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Connecting Greece and Cyprus; How Feasible, how Viable?

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2018

Online at https://mpra.ub.uni-muenchen.de/106996/
MPRA Paper No. 106996, posted 07 Apr 2021 01:30 UTC
The South-East Energy Corridor Connecting Greece and Cyprus; How Feasible, how Viable?

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Abstract:

The aim of this paper is to investigate both the feasibility and the viability of the prospective South-East Energy Corridor and the cumulative effects for the region and the countries involved. In less than a decade the Southeastern Mediterranean is at the center of the global oil industry's concern by shaping new geopolitical balances due to new potential reserves in the EEZ's of Cyprus, Israel and Egypt. The paper focuses on the positive effects from the development of a South-East Energy Corridor that directly connects the East Mediterranean resources to Greece via Cyprus and Crete with both short term and long term benefits. This is translated into returning of the lost Markets’ trust, especially in a region that has been under European financial supervision in the previous years, as it refers to Greece and Cyprus. In the long term, the Project will enable the development of an Energy Cluster in the South-East Europe targeting at the exploitation of natural resources, providing geopolitical sustainability at the same time.

Key Words: Cyprus, Greece, Energy Corridors, Pipeline Networks, East-Med Project, LNG Terminals

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1. Introduction

Energy has always been a key component of enhancing European sustainability and welfare. Since 2008, global economy has entered into a new era of economic -in-stability, where globalisation faces protectionism and transnational relations are tested while, in Europe, a new factor called Energy Geopolitics is emerging.

The region of the South-East Mediterranean holds the lion’s share of world interest as recently potential gas deposits in the Levantine Basin came into light. Under this scope, different Energy Policies come to the forefront as there is a vast necessity to ensure Europe’s energy independence in turbulent times. Europe needs to adopt a steady geopolitical direction that would pave the way in this new era by reducing its energy dependence from Russia.

In the forthcoming lines, the most important components of the existing European pipeline network are being analysed. The promotion of a specific South-East Energy Corridor that connects Greece and Cyprus in terms of economic and geopolitical feasibility is also highlighted, as European Union seeks to enhance its gas security of supply by implementing a strategy of diversification of counterparts, routes and sources.

A South-East Energy Corridor may create conflicted interests in the region -that should be seriously taken into account- but, long term benefits for all the stakeholders involved are being accumulated. The South-East Mediterranean could become a major global energy hub supported by a Creek-Cypriot Maritime Cluster in terms of transportation. In order for all the above to become reality, the region must attract investments and provide incentives for energy companies through a flexible and friendly business framework.

2. The European Energy Sector

2.1 Facts and Figures

For the fiscal year of 2015, European Union holds 12.4% of the world’s energy consumption, reaching almost 1631 million tons. Moreover, in order to support its heavy industry, EU adopts a diversified energy policy that includes the use of oil, natural gas, coal, nuclear energy, hydroelectricity and renewable energy -biofuels etc.

Oil and natural gas account for 59% of energy consumption in Europe (BP Statistical Review of World Energy 2016). It needs to be pointed out
though, that EU’s energy consumption levels have been declined in the last decade by 10.4%, due to certain reasons, such as the economic recession, supply disruptions of Russian gas but most importantly, due to the increasing share of renewables in power generation and also hydroelectricity. European Union’s change of direction towards Green Energy Projects is clearly depicted.

Global economy seems to enter in a recovery mode period and European Economy follows. The global GDP growth for 2015 stands at 2.5% and European GDP growth for the same year stands at 2% respectively (UNCTAD Review of Maritime Transport 2016). As a result it should be highlighted that in the last couple of years, EU’s energy consumption levels are again on the rise, by achieving a 1.6% growth on a year-to-year basis.

Table 2. EU’s Energy Consumption Levels 2014 vs 2015 (in mil tonnes)

<table>
<thead>
<tr>
<th>Type of fuel</th>
<th>2014</th>
<th>2015</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>591.2</td>
<td>600.2</td>
<td>+1.5%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>346</td>
<td>361.9</td>
<td>+4.6%</td>
</tr>
<tr>
<td>Renewables</td>
<td>118.3</td>
<td>136</td>
<td>+14.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1605.7</strong></td>
<td><strong>1630.9</strong></td>
<td><strong>+1.6%</strong></td>
</tr>
</tbody>
</table>


2.2 European Gas Demand

Gas is an essential component of the energy mix of the European Union by constituting 22% of primary energy consumption and contributes mainly to electricity generation, heating and fuel for industry and transportation (Hafner and Tagliapetta 2013). European gas demand have plunged from a peak of almost 500 bcm in 2010, to 384.5 bcm in 2014 but, in 2015 performed better, at 402.1 cbm. As far as the short term outlook is concerned, gas for power in Europe seems to be in a modest process, based on the economic recovery of the Union.

