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STRENGTHENING TRANSATLANTIC COOPERATION

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Summary: Taking stock of recent changes in the natural gas market, this brief explores the implications for transatlantic relations and interdependence between Europe and the Southern Mediterranean.

The shale gas boom may strongly reduce U.S. imports while an extended period of availability of LNG at good prices will ease European concerns regarding security of supply. That should allow for greater convergence in terms of energy security between Europe and the United States.

In order to diversify supply, the EU will rely more heavily on LNG than on new gas pipelines for imports. These trends may not favor Euro-Mediterranean energy interactions. Future Euro-Mediterranean relations could depend more and more on economic interests rather than energy interdependence.

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Mediterranean Natural Gas: Greater Supply, Less Interdependence?

by Franco Zallio[1]

For decades, energy has been the main factor of interdependence between Europe and southern Mediterranean countries. There is no better example of this interdependence than gas pipelines that span the Mediterranean, the first of which was built 30 years ago. This interdependence has been providing security of demand for Mediterranean gas producers as much as it has been providing security of supply for European consumers. Not even the severe Algerian political crisis of the early 1990s could produce traumatic supply interruptions like those witnessed in Europe in January 2009 stemming from the crisis between Russia and Ukraine. This interdependence can be assessed quite positively, and new export projects have been designed recently. Nonetheless, the international economic crisis and technological progress are changing the natural gas market scenario. Furthermore, Mediterranean gas prospects are complicated by the rapid increase in domestic consumption as well as by the often unfavorable commercial conditions that foreign investors face. Consequently, in coming years, the role of natural gas as a factor promoting interdependence between the Northern and the Southern rims of the Mediterranean could decline.

Oil and natural gas de-correlation and long-term contracts

The international economic crisis reduced energy demand, particularly the demand on natural gas given its dominant role in the power sector. The decline in demand was matched with an equally strong increase in the productive capacity due to both expected and unexpected factors.

On one hand, major new liquefied natural gas (LNG) supply came on stream, and on the other hand technological progress allowed for a net increase in the production of unconventional gas. In particular, the significant increase in U.S. production of shale gas has considerably unsettled the market equilibrium.

The uneven impact of the international crisis on demand and, above all, the different trends of supply resulted in a net de-correlation between the spot price of oil and that of natural gas. This is evident in Graph 1 comparing, in terms of heat units (MMBtu, millions of British Thermal Units), the spot price of Brent oil and two spot prices of natural gas, respectively settled at the U.S. Henry Hub (a physical hub) and the British National Balancing Point (a virtual hub).

Oil and gas prices followed two rather different trends. On one hand, oil prices peaked in summer 2008, rapidly fell in the latter months of the year, then rose quickly in 2009, stabilized, and increased again. On the other hand, gas price started as moderately lower than that of oil (and even higher,

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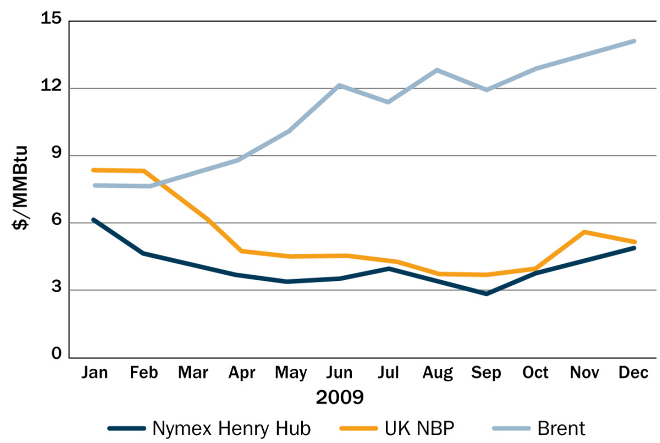
in terms of heat units, in the case of the National Balancing Point), then suffered a strong decline, reaching its lowest point in September 2009 before moderately recovering. As the Graph 1 shows, by the end of 2009, the gap between the two spot prices was very wide.

Graph 1



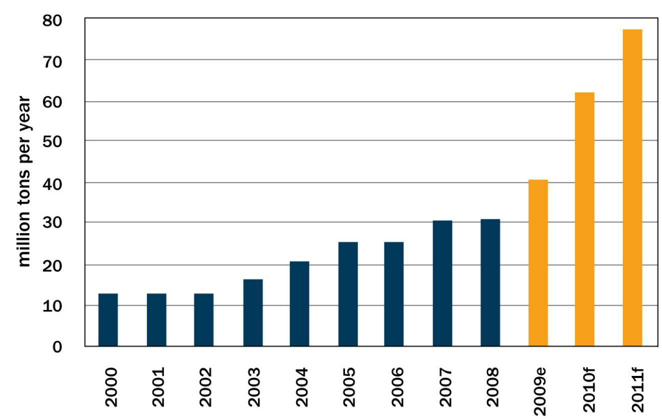
Source: Gas Strategies, *Europe's gas industry needs transformation to adapt to energy revolution*, December 2009.

