



The limits of the EU direct foreign gas policy
Autopsy of the stillborn Southern corridor project Nabucco

Dominique FINON, CNRS-CIREN & GIS LARSEN

December 2009

Summary

In this paper we criticize the departure of the European Union from its traditional Soft Power vein in foreign energy policy, implying a strategy of corridors diversification in an intense political competition with Russia. We analyze intrinsic limitations of the EU initiative on Nabucco pipeline submitted to the competition of the South Stream project along three different economic perspectives. The Transaction Cost Economics perspective which shows why long-term commitments between producers and buyers are necessary to jointly develop infrastructures and new remote gas fields. The Competition theory perspective which shows the possibility for the SouthStream coalition led by Russia to foreclose the Nabucco coalition entry. And the Coalition theory perspective which sheds light on the weakness of the Nabucco coalition in the competition with the South Stream coalition. We conclude on recommendations concerning the EU gas policy actions which are only relevant when focusing on development of internal insurances and diplomatic action turned towards diffusing legal market regime propitious to energy and gas markets integration.

1. Introduction

The issue of gas corridor diversification has become increasingly important in the late 2000s setting up many projects driven by political aspirations to reduce dependence on Russian gas. By helping diversification of gas import sources, the European Union has developed a determined foreign policy which is supposed to help European markets to reach Caspian gas and Middle East gas through pipes-lines. Since 2006 it intensively promotes the Nabucco project to help reaching gas resources of Azerbaijan, Kazakhstan, Turkmenistan, and possibly Iran, Iraq and Egypt. “Nabucco was the first attempt at forging a common energy policy to reduce its dependence on Russian gas. The basis of Nabucco is to bring gas to Europe from new suppliers”, underlined the EU energy Commissioner A. Pielbags in 2007¹. Foundations of this project are indeed mainly political, because it aims to overcome the Russian gas import monopoly on the Central and Eastern European markets, the risk of which being rapidly compared to transit risk, clearly shown through the successive 2006 and 2009² Ukrainian-Russian gas crises.

Strong and various political motivations help to create an heteroclite coalition with the European Commission, some member-states and Turkey promoting Nabucco project, yet merely ignoring gas economic fundamentals. Indeed this political project is built on weak economic foundations because it is conceived along the business model of the “merchant line”. The project is supposed to be developed without ex ante signed long-term contracts between producers and buyers, strongly believing that it would attract by itself new gas sources to be developed. It underestimates the competition to access to Caspian gas sources which are located in the backyard of Russia. Indeed Russia is able to respond on two levels, downstream by launching the competing project SouthStream which could ship Caspian and Russian gas to the same markets and also to other ones in Southern Europe (Serbia, Slovenia and Italy); and upstream by contracting directly with Turkmenistan to remove all the available gas of the Western Turkmen fields. (A political fiasco is resulting from the EU stubbornness, from which lessons have to be drawn as early as now about the direct actions of the EU’s foreign gas policy). EU stubbornness only generates a political fiasco, and it is time now to draw lessons and change the direct actions of the EU foreign gas policy.

In the second section, we describe the departure of the European Union from its traditional Soft Power vein in foreign energy policy with its strategy in matter of corridors diversification which implies intense political competition with Russia. In the next three sections we analyze intrinsic limitations of the EU initiative on Nabucco pipelines along three different economic perspectives: the Transaction cost economics perspective which shows why long-term commitments between producers and buyers are necessary to develop remote gas fields and associated infrastructure, the competition theory perspective which shows the possibility for the South Stream coalition to foreclose the Nabucco entry, and the coalition theory perspective which sheds light on the conditions of robustness of the Nabucco coalition. We

¹ Quoted by Paul French in “South Stream vs Nabucco”, 13 mars 2008

² It also received the support of the US Administration which develops an oil & gas multi-pipeline diplomacy in the Caspian Region in order to help former Soviet republics to get out from the Russian sphere of influence. As it succeeds for the oil pipe line Baku-Tbilissi-Ceyhan started in 1996, which finishes on Mediterranean Sea and the gas pipe line Baku-Tbilissi-Ezerum started in 2005 which can bring Azeri gas on the Turkish territory since 2008, one common opinion was that strong political is the key factor of success of pipe line installation in the region, despite their costs.

conclude (on) with recommendations concerning the EU gas policy actions which (are better to be focused) would largely be improved if focused on internal insurances and in its traditional vein of soft power in the international arena.

2. The EU-Russia strategic game on the Caspian gas chessboard

Since 2005, a reactive game has developed between a coalition led by the European Commission on the behalf of the EU and a coalition led by Russia so as to be the first to develop a new pipeline in view to ship gas to Central and southern European markets. To each initiative of the Nabucco coalition responds an initiative of the South stream coalition and vice versa....

2.1. The new European Union stream of foreign energy policy: from soft power to hard power

The European Union lacks the classical attributes of a State and the means of a geopolitical power, which explains its multilateral conception of international relations. Lacking efficient governance with no majority rule in decision-making and no substantial diplomatic and military resources, it cannot pursue a significant foreign policy. The interests and ideas of member states often diverge, and with the arrival of new members, differences have increased, in particular in the field of defence and relations with the USA and Russia. In a world that is still organised in terms of a geopolitical balance of powers, based on diplomatic and military power, the EU is trying to be a *de facto* super-state with the traditional attributes of power, despite the fact that it lacks the means to enforce its own sovereignty. To make up for its shortcoming when it comes to deal with other world powers, Europe resorts to "soft power", conceptualizing its dependence in terms of interdependence. It seeks to influence reality "by trying to deploy on as large a scale as possible norms capable of organising the world, bringing discipline to the market place, and making behaviour more predictable..." (Laïdi, 2006). It projects onto its relations with other states the type of inter-state relations that its own members have succeeded in setting up with one another in an attempt to achieve integration through the market, which has been the only way of achieving greater political integration in Europe.

