

## PGS: Too early to speculate on Lebanon's oil, gas wealth

By Mohamad El Amin

BEIRUT: It is very difficult, if not impossible, to estimate Lebanon's natural gas and oil wealth before drilling activities commence, according to the regional manager of PGS MultiClient, one of two geological surveyors that have surveyed Lebanon's offshore.

"In my view, to talk about tens of TCF [trillion cubic feet of gas] or millions of barrels of oil at this stage is only guessing and could be misleading," Per Helge Semb told The Daily Star in an email exchange. "My view of what is correct to say at this stage is that the prospectiveness is high."

But David Rowlands, Mediterranean and Middle East multiclient manager of Britain-based company Spectrum, said international oil companies had bought close to \$110 million worth of geological data, which he said clearly showed his firm's estimates to be very reasonable.

"These companies would not have spent \$110 million to buy [geological] data if it was not certain that there are substantial gas reserves off the Lebanese coast," Rowlands told The Daily Star.

A Spectrum executive told the paper earlier that the gas reserves beneath the seabed near the southern coast of Lebanon was estimated to be 25 TCF, which is more than those discovered in both Syria and Cyprus.

Spectrum has conducted a 3-D seismic survey of 3,000 square meters off the southern coast of the country.

Some experts estimate the value of the gas reserves off the Lebanese coast at \$140 billion but Rowlands refused to make any estimation of the value of the gas.

"I am a geologist and not a financial analyst. We only provide the technical assistance and supply data to interested companies," he explained.

Lebanon has yet to complete the 3D seismic survey off the remainder of the Lebanese coast.

But Semb had a different view about assessing the size of gas reserves.

The way oil companies are assessing Lebanon's resources offshore, Semb explained, was by building models using all available geological information – a process that is not without its difficulties, particularly in Lebanon's case.

When a geological model is in place, oil companies can evaluate prospects and create scenarios

about the likelihood of a discovery, Semb said. In addition to seismic data, an oil company will try to gather all kinds of geological information.

"Quite often when you have a producing field in the vicinity you can use log information from wells to better understand what kind of sediments you can expect to find when you drill and [that] will make it easier to build a geological model," Semb said.

"But in and around Lebanon there are not many wells drilled where the information is publicly available, which makes things a bit more difficult."

To give early estimates for near-shore reserves, he added, it was important to understand the onshore geology before building a geological model.

Last month, Lebanon relaunched onshore surveys decades after the last surveys were conducted.

On Feb. 19 PGS completed its sixth survey offshore of Lebanon. The 2,200 square kilometer PGS MC3D survey will be available for the upcoming license round.

March 1 marked the completion of PGS' seventh survey, with data covering 330 square kilometers to be made available for the upcoming license round.

The two surveys saw the deployment of "GeoStreamer," a PGS developed technology, which offers significantly more information compared to conventional technology, said Semb.

"The benefits we see offshore Lebanon is that we are able to get a better image of the deeper sections and thus are able to better understand the geology and build a more correct geological model," he said.

The sixth survey along the southern half of the Lebanese coastline covered gas-prone Tamar sand structures in the Levantine Basin in addition to potential oil-prone Mesozoic features on the Levant Margin, Semb said.

The seventh survey extended a survey acquired by PGS in 2007 and covered a very promising structure for potential gas reserves.

Semb believes Lebanon's offshore offers many prospects: "The prospectiveness is high and all the discoveries nearby, in Cyprus and Israel, increase the chances for discoveries in Lebanon, assuming that the same sediments extend into Lebanon – which we believe is likely."

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