

## Europe's Gas Supply Security: Rating Source Country Risk

### François-Loïc Henry

#### Introduction: Abundance at risk

Europe is surrounded by abundant natural gas resources; physical availability is not in question. Beyond each EU country's own supply vulnerability issues,<sup>1</sup> (see "Europe's Gas Supply Security: Importing Country Vulnerability" by Andrew Macintosh), the actual availability of supply in source countries might be hindered by their production policies, transit issues, or domestic or international conflicts. Geopolitical risks to future gas supplies from source countries to the EU exist both in theory and in reality, but basically two major types of risks need to be taken into account: source risks and transit risks.

#### 1. Source risks & 'resource nationalism'

The term 'source risks' refers to armed conflicts, coups d'état, social disorder and so-called resource nationalism. These risks remain rather low in countries that already supply the EU, except in a few cases, such as Nigeria. In broad terms, the EU's principal suppliers can be considered safe partners. The issue of resource

nationalism in particular must be approached with care and understood factually rather than perceived through an ideological lens. The biggest losers with regard to this phenomenon are international oil companies and not necessarily European end-consumers. The 2009 gas shortage in the Balkans can be considered an exception, although its main cause is more economic and commercial than political.

Resource nationalism is no different from any other foreign policy issue in the sense that countries protect their interests, as they always have, in order to control their revenue flows and to meet social and political priorities. Thus they do not necessarily aim to use resources as weapons. The European Union must take this fact into account and integrate it in its foreign policy, and not consider resource nationalism a major threat. For the moment, there is no sign that a viable, OPEC-like natural gas cartel is emerging. Nor is one likely to in the future, for three main reasons. First, gas markets are likely to remain local (at the continental level) and dominated by long-term contracts, while a limited quantity will be traded freely on a spot market (which is a precondition for the formation of a cartel). Second, gas supplies are ample and it will likely remain a buyer's market. Third, the countries that could form such a cartel do not share common interests and none of them has the capacity to play the role of adjuster, as

<sup>1</sup> See Andrew Macintosh (2010), *Europe's Gas Supply Security: EU Vulnerability*, CEPS policy Brief No. 222, CEPS, Brussels, November.



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Saudi Arabia does with oil. Parallel to these three reasons, it should be noted that source risks do not encompass the depletion rates and R/P ratios of producer countries' reserves, factors that obviously play a role in the formation of any cartel.

## 2. Transit risks

Transit risks are much trickier to handle. They have been the cause of great concern in recent years and are a direct consequence of the physical nature of the gas trade. It could be argued that institutional frameworks are critical and necessary to address these risks. INOGATE and the European Charter Treaty, if properly implemented and respected, are appropriate tools that could prove effective at eliminating many uncertainties. Dealing with transit risks to Europe's supply requires taking into account not only its own decreasing domestic resources but three external factors:

- potential commercial conflict between Russia and Ukraine;
- politics in Central Asia (the 'Fourth Corridor');
- the evolution of global gas markets (the liquefied natural gas, or LNG, market and discoveries of unconventional gas in the United States).

### 2.1 Russia and Ukraine

In the Russo-Ukrainian crisis, it seems extremely difficult to untangle the legal responsibilities of each country. Aside from its bilateral contract with Russia, which must be made more stable over the long term, Ukraine did not fulfil the conditions of the Energy Charter Treaty (ECT). By refusing to resume the flow of gas before the contract with Russia was renegotiated, Ukraine breached its obligations. EU countries and institutions share responsibility for the escalation of the crisis, as they did not invoke the ECT. Such action would have been doubly effective: it would have sent the message to Ukraine that it was not behaving in the interests of all parties to the treaty, and it would have sent the message to Russia that the ECT can indeed be an enforceable and powerful tool.

A solution to the problem could take the form of a tripartite consortium composed of Gazprom, Naftogas Ukrainy and public or private entities from the EU. The consortium would have the primary task of monitoring independently the volumes of gas entering Ukraine from Russia and leaving Ukraine. It could also mobilise funds to repair and improve the Ukraine section of the network and storage infrastructure. The most important point, however, is to emphasise the need for the EU to maintain stable relations with Russia, as the latter will remain the EU's largest external supplier. As for Russo-Ukrainian relations, they have drastically improved since the accession to power of the new Ukrainian president, Viktor Yanukovich.

