Gazprom Group Launches Ambitious Helium Project

Gazelle Gas Pipeline Commissioned in the Czech Republic

Discussion Paper: The Challenges of the Changing Energy Landscape
In this issue

February 2013 | Vol. 6 | Issue 1

To Our Readers: Gas Exports 2013: Confidence Back-Up ........................................................ Pg. 4

Gazprom Group Launches Ambitious Helium Project .... Pg. 5

GAZPROM Germania Planning New Natural Gas Filling Stations in Germany .................................. Pg. 6

GM&T Singapore delivers LNG cargo to GAIL .......... Pg. 7

Managing Your Supplier to Get the Service You Want .... Pg. 8

Gazprom Energy: Profile ........................................................ Pg. 9

Gazelle Gas Pipeline Commissioned in the Czech Republic ................................................ Pg. 11

Lubmin: Energy Hub’s New Life ................................ Pg. 12

NGVA Europe... for Sustainable Mobility ........................ Pg. 13

Prospects for ASEAN Energy Integration: Gas Pipeline Grids .................................................. Pg. 16

Discussion Paper: The Challenges of the Changing Energy Landscape ........................................ Pg. 19

Vienna Ball for Children in Hofburg ................................. Pg. 22

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According to preliminary estimates, over the past year gas consumption in Europe dropped by another 2.4% to near the consumption rates at the beginning of the 2000’s. Against a slight domestic production build-up there was a significant drop (by 6%) in gas imports. If in 2011 gas consumption rates were much affected by mild weather conditions, in 2012 weather had a positive effect on the total consumption – according to our calculations, the weather index was 3% above the average for the last 12 years.

The continuing reduction in consumption is due to the growing effect of other two factors: stagnation in the industrial production in Europe and the decline of the relative economic attractiveness of gas in the electric power industry.

Performance of Gazprom Group on the markets of Europe and former Soviet Union countries: supplies to non-CIS countries: 138.8 bcm, down by 11.2 bcm; supplies to CIS: 64.4 bcm.

In the context of changes in prices of our long-term contracts with some buyers, it is important to understand the question of retroactive payments. This issue is the subject of on-going negotiations with partners for coordination of volumes and payment terms. As of 30 September 2012 Gazprom Group’s commitments in relation to review of gas supply price conditions amounted to about RUR 152 billion. The payments that were actually made in 2012 had a minor impact on the export revenues, as a result, the average export price growth in 2012 was higher than we had expected.

In 2012, Gazprom’s share on the markets of the European far abroad was 26% (against 27% in 2011). Gazprom is still the largest gas supplier on the competitive European market. According to the company’s strategic plans, by 2030 its share will go up to 32%.

These plans are based on certain estimates: Europe’s needs in imported gas will grow. This is due to the widening of the gap between the gas demand and its domestic production in the region’s countries.

According to our consensus forecast, in 2025 the need for additional volumes of import in the non-CIS countries will come to 110 bcm, in 2030 – to 115 bcm. In reality, the need in additional import may as well go beyond these estimates if today’s gas exporters fail to keep supply volumes at the attained level due to field depletion.

This promises good opportunities for exports of the Russian gas in a long-term outlook, particularly, by replacing withdrawn volumes of other exporters. Such growth pre-conditions is one of the factors that makes us confident about the future.
Gazprom Group Launches Ambitious Helium Project

By Nikita Pozdnyakov, Gazprom’s Deputy Head of Marketing and Business Development Directorate for Oil, Oil Products and Petrochemicals, and Marina Pavlova, Head of International Markets Access Division for Oil, Oil Products and Petrochemicals.

Gazprom Group has taken the first step towards large-scale entry into the global helium market. Deputy Chairman of Gazprom’s Management Committee and General Director of Gazprom Export, Alexander Medvedev signed memoranda of understanding for cooperation with leading helium giants in new helium production, marketing and logistics projects. Gazprom is pursuing these projects in conjunction with the development of oil and gas fields in Siberia, an unprecedented and innovative endeavor.

Companies are ready to both act as strategic buyers for the large amounts of helium from the new plant in Belogorsk and bring their valuable knowledge and experience in the production, transportation, storage and marketing of helium to the project.

Chayandinskoye field, along with other Gazprom fields in Eastern Siberia, will form the world’s largest helium resource base. The scale of helium production will be determined by taking into account the balance of the product’s supply and demand in international markets for decades to come.

Implementation of the helium project could increase the Gazprom Group's share of the global market for this product. Our export prospects for helium are very optimistic. The projected decline in U.S. stocks of helium at the Cliffside Bush Dome storage, which today provide about 30% of world consumption, will create favorable conditions for the Russian product to enter export markets. Gazprom Group is planning to enter the world market with helium from Eastern Siberia in the years when the global market will see a significant shortage of helium.

It is estimated that the Gazprom Group will be ready to export up to 60 mcm of helium annually by 2020, which roughly corresponds to the current volume of deliveries from the Bush Dome storage. The capacity at the helium plant can be further increased depending on market demand. To date, the main business of the Gazprom Group has been production, marketing and distribution of natural gas. In this regard, the concern has worked various options for its participation in the helium business. On the one hand, helium from Eastern Siberia can be sold to the largest international wholesale companies that control the world helium market and have the necessary infrastructure. On the other hand, Cliffside's 30% market share allows it to reallocate trade flows and participate actively in shaping the rules of world trade, both through its overseas subsidiaries, and in close collaboration with the group of helium majors.

Another important issue is the need to ensure sufficient transport tanks for future delivery and to guarantee fast delivery of the product. The Gazprom Group will continue to develop optimal logistics solutions and allow advance ordering from specialized transport containers manufacturers.

The most logical direction to transport Russian helium is east, given the possible sites of helium production. However,
Gazprom Group Launches Ambitious Helium Project

Continued from page 5

if the organization is efficient there will be no logistical barriers to impede supply and therefore the west would be chosen. In assessing potential markets, Gazprom Group has primarily focused on the global demand for helium, rather than on individual countries. Thus, with well-organized logistics and effective use of mechanisms of swap supplies helium, shipments from the Far East have the potential to supply any market, including very remote ones.

