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Russian and Caspian hydrocarbons: energy supply stakes for the European Union

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Abstract

The crisis between Russia and Georgia in August 2008 highlights the fragility and instability of transporting gas from the Caspian and Central Asia to Europe via the "Caucasus transit corridor". The feasibility of one of the EU's possible strategies for diversifying its energy supplies might now be called into question. The aim of this article is to examine the new strategies that could emerge in the producing countries as well as those of international oil companies, and then look at what the consequences might be as far as the EU's diversification strategy is concerned.

The conflict between Russia and Georgia in August 2008 brought to the fore the questions of reliability and diversification of the EU's natural gas supply sources. In the present context of gas market liberalisation in Europe, the stakes are significant for the EU. In particular, the current oligopoly of gas suppliers must be replaced with a market that is dominated by competition between several suppliers. Diversifying supply sources in this way would appear to be vital at a time when ensuring security of gas supplies has become an essential aspect of the EU's energy policy (EU, 2006). These questions had already been of considerable concern during the dispute between Ukraine and Russia in 2006 over the price of gas supplied by Russia (Stern, 2006). Today, even though energy issues were not at the root of the conflict between Russia and Georgia, nor were they the focus of attention, the crisis nevertheless highlights the fragility and instability of transporting gas from the Caspian and Central Asia to Europe via the "Caucasus transit corridor". This prompts us to ask whether the feasibility of one of the EU's possible strategies for diversifying its energy supplies might now be called into question.

The instability of the transit countries in the Caucasus is likely to considerably change the behaviour of all the players in the energy market as well as the balance of power thus far established. These changes could concern producers in Central Asia but also the international oil companies involved in the development of hydrocarbon resources in the region, who might reconsider their export strategies in the light of the geopolitical uncertainties. Implicitly, export markets other than the EU are likely to interest these actors, markets of China, India or maybe quite simply Russia.

Clearly Russia's policy with respect to its hydrocarbon resources, in particular where its so-called "near abroad" as well as the EU are concerned, will be a major issue and will determine a certain number of trade configurations in the region. For example, Russia could become a major importer of gas from Kazakhstan and Turkmenistan, thus entering into direct

competition with Europe, as it tries to secure the Asian gas supply market for its own ends. The aim of this article is to examine the new strategies that could emerge in the producing countries as well as those of international oil companies, and then look at what the consequences might be as far as the EU's diversification strategy is concerned.

EU GAS DIVERSIFICATION STRATEGY: THE "CAUCASUS TRANSIT CORRIDOR"

EU dependence on gas imports, under the combined effect of rising demand and a drop in internal production (UK, Netherlands), is destined to increase significantly by 2030[1], placing the question of gas supply security at the heart of EU energy policy (Helm, 2007). By 2030, the EU gas dependence rate (that is the ratio of imports to consumption) is expected to reach 84% compared with the present 57%. It is important to note that Europe's gas imports come from three main suppliers, namely Russia, Algeria and Norway, which together account for 84% of the gas imported by the EU27 (IEA, 2008-a). The EU is thus faced with a gas supplier oligopoly. EU dependence on oil imports is also considerable (slightly higher than gas dependence), raising similar questions regarding energy security to those related to gas. However, the issues are different insofar as natural gas exports are largely conditioned by the existence of a network of long distance gas pipelines, which not only require considerable investment but also link a given producer with a given consumer in a particular geographic region[2]. Essentially, therefore, gas markets are regional, whereas the oil market is international.

If the objectives of both market liberalisation and gas supply security are to be met the EU must diversify its gas supply sources. Accordingly a competitive liberalised framework, EU gas supply security should, in theory, be achieved less and less through the long term contracts (*Take Or Pay*, TOP contract) which have until now formed the basis for bilateral relations between producers and consumers. The EU in particular considers such contracts to be significant barriers to the entry of potential new suppliers. They thus get in the way of development of competition and of sufficiently liquid spot markets (Percebois, 2008).

