSIA) at Harvard University (1990-91). He served as Director for Research, Strategic Studies Division, Hellenic Ministry of National Defence (1996-98) and as an advisor on NATO issues to the Ministry of Foreign Affairs (1998-1999). He was a NATO research fellow, 1996-98. He is currently Director-General of ELIAMEP. He has taught at the Universities of Athens and Piraeus, the Hellenic National Defence College, the Diplomatic Academy and the Hellenic National Security School. His research interests include global trends, international security, Greek-Turkish relations and Mediterranean security.

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Sergio Matalucci is a journalist who works mainly for the Natural Gas Europe website. His focus is on the geopolitical dimension of the gas industry. Before joining Natural Gas Europe he worked for Reuters Italy, in the General News

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SHAUL ZEMACH

Shaul Zemach served as Director General of the Israeli Ministry of National Infrastructure, Energy and Water Resources from 2009 to 2013. Prior to his appointment, he served as Director-General of the Israeli Ministry of Tourism. In 2011, after discoveries of significant natural gas resources in Israel, Mr. Zemach was appointed by the prime minister and the minister of energy as chairman of an inter-ministerial committee set up to examine government policy on the natural gas industry in Israel (known as the [T] Zemach Committee). The Committee submitted its final report to the prime minister in 2012 and the recommended policy was approved by the Cabinet in June 2013. Mr. Zemach began his career in 1994 at the Ministry of Finance and served in various positions at the office, among others, as coordinator for Macroeconomics and the State Budget, as well as head of Energy and National Infrastructures in the Budget Department.

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The Eastern Mediterranean and the Middle East have increasingly become a primary focus of interest both in Europe as well as in the global arena. Recent developments in the field of energy following the discovery of significant hydrocarbon reserves in the Eastern Mediterranean have bolstered the importance of this sub-region as a factor to be reckoned with in terms of a new balance of power in the Middle East. Against this background, the volume at hand analyzes the conditions under which energy reserves in the Eastern Mediterranean could serve to boost cooperation and peace or, on the contrary, would further complicate existing conflicts. Special emphasis is placed on the significance of these developments for European energy security and the effect on the relationship of the countries of this region to the European Union.

This volume brings together the contributions of internationally renowned scholars and experts in the field: Thanos Dokos, Director-General of ELIAMEP in Athens; Ariel Ezrahi, Energy Adviser at the Office of the Quartet Representative (OQR); Tony Blair; Sergio Matalucci, journalist at Natural Gas Europe; Jörn Richert, Professor for Energy Governance at the University of St. Gallen; Simone Tagliapietra, from the Brussels-based think tank Bruegel; Igor Taranic, Researcher at the Centre for European Policy Studies in Brussels; Theodoros Tsakiris, Assistant Professor at the University of Nicosia and member of the Board of Directors of the Cyprus Hydrocarbon Company; Shaul Zemach, former Director General of the Israeli Ministry of National Infrastructure, Energy and Water Resources.

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