



# BLUE FUEL

Gazprom Export Global Newsletter

## IN THIS ISSUE

Gazprom Export Infrastructure Plan Will Enhance European Energy Security ..... Pg. 2

Meeting Europe's Growing Energy Demand: Nord Stream and South Stream ..... Pg. 2

Nord Stream: On Track to Ensure European Energy Security ..... Pg. 3

South Stream: Gazprom and Eni Reach Agreement ..... Pg. 4

Gazprom Export Signs Contract with Poland's PGNiG ..... Pg. 4

UGS: Six Projects in the Gazprom Export Portfolio ..... Pg. 5

South Stream Community ..... Pg. 6

Turkey's Energy Challenge ..... Pg. 6

Gazprom Global LNG Update ..... Pg. 8

## TO OUR READERS:

# Gazprom Group Faces the Future with Confidence

Russia's energy sector has not escaped the adverse impact of the global economic crisis. In Europe, Gazprom Group's main export market, there has been a general decline in natural gas demand, exacerbated by an unseasonably warm winter.

These factors are not the sole cause of the drop in natural gas demand. The multiple aspects of pricing must also be explained in order to paint a complete picture.

Despite the current economic situation, Gazprom Group's robust investment program, long-term contracts and an expected increase in gas withdrawals during the third and fourth quarters of 2009 allow us to look to the future with confidence.

Gazprom Export's price formulas are based on long-term contracts that automatically dictate the price of gas, and provide a "take or pay" mechanism that is calculated in annual terms. These contracts adjust export prices on either a monthly or quarterly basis, depending on the price fluctuations of competing energy products for the preceding six to nine months. For example, our gas prices remained high in the first quarter of 2009 due to last year's peak in oil prices. As a result, gas withdrawals made under these long-term contracts fell to a minimum over this period. Consumers utilized the less expensive gas they had previously stored in underground gas storage facilities to compensate for the spot market shortfall.

We expect gas withdrawals to rise substantially over the third and fourth quarters of 2009, once the price of gas

decreases to reflect lower oil prices that were seen at the end of last year and the beginning of this year. According to our forecasts, by that point the price of Russian gas will reach parity with spot market prices.

The drop-off in demand is also affecting indicators such as production and finances. However, year-on-year, both production and financial receipts are expected to rise as gas withdrawals increase within the frameworks of the long-term contracts. On the whole, we expect average prices to be comparable to those seen in 2007. While they are lower than the record indicators seen last year, they remain satisfactory nonetheless.

We are often asked if the ramifications of the global economic crisis will affect our investment program. Adopted at the end of 2008, the program provides for 920 billion rubles in spending. This will finance all of our company's priority projects, which is possible because project expenses are incurred in rubles and payments are made in the ruble zone. The Russian ruble's recent devaluation against the euro and dollar will therefore affect the efficiency of these capital investments to a much lesser degree. Moreover, prices are currently declining for many of the goods and services required to implement various projects, e.g. pipes and equipment.

## Gazprom Export Infrastructure Plan Will Enhance European Energy Security

*Sergei Emelyanov, First Deputy Director General, OOO Gazprom Export*



For more than 35 years, Gazprom Export has worked tirelessly to develop strong ties with its European partners. These relationships have enabled our

company to successfully navigate the ever-changing global energy market, and reliably deliver gas supplies in accordance with fair and transparent market principles.

In 2006 and 2009, however, the interruption in supplies, which were caused by Ukraine as a transit party, emphasized the urgency to diversify and upgrade the routes used to deliver Russian gas to Europe. After having lost billions of dollars leading up to the 2009 crisis, Gazprom Group concluded it was no longer commercially feasible to subsidize Ukraine's natural gas supply when its other customers were paying fair market prices. Ukraine ultimately signed an agreement that committed the country to a market-based pricing system for Russian gas.

The diversification of energy supply routes will be achieved through the implementation of two major infrastructure projects: the laying of the Nord Stream gas pipeline, which is currently progressing toward its 2011 gas delivery deadline; and preparations for the creation of another gas transport route, South Stream, which will go on line in 2015. Taking the inevitable rise of EU nations' demand for this environmentally clean fuel into account (by 2020, Europeans will have to import an additional 100 bcm of gas from Russia and the other post-Soviet nations alone), both "streams" will help improve the flexibility and reliability of Gazprom Export's "blue fuel" supplies, substantially strengthening European energy security.