In the energy field, the European Treaty does not give the EU any direct powers over foreign energy policy and member-states' interests as well as conception are far to be convergent, in particular between the major historic member-states and the new ones. Although the common EU energy market was designed around a liberal market model, there were a variety of versions in the member states, with substantial capital concentration in some of them. In the past, each country developed its own gas industry relying on a national monopoly or on an industry leader to develop infrastructures and negotiate giant contracts for imports. Governments of some major member states (Germany, Italy, France in particular) still prefer to rely on these incumbent operators to develop long-term supplies arrangements with foreign producers, backed by their political support. They continue to promote strong EU companies that engage in joint ventures with other international state companies in order to develop infrastructure and new fields and finally to secure energy and gas flow. And they are not really confident that European Union energy foreign policy will be undertaken with a single voice. Beside this internal context, the EU typically acts outside the EU territory by exerting influence on the institutions of other countries so as to to promote homogenous regulatory

areas.³ At the beginning of the 1990s, it was the EU that took the initiative of setting up the Energy Charter Treaty in order to harmonize laws on investment in the energy sector and market rules in order to have access to infrastructures and resources in former Soviet bloc countries, in particular Russia. This was to be achieved by facilitating the installation of foreign companies, securing investments, and organizing trade in energy products by liberalizing access to transport networks. In general, the EU set conditions for partnership and cooperation agreements with adjoining countries, requiring gradual changes in their legislation to bring them into line with the rules in force within the European community. This foreign policy which consists into influencing institutions is viewed by the Commission as a way of regulating the gas flows conditions into Europe.

But, after the successive Russo-Ukrainian crises in 2006 and 2009, the EU decided of two orientations : an internal policy aiming both to limit the effects of eventual interruptions for each member state and to improve solidarity between member states (CE, 2008), and also a determined foreign energy policy focused on gas vulnerability and on the EU relationship with Russia. It orientates the European Commission foreign policy action on gas security by combining both traditional soft power and the great game of hard power, an absolutely true innovation, as if the EU would be a geopolitical power able to compete with Russia seeing itself as an “energy superpower”, jealous of any exterior initiative in its “Near Foreign”⁴. Beyond the “Single Voice Speaking” rhetoric, the EU has launched its Neighbourhood Policy towards transit countries, with action plans concerning the energy sector and its market liberalization. The EU aims to consolidate the energy relations with neighbouring countries and to promote a single energy market at the scale of the continent, in particular by the integration of Ukraine, Turkey and Moldavia in the Energy Community treaty⁵. Russia and the UE are competing to export gas from the Caspian region and in 2004 the latter has launched the Baku initiative, an energy dialog associating the EU, and the Black sea /Caspian countries. The Strategy with Central Asia in which hydrocarbons development is one of the main points was adopted by the Minister Council in June 2007.⁶

The European Commission directly promoted projects for transit in order to alleviate the dependence risk and to help diversification towards new sources by the so-called Policy of Priority Projects. It is within this foreign policy framework that the southern corridor initiative including Nabucco has been decided in 2006, relying on this policy ,and an initiative was taken to encourage European companies in developing common ventures with Caspian companies so as to expand gas and oil fields.

2.2. The EU’s great game: the promotion of Nabucco project

³ The EU has some powers to manage some foreign energy policy issue within the framework of the trans-European Networks policy, financially assisting the establishment of major transit and import facilities that contribute to greater diversification, justifying a coordinating role in this issue.

⁴ The foreign energy policy is defined in 2007 in a communication of the Commission to the Council and to the European Parliament “A European Policy for Europe” COM (2007) I final, January 10 , and accepted by the Council on March 2007. Both documents have contributed to improving this foreign gas policy concept.

⁵ A treaty has been signed with them in October 2005. It aims to gather the EU and its south eastern neighbours. It is in an extension of the Athens process launched in 2002 and aiming to better integrate Balkans states and EU energy systems.

⁶ The EU and Central Asia: strategy for a new partnership, COREPER, 31 May 2007.

The main transit project in the European priority projects consists in building the € 8 billion Nabucco pipeline (30 bcm/y capacity), which will connect Central European markets (and Baumgarten hub at the German-Austrian frontier) to Central Asian gas, via the Balkans, and then Turkey. A complementary pipeline, the \$8-billion undersea TransCaspian Pipe line (TCP) would have to be built to connect Turkmenistan to the new South Caucasian pipeline known as the Baku- Tbilissi-Ezerum BTE pipe which exports Azeri gas to Turkish market⁷. It was backed by the different transit countries Austria, Hungary, Romania, Bulgaria and Turkey and their national gas companies, the Austrian OMV as project leader, the Hungarian MOL, Bulgargas and the Romanian Transgaz on the European side and the Turkish Botas as a major partner on the other side⁸. RWE enters in the scheme in 2007, its interest being linked to its control on gas companies in Slovakia and Hungary. After this entry in the consortium, each partner holds 16,7% stake.

As underlined above, Nabucco was supposed to “swallow” the gas of the Western and Eastern Caspian countries, and later of Middle East gas rich countries. No long-term contracts have been signed by gas producers and European members of the Nabucco consortium. To be economically viable the project needs an annual flow of at least 20 billion Bcm. Promoters of the project bet first on the Azeri gas from the Shah Deniz fields developed by a consortium led by BP and which can be shipped by the BTE pipe; and second on the Turkmen gas. In 2005, European optimism seemed to be confirmed. That year, the Turkmen government halted sales to Russia, stating that its price was too low when compared to the price that Europeans were paying for Russian gas. A year later, the Baku-Tbilisi-Erzurum pipeline was finished, apparently enabling the construction of Nabucco.

