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BLACK SEA REGIONAL POLICY APPROACH: A POTENTIAL CONTRIBUTOR TO EUROPEAN ENERGY SECURITY

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Main Points

- The largest share of oil and natural gas comes from countries that do not apply OECD or WTO rules, for example by subjugating investment to political control. The consequence is an underdevelopment of production capacity. Both the world oil and natural gas markets are not functioning as competitive markets on the supply side.
- Consequently there is a high need to foster the competition on the supply side by aiming at a diversification of supply sources as well as by supporting the construction of infrastructure that enables diversification of transit routes
- Geographically located in close proximity to the world's greatest proven gas and oil reserves, the Black Sea region forms a natural energy bridge between the source countries and important consumer markets of the European Union.
- The Russian-Ukraine gas row revealed that the situation characterized by a double monopoly – Russian monopoly on gas supply and Ukrainian monopoly on transit system – was not sustainable.
- Russia, contrary to the other Black Sea littoral states, is both a supplier and transit country. Geographically, with the latest enlargement of the European Union, the world's largest gas supplier now shares common borders with the world's largest gas importer. Its triangular relationship with Ukraine and Turkmenistan remains of crucial importance to the European energy security.
- Russia and the Caspian region ship 82% of their exports to the EU alone. Russia, the largest natural gas supplier worldwide, ships its exports, outside of the CIS region, exclusively to the EU. The EU draws 64% of its natural gas imports – from outside of Europe from Russia
- A strategy for supply diversification can aim to link the EU with the transit and producer countries in the Black Sea and Caspian basins. However, the Trans-Caspian Gas Pipeline (TCGP) project faces a number of hurdles. These include strong opposition from Russia, uncertainty about the size of the gas reserves and the production capacity needed to make the pipeline viable. Furthermore, the Russian-Kazak-Turkmen agreement of May 2007 is an important development: the planned pipeline around the Caspian Sea will give Russia significantly more control over much of Central Asia's extensive reserves of natural gas. Gazprom has a deal in place that commits Turkmenistan to increase exports to reach 90 billion cubic meters by 2028. At the moment, Russia takes 50 billion cubic meters of Turkmenistan's annual production of 65 billion cubic meters.
- Measured in terms of its reserves, Iran occupies second place behind Saudi Arabia, with 11.5% of world oil reserves and second place behind Russia, with 15% of world natural gas reserves. The Nabucco Project is only sensible if this pipeline is supplied with natural gas by Iran in addition to Azerbaijan.
- In terms of oil, the key issue in the Black Sea region is the question of a bypass of the Bosphorus. Since the end of the Cold War, the volume of oil shipped from

Novorossisk has more than doubled. In average, 160 million of tons hydrocarbons transit through the Straits: the volume has increased by two third on the last five years.

- The transportation of the Kazakh crude oil has become a pressing issue pointing at the need to set Bosphorus bypass routes across the Black Sea. Since all the Bosphorus bypass proposals involve Black Sea littoral countries, the outcome of this race is of considerable importance to individual Black Sea states.
- The diversification strategies will not decrease the importance of the EU-Russian energy relation. During the coming decades, Russia and the EU are to remain respectively the largest exporter and the largest importer of natural gas in the world. The supply stream from Russia to the EU will continue to represent the largest bilateral trade volume despite efforts at diversification.
- Energy security cannot be ensured only by diversification of sources of supplies. The Black Sea regional approach has to focus on market reforms in the energy sector by engaging with Russia. Energy market reform in Russia is a pre-requisite for Russian and European energy security.
- The question is how Gazprom will seek to balance its requirements for investment with maintenance of near monopoly powers with regard to both its Central Asian and European neighbours.
- Russian need for investment should give the EU a considerable leverage in its negotiations with Russia for the opening up its pipeline networks to Central Asian oil and gas producers on a transparent and non-discriminatory basis.
- Ratification of the Energy Charter Treaty and in particular to sign up the Energy Charter Secretariat's Transit Protocol, which would open up Russia's pipeline system to third parties on a transparent and non discriminatory basis.
- The EU has to continue its support for cooperation initiatives aiming at creating predictable and transparent energy markets by extending the application area of the Acquis beyond the borders of the Union. Only the development of the appropriate legal and financial framework permitting fair and transparent transit conditions will enable the Black Sea countries to play a major role as a gas transit country to the EU.
- The main goals are to create a stable and regulatory market framework capable of attracting investment; to create a single regulatory space for trade; to enhance security of supply; to improve the environmental situation and to develop electricity and gas market competition on a broader geographical scale.

Introduction

The January 2006 gas row between Russia and Ukraine rekindled the energy debate with a particular accent on the need for diversification. The situation characterized by a double monopoly – Russian monopoly on gas supply and Ukrainian monopoly on transit system – was not sustainable. Europe's vulnerability on natural gas, accentuated by the Ukrainian gas crisis and the increasing skepticism emanating from the Union's new members, has brought about the need to reassess the EU's energy situation.

In January, the European Commission tabled a comprehensive package of ambitious proposals for a “New Energy Policy for Europe”. As evidenced by the European Council Conclusions of 9 March 2007 based on the European Commission’s Communication “An Energy policy for Europe”, Europe has entered into a new energy era.

Following the adage that energy security lies mainly in diversity, a new quest for alternative energy resources that could alleviate some of Europe’s dependence on Russian energy has developed. The Black Sea region plays a critical role in the European energy security. Geographically located in close proximity to the world’s greatest proven gas and oil reserves, the Black Sea region forms a natural energy bridge between the source countries and important consumer markets of the European Union. It forces attention onto how oil and gas from further afield should reach Europe’s major consumer markets. This paper addresses the issue of whether a Black Sea regional approach is able to enhance European energy security and contribute to the diversification strategies by promoting the common good of all the three elements of the energy chain: supplier countries, transit countries and consumer countries.

I-The Black Sea countries and energy issues: brief overview

In the Southeast, *Georgia* is already playing a major role in energy transit as a host country for the 1.0 million barrels per day (mb/d) Baku-Tbilisi-Ceyhan (BTC) oil pipeline and its natural gas twin, the 7 to 20 billion cubic meters per year (bcm/y) South Caucasus Pipeline (SCP). Both lines are terminating in Turkey. Georgia is also hosting the Baku-Supsa oil pipeline.