Gazprom Group is also contributing to the creation of a competitive environment in the EU nations. It uses its subsidiary companies to sell our gas to end consumers in Europe. These subsidiaries' market segments are small: around seven percent in Germany, and 10 percent in the Czech Republic. Gazprom is striving for a five to 10 percent share of the retail markets of European nations where our product reaches its end consumers, which we believe contributes to healthy competition.

In 2020, when EU gas consumption is expected to reach 560-600 bcm per year, Gazprom Export is forecasted to supply only 200 bcm of gas – no more than a third of the entire sum.

Natural gas will play a vital role in ensuring European energy security as the supply of oil decreases. It will have many opportunities to serve people in its various capacities. Gas will soon begin replacing petroleum derivatives as the main source of motor fuel, with gas to liquid (GTL) fuel providing just one such example. In the words of Elliot Gue, editor of *The Energy Strategist*: "Natural gas will replace oil as the lifeblood of the world economy."

Moreover, the current financial and economic crisis is forcing specific companies' growth and development prospects to be judged not only on the basis of the volatile stock market fluctuations and international audits and expert appraisals, but also on the basis of these companies' real possibilities and assets.

Gazprom has the largest proven gas reserves in the world – around 30 tcm – with its unaudited reserves, including shelf deposits, standing at another 150-160 tcm. Our company will be ready to meet Europe's future demand for natural gas, and contribute to its energy security.

## Meeting Europe's Growing Energy Demand: Nord Stream and South Stream

*Vladimir Khandokhin, Head of the Logistics and Gas Purchasing Department, OOO Gazprom Export*

Infrastructure projects play a prominent role in the list of Gazprom Group's business priorities. Despite the crisis, our company's European line of business will include the continued implementation of projects such as the Nord Stream and South Stream gas pipelines, expansion of our network of underground gas storage (UGS) facilities, and creation of new trading floors.

As Europe's energy demand is predicted to grow over the coming decades, the need for a number of additional pipelines also increases. Nord Stream and South Stream are projects of special importance. These pipelines, among other planned projects, will be called upon to meet growing energy demand in the European Union.

Nord Stream is currently in its advanced stages. For example, orders for pipes have already been placed, which has helped contribute to the preservation of jobs in Germany. Securing the pipe order was also vital in financial terms, since around 70 percent of a project's costs usually reflect payment for the pipes themselves.

We also expect to soon receive all the necessary environmental permits from the Baltic coastal nations involved in reviewing the environmental impact of Nord Stream, including Finland, Sweden and Denmark. We are currently progressing with the construction of the pipeline's overland sections in Germany and Russia. After that, in 2010, we intend to begin laying the undersea section of the pipeline.

South Stream is currently at an earlier

Continues on page 3

## Nord Stream: On Track to Ensure European Energy Security

Vitaly Yusufov, Director of the Moscow branch, Nord Stream AG

Natural gas plays an increasingly important role in Europe's energy mix. Its use for European electricity generation doubled from 11 percent in 1996 to 22 percent by 2007, and 54 percent of all new electricity generating capacity between 2000 and 2008 was based on natural gas. This trend is expected to continue due to the fuel's low carbon content, flexibility in use and the efficiency of gas-fired power plants.

Nord Stream is widely recognized as the most advanced of the pipeline projects meant for European consumption

for a number of reasons. The project has made great advances in terms of detailed planning, engineering, design and routing, supply contracts, investment and financial set-up. It is also ahead of other projects in terms of submitting Environmental Impact Assessments in all five countries through which the pipeline will pass (Russia, Finland, Sweden, Denmark and Germany).

In fact, the review and consultation period in all nine Baltic Sea countries is drawing to a close. It is expected that all five countries will grant permits by the

end of the year, and construction will begin in early 2010. Thus, Nord Stream is set to be the first of the major new pipeline projects to come on stream. Moreover, this is technically and economically sound as Gazprom has already signed long-term gas supply contracts with major European energy companies contracting Nord Stream to transport the gas.

On the basis of the calculations presented by the European Commission in April 2008, demand for imported gas

Continues on page 9

## Meeting Europe's Growing Energy Demand

Continued from page 2

stage of implementation than Nord Stream and a feasibility study is being prepared to select the optimal route for the pipeline. We are also determining the gas demand of each country through which South Stream will pass.

South Stream's impact will be massive. One should not forget that aside from meeting gas demand needs of Central, Western, and Southern Europe, Gazprom's implementation of this project would provide momentum for an entire series of industries in the region. The construction and subsequent operation of the gas pipeline will create jobs and help fill regional budgets.