The UE has put this project on top of the Priority Projects list. It will benefit from the exemptions of the Third party access provision for gas infrastructure projects, as well as the support of a guarantee funds of 200 M€ and of preferential loans from the European Investment bank (2 billions € out of the 8 billion project cost)⁹. After an agreement on the transit fee was reached in 2009 between Turkey and other Nabucco partners, a signing ceremony was organized in Ankara on July 13, 2009 between the president of the European Commission and the government leaders which gave formal backing to the project by all involved countries.

2.3. Russian competing answers

Along with the €10 billion NordStream project under the Baltic sea promoted by Gazprom and German companies strongly backed against their respective governments, the sister project SouthStream, initially of 30 Bcm/y capacity, was launched in 2007 by Gazprom allied with the Italian company ENI in order to discourage the Nabucco project. It is also a costly undersea project of 800 km under the Black Sea from the Russian gas system to a landing in Bulgaria with two arms: the northern one crosses Bulgaria, Hungary and possibly Austria; the

⁷ So it would be for connecting Nabucco to gas fields in Middle East countries (Iraq, Iran) which cannot be credibly involved in the project during the next decade, or in Egypt which is too far for being involved at the present stage.

⁸ Half of the gas will be for the companies of the transit countries and the other half will supposedly supply the Austrian, German and Italian markets.

⁹ Initially costed at \$ 5 billion, the project cost evaluation reaches \$ 11 billion in 2009. See: The Economist, 20 July 2009; and Oil and Gas Journal, July 2009 Issue

southern one crosses Greece, Serbia, Slovenia to reach Italy. Between 2007 and 2009, Russia and Gazprom signed agreements with Bulgaria, Hungary on the Northern arm and with Greece, Serbia and Slovenia for its Southern arm, for both location and co-investment of the national sections with 50%-50% shares¹⁰. That means that some of the governments committed in Nabucco, in particular Bulgaria and Hungary, also commit in the SouthStream project, despite the apparent conflict of interests with their Nabucco commitment. Finally Turkey which has different trumpcards signed an agreement with Russia in August 2009 about the crossing of its territorial waters by the SouthStream pipe.¹¹

Thanks to the new relations Russia established in 2005 with Central Asian countries, Gazprom greatly succeeded in attracting the Western Turkmen gas by a long-term agreement. It was at a cost: Gazprom agreed to pay a high price to Turkmenistan (\$150/1000 cubic meters). The agreement signed in 2007 deals with 80 Bcm/y and the transportation can be held by reinforcing infrastructures along the Eastern Caspian shore which were developed in the successive border countries under the Soviet era. In parallel Russia signed an agreement with Azerbadjian in 2008 in order to buy part of the Shah Deniz gas which could be contracted by European buyers and shipped via the new BTE gas pipe.

Finally, to consolidate the project, Gazprom and ENI announced in June 2009 the doubling of SouthStream capacity from 30 to 60 bcm/y, which means that if this capacity is effectively developed in the future, the transit capacity by Nordstream (55 Bcm/y) and SouthStream (60 bcm/y) would help to avoid any transit by Ukraine. Later in September 2009, EDF, the French historic electricity company (which is present in gas business in Italy via its subsidiary Edison, the third Italian gas supplier) takes a share of 10% in the South Stream consortium related to gas volumes which will be contracted in the future. This entry helps to rub out the SouthStream image of an anti-European project.

In any case, SouthStream appears to have a good chance to be realized, even if two new elements appear in the game which could make its realization more difficult: the financial crisis which constraints heavily Gazprom capacity of financing and the temporary LNG glut on the North Atlantic basin resulting from the development of non conventional gas in the US market. Indeed it must be observed that Gazprom is allied with deep pockets European companies (ENI, EDF) on one side and that Central and Eastern European markets are precisely the less propitious to be reached by LNG trade on the other side.

2.4. New EU actions to preserve the Nabucco project

¹⁰ Formal agreements have been signed by Bulgaria, Hungary, Serbia in May 15, 2009 by Gazprom CEO, Alexis Miller in Sochi.

¹¹ The signature of this agreement on August 2009 in Ankara by the prime ministers of Russia, Turkey and Italy was a political answer to the Nabucco agreement signature in Ankara on July 13, 2009. Another competing project to Nabucco was the Italian government suggestion to Russia and Turkey to use (?) Blue stream gas flow. Encouraged by Italy, Russia proposed to Turkey more volumes and higher transit role towards South Europe via the consolidation of Blue Stream pipeline which ship larger volumes from Russia to Turkish market under the Black sea since 2006. The idea would be that these supplementary quantities would be shipped to Southern European markets by the ITGI (Turkey-Greece-Italy) pipe in development.

Such a competition between the EU's and Russia's projects generated a context of increasing misunderstanding, suspicion and mistrust. The investment climate, viewed as a difficult matter for foreign energy companies in Russia, the Russia withdrawal from the Energy Charter treaty (with implication on third party access to the gas system) while Gazprom tends to integrate downstream on the European markets by taking shares as well as the creation of a reinforced forum of Gas exporting countries and its control on Central Asian gas, was perceived as a threat. Therefore in response, the EU's third liberalization package pressure on barriers for Gazprom to move downwards; it includes a provision forbidding foreign producing companies to own part of transit and transmission companies stock in the 2008 Gas directive (The so called "Gazprom provision") , despite of the Energy Charter treaty principles.