The ability of the EU to diversify its gas supply sources, and thus implicitly to create economic incentives to encourage investment in new long-distance gas pipelines or LNG terminals, is a major challenge in its energy policy. The aim is to obtain sufficient supplies of long-distance gas imports while ensuring that these supplies are both affordable and reliable (IEA, 2008-b). In seeking this goal, new rules and standards designed to govern the single market for gas must be taken into account, in particular with respect to transport network access rules[3]. There are several sources and corridors to enable diversification, whether it be the Middle East, in particular Qatar, MENA countries (Algeria, Egypt, Libya) or the so-called Caspian countries (essentially Kazakhstan and Turkmenistan). The Caspian region has rapidly become a top priority for the EU as a source of diversification for both gas and oil supplies,

[1] According to data published by Eurogas and reported in *Gas Matters*, EU demand for natural gas is expected to rise by 27% between 2007 (505 Gm^3) and 2020 (642 Gm^3). At the same time, EU gas production in 2020 will cover only 33% of its consumption compared with 59% at present. Compared with current gas import levels, Europe will have to import an additional 223 Gm^3.
"Corridors of power – Europe's energy options after the 'August War' ".- *Gas Matter*s, October 2008, p. 1-7.

[2] In this respect, natural gas is considered to be a grid industry in the same way as electricity.

[3] Third party access allows a number of suppliers to reserve capacity on a gas pipeline.

and this strategy is favoured by the International Energy Agency as well as the US government. The Caspian has in fact emerged as a credible alternative to European dependence on OPEC as well as on Russia (Gomart, 2007-2008; IEA, 1998).

The importance of Central Asia in the hydrocarbons sector

The EU's decision to diversify its gas and oil supply sources by turning to Central Asia is due largely to the hydrocarbon reserves in this region. Kazakhstan and Turkmenistan have sufficient reserves to be able to envisage substantial exports to Europe (cf. table 1).

Table 1: Proven reserves of natural gas and oil in certain Central Asian countries, 2007

	Natural gas, trillion cubic metres	**Oil, thousand million barrels**
Kazakhstan	1.90	39.8
Uzbekistan	1.74	0.6
Turkmenistan	2.67	0.6
Total	6.31	41.0

Source: *BP Statistical Review of World Energy*, June 2008

Oil production levels could thus be expected to reach the order of 2.6 mbd (MEES, 5 November 2007) and gas production 61.5 Gm^3 per year (Cedigaz, 14 October 2008) by 2015 for Kazakhstan and around 250 Gm^3 per year for Turkmenistan by 2030 (FSU Argus, 19 September 2008)[4]. However, there are still major uncertainties. These concern the reserves really in place in the absence of appropriate investment in exploration, in particular with respect to gas in Turkmenistan. There area also uncertainties as to the capability of these countries to start production of their reserves at the required rate. The current disputes between a few oil companies and the Kazakh State over the renegotiation of certain production sharing agreements dating back to the 1990s bear witness to the unstable legal and fiscal framework in this country. These problems could lead to major delays in bringing reserves on stream. The experience of ENI in Kazakhstan provides the perfect example[5].

Diversification of export routes from Central Asia to the EU

Europe's gas supplies are transported along three main corridors from Russia, North Africa (essentially Algeria) and the North Sea (Norway and the United Kingdom, cf. box 1). There is potential for increasing the export capacity of these corridors to meet the growth in gas demand of the EU. But only the opening up of a 4th corridor through the Caucasus is likely to enable the EU to really diversify its gas supply sources.

[4] Turkmenistan would then be able to guarantee exports of around 200 $Gm^3$of gas. "Turkmenistan: hausse des exports de gas de 50 Gm^3 en 2007 à 125 Gm^3 en 2015 ».- Pétrostratégies, 9 June 2008

[5] For more information on this point see Boussena (S.), Pauwels (J-P), Locatelli (C.), Swartenbroekx (C.), *Le défi pétrolier. Questions actuelles du pétrole et du gaz*, Vuibert, Paris, 2006. In particular, there have been repeated delays in the start of commercial production of the Kashagan oil field, originally planned for 2005 and now postponed yet again until 2012-2013 at the earliest.

