

# LEBANON'S PROMISED OIL WEALTH

## USD 166 BILLION?

**Will the dream come true and what has always been a mere fantasy turn into tangible facts? The latest seismic surveys performed by global companies and confirming the presence of abundant oil and gas reserves in Lebanon's waters have begged the question of whether Lebanon will transition from the phase of oil importation to the phase of production and exportation.**

### Oil Exploration Attempts

#### Attempts during French Mandate of Lebanon

The oil exploration journey began in the first years of the French mandate when the French High Commissioner Henry de Jouvenel issued a decision authorizing the excavation, extraction and exploitation of oil and metal reserves.

Later, research and studies were carried out in search of oil resources. The most important of these was the exploration attempt initiated by French geologist Louis Dubertret appointed by the French Mining Authority and the National Museum of Natural History, which launched the geological scanning project. For 25 years, starting in 1930, Dubertret and his team worked to organize Lebanon's geological map on a scale of 1/200,000. This study helped highlight certain aspects of the oil exploration processes and it transpired that the Lebanese territory, given the nature of its geological layers, was a favorable medium for oil and gas discovery.

#### Attempts after Independence

From 1947, the Lebanese Company for Oil conducted surface geological surveys under the supervision of French geologist Louis Dubertret and the Lebanese geologist George Sabbagh in different Lebanese regions across an area of 3300 km<sup>2</sup>, raising the possibility of potential oil and gas deposits in the country. Later, excavations confirmed the presence of gas- in small quantities- in Yohmor as well as hydrogen sulfide gas in a mine in Hasbaya and samples were tested by the geochemical laboratories of the French Petroleum Company.

The first practical attempt toward gas exploration occurred following the independence. In 1946, the

Iraq Petroleum Company (IPC) began drillings in the town of Terbol in north Lebanon and later in 1953, an American company called US Pacific Western dug deep into the earth until they found gas at 700 meters down.

Between 1960 and 1961, a German company working for the IPC drilled a well in the town of Adloun in south Lebanon and two other wells were dug by an Italian company in 1963 in Sohmur and Tal el-Zounoub in Western Beqa'a and in the town of Abrine in eastern Batroun. However, all these attempts proved futile as they focused on onshore drillings only.



### Pre-War Attempts

In 1972, the Head of the Department of Geology at the American University of Beirut, Dr. Ziad Baydoun, submitted a study to the Arab Petroleum Conference held at the time in Algeria, where he pinpointed potential presence of oil reserves in Lebanon. In his study, Dr. Baydoun built on previous surveys that had estimated the existence of over 2000 meters of maritime layers where oil can be found, adding that the reserves were most likely abundant in North Lebanon.

In turn, Lebanese scientist Ghassan Kanso conducted several studies that assured the existence of both onshore and offshore oil resources in Lebanon, mainly between Batroun and Tripoli.

The research carried out by Dr. Baydoun encouraged several global petroleum companies to seek concessions for oil and gas exploration in Lebanon between 1973-74.

In early 1975, the then President of the Republic Suleiman Frangieh urged Dr. Baydoun to continue his work and to lay down an integrated plan for the prospects of oil in Lebanon and the steps necessary to regulate this sector in light of the requests of companies seeking exploration. Hence, Decree No. 10095 was issued on April 11, 1975 allowing the Ministry of Industry and Oil to revise the concessions granted for oil exploration and to use them for the advantage of the state, but the eruption of the Civil War a few days later brought all these efforts to a halt.

### Post-War Attempts

Following the end of the war, oil exploration endeavors resumed in 1993 but were also interrupted until 2002 when the government signed a contract with the British firm Spectrum, whereby the latter conducted a 2D survey covering the entire Lebanese coast and revealing that the existence of oil and gas is now a serious possibility.

Later, another 3D survey was performed by the Norwegian firm GIC in the same area, unveiling that Lebanon's largest oil reserves are present in the north off the coast of El-Abdeh. Between 2006 and 2007, two 3D surveys were conducted again by PGS - one in Lebanese waters and one in Lebanese-Cypriot waters – and estimates suggested that Lebanon's oil wealth could reach as high as 8 billion barrels.

The file was not accorded the attention it deserved until June 22, 2010 when the US firm Noble Energy conducted 3D seismic surveys that confirmed the previous PGS findings, identifying a huge natural gas field called "Leviathan" in the Mediterranean Sea in the global maritime zone between Palestine's maritime borders and Cyprus, off the Lebanese coast. The Leviathan gas field is said to contain 16 trillion cubic feet of gas.

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Based on the above, one may conclude that the process of exploring for oil and gas resources is not a recent initiative, but rather an endeavor that dates back to around 90 years, albeit it has gained further momentum and follow up in the past few years. And perhaps, the positive findings unfolding recently are attributed mainly to the technological progress in seismic surveying which allowed for wider offshore exploration.

