To Be or Not to Be a Gas Hub – By Gina Cohen (23rd April 2017)

Europe! Israel's cavalry, or East Med gas pipeline to be more precise, is coming to your rescue – or so our Ministry of Energy would like us to believe

Minister of Energy Yuval Steinitz and the Director General of his Ministry Shaul Meridor have proudly and repeatedly stated these last few months that Israel will be constructing the longest and deepest submarine gas pipeline in the world, about 2,000 km from Israel to Italy. This is in order to sell Israeli gas to Europe, in what has become known as the East Med gas pipeline, due to be completed by 2025. They have been traveling around the world like peacocks flaunting their colors, whilst gas experts are highly skeptical. The two are peddling a concept which may fail before it even leaves the drawing board.

The fact is that Steinitz and Meridor emphasize that this project will be funded by the private sector - Other Peoples' Money! They also risk awakening the Russian bear, are using the Israeli gas industry as their personal guinea-pig and as a possible spring-board for their political ambitions on the international scene. But the Russian bear is standing on their way, through low gas prices from onshore fields, which Israeli gas has no chance to beat, making such a venture a dead duck before it even hits the water. And if the two are under the illusion that prices do not matter, but politics does, they should ask the Americans who are struggling to sell their LNG to Europe, even though US gas, again onshore (and often associated with oil), is below $3 MMBtu. The European Commission does not buy gas – companies do, for profit.

After receiving a number of puzzled requests from European colleagues asking me "WHAT THE HELL is the meaning of this joint declaration signed in Tel Aviv on the 3rd April between the 5 energy ministers of Israel, Cyprus, Greece, Italy and the European Commission, I finally decided to provide my take on the lay of the land: European Union

Olive trees

It all starts with the members of the European Commission's desire to improve the terms of their natural gas contracts and reduce their dependency on gas imports from Russia. The EU has come a long way to achieve its first goal, as indeed in March 2017, the Russian gas company Gazprom agreed to a number of changes in its supply contracts with their European clients.

The two main changes are in gas prices and destination clauses, both somewhat interlinked. Until now, Gazprom's long term gas contracts were (1) mostly linked to the price of oil and (2) included territorial restrictions, forbidding countries to resell their gas, thus preventing cross-border flows of gas.

The destination clause restrictions made it possible for Gazprom to charge excessive prices especially to those countries that are the most dependent on gas supplies from Russia (e.g. Poland, Bulgaria, Estonia, Hungary, Lithuania and the Czech Republic). As stated, last month, the European Commission and Gazprom reached an agreement (now out for the consultation phase until May 4th), by which Gazprom has agreed to (1) remove any restrictions on their clients reselling gas between the countries and (2) ensure that future gas prices in Europe would increasingly be hub-based and would include frequent price revisions.

These revisions would be triggered, as stated in a communication from the EU commission on gas supplies in Central and Eastern Europe: “if a relevant customer’s gas failed to reflect the development of the border prices in Germany, France and Italy or the development of the gas prices at the liquid gas hubs in Continental Europe”.

Insofar as the European Union’s second objective, namely to reduce its dependence on Russian gas volumes, the EU is further than ever to accomplish this goal and has in fact stopped referring to this in formal documents and has even withdrawn any objections to Nord Stream 2.

Production of gas within the EU countries is decreasing and supply of Gazprom gas increased by 12% in 2016, reaching a peak of 179 bcm, which amounts to 40% of the total EU gas consumption.

With natural gas being the fastest growing form of primary energy and expected to reach 30% of the primary energy consumption in the EU by 2030, the EU – at least at the Commission level – has been very keen to diversify their sources of supply away from Russia, since a large degree of Russia’s power in Europe stems from its gas supplies to the continent.

Insofar as pipeline gas supplies are concerned, the EU’s main focus for diversification has been based on two projects: (1) the Southern Gas Corridor (SGC), which aims to bring gas from Azerbaijan and other areas of the Caspian Sea, and (2) supplies from Iran.

Iran, however, has been frustrated by the slowness of western oil and gas companies returning to the country because of the fear of President Trump re-imposing sanctions. This week (12^{th} April) it has yet again delayed its own licensing round and has recently turned to Russia (and to China) to help it develop the country’s hydrocarbon industry through investments and technology. Just this month, Russia has pledged to invest over $50 billion in Iran with this investment giving Russia the final say on how hydrocarbons will be produced from the fields in which it is involved and the countries to whom the gas will be sold. Iran even went so far as to state that the two countries had the ability to establish a joint international gas market, a formidable statement considering that Iran and Russia’s joint reserves amount to 2,780 tcf of natural gas, about 44% of global reserves.