Box 1: Three gas supply corridors to the EU

Northern route: gas pipelines from the North Sea
This supply route principally involves gas pipelines from Norway. They have a capacity of 140 Gm^3/yr and supply mainly Germany (with a total capacity 55 Gm^3/yr), Belgium (Zeebrugge), France (Dunkerque) and the UK (with a total capacity of the order of 40 Gm^3/yr). There are also two interconnectors between the UK and Belgium and the UK and the Netherlands.
The North Sea corridor however has limited expansion potential because of the exhaustion of UK gas reserves and the policies of Norway and the Netherlands with respect to the development of their reserves.

Southern route: gas pipelines from North Africa
The Southern route concerns the gas pipelines from Algeria to Italy and Spain, and the pipeline from Libya to Italy.
There are plans to increase the capacity of these pipelines and to construct new pipelines from both Algeria and Libya.

Eastern route: gas pipelines from Russia
There are two principal gas pipelines along the eastern route, the Euro Siberian, which passes through Ukraine, and the Yamal I, which passes through Belarus. In addition, the Blue Stream Pipeline under the Black Sea carries gas to Turkey.
The export capacity of the Yamal pipeline is expected to increase with the creation of Yamal II, but for the time being, Russia is focussing most of its attention on two gas pipelines, the Nord Stream via the Baltic Sea to Germany and the South Stream via Austria to southern Europe.

Diversification by obtaining supplies from Central Asia assumes multiple export routes to the EU, in line with the strategy promoted by the United States[6]. Such diversification would involve the creation of a new corridor for transporting gas and oil from Central Asia. The construction of the BTC oil pipeline (Bakou, Tbilissi, Ceyhan) in 1996 was the first materialisation of this new corridor. With a capacity of 1mbd, the pipeline transports oil produced essentially in Azerbaijan. In the future (and this is imperative if the pipeline is to be profitable), it will also transport oil from Kazakhstan, whose export capacity will increase considerably once the three large oil fields of Kachagan, Karachaganak and Tengiz reach maximum output. The South Caucasus Pipeline linking Bakou, Tbilissi and Erzerum is the gas equivalent of the BTC oil pipeline and shares the same corridor. With a capacity of 20 Gm^3, it transports Azerbaijani gas from Shah Deniz to Turkey. But at present there is no pipeline to carry gas from this region to supply the EU.

The solution therefore would be to set up international consortia (European gas companies and possibly companies in supplier countries) to develop a transport network through the Caucasus corridor to ship gas from Kazakhstan and Turkmenistan to the EU (cf. Box 2). Other options could have been envisaged to transport gas from Central Asia, more specifically via Iran. It might also have been conceivable to transmit gas through Russia using its transport network but that would have been conditional on the liberalisation of Russia's gas industry. This liberalisation would provide equal non-discriminatory third-party access (TPA) to

[6] According to T. Gomart, op.cit., the Unites States "(…) is endeavouring to promote a *multi pipeline diplomacy* in order to diversify export routes by avoiding countries whose regimes they consider to be not very accommodating, such as those of Russia and Iran".

Gazprom's gas pipelines to all gas suppliers including those in the Caspian region. This was one of the explicit aims set forth in the transit protocol included in the Energy Charter treaty. But since Moscow has never ratified the treaty, and given Gazprom's increasing hold on the Russian gas industry and the State's growing role in the energy sector in general (Locatelli, 2008), the "Russian route" no longer seems to be a realistic solution, at least in the short term. Furthermore, it would not enable the Caspian countries to move out of the sphere of influence of Russia, which is one of the implicit objectives being sought, in particular by the US.

