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# SEE ENERGY BRIEF:

## Monthly Analysis

### Is the Future of the East Med Gas Pipeline at Stake?



# Introduction

At a time when discussion on Europe’s energy future is monopolized by the Green Deal and the new ambitious targets for lowering greenhouse gas emissions and hydrocarbons are considered anathema, a big question mark hangs over the future of big gas infrastructure projects such as the East Med. Hence, in the present analysis, we are trying to ascertain whether and under what conditions this gigantic project stands any chance of actually being built, given its importance in terms of security of supply and strengthening of regional gas transmission network.

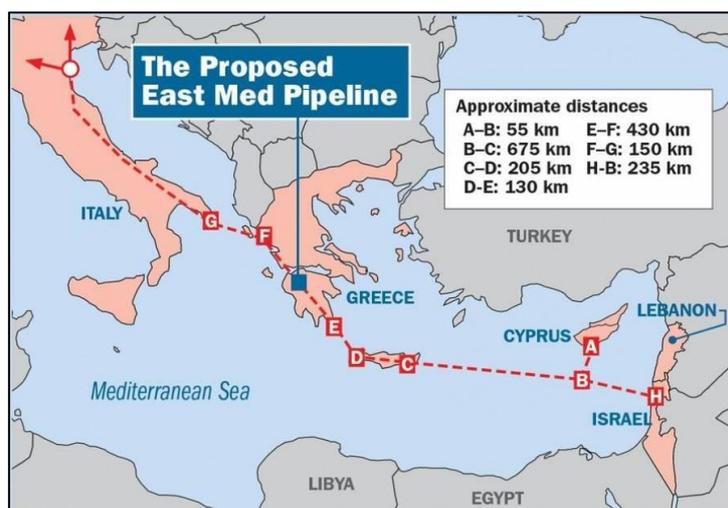
On March 9, 2021, Greek-Italian gas joint venture IGI Poseidon signed an agreement with state-owned Israel Natural Gas Lines Company in order to cooperate on building facilities to connect Israel to the planned East Med gas pipeline (1). Last year, Greece, Cyprus and Israel signed a deal to build the East Med gas pipeline, which has been in the planning for several years and seeks to transport gas from offshore Israel and Cyprus to Greece and Italy in order to help Europe diversify its energy resources.

More specifically, IGI Poseidon, a joint venture between Greece’s state-owned gas utility DEPA and Italy’s Edison, said that the agreement with the Israeli company, which updates a 2019 memorandum of understanding, aims to connect the East Med project to the Israeli transmission system and facilitate gas flows from the Eastern Mediterranean to Italy and Europe, via Cyprus. The two parties will cooperate on planning and licensing the necessary facilities in Israel for the East Med, IGI Poseidon said in a statement.

# About the Project

As shown in Map 1, the East Med pipeline project relates to an offshore/onshore natural gas pipeline, directly connecting East Mediterranean resources to Greece via Cyprus and Crete that could: (i) enhance Europe’s gas security of supply via diversification of counterparts, routes and sources, (ii) develop EU indigenous resources such as the offshore gas reserves around Cyprus and Greece and (iii) promote the development of a South Mediterranean gas trading hub.

**Map 1 – The East Med Pipeline**



Source: IGI Poseidon

The project is currently designed to transport initially 10 bcm per year from the offshore gas reserves in the Levantine Basin (Cyprus and Israel) into Greece and in conjunction with the Poseidon and the Interconnector Greece-Bulgaria (IGB) pipelines into Italy and other SE European countries, as shown in Map 2. Furthermore, the pipeline would feed Cyprus’s internal consumption with additional 1 bcm/y.

**Map 2 – The East Med, IGI Poseidon and IGB Gas Pipelines**



*Source: Edison*

The current design of the East Med project envisages a 1,245 km offshore pipeline and a 635 km onshore pipeline. The pipeline starts from the new gas discoveries in the East Mediterranean region and comprises the following sections:

- about 290 km offshore pipeline stretching from Eastern Mediterranean sources to Cyprus;
- about 730 km offshore pipeline connecting Cyprus to Crete Island;
- about 335 km offshore and onshore pipelines from Crete to mainland Greece (Peloponnese);
- about 430 km onshore pipeline crossing Peloponnese and West Greece

The East Med pipeline is preliminarily designed to have exit points in Cyprus, Crete, mainland Greece as well as the connection point with the Poseidon pipeline.

