Lebanon: Investment Opportunities in the Energy Sector*

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Recently discovered deposits of natural gas in the Eastern Mediterranean's Levant Basin have arrived at a time when global demand for natural gas and related products is projected to increase at an annual rate of 1.6 percent, on its way to overtaking coal as the second most important fuel source in the world behind crude oil.

This could turn out to be very welcome news for Lebanon, as the small but resilient nation claims a significant portion of the Levant Basin's resources as part of its Exclusive Economic Zone (EEZ). Three-dimensional seismic studies conducted thus far in over 70 percent of the EEZ have shown much promise, but although the country has attained significant milestones over the past few years, for example by laying down the legal and institutional frameworks necessary to invite companies to bid for exploration rights, it still lags far behind its neighbors.

First round of bidding meets Lebanese politics as usual

In May 2013, the Lebanese Ministry of Energy and Water launched the first licensing round for offshore oil and gas exploration, opening up bidding for five out of ten offshore blocks. Previously, fifty-two companies had sought to qualify and <u>forty-six</u> were found eligible to bid, among them were some of the biggest names in the industry.

Several notable American companies have been shortlisted: Anadarko, Chevron and ExxonMobil qualified as operators (out of a total of 12), and Marathon Petroleum and Geopark/Petroleb qualified as non-operators. According to Lebanon's Offshore Petroleum Resources Law, companies must form in consortiums of at least three, one of which is the operator. So far, however, the tender has been delayed three times due to the absence of a fully functioning government, which has made it impossible to approve of two crucial decrees, one delimitating offshore blocks and their coordinates and another approving the model exploration and production agreement. The formation of a new cabinet in March 2014 brings hope that the process will be put back on track.

Lebanon's gas must be viewed as part of the larger picture of offshore resources in the Eastern Mediterranean. In 2010, the U.S. Geological Survey released estimated a mean of 1.7 billion barrels of recoverable oil, and a mean of 122 trillion cubic feet of recoverable gas in the Levant Basin, an offshore and onshore area underlying parts of Lebanon, Israel, and the occupied Palestinian territories and extends to Cyprus' exclusive economic zone.

Throwing off the burden of costly imports

Though relatively modest on a global scale, the Levant Basin's resources are highly significant for these resource-poor countries. Their importance lies not only in cutting the energy bill by reducing

dependency on expensive imports from countries where discoveries have been made, but also in allowing these countries to contemplate exporting part of these riches.

Israel made a series of discoveries over the past few years that have radically changed prospects for the country's energy sector. Tamar, discovered in 2009 and estimated to contain 10 trillion cubic feet of natural gas, is enough to meet the country's needs for around 20 years, and assuring it a strategically inestimable energy independence. Leviathan, discovered in 2010, is almost double in size, and allows Israel to become a net exporter of gas. Cyprus was next, with the discovery of Aphrodite in 2011.

According to promising surveys, Lebanon claims that parts of these resources lay within its own offshore area. The country depends entirely on imports to meet its energy needs, and . Its annual fuel imports account for approximately 15% of its GDP, a major cause of concern for a country which boasts one of the highest rates of public debt to GDP in the world (134% in 2012, according to the World Bank, and expected to increase in 2014 as economic growth continues to struggle under the weight of the Syrian conflict).

In 2010, Lebanon imported 120,000 barrels per day (bbl/d) of refined oil products. In 2011, Lebanon's oil demand reached a record 134,000 bbl/d, up 55,000 bbl/d in just four years. Oil accounts for just over 90% of the country's overall energy consumption; coal for 3%; while gas accounts for a meager 2%. For a brief period between 2009 and 2010, Lebanon received gas supplies from Egypt, through the Arab Gas Pipeline, which runs from Al-Arish in Egypt to Aqaba in Jordan, passes through Amman, Damascus and Homs where it branches off towards the restive North Lebanese city of Tripoli. Supplies were frequently disrupted and then ultimately cut off in 2010. It is unlikely that a regular flow of supplies from Egypt would resume in the short-term, not only because of the prevailing unrest in the region but also due to Egypt's questionable ability to export significant volumes of gas to its neighbors with its own local demand growing at such a fast pace.

A scenario that will benefit more than producers

The electricity sector stands to gain the most if potential offshore resources are confirmed in commercial quantities, and is perhaps where the impact of these additional resources would be felt the most given the given the burden that the sector places on the Lebanese economy. 88% of electricity in Lebanon is generated by thermal power plants which burn half of the country's excessively costly oil imports. In 2009, average demand stood at 2,100 MW, while the available capacity was limited to 1500 MW, causing severe shortages that were covered mostly by private diesel generators.

The government adopted a policy paper for the electricity sector in 2011, which proposed short, medium and long-term measures to improve performance by 2015, and, more significantly, cut the energy bill by reducing reliance on expensive imported oil and gradually convert existing power plants to operate using liquid natural gas. Implementation will cost \$4.87 billion and will be financed by the government (up to \$1.55 billion), the private sector (\$2.32 billion) and the international donor community.

Investment opportunities therefore are not limited to offshore petroleum/gas drilling activity. In order to reach these and other objectives, Lebanon's energy infrastructure requires significant investments, involving the rehabilitation of certain installations, construction of gas imports and storage facilities, building new or revamping existing power plants, laying out a network of gas pipeline.

Energy supplies have for long constituted one of the major concerns for Lebanese authorities. Prospective natural gas resources in Lebanese coastal waters have the potential to transform the local economy by reducing the heavy energy bill and moving the country not only towards self-sufficiency, but possibly also towards becoming a net gas exporter. In addition, and if confirmed, these resources would help Lebanon boost its energy security and extricate itself from a regional supply network that has proven its limits in troubled times.

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