It’s important that planning for future helium infrastructure projects in Russia, is based on commercially reasonable, informed decisions. Currently, Russian consumption of helium is about 2 mcm per year, with the Orenburg helium plant producing about 4.5 - 5 mcm. Thus, in the foreseeable future, the entire domestic demand in Russia will continue to be provided by the existing production in Orenburg, and the new production in Eastern Siberia will focus mainly on exports. Therefore, infrastructure planning for the extraction, transport and storage of East Siberian helium should be focused on ensuring an effective helium export business, including storage solutions.

On October 30, 2012, Gazprom made a final investment decision on the initial stage of development of the Chayandinskoye deposit, which is a priority for the development of natural gas production in Yakutia. Gazprom plans to build Yakutia-Khabarovsk-Vladivostok gas pipeline for gas from the Chayandinskoye field, which in turn marks the beginning of large-scale processing of gas in eastern Russia. Production at the new helium plant in Blagoveschensk is scheduled to start in 2018, coinciding with the start of gas production from the new field.

GAZPROM Germania Planning New Natural Gas Filling Stations in Germany

Germany’s network of natural gas filling stations continues to grow, with GAZPROM Germania GmbH due to construct four new natural gas filling stations in 2013. A total of 15 filling stations are planned to be in operation by the end of 2014.

GAZPROM Germania GmbH already operates six natural gas filling stations around Germany and plans to open an additional four. The new stations are due to enter service by the end of 2013 and will be located in Berlin, Potsdam, Leipzig and Öhringen. GAZPROM Germania GmbH again commissioned erdgas mobil, which
was responsible for building four natural gas filling stations installed in 2012, to construct the stations.

“Natural gas as a motor fuel has huge potential to make mobility more efficient, more environmentally friendly, more cost-efficient and safer both today and in the future. That’s why we’re continuing to invest in expanding our network of natural gas filling stations,” says Senior Managing Director of GAZPROM Germania GmbH Vyacheslav Krupenkov.

There are also many other advantages of using natural gas as a motor fuel: natural gas is available in large quantities, and combusting natural gas releases significantly less carbon, soot and other harmful substances than with diesel or petrol-driven engines.

GAZPROM Germania GmbH is also investing in the infrastructure necessary to operate natural gas-driven vehicles throughout Europe. By the end of 2013, GAZPROM Germania GmbH will open another seven natural gas filling stations in the Czech Republic and Slovakia in collaboration with its subsidiary VEMEX.

“And by doing so, GAZPROM Germania is making an important contribution to the development of green transport in Germany,” says Krupenkov.

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**GM&T Singapore delivers LNG cargo to GAIL**

Gazprom Marketing and Trading Singapore (GM&T Singapore), a 100% wholly-owned subsidiary of Gazprom Marketing & Trading, delivered a liquefied natural gas (LNG) cargo for the commissioning of India’s Dabhol terminal.

The cargo was delivered onboard the LNG Pioneer and discharge was completed successfully. The terminal has a throughput capacity of 5 million tons per annum, with plans to double capacity to 10 million tons in the next two to three years.

In October 2012, GM&T Singapore and GAIL signed a 20-year LNG sales and purchase agreement (SPA) under which GAIL will receive 2.5 million tons per annum of LNG (equivalent to approximately 130 million MMBtu or 3.5 bcm or 122 bcf per annum) over a period of 20 years.

The Dabhol LNG terminal is located at Ratnagiri, Maharashtra, 340 km south of Mumbai. The terminal is owned by Ratnagiri Gas & Power Private Limited (RGPPL), a joint venture of GAIL (India) Limited and National Thermal Power Corporation (NTPC), who are the major shareholders, with remaining equity held by financial institutions and Maharashtra State Electricity Board (MSEB). GAIL is the commercial operator of the terminal.

Arthur Tait, President and Managing Director of GM&T Singapore, said: “We are very pleased to have delivered the commissioning cargo for the Dabhol terminal and to have been part of this milestone that will help meet India’s increasing demand for energy. Not only does it cement the relationship we have with a valued counterparty, it is also an illustration of our flexibility in meeting buyers’ short-term needs as well as fulfilling their long-term demands through supply agreements.”
Managing Your Supplier to Get the Service You Want

By Mark Eccles, Regional Director of UK and France for Gazprom Energy

Much has been written over the years about the innovations in "customer relationship management" (CRM) and how customer-centric systems and processes drive value for suppliers. The rise of the internet and increased consumer awareness of its use allows customers to effectively get information with minimal human intervention between buyer and seller. The tide is turning in favor of "Supplier Relationship Management" – a culture in which customers choose when and how they wish to engage with suppliers and suppliers need to respond at a moment’s notice.

Building strong customer relationships is the key to successfully operating in a B2B environment such as ours. Our customers range from large multi-site corporates with complex and sophisticated energy needs to small owner-managed businesses that need a certain level of guidance and reassurance that they are getting the best possible deals for their individual situations.

Gazprom Energy believes B2B markets will shift more in the direction of self-service and customer independence over the next several years. Procurement managers will need to get quotes on demand and be available 24/7; energy managers will want online access to real-time usage and pricing resulting in transparent invoicing across all sites (and even countries if necessary) when they need it. Supplier relationship management will become a driving force – and those suppliers who do not allow themselves to be managed by their customers will suffer.

What customers demand

A Smooth Operator

A recent Gazprom Energy study on European energy users’ buying needs and behaviors showed that after having established a good price for energy, business customers are becoming much more demanding in the areas of customer service and transparency from account management to billing.

While price is still the number one driver for all energy buyers, customer service and transparent account management are also playing increasingly important roles in the successful operation of our business.

In response to customer demands we are focusing on three key areas:

1. Offering flexible products to customers in the most sophisticated markets.
2. Offering simplified products in less mature markets but growing market share by offering more sophisticated products as the market develops.
3. Offering transparency in the pricing, delivery and billing of contracts (and in particular the cost components that make up the price).

Transparent pricing

Corporate consumers, like their B2C counterparts, expect to understand exactly what they are buying and how much they are paying for it. In the current economic climate, our clients are more concerned than ever with taking charge of their energy bills. Some want a fixed price to give them a degree of budget security while others choose to follow wholesale prices in order to secure the best deals on a daily, hourly or half hourly basis. As energy suppliers, we need to develop systems and processes that can accommodate customer demands for increased flexibility, clarity and eventually, a self-service environment.