In 2015, with the support of the Cypriot, Greek and Italian governments and as a result of the benefits that the project will bring to Europe, the East Med pipeline had been confirmed as Project of Common Interest (PCI), being also included by the EU Commission in the latest PCI list of October 30, 2019. In addition, the East Med project has been included in the last Ten-Year Network Development Plan (TYNDP), in line with the objective of the European Network Transportation System Operators of Gas (ENTSO-G) to create a single European market for gas and a reliable and safe transmission network capable of meeting Europe’s current and future needs.

In 2015, the project had been awarded with European grants of €2 million through the Connecting Europe Facility (CEF) programme, necessary for the co-finance of the Pre-FEED activities. In April 2017, during the Ministerial Summit held in Tel Aviv, in the presence of European Commissioner Miguel Arias Canete, the Energy Ministers of Italy, Greece, Cyprus and Israel signed a Joint Declaration to reaffirm their support to the swift implementation of the project.

On January 2, 2020, an Intergovernmental Agreement between Greece-Cyprus-Israel was signed in Athens for the implementation of the aforementioned project. Italy, which was absent in the ceremony, through the Italian Minister for Economic Development, sent a letter to the Greek Minister for Environment and Energy, according to which Italy supports the project in the context of the European PCIs.

Again, on January 2, 2020, Energean and DEPA signed a Letter of Intent for the sale and purchase of 2 bcm of natural gas per year (corresponding to 20% of the pipeline's initial capacity) from Energean's fields (Karish and Tanin, via the FPSO "Energean Power") in Israel's Exclusive Economic Zone. On March 3, 2020, a Joint Ministerial Decision was issued approving the commencement of the licencing procedure for the East Med pipeline and especially for the Greek onshore section of the pipeline. The licencing procedure is expected to be completed by the fourth quarter of 2021, so that the implementation of the East Med pipeline can begin then, while it is expected to be completed by 2026 (2).

On April 29, 2020, IGI Poseidon issued a call for the preliminary construction activities for the East Med pipeline, with a total cost of €2.4 billion before tax and €2.97 billion after tax. More specifically, the activities concern the detailed engineering design, procurement, construction, transport, installation and pre-commissioning (EPCI) of the pipeline's offshore sections. This call for tenders concerns the first stage of the East Med pipeline, which is planned to transport 10 bcm/year plus 1 bcm for Cyprus, and will be completed with the selection of two contractors. The design and development of the first stage takes into account all research and development activities, including the related pre-investment, on the basis of a possible increase of the pipeline's capacity to 20 bcm/year at a later stage.

The draft law for the Intergovernmental Agreement on the East Med pipeline was submitted to Parliament on May 4, 2020, after the licencing process for the project had commenced in Greece and a call for tenders had been issued for the main parts of the final feasibility study prepared by the entity undertaking the project, IGI Poseidon. The Intergovernmental Agreement for the construction of the pipeline was ratified by the Greek Parliament on May 14, 2020.

On March 9, 2021, the member states of the East Mediterranean Gas Forum (EMGF) accepted the arrival of France in their midst and the United States as a permanent observer. Based in Cairo and chaired by Egypt, the EMGF was born on September 27, 2019, in the Egyptian capital, but is operational only since January 16, 2020. It included at its inception Egypt, Cyprus, Greece, Israel, Italy and Jordan represented by their Ministers of Energy. Palestine has since joined this group. So has France from now on. Paris had officially presented its candidacy in January 2020. The United States, like the European Union and the United Arab Emirates, has only permanent observer status. The EMGF aims to become a platform bringing together gas producers, consumers and transit countries to create and stimulate a regional gas market, optimize resource development, reduce infrastructure costs, offer competitive prices and improve trade relations. On September 22, 2020, the EMGF was officially turned into a regional organization and East Med gas pipeline is a project that is actively promoted by its parties.