Insofar as gas from the SGC project to Europe (which includes the South Caucasus, the TANAP and TAP pipelines), the project was experiencing problems of landing the final leg of the pipeline in Italy because of the need to uproot and then replant ancient olive trees at the entry point in Italy. Finally, the Italian Council of State affirmed end of March that TAP had all necessary permits in place.

However, even more fundamental than this, Azerbaijan has been experiencing a shortage of gas for additional exports due to a number of factors (lower production from some of Azerbaijan’s fields, growing local demand in Azerbaijan & higher sales to Georgia and Turkey). In addition, the SGC project’s economics are looking less compelling than they did when the project took its Final Investment Decision (FID) in 2013. Indeed, the full costs of transmitting the gas over the 3,500 km from the Shah Deniz field in Azerbaijan up to Italy has been stated to be $5.6 per MMBtu (namely, just for the transmission costs not including the gas price). With natural gas prices in Europe expected to remain within the $5-$6 MMBtu range for the foreseeable future, this project is understandably re-thinking some of its options (some of which include keeping all the 16 bcm in Turkey; diverting the line to Albania, Montenegro…; making the capacity available in TAP when the problems are solved for Russian gas from the second TurkStream pipeline).

With all these problems even if the current phase of SGC is completed, it is highly unlikely that it will see any further expansions, thus not providing any serious competition to Russian gas.

In addition to the above, Russia is counteracting any attempts by competitors to encroach on its European customers, with two new projects of its own, the Nord Stream 2 and the TurkStream projects. Both of these pipelines are destined to increase supplies of Russian gas to Europe, with the EU seemingly unable or no longer willing to object to their development.

And it is into this fray that Steinitz and Meridor enter the world scene. Except that they are not alone, they have willing collaborators in the form of the Ministers of Energy of Cyprus, Greece, Italy and even the European Commissioner for Energy Mr. Miguel Arias Canete.

So what is the game plan of each of these individual countries in wanting to promote the East Med gas pipeline?

Other than the fact that this show of solidarity between the 5 ministers provides them with seemingly endless occasions for photo opportunities, it is nevertheless interesting to delve deeper into some of the individual and conflicting interests of each country and the EC.

European Commission (EC)

Taking into consideration the above, the EC and some member countries – at least at parliamentary level - are indeed extremely keen to diversify and even replace some of their gas contracts which are terminating in the mid-2020s, such as with Russia and Algeria.

In fact, on the 3rd of April at a press conference in Tel Aviv, the EU Commissioner Cañete said that the Nord Stream 2 and the East Med simply cannot be compared: "the "Nord Stream 2 in no way provides any diversity or security of supply to Europe [as it will provide gas from Russia via a different route - GC], whilst the East Med line fits in exactly with this need", he said.

But is there, perhaps, another reason behind Canete's visit to Israel? First, with member states such as Greece, Italy and Cyprus supporting the project, the EC is also expected to support it. But also Cañete has never been happy with dependence on Gazprom and Russian gas. With the EC having had to settle with Gazprom and accept the inevitability of the Nord Stream 2 and TurkStream pipeline projects, a visit to Israel and support of the East Med gas pipelines provides a visible diversification. At least the EC is seen to be trying hard to promote other gas supply routes, no matter how futile this is proving to be.

Cyprus

Cyprus, like Israel has made a substantial gas discovery, but contrary to Israel it has so far not managed to buy, sell, import, export, transit, swap or consume any natural gas. It is therefore looking for an international market for at least 100 bcm of the 127 bcm of gas it has already discovered and hopefully for much larger volumes once the international majors it has managed to attract to the island (Total, Eni, ExxonMobil, Qatar Petroleum, Kogas, Noble) recommence their exploration operations. Recent markets Cyprus has been looking at include both Jordan and Egypt, but this has not progressed so far. However, selling directly to its sister countries in the EU would fit better with the island's vision of playing an important role within the EU. Indeed, Europe's dependence on gas supplies from Cyprus would elevate the island strategically and could enhance its security.

What Cyprus is adamant that it does not want to do is to sell any of its gas to Turkey, as long as the Cyprus problem remains unresolved, even though it is just a stone's throw away from the island and would thus be the most economically sensible option. In addition, Cyprus without a solution to the Cyprus problem wants to prevent Israel from doing a deal with Turkey, which would entail in the best and worst of cases, Israel and Turkey constructing a gas pipeline through Cyprus' EEZ against its will or being the cause of regional confrontation if Israel and Turkey reluctantly desist.

On the positive front, Cyprus as the only European member in the Eastern Med has been hoping since the discovery of the Aphrodite field at the end of 2011 to develop into an important energy hub, and as a service provider to the hydrocarbon industry, as well as an international maritime centre.

Greece

Greece is a small gas consumer, with consumption at about 3 bcm a year, and with gas only having reached 12% penetration in its energy sector compared to the European average of 21%.

