



REDEFINING ENERGY DYNAMICS: EASTERN MEDITERRANEAN IN THE ERA OF DECARBONIZATION

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Due to several interconnected variables, the Eastern Mediterranean region possesses substantial geopolitical, economic, and strategic significance. From a geopolitical perspective, it is a pivotal strategic intersection connecting Europe, Asia, and Africa. This facilitates essential trade routes and influences the power dynamics of regional actors. Throughout history, this region has been a subject of dispute because of its proximity to Russia, Türkiye, and other influential Middle Eastern countries. In this framework, the economic value of discovering substantial offshore natural gas reserves has increased strategically. These deposits hold considerable potential to revolutionize the energy mix of the countries, decrease reliance on imported energy, and provide energy export opportunities.

The challenge of formulating an export strategy for the offshore natural gas reserves in the Eastern Mediterranean began before the outbreak of the Russo-Ukrainian conflict, which has escalated significantly in recent years. Hence, Europe's escalating energy



crisis has presented a fresh and pressing motivation to address these export difficulties. Nevertheless, territorial conflicts and rival regional powers have been contributing to an unstable setting in the region. In addition, the energy transition and the urgent climate agenda are increasingly narrowing the exploitation and export potential of energy resources in the Eastern Mediterranean.

Energy discoveries in the East Med and related complexities

The sequence of energy discoveries started with natural gas reservoirs within the Israeli Exclusive Economic Zone (EEZ). The Tamar gas field was found in 2009, with an estimated resource of 307 billion cubic meters (bcm) of gas. A year later, the more significant Leviathan gas field was discovered, containing estimated reserves of 620 bcm. The Aphrodite gas field, with projected reserves of 200 bcm, was found by Cyprus in 2011. In recent years, Calypso and Glaucus followed suit, located in the southwest of Cyprus.

However, a significant change in the region's energy situation occurred in 2015 when Egypt made public the finding of the Zohr gas field, with an estimated reserve of 850 bcm of gas.¹ Moreover, in 2022, other significant gas reserves were found in Israel, Cyprus, and Egypt. Israel found around 35 bcm of gas, Cyprus around 150 bcm, and Egypt around 100 bcm, thus further demonstrating the potential of energy reserves in the Eastern Mediterranean region.² The successive findings of natural gas, the process of drilling, and the strategies for making revenue from these discoveries have

¹ Karim Elgendy. "The Future of Eastern Mediterranean Energy and Climate Collaboration." Insight Turkey Spring 2022, no. 2 (Volume 24): accessed July 20, 2022. <https://www.insightturkey.com/commentary/the-future-of-eastern-mediterranean-energy-and-climate-collaboration>, p.40.

² Middle East Institute. "Eastern Mediterranean gas discoveries, progress, and what to watch in 2023." January 10, 2023. Colby Connelly. Accessed January 10, 2023. <https://www.mei.edu/publications/eastern-mediterranean-gas-discoveries-progress-and-what-watch-2023>



introduced additional drivers to the already ongoing regional geopolitical competition. Offshore drilling and excavation operations tend to feed long-lasting hostilities in the region, including the Cypriot dispute, the Israel-Palestine problem, and the wars in Libya and Syria. Also, maritime disputes exist between Cyprus and Türkiye, Greece and Türkiye, and Israel and Lebanon. Aside from the drilling and development operations in disputed maritime areas, the issue of transporting gas from the Eastern Mediterranean to European markets has also resulted in significant geopolitical complexities.³

The EastMed- Poseidon pipeline

In 2016, Israel, Greece, and Cyprus suggested the construction of a 1900 km pipeline to link gas reserves in Israel and Cyprus with the Greek mainland. The gas would be transported to European markets through a new underwater pipeline connecting Greece and Italy. The EastMed-Poseidon pipeline involves a 1,300 km offshore and 600 km onshore pipeline section, aiming to carry gas from multiple offshore gas fields of the Eastern Mediterranean to Italy. The pipeline is estimated to have an annual gas capacity of 10 bcm and is said to be realized by 2027.⁴

The idea of the pipeline coincided with the European Union's (EU) rising concerns about its reliance on Russian natural gas, accounting for about 40% of its natural gas imports at the time of the outbreak of the Ukraine war.. Thus, the development phase of the pipeline was seen by some as a chance for the EU and the

³ Emile Badarin and Tobias Schumacher. "The Eastern Mediterranean Energy Bonanza: A Piece in the Regional and Global Geopolitical Puzzle, and the Role of the European Union." *Comparative Southeast European Studies* (2022). <https://doi.org/10.1515/soeu-2022-0036>, p.418.