SouthStream was pointed by the European commission and the Nabucco promoters as an anti-European Union project. As for NordStream, the European partners entry in South Stream were pointed as the demonstration of the power Russian parties have in dividing the European interests , here ENI and the Italian government. The battle becomes juridical. In coherence with the future gas directive, the European Commission asks Gazprom, as well as its partners, to sell their shares in the consortiums Nordstream and SouthStream, but in vain by that date¹². Later, as a response to the European Commission pressure against SouthStream, the German government succeeded in April 2009 to make the European commission delist Nabucco from the priority projects, arguing for the lack of gas contractual commitment to make it financed and built.

Concerning gas commitments to be shipped by the pipe, the Nabucco promoters try to avoid the deadlock resulting from the Russian strategy with the Caspian republics. At the origin of the project in 2005, only Azerbadjian was associated to its organization, but in fact it rapidly appears that only 5 bcm/y of Azeri gas could be anticipated and shipped by Nabucco. So initiatives are developed to promote development of new gas fields in the region with European partners in the framework of the Baku forum (see above). A consortium of European companies led by RWE and OMV negotiate with Turkmen government and agree to a Memorandum of Understanding signature in April 2009 for the creation of the Caspian Development Corporation. In any case the \$ 8 billion TransCaspian pipeline would be necessary to connect this gas with the TBE pipe towards Turkish frontier and Nabucco. It would not only be costly and technically risky, but also subject to objections from Russia, given the absence of legal agreement on the Caspian sea maritime boundary issue.

Another option was to be taken into account in June 2009 when an European consortium announced an 8 billion\$ plan to extract gas in the Kurdish region of Iraq and to sell it via the Nabucco project (which, the Iraqi prime minister said, could be fed by half by the Iraqi gas)¹³. A complementary pipeline would have to be installed across Syria to Turkey. But at the present stage the credibility of such announcement is low. Projects with Iran and Egypt are also evoked. But all these alternative supplies remain completely fictitious: for Turkmenistan,

¹² These partnerships conflict with the competition principles in the light, for instance, of the demand addressed in June 2007 by the Commission to Gazprom to resell the totality of its interests (51%) in Nordstream, given its function of dominant seller. The Spanish energy regulator addresses a similar demand to Sonatrach to limit its share in Medgas to 20%, unless it accepts very stringent conditions to raise its stake at 36% (*Gas Matters*, July 2007)

¹³ Source: The Economist, July 18, 2009

because of the costly pipeline under Caspian sea with many uncertainties on cost and legal issue; for Iraq (and its Kurdistan gas) because of the uncertain political situation of Kurdistan and the necessity of building a complementary pipeline, and for Iran because of its present position on the international arena.

Table 1 . Comparison of characters of Nabucco and SouthStream projects

	Nabucco	SouthStream
Capacity (and length)	30 bcm/y (1200km in Turkey)	63 bcm/y (800km under Black Sea)
Achievement (Official date end 2009)	2014	2015
Cost estimation	€ 8 Billion*	Between €19 billion and €24 billion (Black Sea section: 9 to 13 billion)
Countries involved	Turkey, Bulgaria, Romania, Hungary, Austria	Russia, Italy. For the Northern European link Bulgaria, Hungary; for the Southern link Greece, Serbia, Slovenia, Italy
Companies involved	OMV (Austria) 16.4%, MOL (Hungary) 16.4%, Transgaz(Rom.) 16.4%, Bulgargaz 16.4%, BOTAS (Turkey) 16.4%, RWE	Gazprom (45%) ENI (45%) EDF (10%) for the Black Sea section. Gazprom 50% and respective national companies 50% for each national section
Gas sources access	At maximum 5 bcm/y from Azerbaijan	Indirectly Eastern Caspian gas Directly Russian gas

* Estimation without connection to Turkmen by TransCaspian pipe : € 8 billion

Figure 1. The new gas transit pipe lines from Caspian region and Russia to European markets



Contemplating this complex game, different theoretical economic perspectives allow to anticipate the South Stream project as the possible winner.

3. The transaction costs perspective

In a complete contradiction with the political nature of the Nabucco project, the business model of Nabucco is the merchant pipeline. This model is based upon premises of a textbook market economics and its transposition in mature gas systems for the access of new producer to midstream and downstream buyers and for the development of new infrastructure without ex-ante contracts. This business model is operatory in a mature gas market but not for a transit pipeline towards new remote gas fields in geopolitically unstable regions. Nabucco project is conceived as if Caspian and Middle East productions and European gas markets are completely integrated within a regulatory jurisdiction of the EU-type market oriented legislation. In such a mature market regime there is no need of ex-ante relation between gas producers and gas suppliers by long term contracts. But this view ignores the basic economics of gas field and infrastructure development in a non mature gas system. The upstream part of Eurasian gas market space is not mature. Development of gas fields in remote regions with long distance transportation to consuming regions by pipes-lines or LNG chain needs both large investment both in gas fields and transport infrastructure to be connected to mature gas system of downstream markets.¹⁴

The perspective of transaction cost economics (TCE) shed light on the need to comfort contractualization, not only to share risks but also to guarantee the credibility of producers and buyers commitment which is needed to trigger the installation of large-scale equipment with large sunk costs. The TCE refers to difficulties met in contracting when equipments to be invested are specific to transactions between parties, i.e. without possibility of redeployment to other markets downstream or to different input markets upstream, in case of geographical or technical specificity. This theory identifies the conditions allowing long-term credible commitments from buyers which should contract with producers (and transporters) on long-term to help the latter ones to invest in equipments without the possibility to redeploy either their production towards other outlets, or their transport infrastructure towards other input sources (Williamson, 1985). TCE also concerns contracts which are established between an industrial producer and a fuel supplier with geographical specificity of coal or gas field and transportation infrastructure assets specific to the associated transactions (Joskow,1988). Nabucco is supposed to open the potentialities of access to different gas resources. If it is built without ex-ante relations to the development of Caspian or Middle East field, Nabucco would have to be redeployed towards new sources if the best options are captured.