Bulgaria and *Romania* are both involved in existing gas transit south from Russia to Turkey as well as in proposals for gas supplies heading in the opposite direction from Turkey to the major European gas distribution center of Baumgarten in Austria. Furthermore, they are looking in finding new Bosphorus bypass pipelines that would enable Russian and Caspian oil to reach European market without transiting the congested Turkish straits.

Ukraine occupies a unique position since it already possesses a pipeline, the Odessa-Brody line, which could be used either as a Bosphorus bypass or as a mean for enabling Russia to expand its own exports. However, its most important function relates to gas since some 90% of Russian gas exports to Europe currently transit Ukraine en route to market.

Turkey borders the world’s most energy rich regions in the Middle East and the Caspian Basin. The Baku-Tbilisi-Ceyhan oil pipeline, the Baku-Tbilisi-Erzurum natural gas pipeline and the Turkey-Greece-Italy Interconnector, the Nabucco project which will transport natural gas of various origins to Turkey onwards the EU, have been highlighted as significant steps

towards diversification of supplies. Turkey is also supplied directly with Russian gas via the Blue Stream Pipeline.

Russia, contrary to the other Black Sea littoral states, is both a supplier and transit country. Geographically, with the latest enlargement of the European Union, the world's largest gas supplier now shares common borders with the world's largest gas importer. Its triangular relationship with Ukraine and Turkmenistan remains of crucial importance to the European energy security, as was demonstrated during the gas cut-off dispute at the beginning of 2006. Turkmenistan is in fact the largest supplier of gas to Ukraine, supplying up to three or four times the volume of gas supplied by Russia to Ukraine. Yet while Gazprom physically controls the entire Russian and non-Russian supply of gas crossing the border onto Ukraine, it lacks physical control of the pipeline system within Ukraine. Russia has its own bounty of natural gas, but the country's gas monopoly, Gazprom, has preferred to distribute subsidized domestic gas internally while reselling Central Asian gas, mainly Turkmen to Europe at prices that are typically more than double what it is charged.

II-Considering the EU energy security within the global energy market: The EU huge energy consumer is highly dependent on Russia

The largest share of oil and natural gas comes from countries that do not apply OECD or WTO rules, for example by subjugating investment to political control. The consequence is an underdevelopment of production capacity.

Both the world oil and natural gas markets are not functioning as competitive markets on the supply side. The market has become very favorable to producers: domestic production is declining in absolute terms in major consumer regions, resulting in higher import dependency, and the development processes in Asian countries have caused a surge in demand that has in turn generated distribution problems. Consequently there is a high need to foster the competition on the supply side by aiming at a diversification of supply sources as well as by supporting the construction of infrastructure that enables diversification of transit routes. Currently 62% of oil reserves are concentrated in the Middle East¹. Not only are reserves in the Middle East immense but production costs are much lower than in other regions². China was still a net exporter in 1992 but by 2005 it was already the third largest importer in the world. India is moving towards at a similar growth pattern. The world oil market is relatively fragmented into regional sub-markets. The Middle East delivers 2/3 of its oil to Asia; the oil suppliers in North and South America (Canada, Mexico and Venezuela) deliver 3/4 of their exports to the United States alone; Russia and the Caspian region ship 82% of their exports to Europe alone; North Africa is bound to the European market with 64% of its exports.

Natural gas is more difficult to transport. Pipelines are used to connect at regional hubs near demand centers. Natural gas is a network-bound commodity. There is a preference for long-term take or take-or-pay contracts between buyers and suppliers where the latter are usually assured of a guaranteed market for their natural gas. The pipeline connection imposes a far greater regionalization of the world market for natural gas than for oil, since pipeline of a length of over 4000 km can hardly be regarded as profitable. It is therefore impossible to speak about global natural gas market. A larger and a larger proportion of the natural gas trade has been supplemented by trade with liquefied natural gas (LNG). In 2005, 26% of natural gas

¹ BP Statistical Review of World Energy, June 2006

² IEA World Energy Investment Outlook, Paris 2003, p. 113

trade took part place via LNG shipments. However three fifths of this quantity were used to supply Japan, Korea and Taiwan, that are too far away from the production sites. The increase of the share of the LNG shipments will contributed to the diversification of supply possibilities.

The international gas market is composed of strict bilateral infrastructure arrangements and long term delivery contracts. The price of natural gas is contractually pegged to the price of oil to the detriment of consumers in OECD countries. In 2005, Gazprom set country-specific prices that differed from each other by as much as 400%³.

The EU, in its Green Paper on Energy Security, published in 2002, anticipated a 45% increase in gas demand for the then 15 Member States between 1998 and 2030. The International Energy Agency (IEA) has estimated that the EU's primary gas demand is expected to grow by 2.9% per year from 2000 to 2010 and by 1.6% from 2010 to 2030.

Europe is by far the largest natural gas importing region. Europe is not only currently importing more natural gas than all other importing regions combined, but this situation will remain unchanged in 2030 according to the projections of the International Energy Agency (IEA)⁴.

Russia, the largest natural gas supplier worldwide, ships its exports, outside of the CIS region, exclusively to Europe. Europe draws 64% of its natural gas imports – from outside of Europe from Russia. During the late 1970's and early 1980's, the construction of the infrastructure for Russia's natural gas trade was regarded as a harbinger of a policy of détente. The drawback of the mutual dependency associated with this sort of trade relationship emanates from the suppression of the competition and from the asymmetrical nature of the dependency.

III-Attempts at bridging the EU through the Black Sea to the Caspian resources leads to the acknowledgment of the importance of Iranian resources and diversification of the transit routes for Russian gas

The centrality of Caspian oil and gas to the problem of diversification away from dependency on Russia is frequently highlighted. A strategy for supply diversification can aim to link the EU with the transit and producer countries in the Black Sea and Caspian basins. Turkey is being connected to Azerbaijani Shah Deniz gas field via the Baku-Erzurum pipeline, or the South Caucasus Pipeline (SCP)⁵. In coming months with the commercial start of the SCP, Azerbaijan will be able to send gas to the West. Still with only one major foreign investment focusing primarily on natural gas, the region will need considerable investment in upstream projects and export infrastructure.

