***Energy in the Eastern Mediterranean - Promise or Peril?***

**Egmont Palace**

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***An industry approach of East Mediterranean Energy Plays***

Monsieur le vice-Premier ministre,

Monsieur le Secrétaire général du Service européen d’action extérieure,

Your Excellencies,

Ladies and Gentlemen,

Good afternoon.

I am delighted to participate in today’s conference here in Brussels and address East Mediterranean Energy plays along with such esteemed fellow panelists. I thank the Egmont Institute for organizing this cycle and particularly today’s event, presenting a comprehensive approach to the question of energy development in the East Mediterranean region - its potential political and economic consequences. If you allow me, I will stick closely to the technical and economic issues by giving you a glimpse of how industry views these energy plays.

The title of today’s meeting is quite revealing- ‘Energy in the Eastern Mediterranean – Promise or Peril’ – whereas energy development usually augurs promise by empowering economically the country or countries in question, in this part of the region, the answer is, I guess, multifold.

***Context***

It is worthwhile remembering that the East Mediterranean is only one of many new hydrocarbon plays around the world. Far from reducing its importance, it is essential to put it in context: the past decade has seen an unprecedented emergence of new hydrocarbon plays and sometimes re-awakening of provinces that were thought to be in deep sleep.

New and sophisticated technologies developed and financed by international oil companies have allowed for the tapping-in of reserves that were unknown of, or thought out of reach in their complexity, depth and costs: deep offshore, subsalt or non conventional hydrocarbons like tight, sour and shale gas, extra heavy oil and oil shales, open new areas to exploration and production. Among them, let me just name Angola and Brazil, Canada with its oil sands, East Africa with Mozambique; you all have heard about the shale gas and now shale oil that revolutionize not only the United States energy scene but also revive its petrochemical industry, with associated benefits in transformative industries. Last but not least, the deep offshore East Mediterranean play raises new hopes in an area which seemed to have been a little forgotten in the distribution of raw energy wealth.

Evidently, research and development of state-of-the-art technology and the implementation of such innovative projects were facilitated by the dramatic oil price surge from the 20-25 $/bbl bandwidth in the early 2000 to the 100-120 $/bbl range we are seeing today. This link between energy price and resources is always to be kept in mind.

Today and at current prices, we believe resources to be plentiful, contrasting sharply with the peak oil debate we were having only a few years ago. Increased resources feed the world economy as oil resources are now, at end 2012, estimated at more than 100 years at 2012 consumption rate. As for natural gas resources, we are now standing at more than 140 years of 2012 consumption. Truly a spectacular surge, thanks to a large extent to the maturation of so-called unconventional hydrocarbon resources!

The role of international oil companies (or “IOC”s) in making these resources available to consumers is of course pivotal. The research and development of pioneering technology is for one; most of the Majors support R&D programs that make enormous technological progress and strive towards its safe and cost effective implementation.

The management of complex multibillion dollar projects is another key aspect of the IOC’s role. An IOC’s international exposure and its ability to face challenges in the most difficult environments have proven time and again its lead over smaller, less exposed companies when it comes to bringing these projects to full size and reliable operation.

It is also the IOCs experience and LNG know-how and global marketing skills that give them the ability to tie-in far away resources to markets.

Last and certainly not least, the IOC’s application of high and uncompromising HSE standards is all the more essential in sensitive environments, the Eastern Mediterranean being a point in case.

***Facts and expectations***

But let’s go back to facts and expectations of the East Mediterranean. The offshore East Mediterranean is still a young exploration province where, historically, exploration has focused onshore, mainly in Syria and mainly on oil, as well as in the Egyptian Nile delta basin when it came to gas.

By the end of the 1990s early 2000, small discoveries of gas - like the Mari and Noa fields - were made in Israeli shallow waters in post (or above) -salt reservoirs as well as in Palestine, the Gaza Marine discovery.

Only in more recent years did deep offshore and seismic imaging technology developments allow the exploration of pre- (ie below) salt gas plays that make the success of the region today.

The first discovery of the kind was Dalit in Israël in 2009, followed the same year by Tamar, then Leviathan in 2010, also in Israel then Aphrodite in 2011 in Cyprus.

Though sizable, the magnitude of what has today been discovered needs to be put in perspective. Current estimates of probable reserves stand at 40 Tcf of which more than 30 Tcf are believed to be in Israel. This corresponds to 0,7% of proved world reserves. The associated production potential over 20 years would be around 4 Bcf/d, a volume equivalent to France’s or Turkey’s gas consumption in 2012.

The promises are quite bright: the figures of the US Geological Survey (an American science organization that provides impartial information among others on the natural resources we rely on) for “Yet to find” gas lie at around 120 Tcf, which would roughly correspond to 7 to 8 years of current EU consumption. The same USGS also gives an estimate for potential oil to be discovered, at a volume close to 5 Gbl of liquids (1,7 oil + 3,7 NGL). For the time being however, even if potential oil plays in the area have indeed been envisaged by geoscientists, no actual find has yet been made.

Clearly, a lot more exploration – of successful exploration needs to made over the next decade or two before volumes in the magnitude of those contemplated by USGS and other sources are actually firmed up. It is therefore essential in my view that expectations related to the creation of wealth linked with the region’s hydrocarbons potential are carefully managed by governments and companies, in good cooperation.

***Specificities of East Med resources***

Having shortly addressed the current and prospective volume of potential resources, let me turn to some technical, economic and political specificities of East Mediterranean hydrocarbons

First and foremost, I need to again underline that they require advanced technology to be discovered, developed, produced and brought to markets.