Growth in U.S. production was rapidly perceived in other spot markets. The increased availability of locally produced gas decreased U.S. LNG imports. LNG backed out of the U.S. was redirected toward other regions. This contributed to the decline of spot gas prices in many areas of the world, starting with the United Kingdom.

However, in continental Europe, gas imports are dominated by long-term, take-or-pay, oil-indexed contracts. Therefore, the wide gap between spot prices of gas and oil implies a wide gap between spot gas price and the gas price of long-term contracts, giving rise to gas-on-gas competition. Actually, LNG flowing into spot markets crowded out gas supplied through long-term contracts: where possible, importers bound by long-term contracts reduced their intakes.

Gas-on-gas competition promoting low spot prices should characterize the entire first half of the current decade given that new waves of gas supply will come on stream in 2010 and in the following years.

Graph 2. Qatar: LNG Production

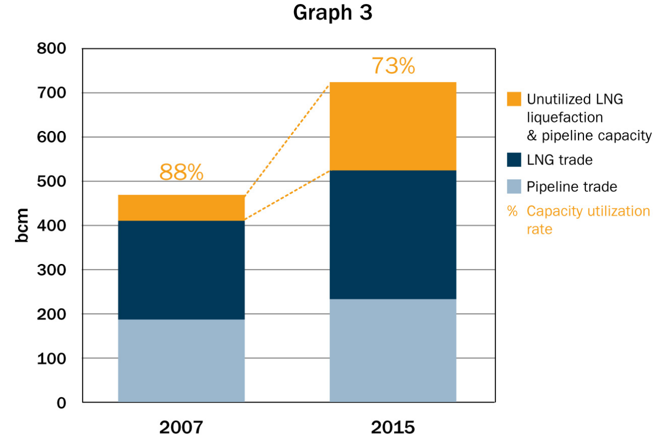


Source: QP; Samba

In Qatar this year, three new LNG trains will enter production, and by the end of the year reach the target of 77 million tons of annual capacity. LNG production, after a growth of more than 30 percent in 2009, should increase this year by about 40 percent, and a further increase is expected for 2011 (see Graph 2). In Yemen, the 6.7 million ton LNG project, which was inaugurated last October, will reach full capacity within the current year. Furthermore, in the Mediterranean area, exports through the MedGaz pipeline, which connects Algeria and Spain with an annual capacity of eight billion cubic meters (bcm), will start this year.

Taking into consideration both projects already approved and those being planned, the *World Energy Outlook 2009* published last November by the International Energy Agency (IEA) forecasts "a significant under-utilization of inter-regional pipeline and LNG capacity around the world, amounting to around 200 bcm by 2012-2015 between the main regions, up from only 60 bcm in 2007"[2] (see Graph 3).

Graph 3



Source: IEA, *World Energy Outlook 2009*

[2] International Energy Agency, *World Energy Outlook 2009*, November 2009, p. 425.

Gas pipelines should be the first to undergo a decline in capacity utilization rate because, by exploiting the greater transport flexibility, LNG producers will sell into spot markets the output not absorbed through long-term contracts. Gas-on-gas competition should, thus, keep the spot price at low levels. This will exert pressures in favor of a renegotiation of long-term contracts, for what concerns oil indexation and/or contractual volumes.

If pressures to index-linking long-term contracts with spot gas prices (rather than with oil or petroleum products) would succeed, the expected fall in price of long-term gas supplies would stimulate demand. In such a scenario, not only would the unutilized production and transport capacity be lower than what was forecast by the IEA, but its composition would be different as well. Furthermore, it should be noted that, in a longer-term perspective, greater contract flexibility would facilitate a coordination of the major producing states, gathered under the Gas Exporting Countries Forum, to limit supply and support price.

Gas exporters in the Mediterranean region

These changes in the gas market find Mediterranean exporters in an already complex situation, characterized by a strong increase in domestic demand and by the often not-so-easy relations with foreign investors,[3] hindering the realization of investments necessary to find and exploit new reserves.

Algeria has invested in the gas sector since the 1970s, and it has been a pioneer both in LNG production as well as in the utilization of underwater gas pipelines. As the sixth world producer and fifth world exporter of gas, it holds the most considerable reserves of the Mediterranean region: 4.5 trillion cm, equal to more than 50 years of production at current levels. In 2005, Chakib Khelil, the Algerian Energy and Mines Minister, announced an ambitious investment program aiming at raising gas export capacity from 60 to 85 bcm by 2010. To date, the results have been disappointing and the realization of this objective is always postponed, currently until 2012, and some mention 2014 as the new deadline.