III-1 The Trans-Caspian Gas Pipeline (TCGP)

Planning for the TCGP began back in 1998 when the United States funded a feasibility study for the project, but last year's supply worries have reinvigorated the plan. If constructed, the

³ Roland Götz, Nach dem Gaskonflikt, Berlin: Stiftung Wissenschaft und Politik, January 2006

⁴ World Energy Outlook 2004

⁵ Azerbaijan is to deliver 70 Bcf (*see comment on next page*) of natural gas to Turkey, rising to 177 Bcf in 2007 and around 223 Bcf per year from 2009 through 2020.

TCGP pipeline would take Turkmen and possibly Kazak gas across the Caspian to feed into existing transit routes to Turkey.

Meanwhile the collapse of the Trans-Caspian Gas Pipeline Project prevent access to the Turkmen gas and in the absence of oil pipeline linking Azerbaijan and Kazakhstan, the Kazakh oil are being shipped to Novorossisk. With regard to most Caspian and Central Asian gas producers, Russia still retains the ability to use its monopoly power to lock-up long term contracts for the import of Central Asian gas at relatively low prices while simultaneously holding out for much higher prices with regard to its own sales to European customers.

Presidents Vladimir Putin of Russia, Nursultan Nazarbaev of Kazakhstan and Gurbanguly Berdymuhammedov of Turkmenistan signed a trilateral deal for the construction of a pipeline on May 12, 2007 in the Caspian port of Turkmenbashi. The presidents agreed to sign a formal treaty in September to build the pipeline, which is expected to run along the Caspian shore from Turkmenistan through Kazakhstan, with a goal of delivering about 10 billion cubic feet of natural gas per year to Russia's existing gas delivery grid within three years. Gazprom has a deal in place that commits Turkmenistan to increase exports to reach 90 billion cubic meters by 2028. At the moment, Russia takes 50 billion cubic meters of Turkmenistan's annual production of 65 billion cubic meters. The May 12 agreement will provide greater capacity for getting the extra gas out. President Putin said this would carry 10 billion cubic meters a year, and a parallel, new pipeline would be laid alongside it to boost overall capacity. Putin said a full agreement would be signed by July. Russia pays Turkmenistan \$100 per cubic meter of gas and subsequently resells it to European customers for \$250 per cubic meter. Planned improvements to existing gas pipelines and expanded natural gas exports from Kazakhstan are expected to allow Russia to substantially increase its total delivery of Central Asian gas to more than 90 billion cubic meters per year⁶.

While the Russian-Kazak-Turkmen agreement is an important development, it does not signal the end of other proposed pipelines. Nevertheless the Turkmen authorities – who presumably would wish to reduce the Russian stranglehold on gas exports and pricing – have indicated that the construction of alternative routes remains feasible. They leave open the possibility that the TCGP might still be built, along with potential pipeline projects to Iran, China, Afghanistan, India and Pakistan. In April 2006, President Niazov signed an agreement to construct a pipeline to China that carried an obligation to sell 30 billion cubic meters (bcm) annually once it is up and running.

In this context, the Nabucco pipeline can contribute to the diversification of supplies if filled with Iranian gas, while the European Gas Ring linking Turkey and Greece is more likely to contribute to the diversification of the transit routes for the transportation of the Russian gas to the EU.

III-2 Southern Europe Gas Ring: diversification of transit routes

Turkey is engaged in the South Europe Gas Ring Project, which aims at bringing natural gas from the Caspian Sea, Middle East, and Southern Mediterranean countries to Europe through Turkey and Greece. The first phase of the project, which connects Turkey and Greece, will be completed in 2007. Feasibility studies were financed by EU funds.

⁶ International Herald Tribune, Ilan Greenber, 'Moscow gets Central Asian agreement on pipeline to Russia', 13 May 2007

In April 2002, after two years of planning, Turkey and Greece signed a memorandum of understanding for a gas pipeline linking the two countries: the Ankara–Dedeagac link, which forms part of the EU’s INOGATE⁷. An economic feasibility study for the project, conducted by Société Générale, was funded equally by DEPA (the Greek national gas company) and the European Commission. The incorporation of Turkey’s energy network with that of the EU was realized with the conclusion of the Intergovernmental Agreement on the *Turkey-Greece Interconnector* signed in February 2003 and the Sale and Purchase Agreement between BOTAŞ and DEPA in December 2003.

Turkey-Greece Natural Gas Pipeline Project is developed as a result of the studies undertaken for the interconnection of natural gas grid of Turkey and Greece and creation of South Eastern Gas Ring. The **Turkey-Greece pipeline** is a 296 km long natural gas pipeline, which will connect Turkish and Greek gas grids. The pipeline begins in [Karachabep](#) in [Turkey](#) and runs to [Komotini](#) in [Greece](#). The length of Turkish section is 210 km, of which 17 km are under the [Marmara Sea](#). The length of Greek section is 86 km. The annual capacity is 7 bcm. In [2012](#) the capacity will be expanded to 11 bcm, of which 8 bcm will be delivered to [Italy](#) when a [Greece-Italy pipeline](#) is becoming operational. Also proposed [West Balkan pipeline](#) is planned to supply by the Turkey-Greece pipeline.

The agreement between Turkish gas company [BOTAŞ](#) and Greek gas company [DEPA](#) was signed on [28 March 2002](#). The intergovernmental agreement to build a natural gas pipeline between countries was signed on [23 December 2003](#) in [Ankara](#). The foundation of pipeline was laid on [3 July 2005](#) by the prime ministers [Kostas Karamanlis](#) and [Recep Tayyip Erdoğan](#). It was expected to begin operating in May [2007](#), but it was announced that the launch of pipeline will delay until [15 September 2007](#).

Natural gas delivery to Italy after Greece by an off-shore interconnection line became an important agenda item. Italian gas company Edison-Gas and DEPA has signed a memorandum and BOTAŞ is involving in this agreement upon the invitation. The pre-feasibility study of the project is completed. And also application for feasibility funding from the EU TEN⁸ Program is approved. DEPA and Edison-Gas have launched tender for the feasibility study of the project.