Despite the current difficulties, many analysts project that from 2020 onwards gas can well make a comeback in European Union’s energy needs. The consecutive shutdowns of coal plants and the optimization of drilling costs - in contrast with a decade earlier- bring natural gas on the forefront. Moreover, gas might well play an increasing role in the transportation sector, as a fuel for trucks and vessels (LNG).
EU holds only 0.7% of world total proved gas reserves. If the analysis process into a wider region - Eurasia for example holds 30.4% of world proven gas reserves - it comes as no surprise that Europe targets on specific regions in its eastern borders in order to ensure the replacement of its energy deficit.

In 2015, European Union’s natural gas trade movements that took place by pipeline stood at 401.4 bcm (88% market share) while the LNG imports -via LNG vessels- stood at 55 bcm (12% market share). EU’s natural gas imports via pipelines, mainly from Russia and Norway, accounted for 160 bcm and 110 bcm respectively, while in terms of LNG imports, Qatar supplied 27.8 bcm and Algeria 13.1 bcm.

This high level of dependency on a small number of -external- suppliers has generated a broad debate over the years in Europe on the issue of gas supply security (Pelaghias 2012). Actually, in 2008 the EU launched a strategic plan about the diversification of gas supplies, by taking into deep consideration the new status-quo that emerged after consecutive natural gas crises -2006 and 2009- caused by Russian-Ukrainian disagreements about pricing, that affected the reputation of Russia as reliable supplier of Europe.

3. Existing and Future Pipeline Networks in Europe’s Eastern Territory

Natural gas supply to Europe is currently taking place through four pipeline networks:

- The “Nord Stream Project” (transitted 23,8 bcm in 2013)
- The “Yamal-Europe” through Belarus (transitted 37,4 bcm in 2013)
- The “Blue Stream Project” (transitted 14,7 bcm in 2013) and,
- The “Urengoy-Uzhgorod” through Ukraine (transmitted 83,9 bcm in 2013)

Gazprom intends to abandon gas supplies to Europe through Ukraine after 2018 and the “Urengoy-Uzhgorod” Project that now holds 51% of gas supply through pipelines to Europe, must somehow be replaced by other forthcoming projects (Tass Russian News Agency 2017). For example, Russia promotes the “Turkish Stream Project” -ex. South Stream-, a pipeline that will transfer gas from Russia to Turkey’s Eastern Thrace with a capacity of 64 bn cbm per annum. Then, the EU should construct the rest of the pipelines network by itself. Moreover, five european energy companies have recently signed financing agreements with Gazprom about the “Nord Stream
2 Project” (Muller 2017), a 1.2 km pipeline that would transfer 55 bcm of Russian Gas through Baltic Sea, to Germany. The total cost of the Project is estimated at 9.5 bn $.

At this point a question raises and has to do about whether EU trully wishes a change in its energy policy direction towards new potential gas reserves in SouthEast Mediterranean, instead of Russian gas supplies (Tagliapietra 2016: 90-108).

TANAP & TAP Pipeline Projects

Another pipeline network which is proved to be competitive to a South-East Energy Corridor is the over-promoted “Trans-Anatolian Natural Gas Pipeline -TANAP” that would transit gas from Ajerbaijan’s eastern edge of the Caspian Sea -Shah-Deniz field- to Italy’s southeastern shore, connected with Greece’s “Trans Adriatic Pipeline -TAP” (Barden 2014). Ongoing operations to build TANAP, are to be completed by 2019 and will cost roughly $10 billion. The 2.000 km long pipeline will have a carrying capacity of 16 bcm per year, of which 6 bcm will be consumed by Turkish consumers and the rest, about 10 bcm, will be delivered to European countries via TAP. At a second stage, TANAP is planned to increase deliveries up to 24 bcm.