Certainly, the decrease in world gas demand could be viewed as the main factor behind the decline in 2009 of Algerian exports, which fell to 58 bcm compared to 63 bcm in 2008.[4] Nevertheless, the country's energy policy can be deemed responsible for the lack of success in increasing both productive capacity and exports. High subsidies inflate domestic demand, which steadily increases,[5] thus limiting exports in a situation where production is stable or where it increases only slightly given the problems faced in developing new gas fields.

Problems go beyond exploration and exploitation of reserves; they also involve transport abroad. The goal of reaching 85 bcm in exports should be attained thanks to the expansion of the TransMed gas pipeline, the construction of MedGaz and GALSI (two 8 bcm pipelines directed toward Spain and Italy, respectively), and the installation of new trains for the production of LNG both in Arzew and Skikda. Of these projects, only the TransMed expansion and the construction of MedGaz have been completed on schedule, albeit the date by which MedGaz should become operational was postponed from 2009 to 2010.

The production launch of the new LNG trains was postponed from 2009 to 2012 (for Skidka) and from 2010 to 2013 (for Arzew). As far as GALSI is concerned, the government has not yet made a final decision regarding its construction. In the best-case scenario, it will not become operative before 2014. Downstream projects (refining and petrochemicals) are subject to a similar stall for analogous reasons, namely uncertainty regarding the availability of suitable resources at competitive prices. Difficult relations with foreign investors, due to tough contractual and fiscal terms, play a central role. The 2006 amendments to hydrocarbons law are of particular relevance in this case. These difficulties are highlighted by the modest results of the last two oil and gas bids. In December 2008, only four out of 16 areas on offer were awarded, and results have not improved much by December 2009, when only three out of the ten available exploration and production licenses attracted bids.

While a reassessment of Algerian energy strategy appears necessary, its realization seems uncertain, and it became even more so after the investigation of Sonatrach, carried out in January 2010, leading to the removal of its CEO and many of its senior managers on corruption charges. This may be read along the usual Algerian narrative of clan disputes, contrasts between the president and the military, the active role of secret services, etc. However, an episode of this magnitude and one that concerns a company of national importance (Sonatrach is second only to the government in terms of employment, and it nearly produces the country's entire exports) could trigger consequences that go beyond the regime's internal balance of power, touching upon energy policy and relations with foreign investors.

Egypt, like Algeria, is witnessing a rapid increase in domestic gas demand, but unlike Algeria it has adopted an attractive legislation

[3] "Tough Investment Climate Darkens North African Upstream Prospects," *Middle East Economic Survey,* Vol. 52, no. 44, November 2, 2009.

[4] Richard Nield, "Algiers' plans for expansion unravel," *Middle East Economic Digest*, Vol. 54, no. 3, January 15-21, 2010.

[5] According to the Commission de régulation de l'électricité et du gaz, in 2014 local consumption should reach 40 bcm. This portrays a net increase compared to the 25 bcm of 2008.

that allowed for a strong increase of foreign investments, especially concerning offshore gas. This spilled over into a rapid growth of gas production from 14 to 59 bcm between 1998 and 2008. The increase in domestic demand was just as fast, and in 2008 it touched 41 bcm, while exports were mainly carried out via LNG with more limited trade through pipelines. The Arab Gas Pipeline connects Egypt with Jordan, Lebanon, and Syria, and it could be extended to reach Turkey so that Egyptian gas could be exported to the EU. Furthermore, an underwater pipeline supplies modest gas quantities to Israel. The limited proven gas reserves give rise to a competition between growth of local demand and export targets. The Egyptian government has assigned priority to the use of gas for local consumption, and in 2008 it decided to withhold, for at least two years, negotiations regarding new export contracts. Consequently, the construction of a second LNG train in Damietta was frozen, while a 9 bcm gas pipeline connecting Bani Sueif and Assuan was built to supply cement factories and petrochemical plants of Upper Egypt. In order to contain the growth of domestic consumption, the government launched in 2007 a program to reduce public subsidies for energy products. However, the implementation of the program has been interrupted recently so as not to overburden families' and companies' budgets already weakened by the international crisis.