An ex-ante long term contract with take-or-play clause and price indexation clause on competing commodities allows to share the risks of an investment (volume and price risks in particular) in a specific equipment, here the gas field installations and the export and transit pipelines infrastructure (or the LNG chain) for the transportation to the buyers' gas system, Nissen, 2008). The TCE introduces the dimension of the counterpart's opportunism which is a risk endogenous to the relation investor-buyer, the so-called "hold-up risk". TCE considers that, because firms do not behave cooperatively in any case, safeguards are needed in the

¹⁴ It needs two conditions: a long term commitment between producers and buyers for gas purchase with take or pay contracts to share risks and an involvement of gas producer in export infrastructure and the two parties in transit infrastructures. The take or pay clause provides an incentive for the buyer to take all the gas it can absorb when use of this gas is economically efficient, while curtailing the risk from the producer to make this gas unavailable upstream.

long- term relations, given this endogenous risk. In the Nabucco case, if we imagine an hypothetical situation where it is built without ex-ante gas commitment to be shipped, anticipating important Azeri and Turkmen gas shipments, Azeri and Turkmen gas companies which are well advised to let Nabucco to be built so as to widen their options could well end up choosing to contract with another buyer than European gas companies, all the more so since there already exists transportation infrastructure to the markets supplied by this buyer. What is conceptualized as “passive opportunism”.

An important condition for the credibility of the counterpart’s long-term commitment is the existence of contractual guarantees which limit his opportunistic behaviour: in upstream gas project development, these guarantees are offered by common ownership of assets and/or fixed annual remuneration of the investment which act both as hostages on one hand side, and second by indexed value-based pricing which means that sellers have no incentive to defect when market values increase (or conversely for buyers when market values decrease sharply). For the infrastructures investment, bilateral commitment secures post-commitment incentive compatibility, required for funding. Limited shipping option reduces defection temptation with shipping control usually by seller up to the buyers’ systems frontier and previously destination restrictions. So the take-or-pay contract is both an insurance mechanism upstream, for the producer, an incentive to efficient use of gas downstream, for the buyer, and a guarantee for the transit pipeline (or the LNG chain which would be the same case) which should be built in partnership with producers’ and buyers’ commitment.

This contractual model of gas production development and infrastructures has proved to be efficient for the development of the gas system in North American markets up to their maturity as well as in the European markets to be linked to external producers (North Africa, Norway, Russia, etc.). It is only when a certain stage of maturity of a regional gas system is reached with knitted networks of trunk lines and storage capacities and numerous entry and exit points that geographical specificity of investment in new gas fields, interconnectors and transit infrastructures vanishes and that a new regulation can define new property rights on transport capacity with different market exchanges for flexibility, balancing, and storage needs. Transmission contracts can be separated from commodity contracts. Investment in new transport pipeline can be decided without ex-ante contracts on the commodity and without commitment of gas producers or midstream buyer as for the merchant pipeline, because investors could anticipate a stream of revenues.

In the TCE perspective, a merchant line which has to be established without ex-ante trade agreement with gas producers and gas buyers and without involvement of these gas producers in the development of the transit capacity, is not economically and financially viable. Only a former contractual model for new remote gas field and related infrastructure development is valuable. Partnership from wellhead to consumers introduce mutual commitment . It is this model which is adopted for Nordstream and de facto for the South stream project related to the 2007 Turkmen contract with Gazprom. The TCE conditions of viability of a specific investment project are respected: a long-term contract with Turkmenistan, the involvement of the producers in the pipeline to Russia, the involvement of Gazprom not only in the South stream offshore section but also in some national sections in Europe section, the involvement of large Italian buyers in the SouthStream stock (ENI and Edison-EdF).

4. The competition theory perspective

Competition theory can throw light on the probable outcome of the competition between the Nabucco project and the SouthStream project as if it is a competition between two firms to buy inputs from the same sources, to transform them in a same product and to sell this product on the same set of geographic markets. The peculiarity of the competition is that these two firms have to decide an investment in a large-scale and indivisible equipment and they also have the option to ex-ante contract with input producers before building it. There are two levels of competition between the two firms, upstream for accessing to Caspian sources or other sources, and downstream for accessing to markets in Central and Southern Europe. That means that competitors will have to anticipate what they will lose if they install their equipment or do not install it, while the situation upstream or downstream could change in their disfavor.

As any imperfect competition game with entry (see for instance Dixit, 1980; Laffont & Tirole, 1989), the dominant player has the possibility to deter entry in three ways: first overinvesting (in a pure economic competition, in fact the “SouthStream firm” assimilated to Russia does not need this costly undersea pipeline to export its gas towards Europe given the existing pipes, but, as being the incumbent, it could decide to invest in order to deter the “Nabucco firm” to invest), second obliging entrant to overinvest and increase its costs (Nabucco would need to link its entry with an investment in the €8-billion TCP to be connected to the main source in East Caspian) and third taking control of the main input source (here by buying all the available Turkmen gas). In this strategic game, the two players have to anticipate their gains and their losses in relation to the likely strategies planned by the other player. We consider the different advantages of the two projects in the point of view of accessing to markets downstream first and second of accessing to sources and finally linking competition downstream and upstream.

Downstream Nabucco has some few advantages on SouthStream. Namely its shareholders (on the long distance, the Turkish section) are the historic companies in Bulgaria, Romania, Hungary and Austria (which would use half of Nabucco capacity for transporting gas to their own markets), the remaining capacity would be for gas trade on the Baumgarten hub at the Austrian frontier with German market. This could be considered as an advantage on SouthStream which has not a so clear position on the downstream markets for accessing to national markets. Local gas companies and their governments accept to finance half of the cost of the national sections on the Northern part in Bulgaria and Hungary, but they are not investors on the main part of SouthStream under the Black Sea¹⁵. It is partly compensated by positive development on the downstream branch of SouthStream in Serbia and Slovenia. New outlets could be found on the Italian market, in particular with the entry of EDF which controls the third of Italian gas supplier. The main game seems in fact to set upstream.