Box 2: Principal potential and completed gas export pipelines from the Caspian to Europe

Name	Route	Capacity	Gas sources
Trans-Caspian Gas Pipeline (TCGP): project	Turkmenistan, Azerbaijan (Bakou) via the Caspian then Turkey via Georgia, linked with Nabucco	30 Gm^3/yr	Kazakhstan-Turkmenistan
South Caucasus Pipeline (SCP): completed in 2007	Azerbaijan (Bakou)-Georgia (Tbilissi) -Turkey (Erzurum)	20 Gm^3/yr	Azerbaijan (Shah Deniz)
Trans Adriatic Gas Pipeline: projected completion 2011	Greece-Albania-Italy	10-20 Gm^3/yr	Caspian, Middle East
Greece-Italy interconnector: projected completion 2012	Greece-Italy	8 Gm^3/yr	Caspian, Middle East
Nabucco: projected completion 2013	Turkey-EU via Central Europe	30 Gm^3/yr	Azerbaijan, Kazakhstan, Turkmenistan, Iran

Source: "Caspian And Central Asian Export Pipelines Assume Aura Of Most Serious Game".- *Middle East Economic Survey*, 17 March 2008.

Caucasus route

The main route envisaged by the EU in order to diversify its gas supply sources via the Caucasus corridor is the Nabucco project to extend the South Caucasus Pipeline. Developed by OMV (Austria), the project leader, Botas (Turkey), MOL (Hungary), Bulgargaz (Bulgaria) and Transgaz (Romania), with each company holding a 20% share, its capacity will reach around 30 Gm^3 in 2020. It will transport natural gas to Europe from the Caspian (principally Turkmenistan and Azerbaijan) and from the Middle East (Iran and possibly Egypt). Half of the gas transported by the pipeline will supply the transit countries while the rest will be distributed from the Baumgarten hub (Austria) to supply the Austrian, German and Italian markets. It is expected to go onstream in 2013 and will require investment of the order of 5 billion Euros (at 2004 economic conditions) (AIE, 2008-b).

UNCERTAINTIES SURROUNDING THE CAUCASUS ROUTE

At present, the two main areas of concern with respect to the development of transport routes via the Caucasus are the economic risks and geopolitical risks associated with this region. Economic problems relate to the export capacity of potential suppliers and changes in the European gas market with the standards and rules resulting from liberalisation. The geopolitical risks concern the transit countries. The problems stem essentially from the tensions between the former Soviet-bloc countries, major political uncertainties in the region and the external influence of certain countries such as Russia, the US and even China, which

are in a position to change the balance of power established in the region (Kazantsev, 2008). It is undoubtedly in relation to natural gas (as opposed to oil) that the problems are more serious, given the importance of networks in the transport of natural gas and the question of hydrocarbon resources.

Where will the "Caucasus gas pipelines" get their supplies?

In the case of oil, the Kazakhstan reserves are no doubt sufficiently large to justify several export routes, including the BTC oil pipeline and the CPC (Caspian Pipeline Consortium[7]). But for gas, the problem is quite different since none of the three countries bordering the Caspian Sea (Azerbaijan, Kazakhstan, and Turkmenistan) has even 2% of world gas reserves. Consequently, the main constraint affecting the "4th corridor to supply the EU", and especially the Nabucco project, concerns the supply sources of the gas that would flow along this route. In his report on energy security and the EU, Claude Mandil, former head of the IEA, pointed out that the Nabucco pipeline could secure provision of no more than 20 Gm^3 of gas per year from Azerbaijan and Turkmenistan and concluded that: "this is not sufficient to warrant such a huge investment. Nabucco will now only be built if it is supplied with Russian or Iranian gas or both" (Mandil, 2008). Given the situation with Iran, it is unlikely in the short term that Europe will resort to such a solution. Furthermore, the use of Russian gas, even via a new export route, would be no more than a partial solution to the problem of diversifying Europe's gas supply sources.

