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"The Fourth Gas Corridor"

Perspectives, Uncertainties and Implications for Europe and Greece

Spiros Paleoyannis
Deputy Chairman IENE

INSTITUTE OF ENERGY
FOR SOUTH-EAST EUROPE

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Current challenges and business dynamics in the European gas industry

- Unprecedented macroeconomic, social and geopolitical trends and uncertainties affect decisively all businesses, including business in the energy sector
- The European gas sector in particular faces a number of all new and of paramount importance challenges (and uncertainties):
  - Issues related to future gas supplies
  - Security of gas supplies
  - Environmental protection policies
  - Long-term investment decisions
  - Market liberalization and regulatory uncertainties
  - New business structures and dynamics

The future of European gas

- Gas demand was spectacularly increased in Europe in the last two decades
- All sectors of the economy contributed to gas demand growth, but the main driver was (and will continue to be, at least for the next years) the power generation sector
- Gas demand growth rates forecasts vary, depending on the scenarios and the assumptions used by the analysts, as well as on the time horizon looking at
- However, even for the low demand scenarios, significant investments are needed across the entire gas supply chain in order the projected gas demand in Europe to be covered

Russian gas uncertainties and the European gas supply dilemma

- Given the above reality, Europe is currently facing a great dilemma about its future gas supplies
- On the one hand, Europe knows that Russia has a 40-year history of reliability in gas exports, but worries about a further increase in its imports dependence on Russian gas, simply because such an increase is not consistent with its security of supply
- On the other hand, Europe realizes that at least for the next five years, there is no realistic and secured alternative for massive gas imports from other producing countries located in Central Asia, Middle East etc.

Russian gas uncertainties and the European gas supply dilemma

- In addition, Europe worries about Russia’s ability to export enough gas in the years to come
- Gas production at Russia’s traditional “big three” gas fields is rapidly “coming off the plateau” and “Gas Bridge” strategy seems to reach to its limits
- Russia should urgently proceed with huge upstream and other relevant investments in the Yamal Peninsula and in the Barents Sea, in order to have new gas for both domestic needs and exports beyond 2011-2012
- Last but not least, Europe concerns about Gazprom’s by pass-and-develop strategy, because prevents its efforts to diversify gas supply sources and routes