In the aftermath of the Russian-Ukrainian gas crisis, Russia openly expressed its willingness to export gas to EU countries via Turkey. Alexei Miller, Gazprom’s chief executive, offered during a recent visit to Athens to invest in tripling the capacity of the Greek-Turkish pipeline and to provide long-term supply agreements. Russia is considering Turkey as a potential as a

⁷ INOGATE, Interstate Oil Gas Transport to Europe program, is a technical assistance program of the EU covering central and eastern Europe, including the newly independent states that seeks to integrate the hydrocarbon transport networks between the Caucasus, central Asia, and central and eastern Europe

⁸ The idea of Trans-European Networks (TEN in the EU jargon) emerged by the end of the 1980s in conjunction with the proposed **Single Market**. It made little sense to talk of a big market, with freedom of movement within it for goods, persons and services, unless the various regions and national networks making up that market were properly linked by modern and efficient infrastructure. The Trans European Energy Networks are integral to the European Union’s overall energy policy objectives. The European Union supports electricity and gas transmission infrastructure projects of European interest, mainly by financing feasibility studies. Most of the projects cross national borders or have an impact on several EU Member States. ‘Projects of European Interest’ should be mature projects on priority axes with a cross-border component or with significant impact on cross-border transmission capacity.

transit point for Russian natural gas exports to EU. At present the only gas pipeline system connecting Turkey and Europe is a network extending through south-eastern Europe, which delivers Russian natural gas to Turkey. The Commission has recommended that certain volumes of Russian natural gas could also be transported to Europe through the South Eastern Gas Ring connecting Turkey to Greece. Turkey will probably first re-sell and re-export to Europe Russian natural gas previously contracted to the Turkish market.

III-3 The Nabucco Pipeline Project can contribute to the diversification of supply if filled by Iranian gas

The Nabucco pipeline will establish a link between the Black Sea region and the Middle East.

The Nabucco project represents a new gas pipeline connecting the Caspian region, Middle East and Egypt via Turkey, Bulgaria, Romania, Hungary with Austria and further on with the Central and Western European gas markets. The pipeline length is approximately 3,300 km, starting at the Georgian/Turkish and/or Iranian/Turkish border respectively, leading to Baumgarten in Austria. According to market studies the pipeline has been designed to transport a maximum amount of 31 bcm/y. Estimated investment costs including financing costs for a complete new pipeline system amount to approximately 5 billion Euro.

In November 2002 five companies signed an agreement to carry out a joint feasibility study on the construction of a natural gas pipeline from Turkey to Austria via Bulgaria, Romania, and Hungary. Participants in the project are BOTAS, (Turkey), Bulgargaz (Bulgaria), Transgaz (Romania), MOL (Hungary), and OMV Erdgas (Austria). The study received approval from the EU in July 2003. The TEN Program of EU has accepted to fund a part of the feasibility study⁹. Natural gas is planned to be supplied by the planned pipeline to the countries with emerging markets like Bulgaria, Romania, Hungary, Slovakia, Czech Rep. and later on to the other European markets through Austria. On June 2004, Project partners have founded Nabucco Company Pipeline Study GmbH in order to engage in project finance and pipeline capacity marketing studies. According to a preliminary time schedule the development phase¹⁰ is foreseen to last until end of 2008, when financial close is expected. The construction of the Nabucco Pipeline is planned for 2009 with an envisaged start up of transportation of gas in 2012.

The first construction phase, starting in 2009, will cover the planned route between Ankara and Baumgarten, corresponding to the construction of approximately 2,000 km of pipeline. After this phase, the existing pipeline facilities between the Turkish / Georgian and Iranian borders will be used for an interim period of 2 years, in order to link the new pipeline to the Turkish borders. This will enable the project to start operation and marketing of the pipeline to start in 2012 with an initial pipeline capacity up to 8 bcm, while the construction of the rest

⁹ In December 2003 a Grant Agreement was signed between OMV Gas, the other four partners as associated beneficiaries and the European Commission. With this Agreement the EC awarded a grant in the amount of 50% of the estimated total eligible costs of the study phase i.e. feasibility study including market analysis, technical, economic and financial studies.

¹⁰ During this Development Phase, all technical, legal, commercial and financial issues will be covered. Regarding technical issues, in principle the basic and detailed engineering analysis will be performed to meet all requirements for environmental impact assessments in all Nabucco Countries and to obtain all approvals by the respective authorities so as to start construction according to above time schedule.

of the pipeline will be finished in parallel. The second construction phase will run from 2012 until end 2013.

Iran is interested in using the Nabucco pipeline to pump gas through Turkey towards EU. 30 to 50 percent of the capacity of the pipeline might be allocated to Iran for its gas exports. The Iranian Oil Minister Kazem Vaziri-Hamaneh during his visit to Ankara in August, 2006, announced his country's intention to increase the capacity of Iran's pipeline, which is connected to the Turkish pipeline, and export gas to Europe jointly with Turkey. Iran and Turkey agreed on a joint scheme to export Iran's natural gas to Europe via Turkish pipelines¹¹.

Measured in terms of its reserves, Iran occupies second place behind Saudi Arabia, with 11.5% of world oil reserves and second place behind Russia, with 15% of world natural gas reserves¹². Iran is closer geographically to Europe than the West Siberian gas fields and will share a common border with the EU with the accession of Turkey. The Nabucco Project is only sensible if this pipeline is supplied with natural gas by Iran in addition to Azerbaijan. In long term, this project should contribute to the establishment of a broader scheme to provide Europe with natural gas from the South Pars field shared by Qatar and Iran.

IV-Oil and the issue of the bypass of the Bosphorus: multiple transit options through the Black Sea

In terms of oil, the key issue is the question of a bypass of the Bosphorus. The Montreux Convention, which has been regulating traffic through the Turkish Straits since 1936, guarantees free circulation for all trading ships. This Convention lays down the rules of passage for the warships, subjected to a preliminary declaration and several restrictions, and stipulates, in its first article that the signatories parts " *recognize and affirm the principle of freedom of passage and navigation in the straits* " and in its second article that " *in peacetime, the trading ships of all states have the complete freedom of navigation in the straits, day and night, and that pilot and tug remain optional*. According to the international law, the Bosphorus is an international waterway, being the continuation of open sea. However it is narrower than many rivers and splits in two a city of 11 million inhabitant. The Bosphorus is 32 km long and only 700 meters large at its narrowest point. Navigation, difficult because of the geography of the strait, has become extremely dangerous with the increase of the traffic.