The profitability and feasibility stakes of such projects are even greater since the rules on patrimonial unbundling and third party access (TPA) to networks promoted in the EU's gas market liberalisation policy will most likely influence the investment choices of gas firms. This concerns renewing and increasing existing transport capacities (Dorigoni, Pontoni, 2008). It is particularly difficult to imagine that gas firms might commit themselves to investing in long distance gas pipelines unless at the same time they have reserved transport capacities in the pipelines that are built. Similarly, patrimonial unbundling could change certain export principles of the incumbent suppliers of gas to Europe, particularly those in Russia. This country intends to secure a considerable and even majority stake in the long distance gas pipelines that will carry Russian gas to Europe (cf. for example the SouthStream and NordStream, Locatelli, 2008). This type of vertical integration (in this case between producer and transporter) would be legally impossible in the EU if patrimonial unbundling were adopted. Consequently, if a supplier is not directly involved by holding a stake in the gas pipelines there would be an iterative process between allocation of transport capacity and ensuring security of supplies, which could complicate – and even considerably delay - decision making (IEA, 2008-c).

The geopolitical risk: impact on producers' strategies

The conflict between Russia and Georgia has rekindled the question of the stability and thus the reliability of Georgia as a transit country for gas as well as for oil from Kazakhstan and Turkmenistan. One of the major consequences could be significant changes in the strategies (and therefore in the balance of power) of the different players involved, the producing States, the international oil companies involved in the development of the main hydrocarbon reserves

[7] The current capacity of this pipeline is 560 000b/d, which could be increased to 1.32 Mb/d if an agreement can be reached with the Russians (Transneft). "KazMunaiGaz Signs accord For KCTS Export Route With Key Kazakh Producers".- *Middle East Economic Survey*, 19 February 2007.

in the region[8], and even the main "external players" such as China, Russia, the EU and the US (Yenikeyeff, 2008).

The instability of the transit countries in the Caucasus corridor could first of all influence the decisions of international oil companies involved in the development of hydrocarbon reserves in the Caspian region and in Central Asia. On the one hand, they might be tempted to take into account more explicitly the interests expressed by Moscow. On the other hand, they might be encouraged to give their support to a system of multiple export routes, in line with the hydrocarbons policy of certain Caspian countries. Kazakhstan has always strongly supported this option by diversifying its oil export routes to Europe, some being transported via the CPC (the Russian route) and some by the BTC (the Caucasus route through Azerbaijan)[9]. The Kazakh government could well reaffirm this position in clearer terms, which it has not done before, while Kazakh exports are vital for the profitability of the BTC[10]. Furthermore, Azerbaijan, currently a vital supplier of oil and gas for transportation via the Caucasus route, could to a lesser degree follow a similar logic and diversify its export routes, notably through Russia (Pétrostratégies, 6 October 2008).

This instability could incite the producing States in the zone to reconsider - and even change - their objectives concerning markets and export routes. The problem of markets for Central Asian gas is not a new one, given the geographical situation of these countries (Peimani, 2001). In addition to Europe, these producers have two other zones to which they can export their gas, namely Asia (China, India, Pakistan) and paradoxically Russia, the other big producer in this zone. The fact that certain gas pipeline projects are starting to take shape, principally to carry gas to China, from either Kazakhstan or Turkmenistan, suggests that significant volumes of gas will ultimately be exported to this zone, not least because China's energy needs could rise considerably (cf. Box 3, Stern, Bradshaw, 2008). The first agreements between Turkmenistan and China concern 20 Gm^3 of natural gas per year from the end of 2009, reaching 30 Gm^3 by 2014[11]. Kazakhstan, for its part, should confirm itself as one of China's most important suppliers of oil. In 2010, when the last section of the 3,000 km long oil pipeline between China and Kazakhstan is due for completion, it will be possible to export

[8] The large fields of Kazakhstan, Kachagan, Karachaganak and Tenguiz are being developed through production-sharing agreements involving big international oil companies Chevron, ENI, Shell, BP, Total, ExxonMobil, Statoil, and, in Russia, Lukoil.

[9] The purpose of the Kazakhstan Caspian Transport System (KCTS) is to carry oil from the Kashagan field and some oil from Tenguiz to the BTC pipeline, which will then transport the oil to Europe. The pipeline will have an initial capacity of 500,000 b/d and should be in service by 2011. "Chevron to Participate In New Kazakh Export Route".- *Middle East Economic Survey*, 16 June 2008.