⁴ Mark Iden. "Edison Italy Nearing Critical Go/No Go EastMed-Poseidon Gas Pipeline Decision". *Pipeline Technology Journal*. March 21, 2023. Accessed April 4, 2024. <https://www.pipeline-journal.net/news/edison-italy-nearing-critical-gono-go-east-med-poseidon-gas-pipeline-decision>



regional countries to diversify their energy sources. In 2020, the collaboration had taken on an official shape with establishment of the East Mediterranean Gas Forum (EMGF), involving participants from Jordan, Palestine, France, Italy, the United States, and the EU as observers. Such intergovernmental entity seeks to establish a regional gas market, reduce infrastructure expenditures, and provide affordable energy prices.⁵

Despite support by the EU and the United States, the project has encountered various technical, financial, and political difficulties. The main technical difficulty is represented by the considerable depth and length of the undersea pipes that would need to be built between Cyprus and Greece. Moreover, the financial costs of funding the project are unclear due to the global decline in the financing of fossil fuel projects and the increased focus on renewable energy projects. Therefore, the pipeline has become less attractive with the acceleration of the energy transition and decarbonization goals. In addition, continuous territorial conflicts between Türkiye and Cyprus, as well as Türkiye and Greece, have further complicated the realization of the pipeline.

Decarbonization goals and gas in the Eastern Mediterranean

The EU's objective to reduce fossil fuel consumption to reach its decarbonization targets further narrows the window of opportunity in the Eastern Mediterranean. The EU Commission enacted a series of measures in 2023 to adapt its energy, transportation, climate, and taxation policies to reduce net greenhouse gas (GHG) emissions by a minimum of 55% by 2030 and 90% by 2040 compared to 1990. By 2050, the EU intends to have an economy with net-zero GHG emissions, or else said to be climate-neutral.⁶

⁵ Karim Elgendy, p.42.

⁶ European Commission. Climate Strategies & Targets. Accessed at https://climate.ec.europa.eu/eu-action/climate-strategies-targets_en



These targets will eventually decrease fossil fuel demand and consumption across the EU and drive the Eastern Mediterranean EU countries such as Greece to comply with broader EU climate commitments. In the EU, renewable energy accounted for 9.6% of total energy consumption in 2004, 16.7% in 2013, and 23.0% in 2022. By 2030, the Union is expected to reach 42.5%. Moreover, the share of renewable energy sources in gross electricity consumption in the EU was 15.8% in 2004, 26.7% in 2013, and 41.1% in 2022.⁷ Therefore, the decline in demand for fossil fuels will lower the financial benefits of utilizing and exporting natural gas. Moreover, Eastern Mediterranean nations also have to take action to adopt more climate-friendly energy sources to achieve their climate objectives.

Indeed, also other regional, non-EU powers have similar climate ambitions. In its nationally determined contributions (NDCs), Israel pledged to decrease GHG emissions by 27% compared to 2015 levels by 2030 and by 85% compared to 2015 levels by 2050. Besides, Türkiye committed to reducing its GHG emissions by 41% compared to 2012 levels by 2030 and net zero by 2053 in its NDC. Lastly, Egypt pledged to decrease its emissions in the oil and gas sector by 65% compared to 2015 levels by 2030 in its NDC.⁸ At the same time though, the growing demand for gas within Eastern Mediterranean countries puts into question their capacity to export to Europe and simultaneously satisfy internal demand.

⁷ Eurostat. Renewable Energy Statistics. Accessed at https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Renewable_energy_statistics#Share_of_renewable_energy_more_than_doubled_between_2004_and_2022

⁸ United Nations Framework Convention on Climate Change. "NDC Registry". Accessed at https://unfccc.int/NDCREG?gad_source=1&gclid=Cj0KCQiAw6yuBhDrARIsACf94RXsR8Tk94XrGDKZIfOX9My26DDNi8vdjHcDkpSZhRINivZcqWWo8qAaAjwxEA_Lw_wcB



What's next?

As we have said, with the adoption of decarbonization rules and regulations in the coming years, countries' dependence on fossil fuels will decrease, reducing the competitiveness of these resources compared to cleaner alternatives. Hence, the potential for utilizing and exporting energy resources in the Eastern Mediterranean is gradually declining. However, Eastern Mediterranean countries can convert these obstacles into possibilities by using natural gas to transition to renewables through improving gas infrastructures and networks. Some analysts argue that the cost of switching from fossil fuels to renewables has dropped significantly in recent years, and investments in gas infrastructures can hinder progress toward decarbonization.⁹

However, natural gas can balance energy demand fluctuations, require less investment since countries already have gas infrastructures, and provide quicker emission reductions for Eastern Mediterranean countries. Secondly, connecting the energy markets and infrastructures with other countries and developing inclusive regional and bilateral relations enable Eastern Mediterranean countries to have a functioning regional energy market for energy trade, create new economic opportunities, and enhance their energy security. In doing so, the EU's leadership, guidance, and balancing of interest approach to the Eastern Mediterranean countries can contribute to seizing regional opportunities.

⁹ Fiona Harvey. "Avoid using gas as 'transition' fuel in move to clean energy, study urges". The Guardian. May 10, 2022. Accessed at <https://www.theguardian.com/environment/2022/may/10/avoid-using-gas-transition-fuel-move-clean-energy-study-urges>



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