## 2.2 The Central Asian question

In Central Asia, despite European and American eagerness to open up the region, the physical and geopolitical variables at play seem to have established a tripartite game between China, Russia and the Central Asian states, thus excluding European interests, as highlighted by the recent completion of the Atyrau-Urumqui pipeline and its southern branch towards Uzbekistan and Turkmenistan (Turkmenistan-China pipeline). As the region's main resources are located on the eastern side of the Caspian Sea, only three possibilities are on the table to supply Caspian gas to Europe over the long term:

- through Russia, which is the case presently;
- through Iran, as a pipeline connecting Turkmenistan and Iran and one connecting Iran and Turkey already exist (with small capacities) – but as of today this solution cannot be considered safe, owing to Iran's political situation and its historical record of failed gas pipeline projects;
- across the Caspian Sea (Turkmenistan-Azerbaijan) and into Turkey, a possibility which is not likely to become reality soon because the Sea's legal status has not been settled.

Moreover, most Caspian Sea bypass options require Central Asian countries to commit themselves to directly supplying the West, which cannot happen as long as no infrastructure is built, resulting in a double-bind. Thus it is difficult to foresee a positive outcome to the Nabucco pipeline project in the short term, as it requires more supply than from Azerbaijan alone. Another option is a Nabucco pipeline through Iraq, but Iraq's instability and the fact that such a pipeline would have to cross Turkish Kurdistan suggests its completion would be achieved in the far too distant future.

### 2.3 The future of the global gas market

The global gas market is likely to be influenced by two main factors: the development of the LNG market and, subsequently, the production of non-conventional gas in the US. LNG trade already represents 30% of the global gas trade and is likely to increase. The direct consequence of this will be the integration of regional gas markets and the creation of major in-take basins: the Atlantic basin and the Asia-Pacific basin. Resource competition between Europe and the US or East Asian countries could emerge, but as today's resources are ample and likely to increase, this is not very probable.

The characteristics of gas, its transportation requirements, and the cost of its exploitation are likely to favour close relationships between producer and customer – and hence long-term contracts – at the expense of the spot market. Consequently, an LNG spot market will certainly emerge and grow but will not replace traditional contracting processes. On the other

hand, such a market could play the role of gas price-setter, which could accelerate the decoupling of oil and gas and the decreasing of the share of oil prices in gas contracting formulas.

The last months have seen a radical change in the LNG market with the decrease of American imports. The rapid exploitation of unconventional gas in the United States has already profoundly modified the face of the market and will continue to do so in the foreseeable future. Providing that the rate of both discovery and production of the American shale gas is sustainable, certain LNG projects in traditional producers (Russia and Qatar), could be postponed or abandoned. However, it seems wise to withhold long term conclusions from North American unconventional gas, as new environmental standards or geological realities could potentially put a halt to the expansion of this industry; this is particularly true if new environmental laws are voted.

The global gas market's evolution is therefore open to possibility, but the main trends affecting Europe (leaving aside the potential exploitation of its own

unconventional gas) are likely to remain unchanged: diminishing domestic reserves and increasing dependency on imports (especially from Russia).

### 3. Rating source country risk

We rate producer country source and transit risks using a five-point scale representing risk levels of very low, low, medium, high and very high. Attributing numerical probabilities would prove inaccurate, not to mention unnecessary for establishing which sources are safe and which are not.

In Table 1, most countries or pipelines rated as highly risky either do not supply the EU or are not active yet. However, certain projects that have received attention from the EC might prove hazardous and could involve significant geopolitical insecurity. This is the case of the Fourth Corridor, where countries or regions seen as important future sources can be considered unsafe, such as Iran and Iraq, or unreliable, such as Central Asia. We are therefore of the opinion that Nabucco might not be a viable project given current conditions.

Table 1. Ratings of source country risk

Country	Source risk	Transit risk	Total risk
Algeria	medium	low	low
Azerbaijan	low	medium	medium
Central Asia (Turkmenistan, Kazakhstan, Uzbekistan)	medium	very high if via Iran	high
		high if via Russia	high
		high if via Trans-Caspian	high
Egypt	low	low	low
Iran	very high	medium if via Turkey	high
		low if LNG	high
Iraq	very high	high if via Turkey	high
Libya	low	very low	low
Nigeria	very high	low if LNG	medium
		very high if via Trans-Saharan	very high
Norway	very low	very low	very low
Qatar	very low	low	very low
Russia	low	high if no change	medium
		medium if either NordStream or South Stream or both are completed	medium
		low if sustainable solution is found with Ukraine (consortium)	low

Source: Own calculations.

