THE ROAD TO EGYPT: OVERCOMING THE OBSTACLES TO THE MONETIZATION OF APHRODITE'S GAS

Theodoros Tsakiris
Assistant Professor, Geopolitics & Hydrocarbon Policy, University of Nicosia

Reaching Egypt's LNG facilities appears to be the only realistically attainable export option for Cyprus and to a secondary extend Israel, at least as long as the AKP continues to rule Turkey. Reaching Egypt though may prove to be more complicated than it seems. It may actually prove a complex undertaking since it needs to align Israeli, Cypriot and Egyptian commercial interests over a very long-period of time of at least 15 years. For Cyprus the Egyptian LNG facilities offer a window of opportunity that Nicosia cannot afford to lose. This alignment is not automatic and cannot be taken for granted for the following reasons:

(i) An important issue that needs to be clarified on the road to Aphrodite's monetization is whether the Cypriot field is actually a joint reserve with Israel. This process also requires the signing of a Common Unitization Agreement with Tel Aviv that has been negotiated since 2012. In June 2014 an agreement was signed between the two sides that allowed the exchanges of geological data from the drilling performed on Aphrodite and the Ishai or Pelagic license area which is adjacent to the Aphrodite field from the Israeli side. As of mid-2016 negotiations are still continuing, although it is unlikely that Tel Aviv would attempt to use the absence of a CUA to legally challenge Cypriot gas exports to Egypt if these exports were to mature faster than exports from Tamar or Leviathan which is quite probable.

If Israel should nevertheless attempt to legally block the development of Aphrodite it would create a very negative impact on Cypriot-Israeli relations threatening the very existence of the rapprochement. In any case the potential claim Israel may have on the Aphrodite reserve is ad maximum 9%, too small to seriously unbalance Nicosia's export strategy even if Israeli claims are independently verified. In the worst case Nicosia may need to set up a fund to compensate Israel for the potential loss of its 9% share from Aphrodite in exchange for securing Tel Aviv's sanctioning of the field's monetization.

(ii) As a result of a Joint Marketing Agreement Nicosia signed with the developers of Block 12, it cannot take the final decision on the optimal export destination for its own gas, although it has no analogous powers over the decision making of Noble and Delek over their Israeli fields (nor would Cyprus be able to have had such an influence). Nicosia needs to strike a balance between the not necessarily converging interests of the Block 12 consortium partners. This means that Shell/BG, Noble and Delek must also agree with and approve any commercial export option favored by Cypriot government via its commercial arm, the CHC. Although

Shell/BG, CHC and Noble appear to be in agreement on the necessity to reach the Idku LNG facility managed by Shell, ***regardless of what happens with the timetable of Leviathan's development,*** Delek has publicly disclosed its disagreement. On 20 October 2015 it declared that it would not sell its gas share to Egypt's LNG but to Egypt's domestic market, a market that following the discovery of Zhor will not exist by the time Aphrodite's gas is produced.

Delek may be in the minority and may not unilaterally block the export of Aphrodite to Idku, but still controls around 15% of the prospective production given its 30% share in the Block 12 consortium. This 15% is still a sizeable portion that may still negatively affect the project's economic viability, unless of course it is directed to Cyprus' domestic gas market. Delek's outspoken support for the construction of a Turkish-Israeli pipeline further complicates Nicosia's calculations especially in view of the recent agreement to renormalize relations between Ankara and Tel Aviv.

(iii) From a theoretical point of view Israeli and Cypriot developers have three major export options, the underperforming LNG export facility in Idku controlled by Shell and Petronas, the essentially inactive LNG facility in Damietta controlled by ENI and Gas Natural, and the Egyptian domestic market. These three different market options have different characteristics and can offer different prices to the sellers as well as different levels of assurance that the agreed upon prices will be observed. If the buyer is the primarily European IOCs (International Oil Companies) that own the Damietta and Idku LNG facilities, the guarantee of payment would live up to any international expectations. Unfortunately, this is not the case for Egypt. Cairo, as a result of its economic crisis and the forced redirection of gas exports to cover domestic demand, has accumulated a debt towards the IOCs that reached $7,5 billion by June 2014 although this debt is estimated to have halved by the end of 2015.

If we hypothesize that the upstream cost of approximately $5-5,5/MMBtu (Million British Thermal Units) for Aphrodite gas, as estimated by the former President of Cyprus' National Oil & Gas Company is accurate, then Cypriot gas would reach Egypt at a *minimum* price between $6-6,5/MMBtu if we estimate the additional cost of building a nearly 400km underwater pipeline to Idku to $1/MMBtu. The cost margins for Israeli gas exports to Egypt may be approximately 0,5$/MMBtu lower for Damietta given the shorter distance from Leviathan and Tamar to the ENI operated facility and could even be 1-1,5$/MMBtu lower if Tamar's developers are allowed to use the EMG pipeline in reverse so as to sell gas to a consortium of five major Egyptian buyers aggregated under the Dolphinus Holdings. *This means that unless Cairo increases its domestic sales price above the maximum $5,88/MMBtu it set in July 2014, Cypriot or for that matter Israeli gas could only be sold at a loss in Egypt, notwithstanding the abovementioned Dolphinus contract provided of course that the EMG is utilized.* The fact that the pricing conditions for Egypt's domestic gas market were almost “prohibitively” low for Israeli or Cypriot exports was true ***even before*** the discovery of the super-giant Zhor field.