[10] The position of Chevron, leader of the consortium that is exploiting the Tenguiz field, is particularly delicate where this is concerned. At present, exports from Tenguiz reach Europe via the CPC pipeline system, in other words through Russia. With the Russian State procrastinating about doubling the capacity of the CPC, which must be done to keep pace with the increased production of this field, the American company has decided to ship some exports via the BTC pipeline. This strategy could be reassessed in light of the events of August 2008. "Majors Take Georgia Crisis In Their Stride".- *PIW*, 25 August 2008.

[11] Under a long-term contract (30 years), Turkmenistan will start exporting gas to China in 2009 (Chinese CNPC). Under a short-term contract, China could import an additional 10 Gm^3 from Turkmenistan. "Gazprom woos Turkmenistan".- *FSU Energy, Petroleum Argus*, 1 August 2008, p. 4.

400,000 b/d of crude via this route compared with the 200,000 b/d available at present[12]. Russia could also become a significant gas export market for Kazakhstan and Turkmenistan. Under an agreement concluded with Russia in 2003, Turkmenistan will supply this country with 50 Gm^3 of natural gas in 2008. This figure could rise to over 80 Gm^3 by 2010 and remain at this level until 2028.

Box 3: Some potential gas export routes from Kazakhstan and Turkmenistan to China and Asia

Sino-Kazakh gas pipeline (2,813 km long): 1st part with a capacity of 40 Gm^3 per year between the Uzbek border and China; the second part with a capacity of 10 Gm^3 per year will link this 1st part to the Kazakh network.
Sino-Turkmen gas pipeline (3,000 km long): export capacity of 30 Gm^3 per year
Different projects between Turkmenistan and Pakistan via Afghanistan (possibly even India) have been discussed since the 1990s, including the **Trans-Afghan** and the **CentGas pipeline**. But with the political tensions in the region, notably in Afghanistan, it is now difficult to see how these projects might come to fruition.

Source: "Un futur gazoduc sino-kazakh de 2,813 km".- *Pétrostratégies*, 2007 ; "All pipelines lead to Ashgabat".- *Energy Economist*, n° 310, August 2007, p. 3-5; Brill Olcott (M.).- "International gas trade in Central Asia: Turkmenistan, Iran, Russia, and Afghanistan" in Victor (D.), Jaffe (A.), Hayes (M.).- *Natural Gas and Geopolitics: From 1970 to 2040*.- Cambridge University Press, 2006, p. 202-233.

All things considered, one might ask whether the EU might not end up being weakened by these developments, at least as far as its diversification strategy is concerned. Europe could in fact be the big loser in the face of Central Asia's resolve to diversify export routes, even though any reorientation in these policies may only be partial. Indeed, if we consider the volumes that Turkmenistan has already contracted to deliver to China as well as to Russia, it is not very likely that in the short or even medium term the country will have any sizeable volumes left for export to Europe. Merely to honour its contractual commitments with these two countries, Turkmenistan will have to increase production by over 50% by 2010 (Argus FSU, 15. 08. 2008).

RUSSIA GAS POLICY: TRYING TO GAIN FULL CONTROL OF CENTRAL ASIAN GAS?

The conflict with Georgia, by drawing attention to certain fragile aspects of the "Caucasus corridor", has undeniably strengthened Russia's credibility and position as a major gas supplier (and even an essential supplier for the EU). The SouthStream project backed by ENI and Gazprom, and rival to the Nabucco project, has come out all the stronger. This is perhaps even more so for the NordStream, the first gas pipeline from Russia to the EU that does not pass through any transit countries (Nies, 2008).