As it refers to Trans Adriatic Pipeline, this project was also selected by the Shah Deniz consortium in order to carry gas to Europe from Turkey’s western border. The pipeline is designed with an initial transport capacity of 10 bcm annually, having a combined length of 682 km onshore and 105 km offshore. It is estimated that the construction cost of the pipeline will be about $5.3 billion (Liaggou 2016).

Balkan Interconnectors

Bulgaria, Romania and Serbia plan to expand their gas infrastructures, especially, gas interconnectors, in order to avoid future gas disruptions and increase their energy security. The region will be supplied with new natural gas quantities transited from the TAP pipeline or other forthcoming projects such as floating LNG terminals -FSRU- in Northern Greece. The Production/Consumption Index of the Region stands at 19%, as the region is a major gas importer (Sofianos and Stambolis 2015).
4. Feasibility of a South-East Energy Corridor in Europe

European Union strongly promotes the enhancement of its Internal Energy Market in order to foster natural gas flows between EU member states, but most specifically it studies the promotion of a South East Gas Corridor, based on potential resources of the Eastern Mediterranean Region.

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” (European Commission 2008). In this document the South-East Gas Corridor is recognized as one of the EU’s highest energy security priorities in order for the EU to enhance its supplies via diversification of counterparts, routes and resources.

In 2009, Noble Energy Inc. discovered the first major gas deposit in the EEZ of Israel and in less than a decade the Southeastern Mediterranean is at the center of the global oil industry’s concern by shaping new geopolitical balances. But, in the years followed, the drilling operations that took place in certain fields -Aphrodite, Leviathan and others- did not reveal a sufficient amount of reserves that would ensure a steady gas supply to Europe.

In 2017, as global oil prices are on the rise and the drilling technology has been updated in a cost-saving direction, the South-East Mediterranean Region draws again the attention of the major energy players like Total, Statoil, ENI, Exxon Mobil, BP, Rosneft and Qatargas in the light of new potential reserves in the EEZ’s of Cyprus, Israel and Egypt (Bliss 2017).

The promotion of a South-Eastern Mediterranean Gas Corridor faces great competition from the aforementioned pipelines network (De Micco 2014: 21-23).

4.1 The EastMed Project

The Eastern Mediterranean (EastMed) pipeline project refers to the construction of an offshore/onshore natural gas pipeline that connects directly Eastern Mediterranean gas resources of Cyprus and Israel to Western Greece via Cyprus and Crete. The fulfillment of the Project demands the additional construction of “The Poseidon Pipeline” that will connect Epirus Region (North Ionian Sea) with the Italian Region of Otranto. The project is being currently designed to transport up to 16 bcm annually, through 1,300 km of offshore pipeline and 600 km of onshore pipeline (Baconi 2017).

In May 2015, the European Commission declared the EastMed Pipeline as a Project of Common Interest –PCI- included in the second PCI
list among other Southern Gas Corridor Projects (European Commission 2015). There is an ongoing feasibility study about technical and commercial issues of the Project which is going to be realised at the end of 2017 (European Commission 2016). The Project was also awarded in 2015 with European grants of 2 million euros.

4.1.1 Contribution of an EastMed Pipeline

It could be clearly stated that EastMed’s Project viability exclusively refers to joint exploitation of gas reserves of Israel -Leviathan 476 bcm- and Cyprus -Aphrodite 165 bcm- in the Levantine basin. If new massive deposits will be explored during 2017 operations, then a variety of export options could be implemented in order to create a reliable and safe transmission network, capable of meeting part of Europe’s current and future needs.

The construction of an EastMed pipeline enhances European security of gas supply, in terms of developing EU’s indigenous resources. Greece and Cyprus are devoted to the principles of EU, consisting important pillars that provide sustainability in a very fragile region -political unrest in Turkey, Syria Civil War etc.

Furthermore, the EastMed pipeline provides confidence about the initial capital investment needed for the Project to become operational. It is common sense that the majority of big energy companies’ stakeholders and certain political leaderships through Europe, under no occasion want to see Turkey’s conversion into a major energy hub and Europe’s energy needs to be determined by Mr. Erdogan’s wills (Ellis 2017).

New transnational energy cooperations arise in terms of EastMed interconnections with other pipelines. For example, a new LNG terminal is being promoted in the port of Crotone in SE Italy, the first in the region, that will boost the local steel industries. This latest development is part of a huge European Plan for gas promotion in South Italy.