But now Greece is keen itself to become the regional hub, rather than Cyprus or Turkey, and sees itself as the natural transit point for gas from the Caspian region and Russia to southern Europe. Indeed, Greece which is already connected to Turkey by pipeline is looking to enhance both its pipeline links and LNG facilities. The country is about to become a possible corridor for gas moving from east to west via such pipelines as TAP, TurkStream, IGI Poseidon (to Italy), or the IGB and/or through reverse flow in the Balkan Western line (the last 2 lines both to Bulgaria).

Maybe one more pipeline to Greece could enhance its claim to become a gas hub.

Italy

Italy, which in 2016 consumed huge volumes of over 70 bcm of gas with a large proportion of this coming from Algeria and Russia, is also due to become better connected to new gas pipeline projects. These are projects that are due to stretch into Italy from Greece and then northwards to Germany and onto Central and Eastern Europe (via a reverse flow by 2018 in the TENP pipeline).

Italy however is increasingly concerned at the hurdles experienced by TAP and the fact that the pipeline may either never land in Italy and/or if it does it will be carrying more Russian rather than Caspian gas. In fact, during the week of 9th April, Italy presented its National Energy Strategy in Rome, with the aim of preparing itself for a future role as a gas trading hub by increasing its supplies of pipeline gas, its LNG regasification capacity and moving ahead with the construction of more gas storage facilities.

Italian company ENI is also massively involved in the Eastern Mediterranean upstream sector with its 30 tcf Zohr field in Egypt due to come on line at the end of this year, other fields in Egypt and with its partnership in six exploration blocks in Cyprus (2, 3, 9, 6, 8, 11). If a pipeline was to be constructed from the East Mediterranean all the way to Italy, this could certainly go a long way to help Italy's hub (PSV) develop as a pivotal Mediterranean gas hub and to compete with the UK (NPB) and Dutch (TTF) hubs.

Italy is also competing against Germany's desires to be the European transit/hub, but that is another part of the puzzle

Israel

So why in my view is Minister Steinitz so strongly promoting the East Med project?

My belief is that Steinitz' objectives are either (1) self-interest: indeed, on the 27th February he said in an radio interview when asked what his ambitions are: "I'll tell you what I said when the Prime Minister asked me two years ago: my first priority is to be the Minister of Foreign Affairs and my second is to be the Minister of Energy", and added "I have never changed my order of priorities". " http://192.118.60.6/radio/2017/02/01/7563345.mp3,; or (2) he wants to make the new Israeli gas licensing round due to close on July 10 as attractive as possible, by demonstrating that additional Israeli gas, beyond Leviathan, has access to credible export routes.

He is doing this by stating, optimistically, that below ground there is a potential to discover another 2,000-3,000 bcm of gas, and that above ground Israel is now (1) a stable regulatory country (but is it after having voted only on the 2nd April to pass rather draconian emergency time regulations in the gas market with minimum public discourse on the matter), and (2) that there is a gas market into which new gas discoveries can be sold into.

The main problems with the East Med gas pipeline project are twofold as Dr. Charles Ellinas explains. The first is that "at such depths each pipeline could not transport more than about 14 bcm of gas a year because of the restrictions on the diameter of the pipeline which could not be greater than 24 inch, especially in the deepest section between Cyprus and Crete. Secondly, the price of gas in Europe would have to be above $8 per MMBtu to justify the costs of transmission over the 2,000 km". More gas discoveries would require another pipeline and double the cost.

My take on our gas

So can't we just be magnanimous and give the Minister the benefit of doubt, and that at least he is well-meaning?

My view is quite strong on this, that no, one cannot.

The reasons for this are that we risk angering the Russian bear with unknown consequences. In the very least, Putin may decide to object to other export projects Israel has a far greater chance of succeeding in, such as to Turkey, if he believes that our appetite will take us to even larger and more distant Russian markets. The fact that Steinitz has stated that his ambition is for Israel to replace depleting North Sea gas in Europe and not displacing Russian gas, is unlikely to have much credence with or appease Russia.

Another reason is that we are simply not being taken seriously. Steinitz is blurring the line between real projects that can be completed successfully and unrealistic projects that cannot. Finally, but of course certainly not least, it means that the Ministry of Energy's resources are invested, or wasted, in promoting the wrong project.

So what should the Ministry be focusing on?

On the export front, the main focus should be to promote the project to export gas to Turkey. In addition, if Israel does aspire one day to sell gas to Europe (if more gas is discovered and if prices increase), my view is that a better option to get gas from Israel to Greece is via Turkey and then onwards onshore from Turkey into Greece. Turkey and Greece are already connected by an onshore pipeline. From Greece, the gas could later be piped to Bulgaria, then Romania and Ukraine, by reverse flow in the Western Pipeline currently used to bring Russian gas to Turkey, especially since this line is expected to stop operating once the TurkStream is on line.