Support for the East Med pipeline is growing in numbers, with an initial Greek-Israeli-Cypriot alliance promoting this project now joined by five additional countries, i.e. Bulgaria, Romania, Hungary, Serbia and North Macedonia. More specifically, energy ministers representing these eight countries forwarded a letter of support for the East Med project to the European Commissioner for Energy Kadri Simson on April 2. This latest move, bringing the eight energy ministers together for the joint letter, was initiated by Kostas Skrekas, Greece's energy minister, following an initiative taken two months earlier by his Israeli counterpart Yuval Steinitz to organize a joint virtual conference involving ministers of all eight countries. In their letter to

Simson, the eight ministers highlight the importance of the East Med, noting the project promises to contribute to the wider region's energy security and offer benefits to consumers as a result of increased competition and reduced natural gas price levels.

The next steps of the project involve the completion of the feasibility study, amounting to approx. €70 million and on schedule to be completed by the end of 2021, and the taking of the final investment decision (FID) in the H1 2022. However, a number of great obstacles for the implementation of the project remain:

- ensuring sufficient quantities of natural gas for exports
- achieving competitive prices
- concluding a series of sale agreements with European customers

In addition, the technical challenges of the project will have to be met, especially the great depths at which certain subsea sections of the pipeline are planned. Given the current and anticipated demand for natural gas in Europe, the potential contribution of the East Med pipeline in covering gas supply requirements will not exceed 3%, at best, but it will definitely facilitate Greece in exporting its gas to Europe, as initially stated in IENE's 2012 study, providing of course that its government will move ahead with exploration and production activities in the licensed blocks offshore in Crete and in the Ionian (3). Lately, there appears to be some ambiguity in this front following recent statement by Greece's FM Nikos Dendias. (4)

## Under Scrutiny?

In addition to this ambiguity, the possibility of changing the route of the East Med gas pipeline in order to tackle technical difficulties and questions concerning its economic viability has been raised. More specifically and according to the Greek newspaper "To Vima" (5), Egypt's President Abdel Fattah Al-Sisi presented to Greece's Prime Minister Kyriakos Mitsotakis an alternative idea, proposing that the pipeline would still start from Israel's Leviathan gas field and instead of going to Cyprus through an offshore pipeline, it would head to Egypt by land and then ascend to the island of Crete passing through the area of the demarcated Greek-Egyptian Exclusive Economic Zone. LNG ships will then be able to transport the gas either to the planned Alexandroupolis FSRU or elsewhere, having Europe as a final destination. This would strengthen Egypt's hand in becoming the regional gas trading hub and would leave Cyprus in limbo and with diminished influence.

In addition, there is already a pipeline transporting gas from Israel to Egypt, as part of a deal to supply 85 bcm/year over a 15-year period to Egyptian group Dolphinus. And, in January, Chevron announced that it will invest in a new subsea pipeline between the Israeli cities of Ashdod and Ashkelon so that it can increase Leviathan gas exports to Egypt.

Recently, the Egyptian Petroleum Minister, Tareq El Molla, visited Israel and agreed with his Israeli counterpart, Yuval Steinitz, to work together toward an Intergovernmental Agreement for the construction of another offshore gas pipeline from the Leviathan gas field to Egypt's liquefaction facilities, with the LNG to be exported to Europe. This is not a new idea. It has been on the table since the discovery of Leviathan, and is similar to the plan to export Aphrodite gas to Egypt's LNG plants, Dr. Charles Ellinas explains, a well-known expert on oil and gas sector in the East Mediterranean region and senior fellow at the Global Energy Center of the Atlantic Council. (6)

Thus, the new plan for the East Med appears to be another variant of ongoing discussions to find ways to primarily facilitate export of Israeli gas. Such a plan is feasible, but still not commercially viable. It is feasible technically as its subsea elements are no longer in ultra-deep-water, as would be the case with the original route. The water depth between Cyprus and Crete reaches about 3,000 m, making installation and operation of a gas pipeline under such conditions technically challenging.

It also bypasses the area of not-yet-defined EEZs between Cyprus and Crete, which Turkey claims to be part of its continental shelf through its disputed and unrecognized maritime agreement with Libya. On the other hand, even though the new route goes through areas covered by the Egypt-Greece EEZ agreement, it still passes through areas that Turkey and Libya dispute – even claim – under their agreement. But even though feasible, the new route still remains commercially not viable at present, and for at least as long as global gas prices remain low.