The dual demands of flexible contracts and transparent billing create a requirement for sophisticated and malleable systems to price, manage and...
deliver contracts and accurate invoicing. Strong reporting and data analysis capabilities are equally important to ensuring long-term adaptability to changing market conditions and consumer demands.

At Gazprom Energy, we have been making radical changes within our business in order to clarify the ‘hidden charges’ that make up a customer’s gas or power bill. These include areas such as FITS, DuOS, RO and CCL. In our experience bundling all these industry charges in with the actual cost of energy consumption has over-complicated the very area where buyers demand simplicity – invoicing.

Our European research revealed that inaccuracy or lack of transparency around billing has led to nearly a fifth of the market actively switching suppliers in the last two years. On the back of this information, we have further developed our gas and power metering products to give customers the option of real-time metered information. This gives them full control over their consumption, allowing for greater business efficiency.

As the energy industry becomes more complex with increasing emphasis on new, renewable technologies, all customers will continue to pay for much more than just the energy they use. It is our role as a responsible partner to clarify what these charges are and how they can be reduced through efficiencies across the board. In this new era of ‘supplier relationship management’, we must be ready and able to clarify and quantify all aspects of the energy buying process – 24/7, 365 days a year.

Mark Eccles has been in the retail energy business for over 20 years. He has a wealth of experience in energy roles ranging from account management, trading and more recently business strategy for European energy businesses.

Gazprom Energy: Profile

Gazprom Energy is the brand name for Gazprom Marketing & Trading Retail Limited – the retail subsidiary of Gazprom’s UK trading arm Gazprom Marketing & Trading (GM&T). The retail subsidiary, based in Manchester, was created after GM&T acquired Pennine Natural Gas, a small business gas supplier in 2006. Since then, the business has entered the UK power retail market, moved into the French retail gas market, opened a branch in the Netherlands that will sell gas and power to small- and medium-sized businesses and entered the domestic market in Germany after GM&T acquired a small independent power supplier in 2011.

Gazprom Energy currently supplies 11,000 business customers at 44,000 sites across Europe with gas and/ or power. In the UK, Gazprom Energy’s most mature market, the primary route to market is through third party intermediaries and end customers including Heinz, the University of Oxford and Chelsea Football Club. Gazprom Energy has an additional 65,000 residential power customers in Germany and also buys power from renewable sources and independent generators in the UK.

From our beginning in 2006, Gazprom Energy has been a customer-focused business. Starting off with a 10 million therm portfolio and less than 1,000 sites made it easy for sales teams to have a direct relationship with their customers, and as the business has grown, this is something that the company has focused on retaining. Through close relationships with third party intermediaries and end users, Gazprom Energy has grown its site portfolio in the UK by more than 4,000% since 2006. Currently Gazprom Energy is the fourth largest gas supplier to industrial and commercial users in the UK by volume, which means the company is ahead of some of the “Big 6” suppliers that have dominated the market for years. Last year Gazprom Energy was recognized as the “Energy Supplier of the Year” at the Energy Excellence Awards, which is a real testament to growth and superb customer service.

Gazprom Energy made a number of significant changes recently to ensure that our customers continue to receive the service they deserve:

- **Sales structure** – At the beginning of 2012, Gazprom Energy’s sales teams restructured so that customers no longer have to deal with separate teams for their gas and power contracts. Customers are now serviced according to energy consumption and have one point of contact for all account management queries – providing overall better service and giving a more holistic view of their needs and value drivers.

Continues on page 10
Gazprom Energy: Profile

Continued from page 9

• **Customer Experience and Satisfaction** – The energy industry, in the UK particularly, has a reputation as one of the least customer-friendly sectors, with very few customers prepared to recommend their suppliers. Gazprom Energy has identified a real need to change this trend to become the energy supplier of choice. To do this the company has launched a number of initiatives including:
  
  » An extensive customer journey mapping exercise aimed at understanding exactly what the company asks of customers across all areas of the business and how they feel at each point of interaction with Gazprom Energy.
  
  » A major research exercise with customers and prospects across Europe to determine levels of satisfaction, buying needs, drivers, awareness and affinity with the brand.
  
  » Formal monitoring of customer service centers across all operations to understand and resolve any customer complaints. Complaint numbers are very low (only 16 queries escalated to formal complaints in the UK from January – June 2012).

• **Communications** – After receiving feedback from some key customers about the difficulties of keeping on top of regulatory changes, the regulation team developed a quarterly newsletter to provide customers with clear and practical advice to aid energy procurement, planning and management. Some of the large corporate customers also told us that they’d like to have the opportunity to share their experiences and learn from peers within the industry without having to become a member of a trade association or pay costly fees. Gazprom Energy responded by organizing a Customer Forum, and our first event in May 2012 was attended by energy buyers and managers from some of the UK’s leading brands.

• **People** – Gazprom Energy has already been recognized for its commitment to its people, their professional development and its working environment, having been awarded a “Silver” accreditation from “Investors in People,” the UK’s leading people management accolade. The company is also bucking current unemployment trends in the UK by increasing headcount and recruiting at all levels. In 12 months, there has been a 41% increase in staff at the head office in Manchester alone. Gazprom Energy is also investing in future talent and keeping its workforce fresh by continuing to take on apprentices (currently 4% of the UK team). It additionally has just entered year two of its internship scheme by taking on seven undergraduates who will complete a 12 month placement with Gazprom Energy as part of their degree.

Gazprom Energy has achieved a lot in six short years. The company exists to provide a clear route to end users in Gazprom’s name and connects Gazprom to some of the biggest names and best-known brands across Europe. It offers customers innovative and flexible energy products that meet their needs – whether that’s in the office, in a factory or at home. Together with Gazprom colleagues, Gazprom Energy’s team has the vision to become the commercial heart of Gazprom. To do that, the company is building a sustainable business based on an ethos of partnership, with distributors, customers and with our internal stakeholders.
Gazelle Gas Pipeline Commissioned in the Czech Republic

On 14 January, the Gazelle gas pipeline, which extends the OPAL and Nord Stream gas transportation system, was officially commissioned in Přimda, Czech Republic.

Participants in the commissioning ceremony included: Czech Prime Minister Petr Nečas, Russian Deputy Minister of Energy Anatoly Yanovsky, Germany’s State Secretary of the Federal Ministry of the Economy and Technologies Anne Ruth Herkes, RWE CEO Peter Terium, NET$GAS CEO Thomas Kleefuss and various other government representatives from Germany and the Czech Republic.

