
Fast Forward for Cypriot Gas

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Until recently, few people considered offshore Cyprus or Israel to be areas of significant prospectivity. However, through a process that was neither easy nor one that should be considered complete, the picture has changed very dramatically for both countries over the course of the past decade.

In the case of Cyprus, the first steps to that end were taken in the early 2000s when the Cypriot government hired Petroleum Geo-Services (PGS) to proceed with a preliminary assessment of

the country's offshore potential through seismic surveys. PGS's results were largely favourable, and on the basis of this the government attempted to award exploration and production licences for 11 offshore blocks in the Cypriot EEZ in February 2007. However, it was able to attract only three bids, with no interest from some of the larger IOCs.

The government accordingly awarded only one licence (block 12) in October 2008, to Noble Energy, a medium-sized E&P company from the USA, which

already had strong interests in the region (Israel). Following considerable preparatory work, which included rather more detailed seismic data assessment, Noble Energy moved forward with drilling its first exploratory well in block 12 in September 2011. This indicated a 5–8 trillion cubic feet (tcf) natural gas deposit in deep water of about 1700 metres, with an intermediary estimate of 7 tcf.

The confirmation of Cyprus's gas potential in 2011, together with growing

interest from industry, prompted the country to push forward quickly with a second licensing round in 2012. This round, in sharp contrast to the first, saw good participation from IOCs, upstream independents, gas buyers, gas and LNG traders, and smaller regional players seeking to benefit from potential synergies and market positioning. Licences were awarded for a total of five offshore blocks out of 12 on offer (of which nine received bids) in 1Q 2013. This was earlier than previously anticipated and took place before the presidential election of February 2013. Offshore blocks 2, 3, and 9 were awarded to a consortium led by Italian major ENI and the world's largest LNG buyer KOGAS from Korea; while blocks 10 and 11 were awarded to French supermajor Total. A bid for block 9 by a consortium which was led by Total and included Novatek and Gazprom Bank of Russia was initially favoured, but was later dropped in favour of the ENI-KOGAS consortium bid.

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This news gave birth to great expectations of economic and, potentially, geopolitical gains in Cyprus. Indeed, even without any further additions from new gas discoveries to this estimated resource basis, Aphrodite (the name given to Noble's offshore field) is large enough to allow Cyprus to surpass the (proved) reserve basis of some relatively established gas producers in the EU such as Poland, Romania, and even the UK – albeit in certain cases this would largely be a result of field depletion. Moreover, if the more speculative figure of 60 tcf – which Cypriot authorities believe its EEZ probably contains (roughly 40 tcf of this figure being in the new contract areas) – were to be confirmed, Cyprus's reserve levels would approach those of Norway – a major European gas producer and exporter. Importantly, this excludes potential

oil prospectivity, which is likely to be assessed by Noble, ENI-KOGAS, and Total in their respective licences and could dramatically improve profitability.

The Intersection with the Economy

But the good news on the hydrocarbons front was soon overshadowed by problems in the economy. By March 2013, Cyprus was faced with the spectre of uncontrolled default including Eurozone exit, with potentially far-reaching negative consequences for the country's economy, and even politics. Against this background, the new centre-right administration of Nicos Anastasiades, which had taken over only a few weeks earlier from the nominally communist administration of Demetris Christofias, accepted a rescue loan from the European Union (EU) and the International Monetary Fund (IMF). The EU/IMF loan to Cyprus amounted to €10bn and was offered on strict conditionality, including a requirement to more than halve the size of the Cypriot banking sector, a major source of income for the country, by 2018.

This challenging economic environment has raised the stakes for successful hydrocarbons exploitation, as a means of both offsetting some of the short-term recessionary pressures, as well as facilitating the restructuring (and diversification) of the Cypriot economy away from its current focus on banking. The challenge for Cyprus and its partners is to develop its hydrocarbons potential as fast as possible, while at the same time ensuring that they maximize economic benefits on each level of the value chain. Cyprus and Noble Energy are targeting early 2016 for agreeing a final investment decision (FID) on a 5 mmtpa liquefaction facility, which could kick-start gas infrastructure development and total investment by a figure upwards of \$10bn in a \$23bn economy. Additionally, cheaper indigenous gas could substitute for expensive oil imports, and export revenue could start benefitting Cyprus's national accounts some three to five years later.

This timeframe is possible but not a given, and is largely conditional on Aphrodite being a commercial discovery.