The number of ships transiting via the Bosphorus was 4 500 in 1938. It reaches 50 000 nowadays. Between 1994-2002 an average of 132 ships transited each day the Straits. Furthermore the average size of the ships was 100 meters, it can reach today 400 meters. Their capacities increased from 10.000 tons to 400 000 tons. Simultaneously, the population of Istanbul increased tremendously: 700.000 inhabitants were living in Istanbul in 1936. The population of the city is today more than 11 million. Roughly 1.5 million of persons cross every day the Bosphorus in both ways using 1300 ferries. Many small fishery boats are also sailing on the waterway¹³.

Since the end of the Cold War, the volume of oil shipped from Novorossisk has more than doubled. In average, 160 million of tons hydrocarbons transit through the Straits: the volume

¹¹ "Iran agrees to pipe gas to Europe via Turkey", *August 19, 2006*, Reuters

¹² BP, *Statistical Review of World Energy*, June 2006, p.6 and p.22

¹³ *2004 Deniz Ticaret Raporu*, Istanbul ve Marmara, Ege, Akdeniz bölgeleri deniz ticaret odası – Report of Maritime Trade

has increased by two third on the last five years¹⁴. Several factors are behind this trend: the opening up to international trade of the former Soviet countries, the opening of the Main-Danube channel in 1992, which links Rotterdam and Constanza, and the traffic coming from the Volga-Baltic Sea and Volga-Don channels.

The Baku-Ceyhan pipeline, inaugurated last year enables the export of the Azerbaijani crude by bypassing the Straits. However Kazakhstan's oil production is expected to increase by three by 2015. Resources from the Tengiz and Karaçaganak oil fields are shipped through the pipeline of the Caspian Pipeline Consortium (CPC). The CPC pipeline, open in 2001 links the Kazakh oil fields to the Russian Black Sea port of Novorossisk. According to the agreement signed last October, the volume of crude oil shipped through the CPC will increase from 28 million to 67 million tons. Kazakhstan has also taken an interest in sending oil via rail and the port of Batumi to the Black Sea. When the BTC pipeline transported its first commercial oil during Summer 2006, Kazakhstan announced that shipments of Tengiz oil to BTC could begin as early as 2008. Oil volumes from the Kashagan project would help fill the pipeline once the field comes online. Overseas shipments on the Caspian to Baku are expected to grow.

However the transportation of the Kazakh crude oil, still mainly transiting through Russia, has become a pressing issue pointing at the need to set Bosphorus bypass routes across the Black Sea. Since all the Bosphorus bypass proposals involve Black Sea littoral countries, the outcome of this race is of considerable importance to individual Black Sea states.

Odessa-Brody: A 25 million tonnes per year, 644 km line between the Ukrainian Black Sea port of Odessa and Brody in Western Ukraine was completed in August 2001. The line was planned to carry Caspian crude oil to European markets. However, for approximately three years the pipeline remained mostly dormant because Ukraine was unable to secure oil supplies from Caspian Sea area suppliers. Russia is now using the pipeline in the reverse direction, moving oil from the Urals basin southwards to tankers in the Black Sea and onwards to world markets. If the pipeline does run in its originally intended direction, from Odessa to Brody, it has to be extended beyond Brody, certainly into Poland to Plock and then Gdansk on the Baltic Sea. A preliminary agreement was signed between Azerbaijan, Georgia, Lithuania, Poland and Ukraine,

Adria-Druzhba integration: There are multiple options for connecting Russia's Druzhba export pipeline system to the Adria pipeline and its loading terminus at the Croatian port of Omisalj in the Adriatic. Work on one link-up between the systems was carried out in 2004 and 2005, with the aim to ensuring that up to 15 mt/year would flow through to Omisalj.

Constanza-Pancevo-Omisalj-Trieste: the line would run from the Romanian Black Sea port of Constanza through Serbia and Croatia to Italy's northern Adriatic terminal at Trieste in Italy, where it would connect with the Trans-Alpine Pipeline. It would deliver crude oil to Serbia's refinery at Pancevo, near Belgrade and to the Croatia Adriatic terminal at Omisalj. The length would be around 1300 km. The envisaged capacity is 33 mt/year.

Albania-Macedonia-Bulgaria oil (AMBO) pipeline: This 913 km pipeline would run from the Bulgarian Black Sea port of Burgas to the Albanian Adriatic port of Vlore. Planned capacity is 37.5 mt/y, with possible expansion to 50mt/y. The costs are estimated at USD 1.2 billion. A group based in the United States, the AMBO Pipeline Corporation was developing this proposal and went on to secure approval from Albania in December 2003 for its section of the route. In December 2004, the governments of Albania, the Former Yugoslav Republic of

¹⁴ "Turkey: Caspian Oil Presents Challenge To The Straits", Jolyon Naegele, 23 June 1998 (RFE/RL)

Macedonia and Bulgaria signed a memorandum of understanding setting out the principles on which the line could be built.

Burgas-Alexandropolis (Trans-Balkan Oil Pipeline): This 286 km line would run from Bulgaria's Black Sea port of Burgas to the Greek port of Alexandropolis in the Northern Aegean. Bulgaria, Greece and Russia signed an initial agreement on the line in 1997 and the project has since been pursued with some enthusiasm by Russia's Lukoil. Projected capacity would be 30 to 40 mt/y. Costs initially put at USD 600-700 million, were estimated later at USD 900 million. The project would include development of a 50 mt storage facility near Burgas, which would be the landing point for oil shipped across the Black Sea from Russia and Georgia. In April 2005, seven Bulgarian, Greek and Russian companies formally notified their interest in creating an international corporation to build and operate the pipeline.