Russia is attempting to develop a policy with Central Asia that will serve its own interests where gas exports to Europe are concerned (Boussena et al., 2006). The main challenge for Russia is to maintain control over – and even limit – any competition from Kazakhstan and Turkmenistan on the European market. Faced with the increasing competition of the

[12] This pipeline should get most of its oil from Kashagan. Until the oil field has reached projected production levels, the pipeline is partly supplied with Russian oil. "Le Kazakhstan joue habilement de ses cartes pour arracher à Moscou des accords relativement équilibrés".- *Pétrostratégies*, 14 February 2008.

liberalised EU gas markets, Russia intends first of all to maintain but also increase its market shares, preferring the highly profitable European market for its exports. With this in mind, by drawing up formal contracts for Central Asian gas, Russia can limit the amounts of Kazakh and Turkmen gas that would be available for export to the European market (Stern, 2005). The agreements signed between Russia, Kazakhstan and Turkmenistan to improve and extend the gas pipeline system between Turkmenistan and Russia via Uzbekistan and Kazakhstan (Central Asia Gas Pipeline System) and the construction of the Caspian pipeline along the Caspian Sea (Kazantsev A., 2008) suggest that Russia intends to use this strategy as a long-term variable in its hydrocarbons policy.

Furthermore, these imports from Kazakhstan and particularly Turkmenistan are vital for maintaining a stable gas balance (Locatelli, 2008). They provide Russia with the possibility of meeting its contractual commitments with UE and domestic demand, while putting off for the time being any costly investment in the development of new reserves. The new gas fields, such as the Yamal field, which is needed to compensate for the decline of the three super-giant fields of Urengoy, Yamburg and Medevehze which have reached their peak, are likely to have much higher production costs than the Kazakh and Turkmen fields because of the extreme operating conditions in the area.

As we have already discussed, Russia provides Turkmenistan and Kazakhstan with an immediate market for their gas in the absence of a Trans-Caspian gas pipeline[13], which would appear to be more or less essential to give credibility to an option for exporting to Europe via the Caucasus because of the landlocked nature of these countries. The Russian market has also become attractive because it is profitable, now that Gazprom has agreed to adopt normal economic relations with the Central Asian countries. Russia has agreed to pay a "European price" for gas imported from Central Asia, clearly bringing an end to the trading system inherited from the Soviet Union and which had persisted throughout the 1990s[14]. It is difficult to determine exactly what this "European price" will be, given the differences in transport costs. But in any event, the price rises will undoubtedly be substantial (of the order of 60-70% for Kazakh gas in 2009, according to *Petroleum Economist*, May 2008)[15].

IN CONCLUSION: NEW TRADING CONFIGURATIONS?

We have seen the fragility and limits of supplying Europe with gas from Central Asia via the Caucasus corridor. The political instability in the transit countries of this "gas corridor" could lead to new trading configurations. It has long been assumed that competition would be developed between Russia and the Caspian to supply gas to Europe. Recent events as well as the basic principles of economics indicate that the options are more open and undoubtedly

[13] Until agreement has been reached on the legal status of the Caspian - sea or lake - it is unlikely that any investments will be committed for the construction of a trans-Caspian gas pipeline. Furthermore, Russia and Iran are likely to oppose it, possibly on environmental questions. "Georgia on Europe's mind".- *Petroleum Economis*t, October 2008.

[14] Throughout the 1990s, Russia purchased Turkmen gas partly through swap arrangements and partly through monetary payment. Martha Brill Olcott underlines the difficulties in estimating the real price of gas in such a system, given the opaque nature of barter transactions. Brill Olcott (M.).- "International gas trade in Central Asia" in Victor (D.), Jaffe (A.), Hayes (M.).-*Natural Gas and Geopolitics: From 1970 to 2040*.- Cambridge University press, 2007, 508 p.

[15] For 2008, Turkmenistan has signed a contract to supply Russia with 50 Gm^3 of gas at 100 \$/1000 m^3.

more complex. First, the European market could find itself competing with the Asian market but also the Russian market for gas supplies from Central Asia. At the same time, Russia's policy to diversify its export markets might put Europe in competition with Asia for supplies of Russian natural gas. Of course, these different scenarios are long-term options, given that the necessary infrastructures are not yet in place, but they are scenarios that nevertheless must not be ignored. In any event, these configurations are not without problems for the EU in terms of its ability to achieve diversity and security of gas supply within a liberalised market.

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