Uncertainties (still perfectly normal at this stage) that have yet to be determined include: the specific resource basis in Aphrodite and more broadly in block 12; production costs and gas quality at Aphrodite; and the potential existence of liquids credits (condensate or deep oil) to support upstream economics. Indeed, under such a scenario, gas recovery costs can decline dramatically – and even turn negative – as the extraction of natural gas becomes a technical necessity of (the more profitable) oil recovery.

The Value of Economies of Scale

If the economics at Aphrodite alone do not work, then Cyprus will need to seek wider economies of scale, with the aim of driving unit costs down to support the viability of such a capital-intensive project. However, economies of scale should be pursued irrespective of whether Aphrodite is viable or not, as a means of boosting project profitability and, by implication, also revenues for the government (operational efficiency, financing terms, and market skill being some other key profitability drivers; these will be directly linked to Noble's ability to deliver them, alone or with a suitable partner).

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The potential source of such economies of scale for Cyprus include further prospectivity in block 12, new gas discoveries by Total and the ENI-KOGAS consortium in the five blocks awarded to them, and joint monetization under which Israel and/or others liquefy their gas in an onshore plant in Cyprus. Cooperation with Israel could also include unitization agreements – an established industry practice which optimizes production across contract areas and thus helps reduce upstream production costs.

All the above options are theoretically feasible, but still need to overcome some important obstacles. For example, the confirmation of further prospectivity beyond Aphrodite in block 12 and/or in the new licences awarded in 2013 under Cyprus's second licensing round, require further seismic surveying and drilling. By the same token, achieving economies of scale by means of joint LNG monetization with Israel presupposes success in overcoming the serious legal, commercial, and political complications which could emerge in relevant negotiations, in a successful and timely manner. These complications could in fact be aggravated by a lack of prior experience – this will be the first arrangement in the world whereby gas from one country is transported for liquefaction to another, and is then jointly exported from that latter country (although not directly applicable to the Eastern Mediterranean, problems between Timor Leste and Australia, in relation to the Sunrise LNG project, are a case in point).

It is thus possible that, if results from Noble Energy's ongoing appraisal drilling (expected end-2013) fail to indicate a sufficient level of prospectivity that would allow development on the basis of Aphrodite alone, then there will be delays in taking a FID until such economies of scale have been successfully achieved. Still, if Total and ENI proceed, as they have suggested, with an aggressive exploration programme in offshore Cyprus over and above their contractual obligations – and

prove successful in firming up new prospectivity – then a FID could still be taken reasonably close to the present target of 2016. This would thus allow gas exports to start at some time in the early 2020s (and domestic use one to two years earlier).

Politics and Gas

Besides normal commercial uncertainties and relevant challenges that may delay progress, development can sometimes be inhibited by extraneous non-commercial factors, including political risk. This includes calls to make the development of Cypriot hydrocarbons conditional on a prior solution to the Cyprus dispute, a problem which has failed to make any real breakthrough over the past 40 years, and which could prevent project implementation whilst these complex political negotiations lasted.

Similarly, calls for Cypriot exports via a subsea pipeline to Turkey are based on the (false) premise that this is necessarily a commercially superior monetization option compared to a liquefaction plant; and that development of such a Cyprus–Turkey link could thus help both solve the Cyprus dispute and allow the Cypriot authorities and other stakeholders to maximize economic returns. On the contrary, Noble has already indicated its interest in LNG as being able to capture premium Asian markets, while Total, ENI, and KOGAS have similarly shown interest and have positions in the global market. These players may therefore be unwilling

to commit to the inherently more limited pipeline monetization options (to Turkey or elsewhere), which could accordingly lead to further, unnecessary project delays.

Meanwhile, a number of objections which relate directly to the aforementioned Cyprus dispute – put forward by Turkey with reference to hydrocarbons exploration and production operations in Cyprus – seem to have been ignored both by the government of the Republic of Cyprus and key IOCs. The significant capacities brought by these IOCs (Total and the ENI-KOGAS JV) to Cyprus suggest that there will probably be adequate levels of technical and commercial expertise in the coming years for the country to realize its maximum hydrocarbons potential across exploration, production, and monetization. However, the speed with which Cyprus will move towards capturing the much-needed economic benefits from its hydrocarbons potential will depend on the favourable clarification of a number of relevant factors. These include: various technical variables impacting gas commerciality; the ability to achieve efficiencies and favourable arrangements such as midstream economies of scale; and the ability to move forward with licensing, exploration operations, and monetization decisions free from political interference and constraints which undermine profitability – or outright viability. ■