The benefits of South Stream are clear. However, this does not eliminate the need to overcome a substantial number of hurdles. Technically speaking, the complexity of the project lies not only in its length and structure – it is comprised of one onshore and one offshore section – but also the fact that the route passes through the territories of several countries. This, in turn, makes it essential that the project meets all local legislation requirements and receives approval from all corresponding authorities. In addition, it is still necessary to determine the management structures for each of the newly-created joint ventures responsible for constructing the sections

of the South Stream pipeline in their respective countries.

Unfortunately, as South Stream's development progresses, some countries have voiced concerns that Gazprom does not have the investment potential required to carry out this project, even in partnership with such a major player as Italy's Eni. As cause for their concern, they cite the fact that the price of gas is indexed to oil prices, which have recently undergone a substantial decline.

These doubts are groundless. We were operating on the basis of conservative price fluctuation estimates when planning these infrastructure projects – these prices ranged between \$54 and \$60 per barrel. Even when these calculations were adjusted for the downward trend in energy demand in 2008, Gazprom Export's net income still reached 771.38 billion rubles last year.

At the same time, others argue that there is simply no need to build up gas transmission system capacities because the European Commission has indicated in its Second Strategic Energy Review that it intends to reduce gas consumption to 400 bcm by 2020. Our estimates show that it will conceivably take much longer than 2020 to achieve these objectives, which

are expressed by the 20-20-20 formula, if they are achievable at all. The International Energy Agency (IEA) provided a more realistic forecast, which assessed these prospects from the standpoint of energy consumers. The IEA said that by 2020, the EU countries will require an additional 100 bcm of pipeline gas from Russia and Central Asia alone.

It is impossible to ensure the delivery of these additional gas volumes through existing pipelines because they have natural technical "growth ceilings." Nord Stream and South Stream are on track to meet growing European demand by providing additional pipeline capacity.

The pipelines will also help improve energy security by strengthening the "producer – transit nation – buyer – consumer" chain. The additional routes will help diversify Europe's energy supply routes and ensure the security of all parties involved.

Addressing a balance of interests is necessary to create a fair "consumer market." Gazprom Export takes a comprehensive approach to the energy security problem: the agreements between all parties should provide for the reliability of supplies and guarantee the sustainability of transmissions and demand.

## South Stream: Gazprom and Eni Reach Agreement

*Joined by Partners from Bulgaria, Greece and Serbia*

A set of key agreements that mark an important stage of the South Stream project's implementation were signed between OAO Gazprom and its European partners from Italy, Bulgaria, Greece and Serbia in the southern Russian city of Sochi on May 15.



### Italy

OAO Gazprom Management Committee Chairman Alexey Miller and Eni Chief Executive Officer Paolo Scaroni signed the second Addendum to the June 23, 2007 Memorandum of Understanding between Gazprom and Eni on further actions in the implementation of South Stream.

The Addendum provides for increasing the throughput of the offshore section of the South Stream gas pipeline from 31 to 63 bcm per year, and regulates gas-marketing issues within the project's framework.

Alexey Miller and Paolo Scaroni agreed that the signing of this document was another confirmation of the companies' firm commitment to developing the

South Stream project, given its strategic significance and considerable contribution to the reliability of European gas supplies.

On the same day, Alexey Miller, Paolo Scaroni and Marco Arcelli, Director of Enel's Exploration and Production Department, signed an Implementation Agreement that sets the terms for Gazprom's acquisition of a 51-percent stake in OOO SeverEnergiya. The deal will amount to some \$1.5 billion, which will be paid to Gazprom in two tranches in 2009 and 2010. SeverEnergiya will be the first Russian-Italian company to conduct active operations in Western Siberian fields.

### Bulgaria

Alexey Miller and Galina Tosheva, Executive Director of the Bulgarian Energy Holding EAD, signed a Cooperation Agreement concerning the creation of a gas pipeline for the transit of natural gas through the territory of Bulgaria within the framework of the South Stream project, which was initiated in Moscow during the April 28, 2009 visit of Bulgarian Prime Minister Sergey Stanishev.

The Agreement specifies the principles of the parties' interaction during the preparation of a feasibility study on the Bulgarian section of the South Stream project and the establishment of a corresponding joint venture. The feasibility study will contain a detailed assessment of all the technical, legal, financial, technological, environmental and economic characteristics and parameters of the project.

Gazprom Export signed a contract with Poland's PGNiG to deliver 1.1 bcm of Russian natural gas in the second and third quarters of 2009.