The pipeline, which starts at the exit of the OPAL pipeline on the Czech-German border, passes through the Czech Republic to Bavaria. There, at the Rozvadov-Waidhaus border station, it joins the German gas MEGAL transportation network, which supplies Southern Germany and France, at the Rozvadov-Waidhaus border station by way of the Přimda distribution hub. The pipeline is 166 km long and is designed for the transit of natural gas to Germany as well as for the provision of domestic supplies in the Czech Republic. The pipeline can also accommodate reverse flows.

The pipeline aims to improve gas supply to the Czech Republic and EU as a whole by opening a new northern route for transporting Russian gas to Western Europe and increasing the European gas transportation system’s overall flexibility. The pipeline’s completion is of strategic importance to the promotion of supply security in the region.

Construction on the pipeline started in October 2010 in Brandov, with Net$gas being the project’s main investor. The pipeline connects to the Czech Republic’s existing long-distance gas network at Brandov, Jirkov, Sviňomazy and Přimda, with capacity as high as 30 bcm gas per year, over three times as much as annual gas consumption in the Czech Republic.

**Facts And Figures: Gazelle Pipeline**

| **Length** | 166 km |
| **Diameter** | 1,400 mm |
| **Pressure** | 8.4 MPa |
| **Capacity** | Up to 30 billion m³/year |
| **Investment Value** | approx. CZK 10 billion /EUR 400 mln |

GAZELLE Opening Ceremony Přimda 2013

From left: Deputy Minister for Energy of the Russian Federation Anatoly Janovsky; State Secretary of the Federal Ministry of the Economy and Technologies of Germany Anne Ruth Herkes; RWE CEO Peter Terium; Czech Republic Prime Minister Petr Nečas; Net$Gas CEO Thomas Kleefuss. (Photo source: Net$Gas)
For decades the district of Lubmin has been a center for one thing in particular: energy. Here in the far northeast of Germany the past, present and future of the energy industry meet: the roughly twelve hectare site at the Lubminer Heide Energy Centre was once home to the largest nuclear power station in the former GDR. Today, this is where the Nord Stream pipeline makes land fall and Russian natural gas is transferred to the connecting onshore pipelines OPAL and NEL.

Since December 2012 another groundbreaking energy project is being undertaken here: the construction of a highly efficient combined heat and power plant (CHP).

The gas-fired power plant is being built by WINGAS and the construction work is right on schedule with the plant expected to generate electricity this spring. Electricity is produced by a gas turbine with the help of a generator. Part of the turbine is already on site. During peak periods it will generate up to 200,000 megawatt-hours of electricity per annum – enough to supply 50,000 households for an entire year.

However, in addition to the electrical output of 37 MW, the plant will also generate a thermal output of around 47 MW as the waste heat created in the gas turbine will be used to heat the gas from the Nord Stream pipeline via a heat exchanger. As the gas travels through the Baltic Sea it cools down and has to be warmed up again before it can be transferred through the OPAL and NEL connecting pipelines towards the south and west.

The partner for WINGAS is E.ON Energy Projects GmbH, which specializes in CHP solutions with electrical outputs of 10 to 250 MW for industrial customers with heating requirements of 100 GWh and more.

WINGAS and E.ON Energy Projects founded the Projektgesellschaft Industriekraftwerk Greifswald GmbH in October 2012 to construct and operate the plant.

Energy efficiency in a new dimension

Thanks to an energy efficiency rate of 85 percent, the new combined heat and power plant will set a new benchmark. This efficiency rate results from the combined generation of electricity and heat which reduces emissions by 40,000 tons of CO2 annually. The electricity produced in the plant will be fed into the public electricity grid while the transfer station itself will use the waste heat.

The partners involved in the plant are thrilled by this unique fuel plant utilisation rate of the primary energy: “No other technology can achieve such efficiency values so easily,” says an impressed Dr. Gerhard König, Chairman of the Board of Directors of WINGAS. “The CHP plant exemplifies how natural gas and natural gas technologies can contribute to the success of the energy turnaround [Energiewende].”

A new start in the spirit of the Russian–German partnership

The construction of the power plant also marks a new chapter in the turbulent history of the power plant site in Lubmin. The largest nuclear power plant in the GDR was operated here until 1990 and was completely decommissioned in 1995. The location had been earmarked for reuse as a power plant site at the end of the 1990s and many companies showed interest in its further use. The site is particularly attractive thanks to its direct connection to the gas transport network and the connection to the German electricity grid dating from GDR times.

The fact that none of the planned projects was ever realized, however, was mainly due to the changes in the German electricity market, which also impacted other fossil fuel-fired projects and even caused operational plants to be removed from the grid.
But, the construction of the Nord Stream pipeline and its connecting pipelines OPAL and NEL have decisively improved the conditions for further investments in Lubmin as a power plant center. The new pipelines are not only the basis for future development of the energy infrastructure there but also the foundation of further intensification of the successful Russian-German energy partnership between Gazprom and Wintershall.

Mario Mehren, the Wintershall Executive Board Member responsible for the “Russia” Division, also considers the construction of the power plant a pivotal element of the two partners’ trusting relationship: “We have enjoyed a twenty-year partnership with Gazprom,” explains Mehren. “The commissioning of the Nord Stream pipeline through the Baltic Sea was a key milestone. Based on this milestone we will continue the targeted expansion of our cooperation.” This is yet another reason why Lubminer Heide will remain a center for energy in the future.

NGVA Europe... for Sustainable Mobility

By Matthias Maedge, M.A. EU Affairs Manager, NGVA Europe

2012, another year of fruitful activity and important milestones for the European NGV industry.

NGVA Europe, the European Natural & Bio Gas Vehicle Association, is looking back at a very exciting and successful year, with more than 150 members from 40 different countries now represented. The Board of Directors also expanded significantly in 2012, with the approval of three new members at the last General Meeting held in Bologna: GNVert, Westport and Swagelok. Recent requests to join the Association’s governing body from our members Raufoss Hexagon and Holding Energie Italiane are expected to be approved during the General Meeting in Sweden on 11 June 2013, which will be held in combination with our annual event NGV 2013 Gothenburg. The NGVA Europe BoD would then count 17 major companies, representing all industry sectors (gas & biomethane producers, OEMs, components manufacturers).