After Zhor’s discovery not only the pricing but also the supply conditions of the Egyptian market have become prohibitive for any type of imports after 2019-2020, when Phase 1 of Zhor’s development as well as BP’s Atoll and West Nile Delta (WND) discoveries (10-12 tcf) are expected to come on stream. Should these plans materialize, and it should be noted that for BP’s fields Sales & Purchasing contracts have already been signed all dedicated to the domestic market, Egyptian production may more than double from its 2014 low output of 48,7 bcm (billion cubic meters) sometime between 2022-2025.

In spite of the absence of a gas sales agreement with EGAS or EGPC, ENI is advancing with the development of Zhor at breakneck speed. By the end of June 2016 ENI will have drilled a total of four new appraisal wells in the 30 tcf estimated gas field discovered in August 2015. This may actually prove to be an underestimation. Preliminary data from the second drilling completed in March 2016 indicate a possible increase of *in situ* reserves by approximately 20% expanding estimated reserves to 36 tcf.

Despite the fact that the ongoing and projected developments of the Zhor, WND and Atoll fields have effectively ended the debate on the possibility of a major exportation of Israeli/Cypriot gas to Egypt’s domestic market, Zhor’s discovery has had an unintended positive effect on Cyprus’ hydrocarbon dynamics. The discovery of Zhor in the Egyptian Shorouk block located less than 7 nautical miles from the Cypriot EEZ, has re-galvanized the interest of the IOCs in Cyprus. Total is planning to drill an exploratory well in Block 11 and has bitterly regretted its decision to relinquish (February 2015) its exploration rights over Block 10.

ENI which renewed its exploratory license in December 2015 will drill at least two new exploration wells in Blocks 2 and 3 according to its 2013 contractual obligations and Shell -through its merger with BG- is currently leading the development of the Aphrodite gas field after buying 35% of the consortium’s share in January 2016. Moreover, Nicosia, emboldened by Egypt’s recent success and the deepening strategic relationship between Cyprus, Egypt and Greece, has tendered off three more additional blocks in its EEZ by announcing a 3^{d} Licensing Round on 23 March 2016. These blocks include blocks 6, 8 and 10 but more blocks are expected to be offered in 2016 or 2017 including parts of Block 11 that has been partially relinquished by Total in the context of its license renewal. In addition to parts of Block 11 almost all of Block 12 have also become available for a tender with the exception of a small area demarcating the Aphrodite field.

On 27 July 2016, the Cypriot government announced that 8 IOCs submitted 6 different bids for all three blocks tendered by the licensing round, including the ENI/TOTAL bid for Block 6 that is highly contested by Turkey as partly belonging to its continental shelf. Other candidacies include ENI's for block 8 and the highly sought after Block 10 that is contested by Statoil, ENI/TOTAL and a joint venture company made up by ExxonMobil and Qatar's state owned Qatar Petroleum (QP). The new licensees are expected to sign their contracts in early 2017. This is a very positive development for the divided island Republic but it is also unlikely to have any direct impact on the status quo since the first exploratory wells are estimated to be drilled in late 2019 at the earliest. The most important priority for the government should be the monetization of Aphrodite, the only confirmed discovery that would spearhead the development of its potential future discoveries.

The prospective export of Aphrodite's gas, estimated at approximately 7,4 bcm/y over 15 years to Shell's underutilized Idku LNG plant will reactivate the facility and allow East Med gas to reach European markets by 2020-20201. Given Israel's regulatory impasse and the participation of BG/Shell as a simultaneous seller, buyer and transporter/liquefier of Aphrodite's gas, makes the Cypriot monetization option much more mature compared to Israel's export plans (including the potential pipeline to Turkey) something that is not welcomed by Delek. These LNG volumes, part of which will be sold to the EU, may represent the first exports of Cypriot gas arriving in EU markets a mere decade after Aphrodite's initial discovery in 2011.

Israeli exports primarily from Leviathan are quite likely to follow once Tel Aviv puts its own house. *These are difficult obstacles to overcome but both sides have a clear reason to overcome them since they see the export of Israeli gas to Egypt, as a means of consolidating the revitalized Israeli alliance with General Fattah al-Sissi*. Such an alliance is far more important to Israel that any Turkish rapprochement that would damage its relationship with Cyprus and Greece should a Leviathan-Ceyhan pipeline materialize against the wishes of Nicosia.

"The Cyprus Settlement and Eastern Mediterranean Hydrocarbon Export Scenarios", event summary of 18/03/2016, at the US Atlantic Council, http://www.atlanticcouncil.org/events/past-events/the-cyprus-settlement-and-eastern-mediterranean-hydrocarbon-export-scenarios (accessed 22/05/2016). The 9% data is quoted by former US Ambassador Matthew Bryza who sits on the Board of Directors of Turcas, the leader of the Leviathan-Ceyhan pipeline project on the Turkish side.

Charles Ellinas, "What Price for Cyprus Interim Gas", 28/06/2015, http://in-cyprus.com/what-price-cyprus-interim-gas, (accessed 22/05/2016).

Theodoros Tsakiris, “The Gifts of Aphrodite: The Need for Competitive Pragmatism in Cypriot Gas Strategy”, in Angelos Giannakopoulos (ed.), *Energy Cooperation and Security in the Eastern Mediterranean: A Seismic Shift towards Peace or Conflict?,* The S. Daniel Abraham Center for International & Regional Studies, (Tel Aviv University Press: 2016), p.36.