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The East Med Energy Report

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Egypt: More hydrogen deals ahead of COP27

Abu Dhabi-based renewable energy company Masdar and Egyptian firm Hassan Allam Utilities announced on April 24 that they signed two preliminary agreements with Egyptian state-backed companies the General Authority for the Suez Canal Economic Zone, the New and Renewable Energy Authority, the Egyptian Electricity Transmission Company and The Sovereign Fund of Egypt to cooperate on the development of green hydrogen plants in the Suez Canal Economic Zone and on the Mediterranean coast.

Masdar and Hassan Allam Utilities are "targeting an electrolyzer capacity of 4 gigawatts (GW) by 2030, and output of up to 480,000 tons of green hydrogen per year", according to a statement released by the Emirati company.

In the first phase of the project, the companies aim to establish a green hydrogen plant producing 100,000 tons of e-methanol annually by 2026 for bunkering operations in the Suez Canal. The electrolyzer facilities in the Suez Canal and on the Mediterranean could also be extended to up to 4 GW by 2030 to produce 2.3 million tons of green ammonia for export and green hydrogen for local industries.

The same government entities signed two similar agreements on April 20 with Dubai-based AMEA Power, and with France's EDF Renewables and Egypt's

Zero-Waste Alliance, and another agreement on May 11 with Total Eren and Enara Capital.

The deal with AMEA aims to establish a plant in Ain el Sokhna to produce 390,000 tons of green ammonia per year. Large-scale electrolyzers powered by renewable energy will be used to produce green hydrogen which will then be used as feedstock for the production of green ammonia. Construction will begin by the end of this year, and first production is expected by the end of 2025.

The deal with EDF Renewables and Zero-Waste aims to establish a facility in Ain el Sokhna to produce 140,000 tons of green fuel for bunkering operations during the first phase of the project, expected by 2026, with production set to increase to 350,000 tons per year during the second phase.

The deal with Total Eren and Enara Capital is intended to conduct studies for a green ammonia facility in the Gulf of Suez using green hydrogen as feedstock. The plant would have an initial capacity of 300,000 tons per year and could produce up to 1.5 million tons by 2030.

Last month, The Sovereign Fund of Egypt, Norway's Scatec, Abu Dhabi-based Fertiglobe and Orascom Construction signed a deal to establish a 100 MW green hydrogen facility in Ain el Sokhna. The plant is likely to become Egypt's first electrolyzer, with operations slated to begin in 2024.

These preliminary deals come as Egypt prepares to devise a national hydrogen strategy ahead of the COP27 climate summit which will be held in Sharm el Sheikh in November. In March, Cairo signed an MoU with the European Bank for Reconstruction and Development (EBRD) to assess the prospects of developing a low carbon hydrogen economy in Egypt. The country has grand ambitions to become a regional hydrogen hub and has adopted various legislation this year to encourage private investments in green hydrogen and green ammonia projects for domestic use and for exports, particularly to Europe.

The E.U. was already interested in the potential of hydrogen to accelerate the energy transition and has now made it a pillar of its strategy to cut its reliance on Russian fossil fuel imports. Brussels is now looking to develop a Mediterranean Green Hydrogen Partnership to encourage hydrogen trade between Europe, Africa, and the Gulf.

Gastrade begins work on its Alexandroupolis FSRU project

Greek utility company Gastrade held a ceremony on May 3 to officially launch the construction of its LNG import terminal offshore Alexandroupolis, in Northern Greece.

As a sign of the importance of the project for countries in South-Eastern Europe seeking to cut their reliance on Russian gas, particularly following Russia's invasion of Ukraine and Europe's reconsideration of its energy policy, the ceremony was attended by the Prime Minister of Greece, Kyriakos Mitsotakis, the Prime Minister of Bulgaria Kiril Petkov, the President of Serbia Aleksandar Vučić, the Prime Minister of North Macedonia Dimitar Kovachevski, and the President of the European Council Charles Michel.