The agreement satisfies Poland's urgent need for additional natural gas supplies. The supply increase will be distributed over the long-term and implemented in accordance with the new supplementary

### Greece

Alexey Miller, the Chairman of the DESFA S.A. Board of Directors Nikolas Mavrommatis, and the Greek national gas transmission system's Chief Executive Officer Panagiotis Kanellopoulos signed a Basic Cooperation Agreement on the South Stream project's implementation on the territory of Greece.

The document lays out the principles of the parties' interaction during the pre-investment stage of the project. It also determines the conditions, establishment procedure and operating mechanisms for a joint venture that will be set up on a parity basis for the purpose of designing, constructing and operating the Greek section of South Stream.

### Serbia

Alexey Miller and Dusan Bajatic, Director General of JP Srbijagas, signed a Basic Cooperation Agreement on the South Stream project's implementation on the territory of Serbia.

The document outlines the principles of the parties' interaction during the pre-investment stage of the project. It also determines the conditions, establishment procedure and operating mechanisms for a joint venture that will be set up on a parity basis for the purpose of designing, constructing and operating the Serbian section of South Stream. Gazprom will hold a 51-percent stake in the joint venture, with Srbijagas holding the other 49-percent.

protocol to the 1993 Intergovernmental agreement.

Gazprom Export always meets the consumers' demands and in winter of 2009, delivered the gas requested by PGNiG, which was greater than usual daily supplies.

## Gazprom Export Signs Contract with Poland's PGNiG



## UGS: Six Projects in the Gazprom Export Portfolio

### Fundamental principles of UGS market operations

The underground storage of gas (UGS) is one of the ways Gazprom Export ensures the reliability of supplies. These difficulties occasionally arise in the summer season, when gas transmission systems sometimes need to undergo repairs at the same time consumer orders are being fulfilled. Russia's own domestic consumption grows in the winter season, depending on weather. In order to avoid disruptions to our Russian consumers, a part of the load used to ensure Gazprom Export's deliveries is covered by gas withdrawals made from UGS.

The basic principle of storage states that the closer the UGS is to consumers, the more convenient the management of gas flows becomes. Should an urgent delivery of additional gas volumes have to be made to, say, Western Europe or Turkey, it would take two or three days for the gas to reach the end consumers from its initial production site.

Many UGS development projects have emerged of late. It even became fashionable for investment companies and banks to plan to invest enormous amounts of capital in this business. The attraction of these projects was high – these facilities were seen as a steady source of income. The current economic crisis showed that this market's supply clearly was on pace to outstrip its demand. These projects' seemingly unquestionable advantage fell in the investment companies' eyes. The crisis helped to even out the situation, since gas consumption decreased.

As a matter of principle, UGS investments are an expensive venture and their payback periods are long. Gazprom Group, which has no direct ways of reaching end consumers abroad, sees UGS development projects as a method for ensuring the safety of supplies. By having storage facilities stationed in Europe, for example, we can guarantee the amounts of gas we sell under a range of circumstances. We view the entire gas chain as a source of income – from its

production and transmission to UGS, which ensure that additional guaranteed volumes of gas sales are made within existing contracts. According to forecasts, only companies that either sell or produce the gas themselves will be able to compete in the UGS market.

### Ongoing UGS projects

*Gazprom Export is currently working on six simultaneous UGS projects, in various stages of implementation: in one case, the work involves negotiations concerning the creation of a joint venture, and in others, the preparation of trilateral agreements and the adoption of investment decisions. Construction itself is already underway in others. All of these major projects require the exertion of an enormous effort to deal not only with various legal technicalities of each country, but also their national regulating agencies' methods of conducting business and the unique geological aspects involved.*

### Haidach (Austria)

The second leg of construction has begun. This summer will see the start of well drilling and construction of installations, as well as the above-ground facility complex. Construction is due to be completed by the end of 2010, with the entire project commissioned by April 2011. Both the active and daily throughput capacities should double as a result.



### Katerina (Germany)

Negotiations are currently underway concerning the construction of the Katerina underground gas storage facility, which

is located near the city of Bernburg and was previously called Peissen. The VNG company proposed renaming the UGS in honor of Catherine the Great, who was born in this region. ZMB, a Gazprom Export subsidiary, and VNG have formed a joint venture for the facility's construction. A trilateral agreement was signed between Gazprom Export, ZMB and VNG concerning the principles of this joint venture's relations.

In the long run, the project, which expects its final investments by 2022, ensures the construction of a facility with around 600 million cubic meters of active gas and a daily throughput capacity of some 12 million cubic meters – in other words, the gas stored in the UGS may be withdrawn fully within 50 days. This is an expensive project, but also – according to Gazprom Export calculations – a profitable one.

