

Geopolitical Constraints of the Italian Security of Energy Supply

By Andrea Qualiano*

The Italian energy sector is characterized by a significant dependence on hydrocarbons that in 2005 accounted for 87% of the overall domestic energy consumption. Basically, Italy relies predominantly on oil and natural gas, both widely used in the power generation sector and in the civil and industrial sectors. Considering the relative scarcity of domestic energy reserves, Italy must import fossil fuels in order to cover its energy needs.

According to O&G Journal, Italian oil proven reserves in 2006 amounted to 622 mbl, the third largest among European Countries. Domestic oil consumption is actually estimated at 1,8 mbl/d, meanwhile production has a limited capacity reaching 155,000 bl/d. In order to balance the gap between demand and supply Italy imports oil for 93% of its total oil demand.

Basically, oil is imported from a variety of geographical areas like North Africa (38,1%), Russia (16%), Persian Gulf (13,3%), Iran (11,1%), Republics of Central Asia (8,9%), North Sea (4,6%) and Central America (0,1%).

That is the same case for natural gas, where proven gas reserves are estimated for 247 bmc, of which only 170 bmc are effectively exploitable due to technical and geological constrains. In 2006, domestic production was 11 bmc while gas demand reached 84.4 bmc, clearly outbalancing the overall supply towards imports (87%).

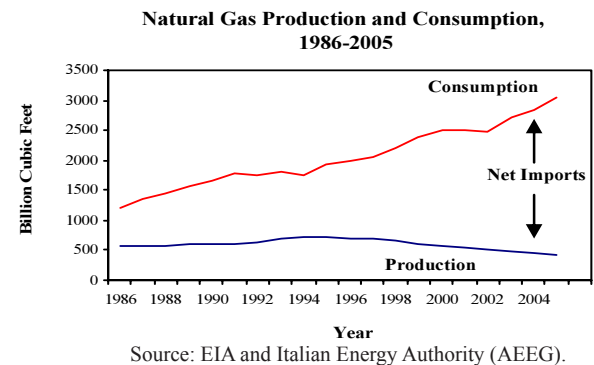
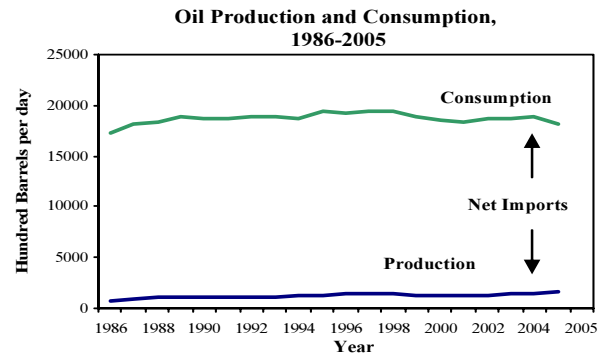
Geopolitical Dimension of Imports

Paradoxically, Italy imports natural gas from the same areas as oil but in this case imports are concentrated mainly in two countries, Algeria (31,6%) and Russia (29,6%), that together account for the 61,2% of the total gas imports. That situation is mostly due to the rigidity of the transport infrastructure, based on a cross-border pipeline system connecting the country with Algeria (TRANSMED), Russia (TAG, Trans Austria Gasleitung), Northern Europe (TENP, Trans Europa Naturgas Pipeline) and Libya (GREENSTREAM). Those pipelines are responsible for 95% of total imports, meanwhile the sole working LNG rigasification plant is actually supplying only 4%.

Subsequently, in an economy substantially dependent on hydrocarbon imports, the geopolitical dimension acquires a primary role in the security of supply. Indeed, a low level of diversification along with a high dependence on imports may endanger the security of supply. In fact, this dependency actually creates a vulnerability that must be managed in order to avoid any sort of supply interruption, especially in the gas sector where the rigidity of the transportation system doesn't allow any short-term, rapid switching between exporting countries.

Particularly, a cross-border pipeline system is far more exposed and vulnerable to geopolitical setbacks in areas wherein many interests are at stakes, as in the Ukrainian case. During winter 2005/2006, an international crisis occurred between Russia and Ukraine over the renegotiation of gas prices imposed by Gazprom. After failure of negotiations, on January 1st 2006, Russia closed the two pipelines dedicated exclusively to the Ukrainian gas supply, provoking an unexpected interruption of gas flows in the three other pipelines crossing Ukrainian territories and directed to Europe. Following the shut down, most of the continental European Countries were hit by gas shortages with an average deficit of 29%. In order to cover TAG's shortfalls (reaching 24%), the Italian government responded principally by maximizing imports from the other pipelines, calling heavily on gas storage (delivering 70% of their total capacity) and switching fuels from gas to oil in power plants that would allow it.