Samsun-Ceyhan pipeline: This line has become the Turkish option for the bypass of the Bosphorus. The construction of the pipeline was launched on 24 April 2007. The 550 km pipeline will link the Turkish Black Sea port of Samsun to the Mediterranean terminal of Ceyhan. The oil terminal of Ceyhan is already been supplied with the Azerbaijani oil through the Baku-Tbilisi-Ceyhan and with the Iraqi oil. The total cost of the pipeline is expected to reach USD 1.5 billion. The capacity of the Samsun-Ceyhan pipeline is 70 mt/y and is expected to become operational by 2010. The Turkish Çarlık group and the Italian company ENI, project partners established a consortium called TransAnatolien, TAPCO. The Turkish government has been striving to have Russia on board. Negotiations with Lukoil, which were at their final stage, were halted soon before the official launch of the construction of the pipeline. Lukoil remains despite the preference given by the Russian government to the Burgas-Alexandropolis line, interested in the Turkish bypass line. Lukoil has been involved in negotiations with the Turkish authorities for this project to build a refinery for Russian crude oil based on the Turkish Black Sea coast. The outcome of these talks will decide whether Lukoil will back the Samsun-Ceyhan project.

V-The diversification strategies will not diminish the importance of Russia

However, diversification strategies ignoring Russia are doomed to failure or low efficiency. Gazprom has developed a broad control strategy along the gas chain that directly conflicts with diversification routes. Russian companies, such as Itera and Eural Trans Gas established offshore schemes in Hungary, Poland and Slovakia before these countries' accession to the EU. That jeopardizes transparency in gas sales. Gazprom has purchased transit lines in various European countries, notably in Poland, Slovakia and in Ukraine and Belarus. Gazprom and other Russian companies have purchased distribution companies in Georgia, Turkey and Bulgaria. Russia still retains the ability to use its monopoly to lock up long term contracts for the import of Central Asian gas at relatively low prices while simultaneously holding out for much higher prices with regard to its own sales to European customers.

Furthermore, even if the diversification strategies are successful, the importance of the EU-Russian energy relation will not lessen. In order to avoid a larger dependency on the Middle East, the EU must seek to maintain a special relationship with Russia - currently the first oil supplier to the EU - even if in the long term Russia allocates greater shares of its exports to China and Japan. During the coming decades, Russia and the EU are to remain respectively the largest exporter and the largest importer of natural gas in the world. The supply stream from Russia to the EU will continue to represent the largest bilateral trade volume despite efforts at diversification. Russia is projected to stay the biggest individual import source for

Europe. The process of enlargement has brought the EU at the borders of the largest world reserves of natural gas, the largest production and the most important export volume. Energy security cannot be ensured only by diversification of sources of supplies. The Black Sea regional approach has to focus on market reforms in the energy sector by engaging with Russia. Energy market reform in Russia is a pre-requisite for Russian and European energy security.

VI-Russia's investment needs

The IEA in its World Energy Investment Outlook, 2003, considers that the cumulative investment needs in the Russian gas sector are projected to total just over USD 330 billion, or USD 11 billion per year over the period 2001-2030. Gazprom will have to struggle to secure larger investment to carry on its expansion and increase supplies to foreign markets. A new aspect of energy security is stirring up concerns: Gazprom's rather dark production outlook combined with Russia's lack of market reform, is putting into question Russia's capacity to deliver the quantities of natural gas it has committed. As former Russian Deputy Minister of Energy Vladimir Milov has observed, Russia "faces an investment crisis, especially in gas", and had "done nothing" to invest in infrastructure that would enable it to increase production substantially, particularly on the important Yamal peninsula.¹⁵ Indeed, Gazprom has consistently failed to invest in new field infrastructure, relying on large Soviet-era fields for the bulk of its production.

Gazprom is facing declines rates at its gas fields that have traditionally made more than 75% of total production. A new giant field, Zapolarnoye came into production in 2001. However most studies show the decline rates will exceed the new production from around 2008 on.¹⁶ Significantly more expansive fields have to be explored and invested in. In addition, Russia is facing an increase in the internal gas demand that Gazprom is obliged to satisfy at below costs. Gazprom's forecast is mainly relying on imports of cheap Turkmen gas that are redirected to Europe.

The question is how Gazprom will seek to balance its requirements for investment with maintenance of near monopoly powers with regard to both its Central Asian and European neighbours. Gazprom holds the pipeline infrastructure under strict monopoly control. Independent gas producers and oil companies with associated gas production have no access to the export infrastructure. The third country access to the export infrastructure would raise incentives for investments. This should give the EU a considerable leverage in its negotiations with Russia for the opening up its pipeline networks to Central Asian oil and gas producers on a transparent and non-discriminatory basis. Energy market reform in Russia is a pre-requisite for Russian and European energy security.

VII-Resolving the Transit issue: giving a new momentum to the ratification process of the Transit Protocol of the Energy Charter with a regional Black Sea approach

The decision of Gazprom to reduce supplies across the Russian-Ukrainian border on 1 January 2006 has severely undermined its reputation as a reliable supplier of gas to Europe.

¹⁵ "How Sustainable is Russia's Future as an Energy Superpower?", Summary of presentation by Vladimir Milov at Carnegie Endowment for International Peace, 16 March 2006.
<http://list.carnegieendowment.org/t/80287/192304/42757/0/>

¹⁶ Claude Mandil, Securing the Russian-European Energy Partnership, IEA, 2005

Gazprom's two-day reduction in gas supplies, aimed at Ukraine alone, also impacted on customers as Italy, France, Germany and Turkey. The EU has started pressing Russia to resolve the issue of transit of third country gas from Central Asia through Russia to customers in Ukraine and elsewhere.

The core confrontation between Russia and Ukraine was the complete lack of institutionalized or legalized dispute settlement. Other than non transparent and closed door negotiations without procedural certainty, apparently no dispute settlement agreement had been in place between the two parties. Neither Russia nor Ukraine has ratified the Transit protocol of the Energy Charter Treaty. This Protocol explicitly states rules for settling international disputes between transit, producer or consumer country or respective companies. Governments have a major role to play in reducing companies' transit risks to manageable levels, including pre-empting and settling disputes. By its very nature, energy transit is undertaken through a chain of countries, no stronger than its weakest link. A reliable transit regime in a large geographical area is therefore a question of finding common denominators. Different legal and regulatory regimes and different industry structures may hamper investments in energy transit infrastructure.

