Editors: Paul Rivlin and Yitzhak Gal Assistant Editors: Brandon Friedman and Gal Buyanover

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The Significance of Gas in the East Mediterranean

Paul Rivlin

This edition of Iqtisadi examines the impact that gas findings in the Eastern Mediterranean are likely to have on the economies of that region and some of the wider implications. While the amount of gas is small by international standards, it is very significant for the countries in whose waters it has been found.

Egypt and Syria are veteran producers and so this paper concentrates on new players: Cyprus, Israel, Lebanon, and the Palestinian Authority. The impact on Jordan will also be considered. These countries have a total population of about 47 million and that is expected to rise to about 60 million by 2030, providing the basis for a much larger potential energy market. With the exception of Syria, they have had few natural energy sources and have relied on imports and that has weakened their balance of payments. Offshore gas supplies will substitute for imports and thus strengthen the economy (assuming that the resources are used for investment and not just for current consumption). These strengthened economies will become larger markets and so the region will become more important internationally. The likelihood of gas exports from the region has resulted in interest from West European countries that would like to diversify the gas imports away from Russia. Russia is also interested in participating in the development of East Mediterranean gas so as to maintain its influence in the European market. Sales within the region – for example, from Israel to Jordan, the Palestinian Authority, and even to Egypt and Turkey – are seen as solutions to local energy problems with significant political implications.

In 2010, the US government's Geological Survey announced its estimates of 3.455 trillion cubic meters (tcm) of natural gas and 1.7 billion barrels of recoverable oil in the Levant Basin which is part of the East Mediterranean. Israel's on-shore and off-shore areas cover 45 percent of the Levant basin. 850 billion cubic meters (bcm) of gas have already been found in Israel's territorial waters. World gas reserves at the end of 2012 were estimated by British

Petroleum at 187.3 tcm and so the Levant Basin has added 1.8 percent to world reserves.

Although very significant for Israel, its proven and possible reserves are very small by world standards. The first gas delivery took place from the Tamar field at the end of March 2013, after four years of development work. The total initial delivery capacity is 7.5 bcm annually and, by July 2013, Tamar had produced a gross 18 million cubic meters of gas a day, 94 percent of the total produced in Israel.

Production is carried out by five wells connected by a 93 mile long subsea double pipe linked to a gas processing platform located offshore the southern Mediterranean city of Ashkelon. The main foreign contractor, Noble Energy and its partners have contracts with various Israeli entities which use all of this capacity. The first well, in the giant Leviathan field, Leviathan 1 was first drilled to a depth of 5,170 meters where the deposit found was estimated to contain 450 bcm of natural gas. The second stage of drilling of the Leviathan 1 well was intended to reach a depth of 7,200 meters where there is estimated natural gas reserve 250 bcm and potentially 600 million barrels of oil. Explorations of Israel's newly discovered offshore gas field, Karish, located about 100 kilometers northwest of Haifa, have revealed reserves of 12.7 million barrels of condensate – a crude oil used for fuel production – on top of its potential 51 bcm of natural gas, at full capacity.

Apart from Israel, the most active country in gas exploration has been Cyprus. Nicosia was eager to negotiate its Exclusive Economic Zone (EEZ) boundary with Israel (having already done so with Egypt in 2003), and reached an agreement in December 2010. A year later, the Aphrodite field was discovered in Cypriot waters, just 35km west of the Leviathan field. The estimated reserves in that field of up to 230 bcm would more than cover Cyprus's entire energy needs for 200 years. A significant part of East Mediterranean gas – around 1.7 bcm – is in the Cyprus Exclusive Economic Zone, an area south of the island that Cyprus has claimed legal rights to explore and drill. If it materializes, the field will be enough to satisfy domestic consumption for decades and fulfill the island's ambition to become an energy exporter.

Cyprus' discovery of gas in the Aphrodite field may save its economy. The timing is very fortuitous because in June 2012, Cyprus became the fifth Euro-area member to request international financial aid equivalent to the country's GDP of $24 billion. Cyprus' president has stated that revenue from future sales of natural gas should be used for reducing debt, while the rest would go into national growth initiatives.

Future oil and gas production in this resource-poor country will reduce fuel import bills substantially. The development of the oil and gas sector will also bring large capital investment, creating many jobs and generating both revenues for the government and exports. Cyprus largely depends on oil imports. The reliance of the Cypriot economy on energy imports is the third highest within the EU. In 2010, Cyprus energy imports bill was $1.7 billion, equal to 20 per cent of total imports cost and six per cent of GDP.