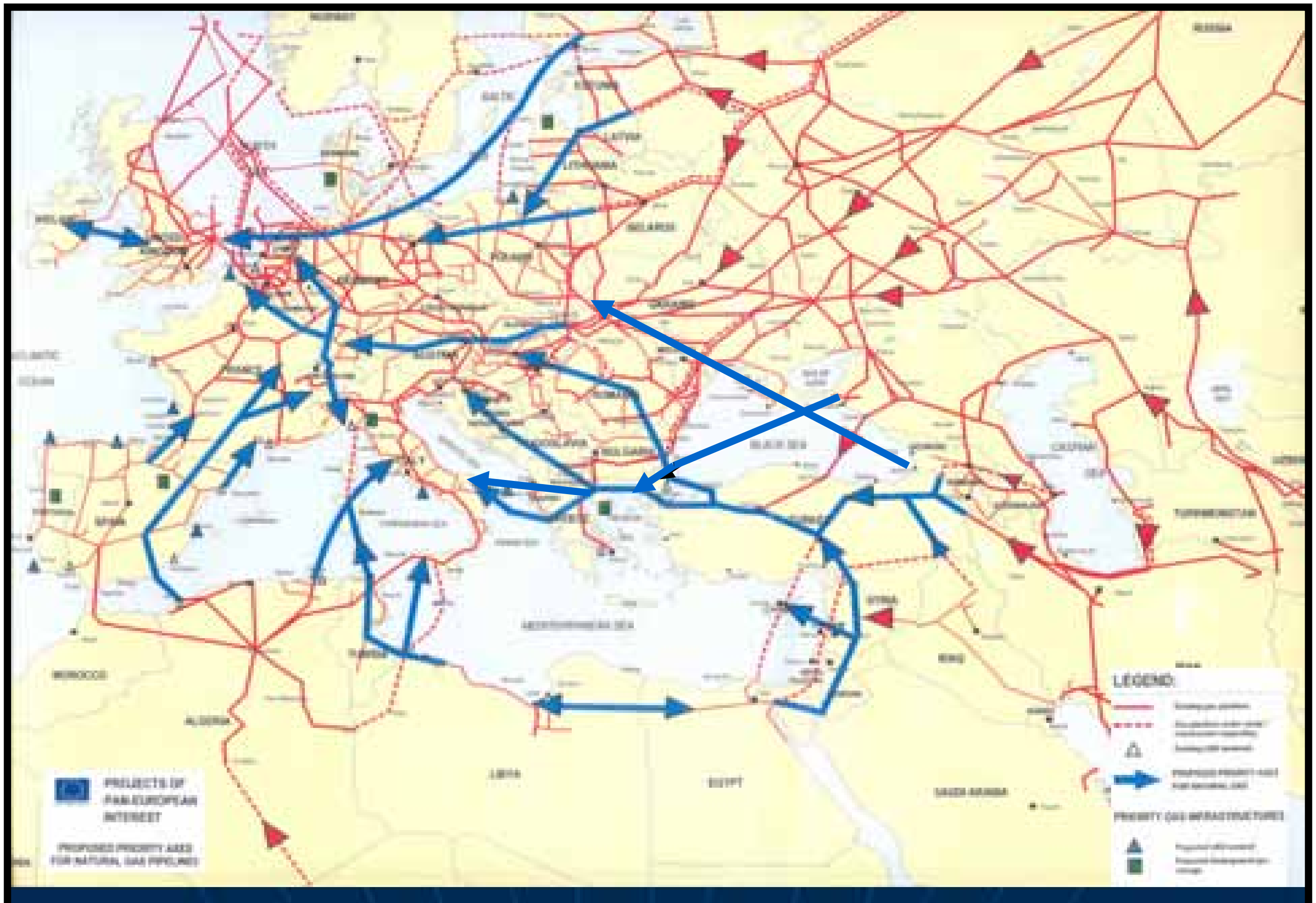
The “fourth corridor” idea

- The idea of establishing a new transport corridor for European gas supplies (the so-called “fourth corridor”) from the Caspian region and the Middle East countries has been around for more than a decade
- It’s basic concept is to supply gas to Europe via Turkey, not from a single gas producing country, but from several gas suppliers located in the above broader area
- European Union and USA strongly support the idea, because it could straighten Europe’s energy security, diversify its gas supply sources and routes, and reduce its dependence on Russian gas

The “fourth corridor” idea

- Similarly, many SE European countries are strongly interested for the “fourth corridor”, since, apart from obvious implications on regional security of gas supply, could upgrade the region’s role and attract international interest and investments
- To this end, a considerable number of gas supply pipeline projects (with a total capacity of nearly 80 bcm per year), targeting or crossing mainly SE Europe, have been proposed
- However, although many important developments were made during the last five years, the final shape of the “fourth corridor” and gas flows from alternative sources are still clouded

The “fourth corridor” pipelines



Perspectives and uncertainties related to Caspian and Middle East gas

Geopolitical tensions and uncertainties in the area

- Geopolitical tensions, political and ethnic instability and domestic security are always crucial factors for any gas pipeline project
- In our case, we witness an ongoing and long-standing intense political and diplomatic competition between USA and Russia to increase their influence in certain former CIS countries and secure “control” in the area’s gas producing countries and transiting routes as well
- This political and energy “war”, creates a very unstable business environment for project’s investors and lenders and may threaten Europe’s efforts to diversify its gas supply sources and routes

Perspectives and uncertainties related to Caspian and Middle East gas

Gas availability from alternative sources

- Gas availability from alternative sources is probably the most critical factor for the future of nearly all the “fourth corridor” pipeline projects
- Gas supplies from Iran (the world’s second richest country in gas reserves) are unlikely to occur in the near future, due to country’s political isolation and USA sanctions, as well as due to lack of huge investments in both upstream and export pipeline infrastructure. The same roughly applies also for Iraqi gas and to some extend for Egyptian gas
- The perspective for Turkmen and Uzbek gas flows to Europe, through the much discussed Trans Caspian Pipeline, remains still questionable and uncertain, especially after the recent Russia’s preempt gas deal