Our dynamic membership growth not only reveals a strong industry commitment, but is also sending a clear signal to political decision makers to develop the CNG & LNG vehicle and fuel market (fossil and renewable) for all types of vehicles and modes of transport (road, waterborne, rail, air).

There were several political changes and new opportunities for NGVs in 2012. The Energy Taxation Directive for instance, debated first under the Danish and later by the Cypriot Presidency, provoked great concerns among the NGV community. In close contact and cooperation with the political institutions and member states, NGVA Europe provided a clear position and reasonable statements for consideration on the matter. Discussions in the European Commission and later the plenary vote had a consultative role, and the debate will continue under the Irish presidency. Another important topic high up on the political agenda is the upcoming Euro VI standard, which also has a direct impact on NGVs with respect to aligning the treatment of methane and non-methane hydrocarbon emissions. The overall impact of Euro VI will in any case favor the development of NGVs in terms of greater competitiveness as far as purchase costs for vehicles are concerned.

NGVA Europe is now a member of the working group on Transport & Mobility, part of the Smart Cities Stakeholder Platform. The Platform has been set up on behalf of the European Commission (DG Energy) as part of the Smart Cities and Communities Initiative to “filter and make accessible information on potential technologies to enable cities and local governments to find and finance suitable technological solutions.”

For the first time, the European Commission has proposed a legislative measure to address the so-called Indirect Land Use Change (ILUC) when evaluating biofuels. According to the new proposal, the use of food-based biofuels to meet the 10% renewable energy target of the Renewable Energy Directive would be limited to 5%. NGVA Europe clearly supports this initiative as it represents a clear and positive signal to introduce more natural gas vehicles and encourages using a blend of natural gas and biomethane injected into the gas grid, natural gas/hydrogen mixtures and synthetic methane/power-to-gas.

Continues on page 14
The European Commission is furthermore increasing support for the use of gas in vehicles through different European programs and projects. The development of infrastructure was addressed last month during the TEN-T days, which NGVA Europe supported by presenting several LNG & CNG vehicles and refueling equipment at a booth shared with members HAM and Gas Natural Fenosa. Both companies are among this year’s TEN-T call winners with the GARnet project (see our press release). The Commission furthermore released the Clean Power for Transport Package in early 2013, which includes a Communication on an Alternative Fuel Strategy and a legislative proposal on Alternative Fuel Infrastructure Development.

Regarding European Projects, NGVA Europe currently participates in two projects supported by the Intelligent Energy and FP7 funds: GreenGasGrids, and BioWALK4Biofuels. The GasHighWay project ended in March 2012 and NGVA Europe successfully organized the final seminar in Brussels with more than 120 participants and high representation from both policy and industry. All three initiatives promote the use of CNG and biomethane as a vehicle fuel, as well as the development of infrastructure and the production of second generation biofuels like biomethane from algae. Participation in these projects will be extended during the next years, accompanied by the recently presented LNG Blue Corridors project, which was submitted to the European Commission last September. Once approved, it will count 29 different partners from 12 European countries, all of them members of NGVA Europe.

On the technical side, NGVA Europe’s field of activity has been increasing since 2010; the association has kept up and further intensified its engagement during the last year. At present, the association’s heavy involvement at different international bodies, where we represent members’ voices in key fora such as the European Commission, UNECE or CEN, have reinforced collaboration with technical bodies of other well-recognized European NGOs like the ACEA.

Hot topics currently discussed include the development of a NG/biomethane market fuel specification, the inclusion of Dual-Fuel technology in the vehicle and engine Type Approval framework, as well as the broadening of safety requirements for NG vehicle systems so as to cover LNG components/fuelling systems. In addition, it is important to stress the vital role of members’ collaboration in all these open discussions and to highlight the possibility that NGVA Europe offers them via participation in the association’s Technical Committee, the internal decision making body for all technical matters. Our members can find all technical reports plus related material like cases studies, presentations, position papers and other materials produced by the association in the members area on our website.

The association’s activities to promote the use of CNG & LNG are reinforced with the organization of our yearly event. This year’s NGV 2012 Bologna proved to be a very successful fair and series of workshops.

On 17 September 2012, the Natural Gas Vehicle Rally “Blue Corridor 2012”, organized by Gazprom and E.ON Ruhrgas, arrived in Brussels, Belgium. Participants in...
the 6,000-km tour drove across eleven major European cities from 8-24 September with vehicle exhibits and roundtable discussions. The aim was to educate the public and policy makers on the benefits of natural gas as transportation fuel and demonstrate how it is changing the industry and helping the environment, all while saving consumers money.

The sixth Blue Corridor 2012 Natural Gas Vehicle Rally started in Moscow and made stops in the cities of Orsha, Minsk, and Brest, Belarus; Warsaw, Poland; Ostrawa and Prague, Czech Republic; Mannheim, Germany; Paris, France; Brussels, Belgium; Essen and Berlin, Germany before returning back to Moscow. The keynote event took place in Brussels, where European Union officials and industry representatives participated in an open discussion of how natural gas vehicles can positively impact Europe’s economy and environment. Speakers included NGVA Europe Vice Chairman and President of GNVert, Charlotte Hubert, who introduced the audience to the world of Natural Gas Vehicles across Europe, followed by Olivier Onidi, Director for Innovative and Sustainable Mobility in DG MOVE, Heinrich Hick, member of Cabinet of Energy Commissioner Oettinger and from the organizers Klaus Schäfer, CEO of E.ON Ruhrgas, Oleg Aksyutin, Member of the Gazprom Management Committee, and Eugene Pronin, IGU WOC5 Chairman and NGVRUS Executive Director, who provided insights into their organizations’ business activities in the development of natural gas filling stations.

Moreover, this highlight of 2012 was accompanied by our first specific workshop LNG4Trucks&Ships, celebrated in September in Amsterdam, which focused on the following topics: LNG/liquefied biomethane use in heavy duty trucks (dedicated & dual fuel), LNG vessels, storage & bunkering of LNG, the L-CNG refuelling station concept as well as transportation and distribution of LNG across Europe, a topic that is becoming increasingly interesting as a solution for long-distance transport. Both events will be organized again in 2013. NGV 2013 Gothenburg will take place this 11-13 June in Sweden and will be supported by Volvo as the main sponsor and the Swedish Gas Association acting as the event’s host.