### The Czech Republic

We have signed a Memorandum of Understanding with the MND company concerning the development of a UGS on the grounds of a depleted oil field. This is a relatively small storage facility – its active capacity stands at around 400 million cubic meters of gas. But this is also one of the few depleted fields to exhibit extremely high-producing wells. Moreover, these wells were drilled to accommodate gas technologies, utilizing the gas re-injection process to ensure pressure maintenance. In other words, their construction already provides for the presence of high-pressure gas.

The project is currently being evaluated by WINGAS consultants, who are conducting case studies on all of the technological aspects of the work.

### Hungary

All of the UGS project's technological parameters have been agreed upon with the partners. The project intends to provide for the storage of more than one billion cubic meters of gas and daily gas withdrawals of some 15 million cubic

Continues on page 8

## Turkey's Energy Challenge

*Necdet Pamir Board Member, World Energy Council Turkish National Committee*

Turkey is a rapidly growing, dynamic market and a natural energy bridge between the rich hydrocarbon-producing countries of the Middle East, North Africa, the Caspian, Russia and the thirsty energy-consuming countries of the West. Turkey is also a significant energy importer and transit country in its own right. As such, Turkey offers an excellent gateway for transmitting gas to Europe, which is increasingly seeking to diversify both the routes and sources of its energy. This, in turn, raises the strategic importance of Turkey. However, despite Turkey's "natural" potential in several areas, there are still serious obstacles that need to be addressed before Turkey can rightfully serve as the energy bridge that its government officials already claim it to be.

By the numbers:

- Turkey receives 73 percent of its energy from imports
- 98 percent of Turkey's gas consumption comes from imports
- 93 percent of Turkey's oil consumption comes from imports
- Turkey consumed approximately 36 bcm of gas in 2008
- Turkey imported approximately 37.8 bcm of gas in 2008
- Turkey sold 443 million cubic meters of gas to Greece via the BOTAS network
- Turkey spent \$44.8 billion for imports of oil, oil products, gas and Liquefied Petroleum Gas (LPG) in 2008. Turkey paid \$17.8 billion for gas imports in 2008 alone
- Oil and gas each make up 31 percent of Turkey's primary energy consumption profile

Turkey's modest domestic production comes mainly from the Thrace region, which gets its supplies from the western Black Sea. Gas imports come from five source countries: Russia, Iran and Azerbaijan (by pipelines), and Algeria and Nigeria (as LNG). Imports from Russia are carried via the Western Pipeline,

which crosses Ukraine, Moldova, Romania, and Bulgaria and the Blue Stream pipeline, which runs under the Black Sea. The converted gas reservoir at Silivri on the Marmara Sea, however, can only hold 4.5 percent of the country's rapidly increasing gas consumption. A new gas storage facility (salt caverns; 960 million cubic meter capacity) around Tuz Gölü (Salt Lake) region has been planned and the bidding process is underway.

In addition, Turkey has an LNG terminal (5.5 bcm capacity) that was constructed between 1990-1995 located around the Marmara Sea. LNG tankers from Algeria and Nigeria (and, when needed, from the spot market) feed the three spherical tanks (85,000 cubic meters each), a system that allows for an injection rate of 685,000 cubic meters into the BOTAS pipeline network. A private company has also constructed an LNG facility with

Continues on page 7

## South Stream Community

### Italy

On June 23, 2007, Eni and Gazprom signed a Memorandum of Understanding for realization of the offshore part of South Stream. Eni CEO Paolo Scaroni said: "The South Stream project, whose development respects all sustainability and environmental criteria, will represent a decisive step towards strengthening the security of energy supply for the whole of Europe." Overall, from 1974 until February 1, 2009, Italy had received nearly 450 bcm of Russian natural gas.

### Bulgaria

On January 18, 2008, the Russian and Bulgarian governments signed an intergovernmental agreement to cooperate on building a natural gas transit pipeline via Bulgaria. The Bulgarian Parliament ratified the agreement on July 25, 2008.

Bulgaria is South Stream's bridgehead

to Europe and the new project will guarantee secure long-term gas supplies to this country.

### Hungary

Russia and Hungary signed an intergovernmental agreement on South Stream on February 28, 2008. Later a business deal was closed between Gazprom and Hungary's Development Bank on March 10, 2009, establishing a joint venture to carry out a feasibility study and later build and operate the Hungarian section of the pipeline.