The priority is to secure an agreement with Russia on the core issue of transit. Russia itself has to secure the transit of its energy resources to world markets. Its credibility as a supplier is tightly linked to the issue of transit. An improved investment climate, as well as a more harmonised set of transit rules focusing on specific conditions for the modernisation and use of international energy transit networks, are likely to facilitate long term investor confidence by reducing risk and uncertainty.

Ratification of the Energy Charter Treaty and in particular to sign up the Energy Charter Secretariat's Transit Protocol, which would open up Russia's pipeline system to third parties on a transparent and non discriminatory basis. The roots of the Energy Charter date back to a political initiative launched in Europe in the early 1990s, at a time when the end of the Cold War offered an unprecedented opportunity to overcome the previous economic divisions on the European continent. Nowhere were the prospects for mutually beneficial cooperation between East and West clearer than in the energy sector. Russia and many of its neighbours were rich in energy resources but needed major investments to ensure their development, whilst the states of western Europe had a strategic interest in diversifying their sources of energy supplies. There was therefore a recognised need to ensure that a commonly accepted foundation was established for developing energy cooperation between the states of the Eurasian continent. On the basis of these considerations, the Energy Charter process was born. Negotiations on a Transit Protocol were launched in 2000, and aim to build on the existing transit-related provisions of the Energy Charter Treaty by developing an enhanced set of operational rules under international law governing energy transit flows across national borders. Agreement was reached on the bulk of the Protocol's text at the end of 2002. However negotiations had to be suspended in December 2003 and June 2004, in recognition of the fact that energy issues, including transit, were also a subject on the bilateral agenda for the European Union and the Russian Federation in the context of Russian negotiations for accession to the World Trade Organisation

VIII-Regional energy market initiatives based on the internal energy market principles

The EU is surrounded by almost 80% of the world's hydrocarbon resources. The aim is to create a wide network of countries around the EU, acting on the basis of shared rules or principles derived from the internal market. It is important rapidly to build up relations with

strategically important neighbours of the Union. Member States need to support the ongoing bilateral and regional energy cooperation partnerships with the main EU energy partners, including the gradual extension of the principles of the internal energy market. A well-functioning market is the best way of ensuring safe and affordable energy supplies. They create a resilient and responsive world energy supply; facilitate investment decisions. However, markets need physical and legal infrastructure, as well as information and transparency. Any transit system, by its very nature, requires multilateral agreement to ensure that national transit rules and regulations result in a multilateral framework for unhindered transit investment and commercial operation.

The EU has to continue its support for cooperation initiatives aiming at creating predictable and transparent energy markets by extending the application area of the Acquis beyond the borders of the Union. Integration of energy markets will stimulate investment and economic growth as well as security of energy supply for all. Only the development of the appropriate legal and financial framework permitting fair and transparent transit conditions will enable the Black Sea countries to play a major role as a gas transit country to the EU. The EC should be a key driver in the design of international agreements, including the extension of the EC energy regulatory framework to neighbours (the Energy Community),

The Baku initiative

The Baku Initiative is a policy dialogue on energy cooperation between the EU and the littoral states of the Black Sea, Caspian Sea and their neighbours. The initiative was announced on 13 November 2004 at the Energy Ministerial Conference in Baku. Second Ministerial Conference was held in Astana on 30 November 2006.

A lack of fair and objective energy trade standards between the EU, Russia and the newly independent Caspian region countries was calling for such an initiative. However, Russia has refused to be a full-fledged member, has therefore an observer status.

Previously, both the TRACECA and the INOGATE programs were designed as technical assistance programs. The lack of a regional political dialogue affected the efficiency of the technical projects. The TRACECA initiative started in 1993, aimed at promoting a European-Caucasus-Central Asian trade and transport web of infrastructures along an east-west axis, rather than north-south. In the field of energy, Brussels launched the so-called INOGATE Programme in 1995, a TACIS line of finance aimed at addressing some supply security issues in participating INOGATE countries such as infrastructural deficiencies, regulatory standard requirements and possibly the improvement of the investment framework especially for downstream projects. While the TRACECA had limited impact on trade routes, the INOGATE, though conceived merely as an energy technical assistance tool, has provided the enabling environment to foster regional cooperation.

The Energy Ministerial Conference of the "Baku Initiative" that brought together the EU countries and the governments of the Caspian and Black Sea regions was held in Astana, Kazakhstan, on 30 November 2006 and led to the formulation of the Energy Road Map which will set out a long-term plan for enhanced energy cooperation between all partners and pave the way for a comprehensive legal and regulatory framework governing an integrated EU-Black Sea-Caspian Sea common energy market based on the EU Acquis. This road map sets as a long term objective the creation of integrated regional energy markets and their progressive integration with the EU internal energy market. The regional cooperation has to ensure an open and non-discriminatory access to energy resources and networks. The priority

area for action are defined as promoting the development of the energy sector based on the principles of security of supply, competitiveness and environmental sustainability and the building up of a stable, sustainable energy policy framework in all beneficiary countries.

Even though the Baku Initiative will not bring any significant change in the pattern of energy production, trading and consumption between European countries and their Caspian partners, in other words will not alter the current pattern of energy trade in the Eurasian space, it will help in the long run to build more market-friendly energy relation between the EU and Caspian energy producers. This energy policy dialogue can be expected to galvanise the countries of the region to tackle shared challenges in cooperation with the EU and help boost new supplies from central Asia to the EU.

The value added of this strategy lies on its goals, which are the establishment of institutions and the pursuit of market-building initiatives. In this respect, the EU can have a say and will share its experience with new partners that have since long demonstrated their willingness to access EU consumers at fair market.

The Energy Community

The Energy Community is a process that aims to extend the EU internal energy market to the South East Europe region. The Energy Community Treaty entered into force on 1 July 2006 and extends the relevant EU energy *acquis* to the Western Balkan countries. The implementation of the Treaty will improve energy security, create a regional energy market and encourage vital investments.

The main goals are to create a stable and regulatory market framework capable of attracting investment; to create a single regulatory space for trade; to enhance security of supply; to improve the environmental situation and to develop electricity and gas market competition on a broader geographical scale¹⁷. The aim is to achieve an operational regional wholesale market by the end of 2007 includes Albania, Bulgaria, Croatia.. The inclusion of Norway and Ukraine, which have already formally applied to join the Energy Community Treaty, should be considered at the earliest possible moment.