The 5.5 bcm/year import terminal has already contracted 60% of its capacity. It is expected to begin operations by the end of 2023. The project consists of a Floating Storage and Regasification Unit (FSRU) with a capacity of 153,500 m^3, which will be connected to Greece's natural gas transmission system via a 28-km pipeline.

It will allow the delivery of regasified LNG to the markets of Greece and the wider South-Eastern European region via interconnection projects, including the Interconnector Greece-Bulgaria (IGB), which is almost complete, and the planned Greece-Northern Macedonia interconnector and Bulgaria-Serbia interconnector.

The long-awaited IGB is expected to be operational by September 2022. Bulgaria's annual gas consumption is about 3 bcm, virtually all imported from Russia. But Moscow has recently decided to halt gas supplies to Bulgaria (and Poland) for failing to pay in rubles. Despite delays, the completion of the IGB cannot come at a better time for Sofia. The gas link has an initial capacity of 3 bcm/year and can be expanded to 5 bcm/year. It is connected to the Trans Adriatic Pipeline, which will allow Bulgaria to import 1 bcm/year of Azeri gas starting September.

The "strategic synergy" between the IGB and the Alexandroupolis terminal will allow Bulgaria to further diversify its sources of supply. It also represents an opportunity for East Med gas producers to tap into new markets in South-Eastern Europe.

Bulgaria is indeed considering a potential participation in the East Mediterranean Gas Forum, as acknowledged by its Ambassador in Egypt on November 24, 2021, on the eve of the Forum's ministerial meeting, and is interested in diversifying its gas supplies via LNG imports from Egypt.

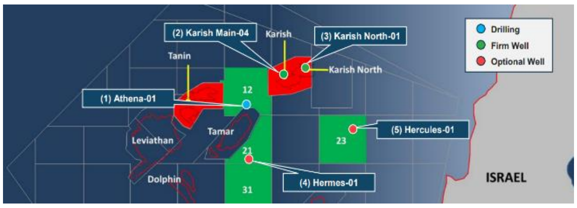
Energean hits gas off Israel's coast…

Energean announced a commercial gas discovery at its Athena exploration well in Block 12 on May 9. Preliminary analysis suggests that Athena, which lies about 20 km south of Karish, may hold a modest 8 bcm of recoverable volumes. The Greek company was initially targeting a potential 21 bcm of gas, yet it highlights the importance of this discovery as it de-risks an additional 50 bcm across what it now calls the "Olympus Area". The area includes Athena and undrilled prospects in Block 12 and in the adjacent Tanin lease.

Next, the Stena IceMax drillship will be drilling an appraisal well in Karish-Main. This will be followed by a development well at the 1.2 tcf Karish-North gas field. A decision will then be made by the end of June on whether to proceed with drilling two optional exploration wells later this year: the first one, Hermes, in Block 31, and the second one, Hercules, in Block 23.

Energean is considering various commercialization options for its new gas find. Athena could be tied to the Energean Power FPSO that will deliver gas from the Karish projects, or it could be part of a wider Olympus Area development.

When it comes to potential markets, Athena could feed the domestic Israeli market via new GSPAs or spot sales such as the one signed with the Israel Electric Corporation in March. Export options include supplying the Egyptian market building upon the MoU signed with the Egyptian Natural Gas Holding Company (EGAS) in 2021 for the sale and purchase of up to 3 Bcm/year, provided it is followed by a binding contract. Gas from Athena could also be exported to other regional and European markets, by pipeline or in LNG form via Cyprus and/or Egypt.



Source: Energean

… and proposes plans for LNG exports from Cyprus

During the last trilateral meeting of the energy ministers of Cyprus, Greece and Israel, which was held in Jerusalem on April 11, Energean CEO Mathios Rigas proposed to connect Energean's gas fields offshore Israel to a floating liquefied natural gas (FLNG) unit to be stationed off Vasilikos in Cyprus, according to Cypriot and Greek media.