### Greece

The Greek Parliament ratified the agreement on September 2, 2008. South Stream is of vital importance to satisfy Greece's increasing energy demand, which is expected to double in the next decade. Greece signed an intergovernmental agreement with Russia to join the South Stream project on April 29, 2008.

### Serbia

On January 25, 2008, the Russian and Serbian governments signed a general intergovernmental energy agreement anticipating the construction of a South Stream section via Serbia. On December 24, 2008, Gazprom and Srbijagas signed an agreement which lays out the principles of cooperation during pre-investment and subsequent phases of the South Stream project.

### Austria

Austria has started negotiations with Russia on joining the South Stream project. Gazprom and OMV signed a cooperation agreement on January 25, 2008, following up on a Memorandum of Understanding in May, 2007. OMV has been a leading business partner of the Russian gas industry for the past 40 years.

Continues on page 9

## Turkey's Energy Challenge

Continued from page 6

almost an equal capacity to the state-owned (BOTAS) terminal.

While gas is clearly a cleaner and more efficient fuel than oil or coal, and has its rapidly growing stake in Turkey, lack of a meaningful storage capacity (only 1.6 bcm versus a yearly consumption of 38 bcm); the fact that 56 percent of the total gas consumption is reserved for electricity generation; and a high level of dependency on a single country (63 percent on the Russian Federation) are serious concerns.

That said, Turkey does have a positive asset in its natural and human energy potential, if it can be rationally utilized in the mid-to-long term. Two-thirds of Turkey's hydraulic potential and its

lignite reserves are yet to be developed while its wind (48,000 megawatt), solar (2640 hours a year, yearly horizontal solar intensity: 1.311 kWh/m<sup>2</sup>) and geothermal (4500 mwe) potentials are practically untapped. One of the biggest handicaps in diverting these rich domestic energy resources into Turkey's energy requirement is the long-term purchase guarantees given to Build-Operate-Transfer (BOT) and Build-Operate (BO) Power Plants—“investment models” imposed by the World Bank on Turkey and several developing countries.

During the 1990s, despite serious criticism from various chambers, Turkish officials forecasted exaggerated gas demand volumes for the coming decades and signed long-term “take or pay” agreements with several countries. Thus, even if Turkey is unable to consume those “guaranteed” volumes for whatever reason, it will still have to pay the bill for them. In addition to putting the Turkish Treasury under significant amounts of “stranded risk,” these agreements have also limited the country's diversification into cleaner and domestic alternative sources like geothermal, wind and hydro power in its energy consumption profile.

While existing gas pipelines are supplying Turkey's rapidly growing gas demand, the lack of sufficient storage capacity and gas cuts from the Western P/L (Russia) and Iran are harming the Turkish economy and creating a serious security concern (energy security, economic and national security). To that end, Turkey is trying to diversify its supply sources by several proposed projects. Nabucco is one of the most popular projects; however, it faces severe supply and demand side problems as well as conflicting benefits of supplier, consumer and transit countries. The problems faced are not only of an economic and/or technical nature but also have geo-political dimensions.

The Shah Deniz field has limited production capacity if it is to meet Azerbaijan's domestic needs, as well as the demands of Georgia, Turkey, Greece

and Italy and the Nabucco pipeline.

The U.S. sanctions against Iran so far have discouraged foreign investment to develop Iran's gas supplies for export. Additionally, while there are some positive signs in neighboring Iraq (flow of Northern Iraq oil into Kirkuk – Yumurtalik pipeline, etc.), it will be too early to hope for significant investments in this country's hydrocarbon fields, the exports of which would go first to Turkey and then to the EU. Finally, Egypt does not have adequate volumes to export for the coming years and some analysts claim that Egypt may become a gas importer in the next few decades.

While these developments reposition Russia as the most viable gas supplier, over-dependency on Russian gas (or on any single source) is not a sustainable and rational policy for any country. This does not imply that Russia has not been a reliable supplier. It has always honored its commitments to Turkey and increased the supply volumes through Blue Stream when Ukraine allegedly siphoned off Russian gas sent to Turkey via the Western Pipeline.

Turkey and Russia should cooperate in all the sub-sectors of the energy field to include joint exploration, construction and transportation, refining and distribution, electricity generation, with an aim to balance the benefits for both countries along with the rest of the Eurasian region. In 2007, Turkey's exports to the Russian Federation were \$4.2 billion compared to imports of \$18.3 billion (Russian statistics). These numbers should be carefully balanced and both existing and future gas agreements should be sensitively and rationally reshaped to pay maximum attention to establishing a mutual and long-term cooperation. Unbalanced trade and high dependency on either side may seem beneficial for Russia today but will not be wise in the mid-to-long term. With a strategic and responsible vision in place, we can move towards a multi-polar new world in which both Russia and Turkey can prosper.