### Oil-related Legislations

In a bid to keep up with the latest exploration activities and regulate the awaited oil sector, the Lebanese government has issued several laws and decrees in the past few years. Those included:

- Law No. 132 issued on August 24, 2010 on Petroleum Resources in Maritime Waters. This law consisted of 10 chapters including 77 articles that covered the processes of licensing, exploration, extraction as well as the environmental and health impacts and the revenues assigned to the state and the companies. It also stipulated that the oil revenues be deposited in a sovereign fund and that the methods of formation and management of the fund as well as the disposition of revenues be determined later. 10 years was the timeframe set for the exploration phase and 30 years was that set for production. The law called for the formation of a Petroleum Regulatory Authority.

- Law No. 163 issued on August 18, 2011 on the Delineation and Declaration of the Maritime Regions of the Lebanese Republic. This law consists of 18 articles that determined Lebanon's internal waters, territorial sea, contiguous zone, exclusive economic zone and continental shelf in accordance with the provisions of the United Nations Convention on the Law of the Sea signed in Jamaica on December 15, 1982. Lebanon became part of the Convention by virtue of Law No. 295 dated February 22, 1994.

The baseline of the Republic of Lebanon was drawn based on the low-water line of islands and the straight lines joining appropriate points in accordance with the provisions of the International Law, starting from the mid-point of the mouth of Nahr Al-Kabir river in the north to the 1949 armistice line in the south.

The territorial sea included the coastal waters stretching 12 nautical miles from the baseline.

The contiguous zone was determined as the maritime zone located adjacent to the territorial sea and extending 24 nautical miles from the baseline.

The exclusive economic zone is situated beyond the territorial sea and includes the whole of the contiguous zone, extending towards the high seas but not exceeding 200 nautical miles from the baseline in accordance with the provisions of the United Nations Convention on the Law of the Sea. Accordingly, the area of Lebanon's exclusive economic zone would be 22,730 km<sup>2</sup>, i.e. around twice Lebanon's area.

- Decree No. 7968 dated April 19, 2012 stipulated the formation of the Petroleum Regulatory Authority and its board of directors was appointed by virtue of Decree No. 9438 issued on December 13, 2012. The prequalification phase calling on companies to participate in offshore licensing rounds was set out in Decree No. 9882 issued on February 16, 2013.

## Petroleum Regulatory Authority Formation

The Petroleum Regulatory Authority board of directors consists of 6 full-time members appointed for a 6-year term that may be renewed only once by virtue of a decree issued in the cabinet on the basis of a proposal by the Minister of Energy and Water. The Authority enjoys financial and administrative

autonomy with the Minister exercising tutelage authority over it. It does not fall under the Civil Service Council control and is subject to the posterior supervision of the Audit Court.

### Functions

The Petroleum Regulatory Authority exercises the following powers:

- Conducting studies to promote potential petroleum resources in Lebanon.
- Drafting invitations for bids, tender requirements and licenses.
- Managing, monitoring and following up on petroleum activities and the proper implementation of licenses.
- Managing petroleum activities data and keeping petroleum register.

The board of directors convenes on regular basis, at least once every two weeks, and all decisions are taken by majority vote. In case of a tie, the president decides. Recommendations are issued unanimously and in case of failure to reach unanimity, each member drafts his remarks in the recommendations.

### Members

Sectarian and political quotas did not spare the appointments to the Petroleum Regulatory Authority board of directors. After several push and pull rounds, the Cabinet issued Decree No. 9438 on December 13, 2012 assigning each of the major 6 sects one seat in the board. Disagreement over the president's sect was resolved through rotation with each member assuming presidency for one year in alphabetical order according to their last names.

Members of the board of directors are:

- Assem Riad Abou Ibrahim (Druze), current president and head of the Quality, Health, Safety and Environment Department.
- Gaby Fouad Daaboul (Greek Orthodox), head of the Legal Affairs Department.
- Wissam Edmont Chbat (Maronite), head of the Geology and Geophysics Department.
- Nasser Mostafa Htait (Shia'a), head of the Technical and Engineering Department.
- Wissam Mohammad Ali Al-Thahabi (Sunni), head of the Economic and Financial Department.
- Walid Nadim Nasser (Greek Catholic), head of the strategic Planning Department.

## Indemnities

Decree No. 9975 issued on March 6, 2013 granted the Petroleum Regulatory Authority members the following indemnities:

- Lump sum salary: LBP 22 million per month
- Housing allowance: LBP 3 million per month
- Work abstention obligation indemnity: one third of the monthly salary or LBP 7,333,333. Half of this amount is paid on a monthly basis and the second half adds up to a total of LBP 264 million to be paid as a lump sum at the end of each member's term of office.
- Members and their families (wives and children) are entitled to full health coverage benefiting from first class insurance policy. In addition, they are granted annual education scholarships amounting to LBP 6 million for each child in school and LBP 10 million for each child in university.