However, in this section of the article, I want to focus on what needs to be done in the local market and which are issues that fall 100% within the area of responsibility of the Ministry of Energy.

I sat with a colleague, Miki Korner, one of the top experts in the Israeli gas sector, and together we outlined briefly where the market is currently positioned and what we believe are the objectives to attain within 5 years.

Israel natural gas market status – April 2017

Upstream:

- Annual gas consumption of 9.7 bcm
- Tamar supplies 97% of the gas market (3% imported as LNG)
- FID taken to develop Leviathan, which will more than double the supply potential, it increases the infrastructure and security of energy supply.
- Tanin-Karish sold to the Greek company Energean, whose chances of developing the fields are more challenging and need a clear roadmap from the Ministry.
- There are no Israeli operators and according to existing regulation there is no possibility for an Israeli oil and gas company to be approved as an operator.
- The Italian company Edison is also present in the Israeli market, but hitherto has not been extremely active in the local market.
- The envelopes of the bidding process for the tendering of the 24 blocks will be opened on 10th July. There are concerns that there will be few and/or only lower level participants.

Mid- and Down-stream:

- For a considerable amount of time, there has been a lack of investment in the transmission infrastructure and for more than 3 years transmission sections that are essential to increase the linepack have not been approved (especially in the south). Since the volume in the infrastructure is insufficient, it causes a gas shortage during peak consumption times (pressure decrease in certain areas, especially as mentioned in the south). This causes the need to use expensive imported fuels and LNG.

The excess cost of alternative fuels is significantly higher than the cost of expanding the infrastructure.

- The distribution networks are progressing extremely slowly. The incentives that are provided are not invested where needed. Government funding should be provided to construct infrastructure (by the distribution license holders), in return for reducing the consumers' distribution tariff. The Natural Gas Authority's declarations and actions are not encouraging the connection to gas except for a fistful of large industrial consumers.
- Regulation imposed on the distribution companies is burdensome rather than helpful.
- Potential consumers are not connecting to the distribution networks because of the high infrastructure costs, the uncertainties regarding the timing of the establishment of the infrastructure and the minimum support offered by the Natural Gas Authority if not even their negative approach.
- CNG for transportation – on the one hand the State offers incentives but wants the Economic Committee of the Knesset to approve excessively high excise taxes, which are considerably higher than the incentives given. This approach has stopped any progress in bringing natural gas to the transportation sector as well as any chance of it developing in the foreseeable future. Although based on the Ministry of Finance's proposal, the tax rate might even be the highest in the world, no state revenues will in fact be levied, because investors will not put their money in this sector and drivers will not convert their vehicles to run on gas.
- Power stations: In 2016, the use of coal was reduced by 17% (thanks indeed to the Minister's decision in 12/2015), but coal is still responsible for 36% of the electricity generation in the market (49.6% of IEC production). This can be reduced considerably more. The urgent questions regarding this are: whether and to what extent the use of coal will continue to fall, how much and who will construct and operate the new gas stations (IEC/IPPs) and other pertinent questions.

The amount of gas demand in the market that will and can be consumed from the mid- and down-streams is unclear. There is uncertainty regarding the timetable and costs of the infrastructure and government support is too small and unequally spread. This all makes it much harder to develop Leviathan, Tanin-Karish and to ensure the success of the new licensing round.

Optional Objectives for 2020-2022

- Gain geopolitical benefits from the export of gas and increase state revenues from gas production.
- Increase the number of oil and gas companies and operators in Israel in the upstream.
- Enable conditions for Israeli companies to become an operator. This is fundamental, especially if the exploration tender is a flop.
- Ensure the enactment of supportive regulation and sustainable gas prices.
- Reach annual consumption of 15+ bcm: reduce coal to a minimum of +/-10% of the electricity sector, connect more factories, hospitals, commercial center, universities, etc. and development new sectors, such as transportation, ammonia, etc.
- Develop the required infrastructure:
    - Connect existing and new gas fields to enable supply of at least double the current demand.

- Enlarge the transmission network by at least 50%.
- Enlarge and speed up the deployment of the distribution network in all 6 districts and construct another 400 km of distribution lines.
- Connect 200 additional gas consumers

Conclusion

Constructing the longest and deepest gas pipeline in the world from Israel to Europe in cooperation with countries from the European Union would be a most impressive achievement for Israel and something that one could easily be proud of. The problem is that the chances of this being realized are minute and most of the variables that impact progress on such a project are beyond our control.

Realizing the objectives for the Israeli market, however, fall squarely within the prerogative and sphere of operations of the Minister and his ministry. If they focus on these goals, then there is a strong chance that most – if not all – can be achieved. The benefits to the Israeli market would be immense.