On the other hand, Norway, Algeria and Libya, which are already partners, can be considered safe. Russia is a special case, as its associated risk is mainly a transit risk and depends on infrastructure and political solutions put in place. Source risks are low, as Russia is not threatened by armed conflicts on its territory, faces

limited instability, and has medium to low incentive to divert its supply away from Europe. Conversely, transit risks are likely to remain a characteristic feature of consuming Russian gas, owing to transit via Ukraine. Nord Stream will have a capacity of 51 bcm/yr and South Stream could have around 60 bcm. Even if these

two pipelines are built, a sizeable share of the gas will still have to cross Ukraine. As mentioned above, the most desirable solution would be for the EU to engage in a tripartite consortium overseeing transit and to impose the resolution of disputes through the ECT. This could certainly allow Russia to be considered once and for all a reliable partner. The risk that Russia might increase exports to Asia at the expense of the EU should not be considered too seriously, as Europe has provided reliable and necessary cash flow to Russia, and building up export capacity to Asia to match that to Europe would take decades and require considerable investment. Moreover, the discovery and exploitation of new fields in Eastern Siberia is likely to produce enough gas to meet East Asian needs.

Meanwhile, Nigeria should be treated with some caution, despite its potentially significant reserves. At the opposite end of the spectrum, Qatar offers all the advantages one could hope for; increasing imports from Qatar, if possible with long-term contracts, could foster diversification and security.

#### 4. Conclusions and recommended mitigation policies

Considering the geopolitical risks, the overall situation of EU gas imports seems rather sound, but smaller Eastern European members face a more difficult situation. Several steps could be taken to alleviate the most negative effects of supply disruptions. These steps involve both upstream and downstream actions.

- Diversification of gas supply sources should be promoted only to a moderate extent, as vigorous promotion could provoke a deterioration of relations with present suppliers. Qatar should be regarded as an attractive opportunity for diversification. The Fourth Corridor needs extensive political promotion upstream in Central Asia and requires that the geopolitical conditions in Iraq and Iran greatly improve. Alternative sources of energy (renewable) should also be promoted to increase the share of domestic energy sources.
- LNG imports should be promoted and new re-gasification plants built to allow greater flexibility of imports. This is particularly the case with Eastern Europe and the Balkans, where countries with sea access could play the role of receiving station for the rest of the region. For instance, the Gdansk-Athens axis is the most prone to disruptions. Therefore, if larger re-gasification plants were present at both ends of the axis, and a gas grid was well connected to the landlocked countries, the situation could improve dramatically. Indeed, if necessary, additional gas flows provided by LNG imports could reach them quickly and securely. Either the South

Stream pipeline or Nabucco and Yamal-Europe could also contribute additional capacity at both ends of the axis.

- The EU's internal gas network should be extended and storage facilities created. If the ensemble of EU legislative proposals known as the Third Energy Package is to exert broad influence, and if liberalisation of the gas market is to be effective, asymmetric capacities and possibilities of arbitrage need to be removed. Many EU border countries are not connected by pipeline. Reverse flow often does not exist, and as the major storage reservoirs are located in France, Italy and Germany, these stocks cannot be made available to Eastern Europe. Consequently, intra-European pipelines and equipment allowing reverse flows and supplementary storage capacities should be constructed. The Third Energy Package could only become reality if these steps are taken. Moreover, points 2 and 3 are decisive measures for the successful implementation of the N-1 standard. Each member state should also draw up a list of entities (private firms, energy-intensive plants, public institutions) that should never suffer a gas disruption and those that could eventually be deprived of gas momentarily without negative consequences for the economy and the population. This would help redirect energy to where it is most vital.
- The Energy Charter Treaty should be strongly supported and EU countries should be the first to appeal to it, which will prove its effectiveness to unconvinced third countries such as Russia. In certain cases, ad hoc legal frameworks and regimes could be employed, such as an international body controlling gas transit in Ukraine.
- Finally, dialogue with producer countries is essential. The EU will become 80% dependent on imported gas in the coming decades. While relations based on mutual dependence can bear fruit, trust should also be present. Analysis has shown that Russia, which shares responsibility for the events of the 2009 winter, has much to lose in a degraded relationship with the EU. The latter should thus consider Russia a special partner and work with it to insure that no disruptions occur and that necessary investments in Russia are delivered. The EU should also prove itself a reliable customer. Indeed, it cannot ask Russia to be more committed to constant gas exports and at the same time claim that it wants to diversify away from Russia. Platforms allowing dialogue would be beneficial to the EU's energy security and would help undermine producer countries' motivations to form a cartel.

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