Perspectives and uncertainties related to Caspian and Middle East gas

Gas availability from alternative sources (cont)

- The only realistic option for European gas supplies seems to be the Azeri gas, not only because such a perspective gathers strong political support from EU and USA, but also because Shah Deniz Phase I gas production started and deliveries to Turkey and Greece commenced last year
- However, since all the Shah Deniz Phase I gas quantities (8.6 bcm per year) are either used in Azerbaijan or exported to Georgia and Turkey, Europe and “fourth corridor” pipeline projects should wait, till the time that Phase II gas production will come on stream (in 2013 the earliest).

Perspectives and uncertainties related to Caspian and Middle East gas

<u>Gas availability from alternative sources (cont)</u>

- At present, the gas outlook for Azerbaijan is still clouded and thus difficult to accurately predict how much gas would be produced in Shah Deniz Phase II and what quantities would be available for regional pipelines
- Worth to mention here, that many voices put these quantities at only 8-10 bcm per year, while we cannot ignore the existing constrains in the SCP export capacity
- Under such circumstance:
  - which pipeline project will manage to secure these limited gas supplies from Azerbaijan?
  - Or, even worse, will we witness once again another deal, this time between Russia and Azerbaijan and gas will be purchased “at market prices” by Gazprom?

Perspectives and uncertainties related to Caspian and Middle East gas

Competition among gas supply projects

- Interstate gas pipeline projects have to compete with other (existing or new) gas pipelines and LNG facilities in terms of non-gas costs (transportation costs and transit fees)
- Consequently, gas pipelines may be exposed in serious and unexpected risks due to possible deviations in the assumed gas transit volumes, which are necessary to support projects development and operational costs
- These factors of competition have became more critical in nowadays, since construction and material costs in pipeline projects rose substantially during the last years (more than 70% compared with 2000 costs, according to CERA/IHS indexes).

Perspectives and uncertainties related to Caspian and Middle East gas

Competition among gas supply projects (cont)

- As a result, even if future gas demand in Europe justifies nearly all the regional pipeline projects under discussion, Nabucco and South Stream will unavoidable compete each other, not only due to their completely different gas supply sources, but also because they target the same markets
- Similarly, South Stream and IGI will compete for gas transit volumes to Italy, since their sponsors (ENI and Edison respectively) are simultaneously market competitors in the domestic market, and thus competitive pressures in gas trading activities will move backwards to pipelines

Perspectives and uncertainties related to Caspian and Middle East gas

<u>Competition among gas supply projects (cont)</u>

- Having the above reality in mind will all the regional pipelines projects be implemented and if not who will be the winner?
- The answer is very related to many factors such as sponsor's capabilities to secure finance and construction of the pipelines projects, timely execution of the necessary commercial agreements both for gas supplies and capacity booking, final gas prices that each pipeline could offer in certain markets etc. etc.

Perspectives and uncertainties related to Caspian and Middle East gas

<u>Turkey's gas transit uncertainties</u>

- Due to its geographic position Turkey is a key transit player for non Russian gas
- The increasing gas demand in the domestic market (36 bcm in 2007 from 18 bcm in 2002), reduces rapidly BOTAS transportation system's spare capacity and limits gas transit possibilities to Europe
- Today, only 12-13 bcm of gas per year could be transited via the Turkish system
- Without new significant investment and expansion will not be possible to satisfy both the growing domestic gas demand and supplies to Europe after 3-4 years
- As a consequence, regional pipelines projects are currently obliged to compete for limited Turkish transit capacity

Perspectives and uncertainties related to Caspian and Middle East gas

The future of Russian-Turkish gas relationships

- Probably one of the most important factors for the future of all the “fourth corridor” pipelines projects
- The southern corridor idea cannot be translated into a reality without Turkey’s crucial role and, at the same time, such a perspective could directly be affected by relevant Russia’s strategic choices
- Turkey is increasingly rely on Russian gas imports (65% of country’s gas imports in 2007)
- However, during the last five years Turkey systematically worked to promote the east-to-west corridor and its gas transit and trading strategy