Furthermore, our newsletter “NGVA Europe Keeps You Informed” is now being issued every two weeks, reaching more than 6,500 interested readers from the sector. It is encouraging to see that it is becoming an increasingly appreciated publication when it comes to communicating relevant business and commercial NG messages.

The NGVA Europe team is looking forward to 2013 as a very fruitful year and wishes all readers a very Happy New Year.

Source: NGVA Europe
www.ngvaeurope.eu
ASEAN countries have long sought to achieve greater energy integration. There have been a series of policy declarations, summit agreements and concords in many ASEAN communiqués that refer to the promotion of energy integration. The region’s most ambitious mega-project on energy integration is the Trans ASEAN Gas Pipeline (TAGP) that aims to connect the gas reserves of the Andaman Sea, Gulf of Thailand and South China Sea to the urban and industrial demand centers of Southeast Asia. Among its objectives are to ensure the reliability of gas supply to ASEAN members, encourage the use of an environmentally cleaner fuel and reduce dependence on oil and coal where economically substitutable.

Currently, there are 8 operational cross border natural gas pipelines, with a total length of over 2,500 km (see Figure 1). The cross border pipelines connect Peninsula Malaysia to Singapore (delivering gas from 1992); Myanmar to Thailand from the Yadana (1999) and Yetagun (2000) fields;
Indonesia to Singapore with two pipelines, one from West Natuna (2001) and the other from South Sumatra (2003); and Thailand to Malaysia from the Joint Development Area in the Gulf of Thailand (2006). An estimated $14.2 billion has already been invested in some 3,900 km of bilateral pipelines since 2008.

The masterplan for the TAGP ("updated ASCOPE-TAGP Masterplan 2000") involves the construction of 4,500 km of pipelines worth $7 billion. There are a range of other estimates regarding the size and cost of TAGP, with one source citing $16 billion of investments for 5,100 km of new pipelines. Potential link-ups with East and South Asia could increase investment requirements to over $65 billion, according to another source.

All large scale multi-lateral infrastructure projects face critical hurdles in the financing, construction, operation and maintenance of networks, and the TAGP is no exception. These challenges include the requirements of common technological specifications and standards; stable contractual arrangements to handle supply, transport and distribution; open access arrangements to common infrastructure; and norms and legal frameworks for arbitration and dispute resolution. The heterogeneity of ASEAN members with respect to income levels, stages of social and economic development, legal systems and domestic pricing regulations of natural gas all pose further challenges.

In this context, it is also important to note that the successful financing and construction of existing cross-border pipelines have occurred largely on the basis of consortia that involve a range of private and public sector stakeholders in the energy sector, not as part of state-led multilateral negotiations envisioned by ASEAN communiqués and Action Plans for the TAGP project.

Quite apart from the inherent challenges that all large-scale multi-lateral infrastructure projects face, the TAGP now faces the more basic question of relevance. It was first conceived and discussed in the mid-1980s, but now the prospects for the TAGP are subject to natural gas supply and demand fundamentals in Southeast Asia that have profoundly changed. If the TAGP project seemed overly ambitious when it was first mooted informally among ASEAN planners and diplomats, it now seems that the grand vision of a regionally-interconnected grid of natural gas pipelines faces the threat of redundancy by fast-paced developments in the natural gas industry over the past decade or so.

One of these developments is the growing significance of domestic demand for natural gas in Southeast Asia. Historically, the natural gas industry in Southeast Asia has been export-oriented, and the region boasts three well-established Liquefied Natural Gas (LNG) exporting countries in Malaysia, Indonesia and Brunei, the former two of which were the world's second and third largest exporters respectively in 2009. However, without further major discoveries and large new gas field development projects, regional gas supplies are dwindling. At the same time, rapid economic growth in Southeast Asia in recent years has been accompanied by rising demand for energy, and natural gas in particular.

With the increasingly binding constraints on natural gas supplies in the region in the context of booming domestic demand, extensive new pipeline development for transporting natural gas in Southeast Asia is unlikely. Indonesia's giant East Natuna field (formerly known as Natuna D. Alpha) in the South China Sea, the region's largest gas field by far with an estimated 46 Tcf of recoverable gas, is seen as the lynchpin of the TAGP. Among the pipelines envisaged in the TAGP, East Natuna...
is expected to supply gas via pipelines to Vietnam, Malaysia, Indonesia (Java) and Thailand. However, given the very high CO2 content of East Natuna’s gas reserves (up to 70% of total estimated reserves of over 220 Tcf), exploiting the reserves will be technically and economically challenging. Official projections for gas production from the field see first output coming after 2020, reflecting the sheer scale and complexity of any project to exploit the East Natuna field. In the current context in which there are a number of large LNG projects at various stages of construction and planning in Australasia, North America and Russia, the eventual development and exploitation of East Natuna remains subject to a high level of uncertainty.

The most notable development in the region’s natural gas sector in the past few years has been the spate of recent announcements of new LNG regasification terminals being planned or under construction, as many governments begin to see LNG imports as offering the better and faster option in meeting domestic energy requirements. Indonesia, Malaysia and Thailand have already constructed LNG import terminals, Singapore’s LNG terminal is set to open this year, and several other LNG terminals have been planned by Malaysia, Indonesia, Vietnam and the Philippines. It is apparent that the ability to import LNG has become a preferred option among ASEAN’s policy planners intent on meeting rapid energy demand growth required for economic growth; it facilitates access to gas supply quickly.

The prospects for the TAGP project look dim in the medium term to 2020, dependent as it is on the uncertain development of the vast but costly reserves of the East Natuna basin. While there have been several studies commissioned on the viability of the TAGP and Memoranda of Understanding have been signed by energy ministers at ASEAN meetings, further pipeline development is expected to be piecemeal and incremental, constrained by the fact that all cross-border pipeline projects, with heavy capital requirements, require a conjunction of regulatory, commercial and technical conditions for successful private sector participation.

As markets evolve, reflecting new developments in demand, supply and technology parameters of the natural gas and power sectors in the region and globally, ASEAN planners will need to re-fashion some of the key “energy integration” initiatives that member states have supported. If high profile multi-lateral cross-border infrastructure projects such as the TAGP are to remain relevant in an era of rapidly evolving markets and technologies, government planners and elected officials will need to focus on commercially viable energy integration projects that have reasonable chances of success.