Potential reserves in Southern Crete and Western Greece (Mavromatidis 2011) have drawn the attention of major energy companies like Exxon Mobil, ELPE and Energean Oil/Gas by signing offshore licensing rounds about drilling explorations in Western Greece (Liagkou 2017). In particular, Total, one of the top-6 energy companies worldwide has entered into an exploration agreement about Block 2, west of the island of Kerkysina in cooperation with the Italian Eni, and other explorations are going to follow in Block 10 in NW Peloponnisos. Drilling operations will start at the end of 2018.
It needs to be mentioned that from the twenty potential blocks of Greece’s EEZ available for drilling operations, nine of them are included in the southern region of Crete (Maniatis 2014). According to Spectrum’s report in cooperation with Greek geophysical company ION, the estimated value of the reserves between Libya and Crete, reaches $ 600 bn (Konofagos and Fokianou 2017).

All things considered, 2017 is a milestone year as the interest of major energy companies for the region has been revived. If giant gas deposits are discovered in the aforementioned fields, the EastMed pipeline will be more feasible than ever as Greece will not only become a major energy hub but also, an important producer in SouthEast Europe. In the long term, higher production volumes from Greece may provide EU the appropriate incentives to be disengaged from Russian Energy.

4.1.2 Steps to be taken in order for the EastMed Pipeline to become Viable

The cost of constructing EastMed Pipeline is the main obstacle that needs to be overcome by the involved stakeholders. The project demands a high capital investment of about $ 4-6 billion due to certain technical challenges such as the unprecedented depth of 3 km in Southern Crete that the pipeline must reach. High infrastructure costs would jeopardize the final gas prices that will have to rival the cheaper Russian gas, creating a very challenging condition (Tsakiris 2014;15).

At this point, the contribution of EU is crucial. European Investment Bank –EIB- is the most important source of financing the promotion of strategic infrastructures. In 2014, the EIB disbursed almost $77 billion of which $12.8 billion went towards energy projects, representing 16.6% of EIB’s portfolio (Giamouridis and Tsafos 2015: 9-14). It should be highlighted that there is huge potential for EIB to raise the share of financing energy projects in order to draw the attention of other private investors.

EastMed Project faces competition from many similar existing or planned energy projects. It is of massive importance for the beneficiary countries to proceed in joint efforts promoting the project. Therefore, in April 2017 Israel, Greece, Cyprus and Italy signed a preliminary agreement (EURACTIV 2017) to commence preparations for the construction of the pipeline that is hoped to be completed by 2025. Stakeholders support that EastMed Pipeline is a project that unites, as Cyprus and Israel are very reliable suppliers and this is the main reason why it must be supported by all the members of the European Union.
Elimination of bureaucracy, especially in Greece, must be addressed by creating a friendly and safe investment environment (Mathios 2015), with the minimum requisite state control and short term offshore licensing rounds. For example, a licencing round in Greece may last two and a half to three years while in Cyprus it is completed in nine months. The Cypriot method tends to be profitable, as Cyprus in May received 103,5 mil euros from signature bonuses with major energy companies.

Strengthening of Greece’s diplomatic stance towards a re-approchement with Israel, in order to convince its interlocutors about the cumulative economic effects stemmed from the operation of East Med, instead of Israel’s official preference of building an underwater pipeline that will transfer gas to Turkey (Nasi 2017).

Finally, an aspect that must be addressed by the EU has to do with Turkey’s ambitions (Richert 2016: 47-63) in the region southwest of Cyprus, as it was recently addressed to the UN (Ignatiou 2017). According to Ioannis Kasoulidis, Cypriot Minister of Foreign Affairs, Turkey should understand the energy interests of oil major companies in the region (Kasoulidis 2017). In any case, Europe must pave the way towards a mutual compromise between the involved countries and Turkey, as it refers to energy interests.

4.2 Alternative Benefits of a SouthEast Energy Corridor; Operation of LNG Plants between Greece and Cyprus

In 2010 Noble Energy and Israel’s energy company Delek proposed the construction of underwater pipelines linking Leviathan gas deposits and those in Aphrodite’s field with Vassilikos LNG plant, a terminal with annual capacity of 6.8 bcm annually (Cypriot Ministry of Energy 2015). The above in combination with Revythousa LNG Terminal -5.2 bcm capacity annually- and the construction of a Floating LNG Terminal –FSRU- promoted by Gastrade in Alexandroupolis (Reuters 2015), having an annual capacity of 6.1 bcm and in close proximity to the national pipeline network (Dokos 2016: 39), creates a huge potential for establishing a Greek-Cypriot Maritime Cluster.