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Perspectives and uncertainties related to Caspian and Middle East gas

The future of Russian-Turkish gas relationships (cont)

- Since South Stream could in one or the other way affect Turkey's role as a key transit player for non-Russian gas:
  - Will Turkey renew its 6 bcm per year contract with Russia, which will expire in the near future (2012)?
  - Will Russia continue to apply the last years' strategy and insist in blocking or at least limiting the east-west flow of non Russian gas via Turkey?
  - Or Russia will partially revise its strategy and leave some room for limited gas transit through Turkey, mainly from Azerbaijan and Iran, but not from Turkmenistan, Uzbekistan and Kazakhstan?

Implications for Europe and Greece from further delays in regional pipelines

- From all the above it is clear that Europe should urgently take certain actions in order to secure substantial new quantities of gas the soonest possible and by all means support significant new gas infrastructure both upstream and midstream
- Similarly, SE European countries should systematically and hardly work towards the same direction, since both the expected gas demand in the near future and the struggle for control over regional gas supply routes could put the region into international attention (and conflict) and attract the interests of companies and governments from all over the world

Implications for Europe and Greece from further delays in regional pipelines

- Any further delay in the implementation of the regional gas pipelines not only could create serious problems for future gas supplies, but also could jeopardize region's efforts for gas supply sources and routes diversification
- Deteriorating prospects for gas demand due to current financial crisis, may soften the expected gas supply shortages in the region, but only for the next 1-2 years
- LNG could be an alternative for the expected piped-gas shortages in Europe, due to its continuously increasing role in the European gas supplies and the flexibility that provides
- However, its contribution cannot exceed a certain limit, due to certain restrictions to easily accessible liquefaction plants and the relatively low (and very unlike to be expanded, especially under current economic conditions) re-gasification capacity in Europe

Implications for Europe and Greece from further delays in regional pipelines

- Greece, although actively participates in the regional pipeline diplomacy/game and has to demonstrate some remarkable results towards the creation of the "fourth corridor", already faces gas supply shortage (gas demand in 2008 is well above the contractual quantities)
- In case that there will be soon certain developments towards the implementation of anyone of the IGI, TAP and Nabucco pipelines, SE Europe and Greece will be benefited from future improved conditions for both gas quantities available and security of gas supply
- Otherwise, the shortage of available supply options for the entire region will be worsen in the years to come and the implications will be more severe

Implications for Europe and Greece from further delays in regional pipelines

- Greece's participation in the South Stream pipeline could also benefit the country, since the project is supported by the strongest gas player in the world (Gazprom), and thus gas availability should be considered as secured to a great extend
- However, it should be underlined that the project is still in its infant phase and it is not expected to be operational before 2015-2016, while there is no doubt that the pipeline will further increase region's (and Greece's) dependence on Russian gas
- Furthermore, Gazprom will increase its direct control over critical gas infrastructure in SE Europe and dominate the regional gas markets and gas prices

Conclusions

- Europe and SE European countries will need more gas from both traditional and alternative sources to fuel their socio-economic development, at least in the short and medium-term
- Consequently , significant new gas supply infrastructure (upstream and midstream) should be timely promoted, in a way that balances Europe’s wariness for increased dependence on Russian gas and its interests to gain access to alternative gas sources
- For the time being, gas availability and many other barriers/uncertainties prevent “fourth corridor” pipelines sponsors to make their final investment decisions

Conclusions

- Further delays in the implementation of the regional gas pipelines will have serious implications for both sufficiency and security of future gas supplies in SE Europe and Greece
- The soonest the barriers and the uncertainties will be overcome, the easiest Europe (and our region) will achieve its strategic objectives to secure sufficient gas quantities from alternative sources and pipelines
- Otherwise, Europe will be forced (probably in the near future) to find once again a “modus vivendi” with Russia for additional gas supplies, as it was happened many times in the past

THANK YOU FOR YOUR ATTENTION