For the access to gas sources, as said above in the storyline, the likely sources available to fill up Nabucco pipe on an horizon compatible with the investment cost recovery period are Azerbadjian and Turkmenistan. It has quickly appeared that Azerbadjian will not have enough gas in the next fifteen years to contract quantities with European buyers that will fill Nabucco at least up to 20 Bcm/y, the level necessary for the fixed cost recovery. Turkmen gas became the only solution for filling Nabucco and making it profitable.

¹⁵ Austria and its oil and gas company are not yet clearly involved in the SouthStream project for an eventual Austrian section (at the end of 2009)

Second upstream resources must not be preempted by an agreement with Russia, and indirectly by the SouthStream project. This Nabucco competitor benefits from the Gazprom ability to control multiple sources of supply, as well as in the Russia's "Near Foreign". For gaining agreement with Turkmenistan, Gazprom accepts to change its trade relations with and to pay to Turkmen gas company at the European price. Present attempts from the "Nabucco coalition" to create alternatives to initially hoped-for Turkmen gas quantity in the framework of the so-called Caspian Development Corporation (CDC) is not a credible enterprise on the time scale of the cost recovery period of the project, all the more so that even if new Turkmen gas fields should be developed by the CDC, the gas to be transported to European markets would need the TCP installation beside Nabucco realization;¹⁶

Finally we consider the game between the two competitors in its vertical dimension including upstream gas access and investment decision in the large upfront cost equipment in relation to their respective competitor anticipated strategy. For the Nabucco coalition it will cost a great amount if it is built (?) without contractual gas, because no quantity will be available during the 2010s at the exception of some Azeri gas. This situation will be the same even if SouthStream is not built because all the Turkmen gas which is accessible in the next 15 to 20 years for the European markets is contractualized with Gazprom. It is not because Nabucco will be installed that the advantage of gas source diversification as well as the gas transit risk reduction will be gained for the partners, through lack of gas to fill it in the near and long term. Symmetrically for the SouthStream coalition led by Russia/ Gazprom, there would be no cost in relation to the commitment to buy Turkmen gas for controlling the sales of Eastern Caspian gas to Europe, if the pipeline is not built. Indeed Turkmen gas sold to Gazprom could find other outlets and other corridors to reach the European markets.

If we come back to geopolitics and give up strict economics paradigm, the non realization of Southstream should be an opportunity cost for Russia which would then loose an opportunity to reduce the Ukrainian transit risk, as well as for the buyers of gas transported by South Stream. If the latter will be costly to build, in particular for Russia and Gazprom which are heavily constrained by the financial crisis and sales reduction on the European market in 2009-2010, the economic value of transit risk reduction could be seen as justifying the investment.

5. The coalition theory perspective

The coalition theory perspective is relevant when applied in international relations to a game of political entities which are not bound by a legal agreement or submitted to a central authority in a world of self-interested agents. The Nabucco project as well as the SouthStream project can be considered as two coalitions of different States, supranational bodies (the European Commission) and gas companies backed by their national governments¹⁷. The European Treaty and the directives do not create any obligation for partners to be bound by a common foreign gas policy. The coalition theory in international relations is mainly focused on strategic interactions between players, based on the game theory with description of zero-sum games. Its premises are inspired by the economic theory of cartel (see for instance d'Aspremont and Gabszewicz, 1986) and by Axelrod's theoretical development on

¹⁶ See for instance Robert J., 2009, Turkmenistan Seeks Euro Pipeline, *Platts*, 04. 08.09

¹⁷ The same could be said about the NordStream project.

cooperation in repetitive game (Axelrod, 1984).¹⁸ They state three characters on a coalition to appreciate its stability. First a coalition is solid if it is not composed by too many parties and if the benefit to belong to the coalition is superior to the one to be outside, either to free ride or to enter in another competing coalition. Second, for guaranteeing a certain stability, a punishment must deter players not to respect entente rules or to leave the coalition, so that the benefit to cheat or to leave should be significant and be upper the penalty. Third the game becomes more complex when another coalition competes, because this allows permanent comparison of advantages to stay in one coalition rather than in another one.

In the Nabucco-SouthStream game, the Nabucco coalition includes four member-states (Austria, Hungary, Romania, Bulgaria) with their national gas companies group relying on an alliance with Turkey which is not bound by any European membership. The Nabucco coalition also acts in an environment of competition and political rivalry with two other coalitions gathering Russia and at least one major member state, the SouthStream coalition including Italy with ENI, and less directly the NordStream coalition including Germany and some of its major energy companies.

The fragility of the Nabucco coalition, or at least its relative inefficiency, comes first from the absence of converging interests inside the European Union. Nothing in fact forbids EU member-states which are external to the Nabucco coalition to establish a competing project with an external EU player, even if this player acts against their interests. The member-states outside the project, which are supposed to endorse it as an EU project, are in fact not obliged to assume the implications of the Nabucco's statute of European project. The lack of cohesion of the EU members when it comes to foreign relations and the EU lack of diplomatic powers limit any advantage for the large state-members to relinquish part of sovereignty to the European Union on issues such as foreign gas relations. In fact they are pleased to back their national gas companies when they establish gas contracts and have developed new gas infrastructures with producers. This explains fundamental diverging interests and difference in priorities between the Western EU members and the Central and Eastern European ones, beyond their difference about Russian gas dependency.