If the new round of drilling operations during 2017 reveals new massive gas reserves in Greek and Cypriot fields, parallel exports of natural gas -via pipelines or LNG vessels- should not be excluded. In such a case, there is strong fundamental as Greece operates the 3rd largest fleet of LNG vessels in terms of capacity and the 2nd most expensive in the world with a value of $ 9.3 bn (Bellos 2016). The Greek LNG fleet is consisted of 87 vessels -16% of global fleet- with an average transferring capacity of 130,000
bcm per vessel, while the global fleet accounts for 532 units. On the other hand, Cyprus plays a prominent role as a leading shipping and shipmanagement centre and will continue to strengthen its position in the world economy by providing a sound maritime infrastructure, favourable tax regime and competitive ship registration and annual tonnage tax rates (PWC 2013).

Regional gas exports on a steady basis -via LNG vessels- could provide the Greek-Cypriot Maritime Cluster with robust cash flows and the national economies with financial stability (Coats 2014). Concerns about competition from other nearby exporting nations in terms of LNG pricing remain unfounded, as the anticipated massive gas deposits -if proven- could produce economies of scale that could lower production costs in the long term.

In such a case, the region of South-East Mediterranean could provide more LNG bunkering spots as LNG is the marine fuel of the future (Chiotopoulos 2016).

4.3 The Potentials of a South-East Energy Corridor in Europe

The establishment of a South-Energy Corridor in Europe -via a pipeline that connects Israel, Cyprus, Greece and Italy, or via the creation of a regional LNG terminals network supported by vessels- is of high importance. First of all, the successful operation of such a Project could mean the return of lost Markets’ trust, especially in a region that has been under European financial supervision in the previous years. Strengthening of the local economies in terms of supporting entrepreneurship, reducing high
unemployment rates and skilled workforce are only some of the medium term benefits (Giamouridis 2013: 9-15). The development of the domestic gas market in Cyprus and Greece could generate thousands of jobs especially during the construction phase of the import infrastructure and the national and regional distribution network of pipelines.

As it refers to Cyprus, according to the latest IMF Report (2017) about the first Post-Program Monitoring, the country’s economy grows steadily by 2.5% but, structural reforming and attracting investments must go on in order for Cyprus to adopt a steady development phase. The combined profits for Cyprus and Greece from the direct sales of gas to regional markets could generate several billion of euros on a long term basis -10 years- as most of the profits will come from savings and investment on gas infrastructures (Tsakiris 2017; 28).

Attracting investors is another important element; as the global energy market remains unstable with modest global energy prices (for both gas and oil), appetite from international energy companies in investing in gas projects is negatively affected. Finally, the feasibility of a South-East Energy Corridor lies in the number of potential buyers that could be found or, the number of long term contracts that could be signed, providing a steady demand flow and ensure certain production levels that would support the return on investment in the medium term, for the energy companies involved.

5. Conclusion

Natural Gas is the fastest growing form of primary energy worldwide, a very important element, especially if we take into account the efforts taken to reduce global emissions. A South-East Gas Corridor might not be EU’s top priority right now, but sustained engagement at this early stage could yield fruitful results in the future. Such a project changes geopolitical stability and strengthens the status quo among the involved countries as the European market represents the best option for East Mediterranean gas.

In order to achieve this transition into a new era in terms of Energy, irrational exuberance of the past must be replaced by a new pragmatic approach as it refers to the feasibility of any potential resources. This is translated into a solid energy plan for all the countries involved; based on the region’s potentials and the promotion of the best possible solution that reassures EU independence in natural gas supplies. On the political level, the proposed EastMed Pipeline project is receiving a continuous and growing
support by the Governments of Greece, Italy, Cyprus and Israel as well as the European Commission.

Finally, certain obstacles that have to do with territorial or maritime disputes between nations, must be addressed wisely on a diplomatic level, as the current need of mutual concessions is more critical than ever. East Mediterranean region is being given the opportunity to exploit and commerce important volumes of gas deposits; any reckless action would jeopardize all the attempts that have already taken place and it will end the chapter of Energy in the East Mediterranean at least for the decades to come.

References