Nevertheless, recent tensions between Russia and its neighbouring countries have increased concerns about Russia's reliability in supplying gas. The Georgian case is a good example of what European countries fear. On January 2006, for undefined reasons, an explosion blew up the sole pipeline connecting Georgia with Russia, leaving Tbilisi without gas for several days. It is signifi-



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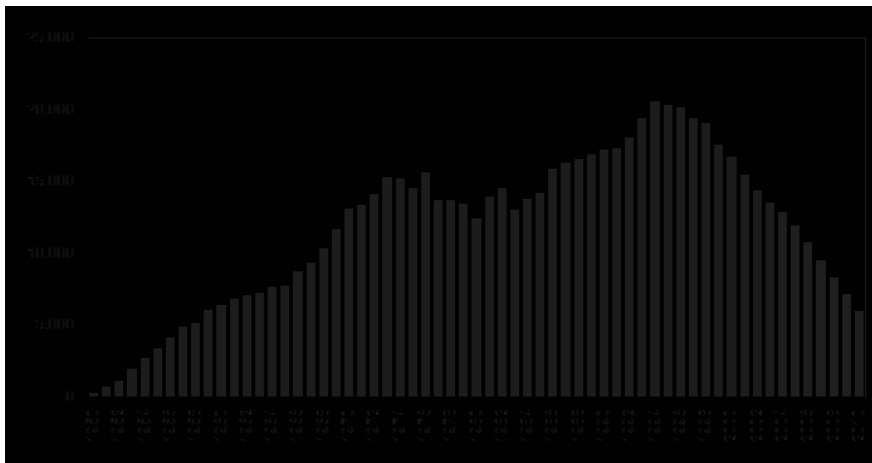
cant that Georgia was one of those former Soviet satellite states, like Ukraine and Moldavia, questioning Gazprom about the unanticipated raise of gas prices. For some analysts, this is a sort of Russian punishment for having moved away from its influence and adopted western economic models for opening their markets to foreign investments.

Another relevant geopolitical issue concerns the current closeness between Moscow and Algiers that have recently tightened their relations in the gas sector with the risk of a future “gas cartel” that might strengthen their dealing power against Italy and the rest of Europe. An example of this new cooperation between Russia and Algeria is the acquisition by Gazprom of some of Sonatrach’s stakes in the GALSI project, which in 2011 will bring Algerian gas to Italy by an undersea pipeline landing firstly in Sardinia and then in Tuscany. Moreover, by following gas sector liberalization, both Gazprom and Sonatrach will get access to the Italian downstream, strengthening their role in the Italian energy sector.

Beside these geopolitical constraints, the Italian gas situation is becoming far more complex due to falling domestic gas production, estimated to plunge from the current 11 bcm to 5 bcm in 2010.

Subsequently, the reliance on imports will be dominant. Thus, the import of natural gas by pipeline is no longer sufficient to ensure a stable gas supply and handle the increase in gas demand in the medium and long-run.

Current and Estimated Italian Natural Gas Production, 1950-2010



Source: Italian Energy Authority (AEEG).

To face all these problems, Italy has been forced to shape its energy policy along geopolitical factors in order to reduce import risks and guarantee security of supply. There are two key issues that characterizes this energy tendency.

From Dependence to Interdependence

The first issue is the transformation from dependence into interdependence. Normally, in case of dependence, the more a country imports a specific good the more it will suffer from unpredicted interruptions, due to its impossibility to produce the good locally in the short run. This situation is completely different with fossil fuels, because of their scarcity and inability to be “re-generated”. Furthermore, by considering the

prisoner’s dilemma in a market structure wherein fossil fuel demand is rigid, the exporting country might be induced to assume a defection choice, since its dealing power is higher than the buyer’s.

By taking into account all these factors, Italy is trying to reduce this one-way dependence by transforming itself into a mutual exchange of goods and commodities. Consequently, there is a balancing reallocation of powers that shifts the former dependence into a mutual dependence. Subsequently, there is a sort of “embedded liberalism” in which the defection option appears not feasible for both parties, because neither of them would be better off in case of coercion. Practically, Italy is exchanging its technological know-how and hand-made and manufactured products for fossil fuels. This mutual exchange involves not only economic affairs. Italy is also promoting a political and multicultural dialogue for the purpose of tightening its bilateral relations with these exporting countries.

Diversification of Exporting Countries

However, the sole interdependence cannot assure a stable security of supply. For this reason, Italy is trying to diversify the producing countries in order to increase supply, control prices and finally to avoid the concentration of dependence on a few countries. While diversification has been successfully applied to the oil sector, due to its flexibility, there are still several obstacles hampering the diversification of natural gas exporting countries, mostly because of infrastructural constrains.

For this reason, the Italian government sees the potential of LNG to reduce the geopolitical risks related to pipelines, easily diversify gas suppliers, increase gas supply with a subsequent decrease of prices, and finally facilitate a spot gas market. Then, LNG facilities along with an improvement of gas storage capacity may encourage the creation of a physical gas hub, due to the Italian geographic position, that can strategically supply gas to continental European countries. Unluckily, this scenario is not yet

feasible due to the NIMBY syndrome that is opposing LNG facilities. In fact, of 10 rigasification plants proposed, only three have been authorized.

Eventually, LNG trade cannot resolve the geopolitical problems affecting the hydrocarbons import system. What essentially should become a top priority in the energy agenda is the reduction of dependence on fossil fuels, both for geopolitical and environmental reasons. Therefore, the Italian government is promoting innovative market-based systems to enhance the efficient use of energy products through innovation and new technologies (White Certificates) and stimulating the development and distribution of renewables (Green Certificate).

The main message of this article is that the problem of energy security is without short-term solutions. Only the coordinated use of an array of measures, national and international, can reduce the risks of energy crises while helping to manage emergency situations that could arise.

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