The second inefficiency of Nabucco project comes from the fact that participants to Nabucco are not bound by any agreement which stipulates their non- participation in other coalitions and would not be submitted to any penalization. Indeed Bulgaria, Hungary and, with much less commitment, Austria are involved in the SouthStream project for the northern section. Governments agree for the location of the pipeline and the respective national companies will co-finance with Gazprom the section on their territory and will benefit from some transit fee. The European Commission, or any Nabucco partner cannot punish a participant for getting interests in the competing coalition, even if they could cover him with European opprobrium. Moreover for the Eastern and Central European partners, the non-realization of Nabucco because of the SouthStream construction, would be at no-cost in term of gas vulnerability, because the latter will allow to alleviate the transit risk that they are seeking anyway. Perhaps it will not be recognized as such because transit risk is wrongly assimilated to the so-called Russian risk. Anyway we could easily anticipate that the sole fact that SouthStream appears to be achieved in the next ten years will change the perception of the Russian risk in as much as

¹⁸In a repetitive game, Axelrod (1984) shows that the stability of the cooperative game depends first on the choice of cooperation by player when each one is confronted the first time with the prisoner's dilemma, second with the punishment the players are able to inflict onto the one who chooses the non cooperation strategy in t-1 and then with the forgiveness when he comes back to a cooperative strategy.

it will be increasingly dissociated from the transit risk inherent to the lack of credibility of any Ukrainian commitment

Third Nabucco coalition is fragile because Turkey could play different trump cards it holds in its hands as a main transit country for the gas coming from western and eastern Caspian countries, and also for the Russian gas via the Black Sea offshore pipeline for the Central and South European markets. They have already used the stake of its eventual European integration to exert pressures on the European Union about Nabucco and the transit fee (Winrow, 2009). Besides Turkey could negotiate with Russia and Italy to increase the Russian gas flow via Blue stream as a way to balance any EU pressure since its alleged commitment in the political agreement with the EU concerning Nabucco installation in July 2009. The non-realization of Nabucco will be at little cost for Turkey in its transit function because it has other opportunities from other transit rent with the Blue Stream capacity increase and the completion of ITGI pipe (Interconnector Turkey Greece Italy) which will be connected to Greek and Italian markets.

Fourth when Nabucco coalition looked for allies upstream as Azerbadjian and Turkmenistan in the Caspian region, we then noticed that they would not have any scruple about looking for different direct outlets than European markets, in particular signing contracts with Russia for their available gas. Political reasons (new political entente with Russia for both countries in 2007 and 2008) as well as economic reasons (high gas price to be paid by Russian buyer, pipeline being cheapest to install than TCP under Caspian sea) might at any time contradict logics of Nabucco coalition extension to producing countries.

6. Conclusion

Whatever the future of SouthStream project is, the Nabucco future is so gloomy that very few gas experts would bet on its achievement. It may imply that the EU needs to improve not only its effort to define a common external energy policy, but also its ability to act within the framework of this external policy and its priority projects policy. They are not viable if they are wrongly worked out due to the lack of knowledge about the gas infrastructure economics. The development of a gas transit project towards a remote and unstable region is very demanding in terms of economic arrangements and political backing with cooperative agreements between concerned countries. The case of Nabucco shows at least the necessity to coordinate actions of potential buyer and transit countries with potential gas suppliers by long- term contracts.

The Southern corridor policy also suffers from the traditional European Commission market approach of gas infrastructure development as if the regional gas market was mature and European gas regulation extendable to remote foreign gas fields and associated infrastructures in diversified export countries. South Stream also is a political project which will certainly be costly for Russia, but it has much more economic grounds, such as gas to fill it, reachable markets to develop outlets and European deep pocket allies to share an increasing part of the cost. Behind the hard power exercised by Russia, there is a regional monopoly & dominant gas market player which could absorb the Caspian gas and resell it to the European markets.

The southern corridor policy was conceived as a head-on confrontation with Russian hard power without distinction between transit risk and Russian gas dependency risk, aiming at diversifying at any cost, as reflected in the following comment : “If SouthStream beats Nabucco to construction phase, the EU has to press ahead and build it anyway. Without Nabucco, we will never even have a chance of getting diversification from Russian gas

supply » (Andrew Neff, 2008)¹⁹. At the end there will be a political cost if the non economically-based Nabucco project is carried out anyway only for the sake of showing European determination because in the end it will demonstrate the European weakness in foreign gas policy. Even when it comes to ensure security of Central and Eastern European gas markets which is what this European policy is supposed to act for, there are other solutions to reduce vulnerability of these markets.

As underline by P. Noel (2009), EU is best when acting internally by developing crisis prevention mechanisms at the EU level, by inciting each member-state to improve its protection against supply interruptions (the so-called n-1 standard), by developing rules of solidarity through regional emergency plans and encouraging better integration of markets thanks to the development of new interconnectors and reverse flows systems. The new draft EC Regulation proposal on Gas Supply Security (EC, 2009) should be encouraged in this direction. The EU should rather stay in the Soft Power vein by carrying on the influence game to enter in the post-Energy Charter era, improving the treaty in taking into account new elements brought up by the Russian government around the Medvedev new Conceptual Approach proposed in April 2009. It could lead to accept third party access to transit pipeline in Russia, in particular for transiting Caspian gas to European countries.

In fact the lesson drawn from the Southern corridor policy fiasco is that economics should not be completely forgotten in a Hard Power game. Reflections must also be developed on the rationales of European Commission's direct initiatives aiming to encourage European companies and Caspian governments to expand joint ventures on new gas and oil fields development, as the Caspian Development Corporation is, if economics of projects will run aground on the routes issue.