### Gas pipelines in operation:

- Western P/L: 14 bcm (from Russia via Moldova, Ukraine, Romania, Bulgaria)
- Blue Stream: 16 bcm (from Russia, via Black Sea)
- Iran – Turkey: 10 bcm
- South Caucasus P/L: 6.6 bcm (from Azerbaijan via Georgia)
- Turkey–Greece Interconnector: 4.3 bcm (from Turkey's network to Greece)

### Pipelines Proposed:

- NABUCCO: 31 bcm (from Caspian, M. East, N. Africa via Turkey to Europe)
- Turkey–Greece Interconnector to be extended and expanded to Italy (additional 8 bcm)
- Blue Stream to be extended and expanded to Israel, M. East and other countries (B. Stream 2)
- Iraq–Turkey (10 bcm)
- Egypt–Turkey (4–6 bcm; via Syria)

## UGS: Six Projects in the Gazprom Export Portfolio

Continued from page 5

meters, which are both quite impressive results. WINGAS has already completed an expert appraisal. A cooperation agreement was signed in March that prescribes all of the main principles of our companies' cooperation on this project's implementation.

If everything goes according to plan, a final investment decision will be reached for the project at the end of 2009. The creation of a joint venture is currently underway.

### The Netherlands

A cooperation agreement concerning the utilization of the Bergermeer UGS has now been signed. This will be the second-largest storage facility after Reden (Germany), holding 4.5 bcm of active gas and producing 62 million cubic meters of daily gas. Gazprom will have substantial capacity volumes in this UGS.

### Banatski Dvor (Serbia)

A meeting between OAO Gazprom Management Committee Chairman Alexey Miller and JP Srbijagas Director General Dusan Bajatovic was held within the frameworks of the 13th Saint Petersburg International Economic Forum. Special attention in their discussion of oil and gas cooperation was paid to the South Stream gas pipeline and the Banatski Dvor UGS.

It was resolved that, considering that Banatski Dvor UGS was a strategically important project for Serbia and had a limited gas injection timeframe, Srbijagas was to assume work on the project and subsequently complete a swap transaction. Several wells have already been drilled, a complex of above-ground buildings has been erected, and a compressor unit has been set up.

The Banatski Dvor UGS is located some 60 kilometers outside the city of Novi Sad. The storage facility's active volume exceeds 400 million cubic meters of gas.

## Gazprom Global LNG Update

In line with its long term objective to build a global LNG market share that is aligned to its resource base, Gazprom is continuing to develop its LNG business to provide access to new markets in the Atlantic and Pacific Basins.

Gazprom Marketing & Trading, Gazprom's trading arm, has been trading spot cargoes and hiring LNG carriers since 2005. As reported in the April 2009 issue of Blue Fuel, Gazprom Global LNG was created to operate as the aggregator of LNG flows from Russia and elsewhere.

In 2008, Gazprom traded approximately 1 million tons of LNG, of which 0.5 million tons were purchased from Adgas (Abu Dhabi) and sold to Tokyo Electric in Japan.

### Sakhalin

The Sakhalin liquefaction plant, the first Russian LNG project, was inaugurated on February 18, 2008 by President Medvedev and successfully shipped its first LNG cargo to Japan in March.

In February 2009, Gazprom Global LNG signed a long term agreement to purchase approximately 1 million tons of LNG per year from Sakhalin Energy until 2028. Gazprom Marketing & Trading affiliates in North America acquired, via an assignment from Shell, the necessary regasification capacity in the Sempra-owned Energia Costa Azul receiving terminal in Mexico and in the downstream pipelines to enable the LNG volumes from Sakhalin to flow into the US gas market.

This long-term LNG supply contract provides Gazprom Global LNG with a platform for growth. It will enable Gazprom to continue to build a solid base of LNG skills and expertise that will serve its future expansion, especially with regard to the Shtokman project.

### Shtokman

Gazprom holds all offtake and marketing rights to natural gas produced from the

Shtokman field. About 10 bcm/year of the total production will be converted to LNG and shipped to markets in the Atlantic Basin, primarily in North America. Gazprom's LNG marketing objectives are to maximise the value of these LNG volumes to ensure the success of the Shtokman project.