“The cost of gas produced at Leviathan is estimated to be about \$4/mmbtu, before it enters a pipeline, and of course higher by the time it reaches Egypt. That is why the Dolphinus contract is priced at about \$6/mmbtu. After having to pay for the additional cost of the pipeline from Egypt to Europe, through Greece, the price of gas arriving in Europe will have to be much higher, likely closer to \$8/mmbtu to make the project commercially viable. Current gas prices at Europe’s TTF hub are at about \$5.50/mmbtu. As a result, gas transported to Europe, through pipeline either the original or the new scheme, will be too expensive to attract buyers. Gas trading in Europe is carried out by companies driven by commercial considerations and profit, not by politics”, Dr. Ellinas added.

Few weeks later, Pierre Vergerio, CEO of IGI Poseidon, declared that the East Med pipeline will pass through the initial route as agreed, while the possibility of an additional and not alternative route through Egypt confirms the increasing interest in the East Med pipeline. He also stated that the final investment decision of the project is expected to be received by the end of 2022, pointing out that specifications for the hydrogen transport will also be taken into account. (7)

On April 8, 2021, IENE’s Chairman and Executive Director wrote an article in “Estia” newspaper, mentioning that Egypt’s proposal is economically and nationally unprofitable as the total budget of the project is expected to exceed €11 billion, with about €6 billion corresponding to the construction of the necessary onshore and subsea pipelines that will transport gas from Israel to Crete through Egypt and €5 billion for the construction of LNG terminal in Crete. (8)

## Discussion

The construction of the East Med pipeline, which would reduce the European Union’s dependence on Russian gas, could turn out to be no more than a pipe dream as its economic viability is increasingly coming into question. The underwater pipeline to bring gas from Israel, Egypt and Cyprus through Greece to the European Union has provided a political narrative for the states that will work together to realize it; however, the numbers are at risk of not adding up. While its budget ranges from €6-10 billion, the minimum quantities of certified gas deposits have not yet been secured, raising questions as to whether it can pay for itself. To make matters worse, European climate change policies aim at a zero-carbon footprint by 2050; thus, undermining the whole idea of using more gas.

A possible abandonment of the East Med project would lead to increased LNG, a common activity in the East Mediterranean Sea basin. The issue of financial viability is not lost on Mikhail L. Myrianthis, energy expert and member of the advisory committee of the Hellenic Foundation for European & Foreign Policy (ELIAMEP) think tank. “The first and main condition for the creation of an interconnection gas pipeline between Greece and Egypt is the proof of its economic viability”, he wrote in an article for the Greek edition of Kathimerini, adding that the project has similarities with the Turkish-Austrian Nabucco pipeline, which was ultimately abandoned. (9)

“A project of enormous size and importance, analogous to the current Nord Stream I & II, its implementation would decisively upgrade Turkey’s energy and geopolitical role”, he said, while also noting that both the East Med and Nabucco pipelines envisioned the reduction of EU energy dependence on Russian gas. The two pipelines are politically supported by the EU, US and international credit institutions, such as EIB, EBRD, IFC, etc. Another common feature, Myrianthis noted, is their huge budgets, with the 1,329-kilometer Nabucco in the range of €8-10 billion and the 1,245 km East Med (underwater route only) in the range of €6 billion. “The estimate of €6 billion is clearly underestimated. Costs similar to Nabucco, which had no extra costly underwater links, are more realistic”, he said.

Even though an Intergovernmental Agreement was recently reached between the countries providing much needed political support for this project, there is no guarantee that the East Med pipeline project will be on track soon. This, of course, does not mean that the East Med pipeline project should be abandoned, since its existence on paper only helps strengthen a wider strategic alliance among the countries of the East Mediterranean region (including Egypt), which stands opposite Turkey’s growing regional ambitions and assertive policies. In this context, the East Med pipeline project will remain for some time as a purely “political” project, with the prospect of being implemented if and when the necessary economic and financial conditions can be met for gas supply and distribution from the still under development gas fields of the East Mediterranean, along with a necessary change of heart at EU level with regard to the role of gas as a much needed “transition” fuel.

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