Given its long-lasting international isolation, **Libya** is still in an initial phase of exploiting its natural gas resources. In fact, it possesses only one consistent channel for export purposes, namely the Green Stream gas pipeline with an overall capacity of 11 bcm a year connecting it with Italy. Libya also possesses an LNG production plant built in the 1960s by Exxon with an overall capacity of 3.5 bcm. However, because of international sanctions, the plant has never been fully operational, and it has an effective capacity of only 1 bcm per year (in 2008 it produced 0.5 bcm of LNG, which was exported to Spain). Libya intends to significantly increase its gas production, replacing oil both in the electricity and industrial sectors, in order to have surplus oil for export and increase gas exports. However, the results of recent explorations are rather disappointing. Consequently, production increases could be slower than anticipated. Furthermore, while still attracted by the potentials of the country, foreign investors' involvement is constrained by the strong uncertainties surrounding institutional and commercial frameworks. For example, in 2009 Shukri Ghanem, chairman of the National Oil Company and a former prime minister, was suddenly dismissed only to be reinstated two months later. On the commercial front, the request by the NOC to adjust old EPSA-3 contracts to the current EPSA-4 model is standing as a stumbling block for foreign investors who have not yet begun production.

Transatlantic implications and Euro-Mediterranean relations

While Europe and the United States are affected differently by the trends described in the first paragraph, they could both draw considerable benefits. The situation in the United States is particularly favorable thanks to the shale gas boom. In 2009, the United States was once again, and for the first time since 2001, the number one world gas producer, overtaking Russia, whose production dropped due to the decrease in European demand.

Ample reserves coupled with a solid North American market system (characterized by large exchanges with Canada) allowed the United States to be, for a long time, self-sufficient in terms of gas, and thanks to new shale gas production, it is on track to become so again. The increase in production made imports of LNG less necessary. As far as the Mediterranean area is concerned, in 2008, the United States ceased to import LNG from Algeria[6] but continued to import from Egypt, which it has done since 2005.

Actually, the United States mainly had an indirect interest for Mediterranean gas, viewing it as a chance to reduce European dependence from Russia (as in older times from the Soviet Union). By loosening supply concerns, gas market changes should allow for a higher convergence in terms of energy security between Europe and the United States, where the former focused so far on gas while the latter on oil. This would render the EU-U.S. Energy Council, created last November, more effective and would support the increasing importance of energy in transatlantic relations.

In a market dominated by long-term and oil-indexed supply contracts, such as in continental Europe, the impact of the tendencies described in the first paragraph will be slow. However, the perspectives of an extended period of large availability of LNG at good prices will ease European concerns regarding security of supply. The new European Energy Commissioner, the German Günther Oettinger, starts his new role in a scenario rather different from that faced by his predecessor. The Latvian Andris Piebalgs faced serious worries about European energy security, especially in relation to dependence on Russian gas after the 2006 and 2009 interruptions of supplies coming through Ukraine.

[6] Since the 1970s and until 2007, the United States was a regular customer for Algerian LNG. U.S. energy relations with Algeria remain significant. The Texas company Anadarko is the main international operator in the oil sector with a productive capacity of more than 500 thousand b/d. Furthermore, a new block will enter production by the end of 2011.

[7] An example is the 20-year agreement signed in 2009 between Poland and Qatar to import 1 million tons of LNG per year starting from 2014.

In such a new scenario, the temptation for the EU will be to focus on LNG, which currently abounds, in order to diversify supply sources, rather than focusing on the realization of new gas pipelines for imports or on new gas interconnections between European countries.[7] If the supply structure will slowly change, given the characteristics of the European market, perceptions and priorities related to energy security will change quickly. Such changes would not favor Euro-Mediterranean interdependence in the gas sector. Projects such as the Algerian GALSI or the extension of the Arab Gas Pipeline toward Turkey to supply continental Europe would lose priority, and their realization would become more remote.

Furthermore, thanks to LNG flexibility, those suppliers who were previously off the market due to geographical distance will now become accessible. Competition among European gas suppliers will become more intense, and the importance of geographical proximity will decline. Commercial incentives for investments will gain importance over proximity, but not without creating further difficulties in Algeria and Libya for the development of resources.

Mediterranean exporting countries, and above all Algeria, will be subject to pressures in favor of a greater flexibility of existing long-term contracts and to pressures to grant more favorable conditions to foreign investors for exploration and development of gas reserves. This latter issue is of particular relevance because the less attractive commercial incentives to foreign investors are, the less will be the role of gas in promoting interdependence between north and south of the Mediterranean.

Some may claim that the declining role of gas as a factor promoting interdependence will be compensated by the growing European interest for electrical interconnections with Mediterranean countries. This is evident in the inclusion of the Solar plan among the projects of the Union for the Mediterranean, as well as in the first steps taken within the DESERTEC project, with the scope of exporting to Europe solar energy produced in southern Mediterranean countries. Nevertheless, waiting for a real bankability of the Solar plan and DESERTEC—which looks rather remote these days—energy interdependence across the Mediterranean seems doomed to decline.

So, if for three decades energy stood as the main factor of interdependence in Euro-Mediterranean relations—compensating for the limited economic integration—today economic interests, supported by the very positive economic growth Southern Mediterranean countries registered in recent years, can take over the key role in promoting interdependence between north and south of the Mediterranean.

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