To accurately identify potential Subsalt hydrocarbon traps by seismic study, elaborate 3D treatments need to be implemented; the Total block 11 in Cyprus is a good example, where complex stratigraphic hydrocarbon traps are being chased.

Specific technologies for developing and producing in very deep offshore between 1000 and 2500 m water depth need to be applied. Furthermore, high environmental requirements in an ultra-sensitive marine environment where tourism is essential for local economies require extra design, construction and operational precautions. The likely need for LNG or even floating LNG installations emphasizes the issue.

Linked to the technical specificities, there is the projects’ economics that need to be considered as the relatively high technical cost are yet to be fully matched with the contractual and fiscal frameworks still being matured and developed to fit them.

In the case of Israel, the possibility to export up to 40% of reserves has recently obtained the green light, enabling to resume progress on the Leviathan export scheme; in Cyprus, a LNG framework is in progress, with the question of domestic supply pricing pending. In Lebanon, some uncertainty puts a veil over the applicable fiscal terms.

Finally challenges on the political level are evident: East Med resources belong to medium-size countries, whose understandable desire for effective competition and revenue maximization has led them to design small block sizes, which in turn has an effect on scale, exploration risk and hence attractiveness.

I will not elaborate on the highly sensitive issue of disputed marine boundaries, which has been developed to some length during the three previous conferences. Political heterogeneity characterizes the region and creates a volatile business environment – in this respect we remember however that Cyprus as a member of the EU offers a comparative advantage.

The previously mentioned characteristics (technical complexity, associated relatively high cost, moderate scale as well as contractual and political volatility) explain that the area until recently has mainly been a ground for smaller, independent but creative oil firms, with Noble leading the way. Local players have followed in their wake, like the Israeli companies partnering with the American independent Noble.

The scene has started to change, with major international oil companies like Total entering Cyprus: they are “natural” players in the region, which is in the neighborhood of their home markets. For others, the lack of scale may be an issue. In this respect, the Lebanese First round will be an interesting test of East Med plays’ attractiveness, for example as regards large US or Russian companies. For the latter, Gazprom has already positioned itself in Israel as a gas offtaker and potential developer. Woodside for its part seems more of an opportunistic actor, leveraging its significant Australian LNG experience.

***Valorization of East Med hydrocarbons***

The question of how to take East Mediterranean hydrocarbons to the markets is a key element in the picture. There are different gas valorization options; reserves size will determine which ones should apply, whether a discovery will be considered a local/regional resource or “big export” oriented.

To give an idea, for one LNG or large, long distance pipeline export project to be viable, reserves size needs to be about 8-10 Tcf, which is approximately Israel exportable reserves as of today.

While supplying the domestic market is a priority for states in order to reduce the cost of energy and electricity, private companies willing to develop and finance a discovery will look for the best achievable value.

There is of course the option of intra-regional sales, and regional market potential is indeed in line with medium size discovery volumes. Even though political and economic difficulties come into play in the region, there is hope that gas will be a determining factor for improved relations and cooperation in the region - as for example potentially between Israel, Cyprus, Lebanon and Turkey ; or Israël and Egypt etc. I know that these cooperations have been discussed in some depth at your previous conferences.

Europe would be a natural outlet for medium-large size volumes from East Mediterranea, provided gas prices are attractive and a cost efficient transportation scheme can be put in place. A pipeline via Turkey could also be an option if political problems are solved, but it should not be forgotten that there is a distinct flexibility advantage to LNG schemes as they allow for export gas to be directed to best value markets. These are in Asia today, with traditional buyers such as Japan or Korea, and emerging ones like China, India or Thailand, followed only by Europe. An important feature in this respect in today’s markets is that volume redirections have become common practice in the LNG industry, allowing for value optimization when long term contracted markets turn bad in terms of volumes or price.

Asian LNG markets are in our view an attractive potential outlet for significant size East Med gas reserves, but project developers will face strong competition from producers in the US, East Africa and Australia. Timing of projects is therefore of the essence and all measures allowing to speed up the evaluation, development and possibly pooling of reserves in the region should be taken.

The concept of reserves pooling can be particularly fruitful when it comes to optimizing development and even export schemes; country boundaries should not stand in the way of such optimization; let me just say that we at Total, as a private non-political entity, with some experience in the subject, can provide assistance and play a facilitating role in devising economic solutions for across border joint developments, putting political sensitivities aside for the common benefit of the parties.

Back to market outlets: the focus made here on Asian markets does not mean that Europe must lose out in the competition to attract East Med gas resources. It remains a very valid option through its institutional proximity and its strong potential incentives on the project financing side.

***In summary as a conclusion, what is Total’s approach ?***

We believe that the East Med stakes still need to be fully confirmed through challenging, high risk exploration. Let me remind you in this respect that the drilling and testing of one single exploration well costs in excess of 100 M$ and hardly ever suffices to prove the reserves required to declare commerciality of a field. Development, environmental, operational and commercialization challenges are many and are compounded by regional or local political and contractual stability issues. Even in a competitive business environment like today’s, with many opportunities open across the world, these challenges are uniquely matched by the ability of major international oil companies like Total, provided that realistic tender and contractual conditions, attractive fiscal terms where the upside is proportionate to risks, professional petroleum authorities - I am thinking here particularly of the positive Cyprus and Lebanon cases - and finally a political long term view that promises stability of the contractual environment and sound management of expectations, are at play.

Excellencies, Ladies and Gentlemen, let me conclude by saying that we very much hope for the confirmation of big resources and the improvement of political situation in the East Mediterranean- we can certainly do something for the former and hope for institutions such as this one to find a solution for the latter! I look forward to hearing your questions.

Thank you.