Shtokman LNG volumes give Gazprom access to major new gas markets in the Atlantic Basin, where the company's objective is to optimize the flow and marketing of LNG. The LNG marketing strategy will primarily focus on downstream sales agreements with Gazprom's affiliates in order to support their gas marketing and trading activities. These affiliates will contract for the necessary regasification capacity in their respective markets. With a view to diversify the portfolio and create additional value for the company, LNG sales to third parties may also be considered.

### Shipping

For Shtokman, the months ahead will see the agreement of technical specifications, fleet composition and slot reservation at shipyards. Gazprom Global LNG will then tender a contract package for shipbuilding and time-charter.

Late 2009 and early 2010 could see multi-phase ship owner selection, vessel financing and the signing of long-term charters. Pending plan approval, ships would be built from 2010-2014.

### LNG Key Drivers: Diversification and Integration

Speaking recently at the major Gastech conference in Abu Dhabi, Frédéric Barnaud, President and Managing Director of Gazprom Global LNG, said "Our LNG strategy is anchored around two key features: diversification of markets and integration in the Gazprom value chain."

Continues on page 9

## Nord Stream: On Track to Ensure European Energy Security

Continued from page 3

is expected to grow by an additional 195 bcm per year by 2025. Nord Stream's 1,220 kilometer twin pipelines through the Baltic Sea, with a total annual throughput of 55 bcm, would have enough capacity to meet about 25 percent of this demand gap.

However, the current global economic crisis has led some to question these demand forecasts. Nevertheless, even if numerous forecasts for a growth in gas demand in the coming decades were not realized, an increase in imports would still be required to cover declining domestic production. For example, EU gas production in the North Sea is expected to fall by 110 bcm between 2005 and 2025. The current economic crisis has also put other projects under pressure, such as the recently suspended Skanled pipeline.

Nord Stream will connect the huge gas reserves in northern Russia directly to the European market. So far, it is also the only project certain to provide additional import capacity to ensure sufficient gas supplies when the European economy stabilizes.

The Nord Stream pipeline will help achieve greater energy security for Europe. As early as 2011, the Nord Stream pipeline will start supplying Europe with a substantial share of its much needed additional gas.

Nord Stream will also contribute to the EU's objective of diversifying its supply routes as a way of increasing its energy security. Russia supplies about a quarter of the natural gas used in the EU and 80 percent of this gas comes through one import route — Ukraine. Similar to other industries, it is generally considered risky for both the supplier and the customer to be so dependent on one supply route.

Nord Stream's importance to Europe has been recognized by the EU. In 2006, the EU awarded the project the highest status ('Project of European Interest') within the Union's Trans-European networks for Energy (TEN-E) guidelines.

In order to carry out this project, great attention has been devoted to environmental issues. Nord Stream has cooperated since 2006 with all Baltic Sea countries in the largest cross-

boundary environmental consultations ever conducted in the region. The project developer has invested more than €100 million in the most comprehensive environmental surveys and routing studies in the Baltic Sea.

As part of its investment program, the Nord Stream consortium is also providing a significant boost to the European economy. In a time of economic downturn, Nord Stream has awarded major engineering, construction, pipe-laying and logistics contracts to European companies out of its €7.4 billion budget. The consortium is working with companies from 16 European countries in matters relating to engineering, construction, steel supply, logistics and environmental consultancy.

At a time when Europe's future energy security is imperative, the significance of projects like Nord Stream cannot be underestimated. The new pipeline will contribute to the energy security and sustainable development of the EU.

## Gazprom Global LNG Update

Continued from page 8

LNG offers an opportunity for diversification, providing Gazprom with access to new markets such as Republic of Korea, Japan, North America, China, India or Spain, and exposure to new gas price indexes such as JCC, Henry Hub, SoCal or NBP. Access to international shipping routes will also complement the efficient transit of natural gas via the pipeline network, creating opportunities for new global trading strategies.

For Gazprom, LNG is an integral part of the natural gas value chain. It offers an important key to monetise gas reserves, giving access to new markets, contributing to the security of supply and requiring the same degree in operational excellence as pipeline deliveries.



## South Stream Community

Continued from page 6

### Slovenia

After Slovenian Prime Minister Borut Pahor has announced the country's plans to invest in the South Stream pipeline, an intergovernmental agreement could be signed in the near future. As the next step, a partner could be identified to build and operate the Slovenian branch of the pipeline.

### Romania

In 2008, Gazprom held talks with Romgaz and Transgaz, exploring the opportunity to develop the existing transit infrastructure and to build new capacity on the Romanian territory, taking into account the planned South Stream pipeline network.