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8. In December 2010, Pertamina, the Indonesian national oil company, appointed ExxonMobil, together with Petronas and Total S.A., as partners in the development of the East Natuna gas block. See Maulia, E. “Politicians question ExxonMobil’s presence in East Natuna”, The Jakarta Post, January 27, 2011.


10. The possibilities for opportunistic behavior by parties that jointly undertake large, highly specific and irreversible investments to support economic exchange make CBI projects particularly fraught with negotiation failures. These phenomena have been studied by institutional economists, for instance, Williamson, Oliver, (1983), “Credible Commitments: Using Hostages to Support Exchange”, The American Economic Review, Vol. 73, No. 4. pp. 519-540
Discussion Paper: The Challenges of the Changing Energy Landscape

The global energy industry is at a pivotal crossroads. The old certainties of oil and coal are being threatened by high prices and environmental concerns. Nuclear has been hit hard following Fukushima and whilst natural gas provides a credible bridge to a bright and sunny renewable future, there are numerous on-going debates about the way forward for the fuel that used to be burned off by many explorers who were at the time looking exclusively for oil. Pipeline or LNG? Oil linked or spot price? Long or short term contracts? Shale or conventional? Whilst there is no doubt that the industry has reached a golden age for gas, there are as many debates about the way forward as there are multibillion dollar gas projects on the horizon.

However, the reason for the long running nature of these debates is that some of the current debates are starting from the wrong place. The development of the international energy industry has created archetypes which it has been assumed are the model for all future energy projects and its essential challenges; be they regulatory, financial, engineering or commercial. However, there has been a fundamental change that is yet to be fully recognized by the market.

The difference between oil and gas? Liquidity

An individual would arguably prefer to find 20 million barrels of 42 API low sulfur crude under their land than almost any other commodity. Oil is easier, both in terms of engineering and financing due to the essential liquidity of the commodity, both in molecular structure and capital markets flexibility. Financing is therefore cheap and prevalent. In addition, due to the limited connection to consumers, oil focused companies operate in a low intensity regulatory environment. Finally, the market now operates in a hither to unknown oil pricing environment of $90-120 bbl. It’s no wonder that some of the world’s most successful companies are designed to find and extract crude oil as profitably as possible. It is these companies that have become the “(black) gold standard.”

Gas is different. Gas is illiquid in the ways oil is liquid. It needs hugely expensive physical infrastructure – such as pipelines and pressurization stations or LNG facilities – and therefore higher levels of leverage to actually monetize the project, as well as long term client relationships to ensure on-going profitability. The low liquidity environment for natural gas trading, combined with the significantly higher project costs, means that gas is a much lower margin business that is far less attractive to risk-focused investors and therefore corporate boards. Add in the regulatory burdens inherent to any consumer-connected business and it’s quite understandable why anyone would prefer to find oil rather than gas.

Another challenge for a gas-focused integrated energy company is the fact that infrastructure costs have to be borne by the producer rather than the client. The vast majority of the power generation utilities simply cannot afford the leverage necessary to develop pipeline or LNG infrastructure. Apart from strategic exceptions such as Nord Stream and South Stream, many pipelines have been paid for by the supplier – and have been financed on the basis of 100% capacity. This is not about control, but about ensuring the most efficient way to monetize upstream resources, whilst ensuring costs are not passed onto the end consumer, as is the case whenever utilities have to build pipelines / power stations etc. Given that the major firms are in serious financial distress, struggling to refinance their debt in the post credit crunch environment, even to the point where the classic “defensive” investment case is at risk, this situation is likely to remain dormant for some time.

Yet, as mentioned, the world has changed, and very quickly, we have entered a long-term period of high demand for gas. This enhanced demand has created a new dynamic, whereby the more defensive characteristics of a successful gas focused business are being recognized – such as long term supply contracts being used to pay guaranteed dividends to investors – normally a part of the utility / power sector.

The existential differences between IOCs and NOCs

There are fundamental, almost existential differences between IOCs and NOCs meaning any direct comparison is inherently flawed. The crux of the problem stems from the fact that IOCs and NOCs have somewhat different goals for the production of oil and gas. For IOCs, the main priority is acquisition, development and swift monetization of reserves for shareholders’ benefit. On average, more IOCs are listed than NOCs. IOCs usually offer shareholders greater liquidity and potentially the chance of higher dividend payments and more aggressive capital growth.

NOCs, on the other hand, have a different set of criteria driving their business goals; namely the creation of value for their respective sovereign states. NOC
decisions will either be based on the need to prolong the life of the country’s resources, or in many cases priorities may include wealth redistribution, job creation, general economic development as well as energy security for the long-term.

For NOCs, this inherent connection to the state has traditionally been viewed as a source of weakness, particularly when it comes to conflicting priorities over short-term commercial decisions versus long-term benefits for the state and its people. However, this connection to the state can be a major strength, especially when it comes to financing. Unlike IOCs, NOCs are uniquely positioned to benefit from links to state financing, making them attractive investment prospects in a difficult economic climate and providing NOCs with easier access to affordable funding for capital intensive projects.

Today, NOCs control approximately 90% of the world’s oil and gas reserves and 75% of production, as well as many major oil and gas infrastructure systems. For this reason, NOCs do not have to worry about reserve replacement, nor report on reserves replacement profit in the same way that IOCs are forced to. What is more, for IOCs, reserves replacement is becoming an increasingly difficult issue. In recent years, IOCs are spending increased sums to grow reserves by a very small amount, but with limited reserves relative to those of NOCs, they are left with little choice.

This situation has forced IOCs to advance their technological capabilities, given the need to monetize reserves wherever they can, even in geologically complex environments. This technological advantage has become the IOCs last card to play. With rising resources nationalism and a feeling that IOCs have not always played fair when it comes to developing energy projects across much of the world (Exxon in UAE / Shell in Nigeria), the power is very much shifting to the NOCs that are now increasingly using IOCs almost as glorified service companies (Schlumberger etc), or simply sharing risk and capital.

The last 100 years was very much the century of the IOC. Standard Oil and its descendants, in combination with BP, Shell, Total and Occidental showed the world how to run an oil company. However things have changed significantly. The available resources for IOCs to develop without the involvement of NOCs are running out, due to the understandable wish of sovereign states to benefit more from the value of what is in their territory – particularly those that have a recent history of colonization.