Cyprus held its first licensing round in 2007. One exploration license was granted in 2008 for Block 12 to American Noble Energy International Limited. Three years later, Noble Energy discovered the Aphrodite field. The field remains to be appraised before it is declared commercial and developed. The second licensing round, in 2012, was more successful in attracting international interest. Twelve offshore blocks were offered; 15 bids were submitted by 29 international companies (one-third of which were from Israel). If development goes ahead, the first gas production is not expected to reach domestic market before 2018.

Political tensions between neighboring countries may complicate things further. Turkey opposes exploration by the Greek Cypriot government until reconciliation with the Turkish Cypriot authorities has been negotiated. This means that Cyprus cannot fully begin its own oil and gas exploration activities until these matters are resolved.

Lebanon's energy minister has announced the discovery of a huge natural gas field in with an estimated 855 bcm of natural gas. Lebanon has launched the first round of the approval process for 46 international energy companies bidding for oil and gas exploration licenses. The deadline for companies to submit bids is October, with contracts to be signed by February 2014. The energy minister predicted that gas production will start in 2020. The value of the gas reserves off Lebanon’s coast has been estimated at between US$300 billion and US$700 billion while the GDP is only $43 billion.

Regional and domestic political instability compound risks involved in developing the gas in Lebanon. Syria’s prolonged civil war has spilled over into localized areas of Lebanon and causing outbreaks of violence. There is also a dispute over the maritime borders with Israel. Conflicting delineations between Lebanon and Israel have left a disputed area of some 854 square kilometers in the Mediterranean. Maritime boundary disputes are common, but tension between Lebanon and Israel, which are in a state of war, will increase the perception of risk for investors.

Adding to the risks for investors, Lebanon’s economy also suffers from a large public debt, which, at the end of June 2013, accounted for 140 per cent of its GDP

and was among the highest in the world. Lebanese officials hope that the oil and gas sector, which could dwarf any other sector in the economy, will generate the necessary finances to tackle the debt problem. It will also alleviate the large fuel import bills and the chronic problem of electricity shortage. In many developing, particularly post-conflict, countries, such revenues have been a curse, fueling corruption and domestic conflict, and increasing poverty. The risk of this happening in Lebanon is great.

Jordan has suffered from extreme energy insecurity since its gas imports were interrupted. The option of a secure supply from Israel is a realistic one that would ease a key economic constraint and thus contribute to political stability and improved relations between the two countries. The Palestinian Authority may also choose to import gas from Israel, at least until its own resources off the Gaza coast are developed. These are perhaps the most realistic regional effects, while exports from Israel to Egypt and Turkey are less likely, in the near future, for political reasons.

The Gaza marine field has estimated reserves of 29 bcm. There have been discussions between the Palestinian Authority and Israel on the development of this field but thus far no progress has been made.

Syria has proven reserves of 243 bcm and has exploited them for years but domestic production has fallen because of the war there. Syrian territorial waters have not yet been surveyed. In 2010 Syria produced 9 bcm and in 2011, 8 bcm.

East Mediterranean gas is already having an impact on the region, and most of all in Israel the first country in which production has started. The cost of producing electricity is falling because using gas is much cheaper than other fuels and it is also much cleaner. In addition to a reduction in dependence on imported oil, tax revenues will rise. This is in addition to expected government revenues from direct taxation on gas production of $200 million to $400 million a year. The boost in GDP and the reduced need to import fuel should also lower government debt service costs. The boost to the economy, however, will likely be mitigated by the strengthening of the shekel due to reduced oil imports. This affects exporters, whose products become more expensive abroad and importers whose products become cheaper on Israeli markets. As exports account for 40 percent of Israel's GDP, appreciation of the shekel can lower GDP.

The Bank of Israel projects that the overall effect of natural gas production on the balance of payments in 2014 will be $3.5 billion and it will purchase foreign currency during 2014 accordingly. Gas will add one percent to GDP in 2013 (worth some $22 billion) and 0.7 percent in 2014.

There has been a very fierce debate in Israel about how much gas should be exported. The companies that have developed the Tamar field and are developing the much bigger Leviathan field say this is vital in order to finance their work given the relatively small size of the local market. Others say that the potential size of the local market has not been properly estimated and that the benefits of gas for future generations will be lost if exports are too large. The issue of who decides – the government or the Knesset – has also been disputed and is now being decided in the courts.

In Cyprus the size of the domestic market is much smaller than Israel and so the export potential is greater, but even if Cyprus and Israel (and later perhaps Lebanon and Syria) decide to export gas it will not be a game-changer. Much of the speculation about dramatic changes in the strategic balance because of East Mediterranean gas has been exaggerated. The benefits to an industrialized country like Israel will be substantial if the revenues are used for investment rather than consumption, and a stronger economy will strengthen the country's strategic position too. This will also be true for other countries in the region if they use the revenues correctly. These kinds of gains will be more significant than some of the grandiose export schemes that have been proposed.

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