## Current Estimates for the Available Amounts of Oil and Gas

The current estimated quantities of oil and gas vary and it is unlikely to reach an accurate number before the commencement of drilling and exploration works. However, the surveys conducted in the exclusive economic zone and the calculations made by the Minister of Energy and Water estimated that there were approximately 30 trillion cubic meters of gas and 600 million barrels of oil. According to current market prices, this translates into USD 3.34 per 1000 cubic meters and USD 100 per barrel. Therefore, the potential oil wealth would amount to roughly USD 166 billion, a number that is expected to rise in light of the current oil market trends, especially that the price of the oil barrel is forecasted to jump to USD 237 by 2040.

## Government Plan

The Lebanese government laid down a phased plan aimed at extracting Lebanon's oil resources successfully.

**Phase 1** (February 15, 2013- March 28, 2013): Launching the prequalification phase by inviting companies to apply for a license. Over 200 companies reviewed the prequalification documents but only 52 submitted their applications. 46 of those were shortlisted and the results were issued on April 18, 2013. The names and nationalities of the shortlisted companies are highlighted in the following Table 1, including 12 operating companies each of which

holding assets that exceed USD 10 billion and 34 non-operating companies with each holding assets that exceed USD 500 million.

**Phase 2** (May 2, 2013- November 4, 2013): Launching the first licensing round. After receiving the tender document, companies submit their proposals and the evaluation occurs between November 4, 2013 and the end of January 2014.

**Phase 3** starting first of February 2014: Holding negotiations with companies and awarding contracts during February 2014.

**Phase 4:** Exploration phase, which would last for 18 months or more, meaning until June 2015.

**Phase 5:** Starting the excavations and extractions expected in 2020.

## Obstacles

So far, things have been going as planned. However, two obstacles stand in the way:

### First obstacle

The resignation of the government in late March 2013 and the failure to form a new cabinet hinder the issuance of certain decrees, necessary to finalize the phased plan, particularly the decree related to the delineation of offshore blocks and their distribution among winning companies and that regarding the exploration and production agreement. Failure to conquer this obstacle before November 2013 would result in delaying the project.

### Second obstacle

This obstacle has more serious implications and may shatter the Lebanese dream due to entrenched territorial disputes between Lebanon and Israel over maritime territories, which are yet to be delineated. Israel has gnawed along 860 km<sup>2</sup> of these territories and rumors suggest that it has started extracting Lebanese oil using advanced technologies.

Undoubtedly, Lebanon has entered a new and promising juncture that may help him transition from a debt-laden oil-importing country to a resource-rich one with revenues and profits invested in clearing its debts and optimizing the public utilities' sectors.

**Names and nationalities of the 46 companies that qualified to participate in offshore licensing rounds**

Table 1

Company	Nationality	Status
Anadarko	American	Operator
Chevron	American	Operator
ENI International	Italian	Operator
Exxon Mobil	American	Operator
INPEX	Japanese	Operator
Maersk	Danish	Operator
Petrobras	Brazilian	Operator
Petronas	Malaysian	Operator
Repsol	Spanish	Operator
Shell E&P	Dutch	Operator
Statoil	Norwegian	Operator
Total	French	Operator
Carin India	Indian	Non-operator
Cairn (UK)	British	Non-operator
CC Energy	Lebanese	Non-operator
Crescent	UAE	Non-operator
Crescent/Apex	UAE	Non-operator
Dana	British	Non-operator
Dana Gas	UAE	Non-operator
Dragon Oil	UAE	Non-operator
Edison	Italian	Non-operator
GDF Suez	French	Non-operator
Genel Energy	British	Non-operator

**Names and nationalities of the 46 companies that qualified to participate in offshore licensing rounds**

Table 1

Company	Nationality	Status
Geopark/Petroleb	Lebanese	Non-operator
Heritage	British	Non-operator
INA	Croatian	Non-operator
Japex	Japanese	Non-operator
JX Nippon	Japanese	Non-operator
Knoc	Korean	Non-operator
Kogas	Korean	Non-operator
Kufpec	Kuwaiti	Non-operator
Lukoil	Russ	Non-operator
Marathon	Holland	Non-operator
Mitsui	Japanese	Non-operator
MOL Group E&P	Hungarian	Non-operator
Mubadala Petroleum	UAE	Non-operator
Novatek GBP Global Resources	Russian	Non-operator
OMV	Austrian	Non-operator
ONGC	Indian	Non-operator
PetroCeltic	Irish	Non-operator
PTT	Thai	Non-operator
Rosneft	Russian	Non-operator
Santos	Australian	Non-operator
Soco	British	Non-operator
Suncor	Canada	Non-operator
TPAO-Turkish Petroleum	Turkish	Non-operator

Source: Petroleum Regulatory Authority official website