One of the challenges ahead is to ensure Turkey's full integration into the Energy Community Treaty. Only the development of the appropriate legal and financial framework permitting fair and transparent gas transit conditions will enable Turkey to play a major role as a gas transit country to the EU. Turkey has to actively participate in all initiatives that the EU may take in view of a stronger security in the energy sector. Turkey's strategic position and its role as key country for energy transit would necessitate a correct implementation of the internal market *acquis* on gas and electricity.

Turkey's participation in the Regional Energy Market for South-East Europe (REMSEE), covering also Western Balkans, Romania and Bulgaria, should ensure that its legislation will be in line with the relevant *acquis* well in advance of its accession. The aim is to achieve an operational regional wholesale market by the end of 2007.

¹⁷ The important issues of the development of the Regional Gas Market in South East Europe are The implement of national gas market reform in all signatory countries, implementation of international best practice in the wholesale gas markets and to facilitate cross-border trade, creation of regional and national gas markets, in part to reduce the environmental impact of existing thermal plants, securing supplies for the region and the EU through the creation of a seamless integrated market between Vienna and Ankara.

However, the Turkish government has been reluctant in joining the Energy Community Treaty. The construction of the South East Energy community has gone indeed hand in hand with the EU enlargement process. The size of the Turkish energy market, its strategic geographical location and the fact that Ankara had not yet begun negotiations on energy policy as part of its EU accession talks are among the reasons for holding back. Some Turkish leaders appeared to fear the EU would have no interest in admitting Turkey once it gained unfettered investment access to its energy sector through the treaty. Some felt Turkey should extract more concessions on its EU accession process as a price for joining the community, fearing it would face unequal pressure from Brussels if it signed the treaty without a firm prospect of EU membership.

This aspect raises the issue of whether the extension of the EU energy market can be disconnected from the enlargement process, whether in a context of loose conditionality, enough incentives can be found for market reforms.

IX-EU's Action in the Black Sea region for enhancing energy security

The EU's action has to focus primarily on how to manage interdependence in energy relations in developing, when possible, multilateral governance frameworks for energy transfers and investments. The prospect is that the institutionalization of transparent, mutually agreed rules and procedures will render the interdependence relationship more certain, as norms tend to stabilize behaviors. In limiting possible behavior to a corridor of legally permitted actions and in setting up a dispute settlement procedure the governance approach tries to minimize arbitrary, unexpected actions by withdrawing opportunities for politically motivated action through its transfer to the domain of law.

The realisation of the internal energy market in the EU will foster investment and innovation and contributes to the security of supply. Member States should promote the principles of the internal energy market in bilateral and multilateral fora, enhancing the Union's coherence and weight externally on energy issues. The EU should help to create the environment for private capital flows and offer political and financial support to economically feasible projects, as appropriate. The EU has to continue its support for cooperation initiatives aiming at creating predictable and transparent energy markets by extending the application area of the Acquis beyond the borders of the Union. Integration of energy markets will stimulate investment and economic growth as well as security of energy supply for all. Only the development of the appropriate legal and financial framework permitting fair and transparent transit conditions will enable the Black Sea countries to play a major role as a gas transit country to the EU.

The EU should use all its weight in current and future bilateral negotiations and agreements, offering balanced, market-based solutions, with the Black Sea region, both with suppliers and transit countries. The EC should be a key driver in the design of international agreements, including the extension of the EC energy regulatory framework to neighbours.

The EU and Russia should see mutual long term benefits from a new energy partnership, which would seek a balance between expectations and interests of both sides. Russia seeks ways to secure energy demand presented by the EU market. The EU needs Russian resources for its energy security. There is a clear interdependence.

Russia wants a stronger presence in the EU internal energy market, ensured long term gas supply contracts, the integration of electricity grids and free trade for electricity and nuclear

materials, as well as the acquisition and control of downstream EU energy assets (gas and electricity) and EU investments and technology for the development of the Russian energy resources. The EU wants non-discriminatory and fair treatment from Russia in their energy relationship, in terms of supply from Russia and in terms of access to the Russian market for EU investors; a level playing field in terms of market conditions, investment and acquisitions in the upstream and downstream Russian energy infrastructure and resources; third party access to pipelines within Russia, including those for transit of energy products from the Caspian region and Central Asia; respect for competition rules as well as high levels of environmental security and safety.

The foreseen negotiations on a new comprehensive framework agreement within the post-Partnership and Cooperation Agreement (PCA) offer an opportunity to agree on the objectives and principles of energy cooperation in a balanced and mutually binding manner.

The Parliamentary Assembly of the Black Sea Economic Cooperation (PABSEC) has a regular but unofficial dialogue with the European Parliament. The EP has unilaterally been granted an observer status within the PABSEC. Given the potential impact of inter-parliamentary cooperation in the field of energy security debate, a structured and regular relationship between the European Parliament and the Parliamentary Assembly of the Black Sea Economic Cooperation (PABSEC) and their respective specialized Committees would create a platform for an enhanced issue-based dialogue.

Maps

Source: Energy Information Administration

Primary Russian Oil and Gas Pipelines to Europe (U)



Caspian Gas Pipelines



Caspian Oil Pipelines



Bosphorus Bypass Lines



Bibliography

British Petroleum (2006) 'Statistical Review of World Energy', June

Clingendael International Energy Programme (2004) 'Study on Energy Supply Security and Geopolitics' *Final Report*

Energy Information Administration (2006) 'International Energy Outlook', June

Energy Information Administration (2006) 'Country Analysis Briefs'

European Commission (2001) 'Towards a European Strategy for the Security of Energy Supply'

European Commission (2005) 'Report on Green Paper on Energy, Four years of European Initiatives'

European Commission (2006) 'Green Paper: A European Strategy for Sustainable, Competitive and Secure Energy'

International Energy Agency (2005) 'World Energy Outlook'

Roberts, J. (2004) 'The Turkish Gate: Energy Transit and Security Issues', Working Paper 11, CEPS, October.

Stern, J. (2005) 'The Future of Russian Gas and Gazprom', Oxford

Tassinari, F. (2006) 'A synergy for Black Sea regional cooperation: guidelines for an EU initiative' *CEPS Policy Brief*, No.105, June. www.ceps.eu