Energean plans to moor the Hilli Episeyo FLNG owned by Golar LNG off Vasilikos in 2026, when its current contract in Cameroon expires. The Hilli Episeyo has a liquefaction capacity of about 2.4 million tons of LNG per year (approximately 3.3 bcm/year). The vessel will be connected to the Energean Power FPSO at Karish via a 200-km subsea pipeline with a capacity of 4 bcm/year. Global energy trader Vitol has expressed interest in buying the LNG produced by the Hilli Episeyo to export it to European and global markets.

The Athena discovery on its own may be too small for the project. Energean might have to wait for additional discoveries, unless volumes of gas can be secured from other fields.

Charles Ellinas, senior fellow at the Atlantic Council's Global Energy Centre and former Chairman of the Cyprus National Hydrocarbons Company, also sees an opportunity to supply Cyprus with gas via the proposed pipeline, as a back-up solution in case the country's plans to acquire an FSRU and import LNG by 2024 face further delays. Energean claims the pipeline can be built and deliver gas by 2024.

The Greek company had previously proposed to supply Cyprus with gas from its Israeli offshore fields, but the local Natural Gas Public Company (DEFA) described the proposal as "unsolicited" at the time and proceeded with launching a tender for the procurement of an FSRU to import LNG. The project was earmarked for completion before the end of 2021 but has since faced repeated delays and is not expected to be operational before 2024.

Greece, UAE agree to boost energy cooperation

Greek Prime Minister Kyriakos Mitsotakis headed to the UAE on May 8 in his third official visit to the country since he took office, highlighting the strategic importance of the relations between Athens and Abu Dhabi.

Following a meeting with Abu Dhabi Crown Prince Mohammed bin Zayed Al Nahyan on May 9, the two leaders announced that they agreed to establish a €4 billion investment initiative to facilitate investments in various sectors of the Greek economy, including in the energy sector.

Mitsotakis emphasized Greece's potential to become a gateway for natural gas from the Middle East and from the southeast Mediterranean to Europe due to its strategic location. He noted that significant investments are being made in this area and invited the Emiratis to "explore the possibilities for further strategic cooperation and the participation of funds from the United Arab Emirates in this direction". Mitsotakis also pointed out that Greece is looking to speed up gas exploration plans, which, he said, could create opportunities for further cooperation with the UAE.

Among the deals signed during this visit is a Strategic Framework Agreement between Abu Dhabi National Oil Company (ADNOC) and Motor Oil to explore opportunities to supply LNG cargoes to Greece, and more precisely to the planned Dioriga Gas FSRU terminal in the Gulf of Corinth. The project is being developed by Motor Oil and is targeting a potential start-up in 2023.

The two leaders also agreed to strengthen cooperation on climate action. They witnessed the signing of three MoUs on renewable energy projects with the Mubadala-owned Abu Dhabi Future Energy Company (Masdar):

- An MoU with the Greek government for the development of renewable energy projects and energy efficiency projects in Greece's eco-islands.
- An MoU with KYOTO to establish a joint venture to develop onshore renewable energy projects in Greece.
- And an MoU with Motor Oil to develop offshore wind generation and other renewable power generation projects in Greece.

Econergy, Terna to develop solar plants in Greece

Econergy, an Israeli power producer of utility-scale renewable energy projects, has announced on April 20 that it is entering the Greek market through a deal with local renewable energy company Terna Energy. The move is part of a plan to expand the Israeli company's operations in Europe. Econergy and Terna will jointly develop a solar portfolio with a capacity of 460 MW in Greece.

Econergy will acquire a 49% stake in an unnamed Greek company that owns two companies developing 240-MW and 220-MW solar projects in the Kilkis region in Northern Greece. The two projects will require an estimated €265m of investments, of which the Israeli company will invest approximately €130m.

Construction is expected to begin in Q4 2023, and the companies aim to connect the project to the Greek network by the end of 2024.