Discussion Paper: The Challenges of the Changing Energy Landscape

Continued from page 19

Between a rock and a hard place

The new reality of the energy sector’s predicament is as much the result of a liquidity crunch as the re-emerging resource nationalism and the end of the era of “easy” oil and gas. IOCs and utilities have all of a sudden found themselves “between a rock and a hard place.” These include investors’ and shareholders’ demands, permanent threats of a downgrade amid high debt to equity ratios, the changing regulatory environment at home and abroad, and most importantly, the need to work together with NOCs to secure access to long-term resources.

To survive and deliver on shareholder expectations, IOCs and European utilities have to restructure and in most cases, also deleverage, selling off assets and tightening belts to reduce debt. Eon’s €15bn or Total’s $15-20bn disposal programs are both good examples. Occasionally, it also means compromising on health and safety in a “high risk - high return” business model, with BP’s Macondo being the most recent high-profile case. Overall, it can be argued that IOCs have been caught in a spiral of decreasing production from their own fields, increasing sophistication of NOCs that no longer need IOCs’ expertise to thrive and rising resource nationalism, all of which mean the IOCs are no longer able to dictate terms of engagement. While IOCs were divesting assets, NOCs were the principle buyers.

Higher oil prices have also increasingly meant that NOCs were able to self-finance projects and purchase technology from service companies – areas in which IOCs have historically had the advantage. The re-emergence of resource nationalism has fuelled growth and expansion of several NOCs that are no longer motivated to enter into equity-based contracts with IOCs. Put simply, they don’t have to lose as much as was the case to gain the necessary expertise of an IOC.
Despite all of this, the fact of the matter is that market participants are yet to fully accept these changing rules of engagement, and fully appreciate the opportunity offered by the new multinational (or hybrid) energy companies, as they come in many different forms and are different from more “predictable” IOCs. As a result, any argument about NOCs inevitably risks being overly generic or simplified. There is therefore clearly an opportunity to capitalize on the changing sector fundamentals and help close the gap between the new reality and the market’s perception of it.

Gazprom’s hybrid business model

As should be obvious, but appears to have gone unnoticed to many, Gazprom has created a hybrid business model that takes many of the strengths of other sections of the industry to meet the needs of all its stakeholders, but it is a model that is new to the eyes of most observers – hence the potential for confusion.

Gazprom is committed to creating long term returns for its investors – proven by its 34% price appreciation since 2009, minimally outperforming the FTSE 100 index, and providing solid dividends; all of which has come in the teeth of the global recession. Gazprom’s debt fund raisings are constantly oversubscribed, again showing the value of Gazprom as an investment vehicle. Be in no doubt, the company is committed to making money.

Due to Gazprom’s immense reserves that were a gift of the state, it does not have to burn equity capital on exploration to report reserves replacement profit. It also can devise genuinely long term strategy that allows it to provide secure long-term returns for investors, rather than having to chase quarter on quarter growth, largely due to its inherently cheap cost of capital rather than the equity linkage prevalent across its IOC peers. Put simply, Gazprom’s capital structure allows it to spend its money in a very different way to the norm – for the benefit of its investors and clients.

This long-term strategy is complemented by the nature of the international natural gas business. Due to the essentially low liquidity and capacity of the international gas market, long-term client relationships hold significant value to both sides. Gazprom’s clients know that it is a responsible and secure supplier, and that it will not ever get hit by the “Scylla” and “Charybdis” of limited liquidity and price spikes that could destroy the balance sheet of a utility. Long term pricing linked to the oil price allows Gazprom, in combination with its exceptionally low cost of capital, to put the necessary infrastructure in place to ensure that its clients are always served and the company meets its economic targets.

Take South Stream as a good example of long-term planning. To an oil-focused IOC, and to much of the industry that demands ROI within months, this project would be impossible to afford. However, look at things from Gazprom’s long-term perspective. It plans in decades, not quarters. By leveraging its ability to raise cheap, non-equity linked capital, and working in partnership with its clients, it will get South Stream delivering gas by late 2015. Whilst it will not pay for itself immediately in the short-term, it will be a significantly profitable long-term project for its investors, provide strong locked in defensive income streams for decades for Gazprom and supply European gas demand for decades. It should not be forgotten that the project is supported by major downstream partners as well. It is therefore arguable that South Stream will eventually be as celebrated an invaluable infrastructure project as the Channel Tunnel, Dutch land reclamation or the Suez Canal are today.

Of course Gazprom is an NOC and the original gift of immense reserves, and the subsequent benefits in terms of capital cost means it has an obligation to provide both financial returns to all its shareholders, including the State, but to also consider projects that would normally never come onto the radar of IOCs or utilities, such as developing infrastructure in Pacific Russia. All NOCs have this obligation – here Gazprom is no different to ONGC or Sinopec.

Gazprom’s hybrid business model has been developed because of a number of interlinking financial, engineering and political dynamics addressed above. For its investors, Gazprom has developed a mix of long-term growth, based on defensive income streams, complemented by a range of developing growth streams such as LNG, oil, power and trading. For its clients and global partners, it has developed a financing and infrastructure model that will provide secure flows of natural gas for as long as there is demand and takes financial pressure off its clients and provides upside for upstream and downstream partners.
Vienna Ball for Children in Hofburg

The Viennese Christmas Ball was held at Hofburg Palace in Vienna under the patronage of the Austrian Minister of Social Affairs, Mr. Rudolf Hundstorfer; Mayor of Vienna, Dr. Michael Häupl; and State Secretary for Integration Sebastian Kurz. The event, held for the third consecutive year, was organized by the Energy for Life charitable foundation with support from Gazprom Export, OMV, GWH, EconGas, and Gasconnect Austria.

More than 1,000 children aged 5 to 12 from European social and charitable institutions had the opportunity to attend the famous and colorful, Viennese-style balls.

Present at the ball were Austrian and European stars and cultural figures, as well as personalities from large Austrian and European charities.

Children from the Vienna ballet school Moza commenced the ball with a New Year performance based on the fairy tale The Nutcracker. The group also performed dances choreographed by the groups Bellarina and Ich bin Ok and danced to a rendition by the Vienna Boys Choir.

The event was broadcast online and live on air at four children’s hospitals in Lower Austria, making the event accessible to many children who were unable to attend in person.