But it is doubtful that the lessons will be drawn because there are too many ideological premises within the European Commission and also because some experts distort the perception of the reality concerning gas dependence risk. As they point out Russia as the opponent to be defeated, there might be regrets that diversification of sources do not occur when reaching new gas sources from Caspian and Middle East with the help of new corridors, but is it so problematic, even for European Union as a whole and more precisely for the Eastern and Central European markets? On one hand dependency from Russian gas will not increase in the future because of the development of LNG imports (Noel, 2009). On the other hand, the transit risk will be alleviated by the South Stream realization, allowing Ukraine bypass which appears unable to gain in credibility in its commitments as a transit country.

¹⁹ A. Neff is a well known specialist of gas geopolitics as senior energy research analyst at Global Insight. He is quoted by Paul French in "South Stream vs Nabucco", 13 mars 2008. <http://www.offshore-technology.com/features/feature1643>

References

d'Aspremont C., J.J. Gabszewicz, 1986, "On the Stability of Collusion", in G.F. MATTHEWSON et J.E. STIGLITZ, *New developments in The Analysis of Market Structure*, New York, Macmillan.

Axelrod, R. , 2006, *The Evolution of Cooperation* (Revised ed.), Perseus Books Group

Dixit, A., 1980 "The Role of Investment in Entry Deterrence," *Economic Journal*, 90, March , p. 721-729

Dutta, B. and S. Mutuswami, 1997, "Stable Networks," *Journal of Economic Theory*, n°76, p. 322-344 (1997).

Ericson, R., 2009. "Eurasian Natural Gas Pipelines: The Political Economy of Network Interdependence", *Eurasian Geography and Economics*, vol.50, n° 1.

European Commission, 2008, Second Strategic Energy Review, An EU Energy Security and Solidarity Action Plan (Brussels, 2008)

European Commission 2009, Commission staff working document - *Accompanying document to the Proposal for a Regulation of the European Parliament and of the Council concerning measures to safeguard security of gas supply and repealing Directive 2004/67/EC* - Assessment report of directive 2004/67/EC on security of gas supply {COM(2009) 363}

Finon D., C. Locatelli, 2008, "Russian and European gas interdependence: Could contractual trade channel geopolitics?", *Energy Policy*, January, vol. 28, p. 1582-1601.

French P., 2008, "SouthStream vs Nabucco", 13 mars 2008. <http://www.offshore-technology.com/features/feature1643>

Hartley, P. and Medlock, K. , 2008. *The future of natural gas exports*, Working Paper Series: The global energy market: comprehensive strategies to meet geopolitical and financial risks, James Baker III, Institute for Public Policy, Rice University

Helm, D. , 2007, *The New Energy Paradigm*. Oxford, Oxford University Press.

International Energy Agency, 2008a, *IEA Energy Policies Review: The European Union* (Paris, OECD).

International Energy Agency, 2008b, *Development of Competitive Gas Trading in Continental Europe: How to achieve workable competition in European gas markets?* (Paris, OECD).

International Energy Agency, 2008c, *Natural Gas Market Review 2008: Optimising investments and ensuring security in a high-priced environment* (Paris, OECD).

Joskow P., 1988, Asset Specificity and the Structure of Vertical Relationships: Empirical Evidence, *Journal of Law Econ Organ.* 1988; 4: 95-117

Kalicki, J. and Elkind, J. , 2005. "Eurasian Transportation Futures", in Kalicki, J. y Goldwin, D. (ed.): *Energy and Security*, Washington: Woodrow Wilson International Press.

Locatelli C. , 2008, *Russian and Caspian hydrocarbons : energy supply stakes for the European Union*, LEPII Working Paper n° 13 bis . december 2008

- Nissen, D. 2009, The Role of Transport Infrastructure in Natural Gas: A Transactional Approach, www.cemtp/nissen, Columbia University.
- Noël P., 2009, A Market Between Us: Reducing the Political Cost of Europe's Dependence on Russian Gas, June 2009 EPRG, Cambridge University EPRG Working paper 0916
- Percebois, J. , 2008, 'The supply of natural gas in the European Union-strategic issues', *OPEC Energy Review*, XXXII, 1, March.
- Stern, J. & Bradshaw, M. , 2008. 'Russian and Central Gas Supply for Asia', in Stern J. (ed.) (2008) *Natural Gas in Asia* (Oxford Institute for Energy Studies).
- Olcott, B., 2006. "International gas trade in Central Asia: Turkmenistan, Iran, Russia and Afghanistan", in Victor, D., *et. al* (ed.): *Natural Gas and Geopolitics: from 1970 to 2040*, Cambridge: Cambridge University Press.
- Paniouchkine V. , Zyagar M., 2008, *Gazpom, Rouskoyé Oroujié*, Moscow, Zakharov publisher (Published in French, under the title *Gazprom, l'arme de la Russie*, Aix, Actes Sud publishers – 2008)
- Pirani, S. (ed.) , 2008. *Russian and CIS gas markets and their impact on Europe*, Oxford: Oxford Institute for Energy Studies and Oxford University Press.
- Robert, J. 2009, *Turkmenistan Seeks Euro Pipeline*, Platts, 04. 08.09
- Sabonis-Helfen , 2007. "Power and Influence: Russian Energy Behavior in Central Asia", *Competition & Change*, vol.11, n° 2, June.
- Stern, J. , 2005. *The Future of Russian Gas and Gazprom*, Oxford: Oxford Institute for Energy Studies and Oxford University Press.
- Van der Linde, C. , 2008. *Turning a weakness into a strength. A smart external policy for Europe*, IFRI, Gouvernance Européenne et Géopolitique de l'Énergie, Brussels-Paris.
- Wirow G.M. 2009, *Problems and prospects for the Fourth corridor : the positions and roles of Turkey in gas transit to Europe*, Oxford Energy Studies Institute, June 2009, NG30