

BLUE FUEL

Gazprom Export Global Newsletter

September 2015/ Vol. 8/ Issue 4

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To Our Readers

Until recently, it seemed that Europe was methodically shooting itself in the foot by embracing heavily polluting coal and lignite power generation plants which celebrated a formidable 'renaissance' under a favourable EU regulatory regime. It seemed that natural gas would be completely squeezed out of power generation by the EU's skewed policy treatment. The formula "we make up for the losses incurred by the heavy subsidies to renewables by buying cheap dirty coal" was a clear mishap on the environmental side.

Fortunately, environment-friendly and business sense-oriented policy-makers have taken the upper hand, at least on the national level, as we have seen in Germany, for example.

Recently, the Federal Ministry for Economic Affairs and Energy of Germany presented a new emphasis in its implementation of the so-called Energiewende, or energy transition policy. "Up to now, the Energiewende consisted of separate gear wheels. Now we have the clockwork," Minister Sigmar Gabriel said.

The German government, in particular, has decided to gradually shift several lignite power station units (amounting to 13% of installed lignite capacity) into capacity reserve and then, after four

years, to close them down. This move will allow Germany to reduce CO2 emissions by 11 million tons.

Along with the gradual phase-out of lignite power stations, Berlin will increase funding for cogeneration plants from €0.5 million to €1.5 million, which, according to preliminary estimates, will save 4 million tons of CO2 per year. This will be achieved by taking funds used for coal-powered cogeneration plants and pass them to gas-powered stations, as well as by financing the construction of new gas-powered cogeneration plants.

By 2021, according to the unveiled plan, three gas-powered stations will have the capacity to replace one closed nuclear power plant. Two gas-powered stations will be put into operation in Bavaria, each of them with an output capacity of 600 megawatt. Apart from that, the most efficient power station in the world, located in Irsching, Bavaria, which was mothballed due to unfavorable trends on the national electricity market, will be revived.

Up until now, the Energiewende produced contradictory results: the share of renewable energy grew concurrently with volume of CO2 emissions released into the atmosphere.



Generous subsidies for expensive renewable energy in combination with their priority access to the power grid forced German energy companies to prefer "dirty" coal for the sake of cost optimization.

In addition, the not so perfect emission trading system was of little help: low fees for carbon emissions due to the recession in the Eurozone allowed energy companies to profit from the use of cheap but environmentally unfriendly fuels. As a result, the share of natural gas in German power generation gradually declined to 9.6% in 2014 (compared to 12.1% in 2012).

This just did not make any sense given the fact that natural gas is the most environmentally-friendly fossil fuel and highly complementary to renewable sources. Emissions of CO2 while burning natural gas are 50-60% less than in the case of coal. Increasing the share of the "blue fuel" only by 1% reduces

carbon dioxide emissions by 3%. According to BP, switching from coal to natural gas just by 1% has the same impact as an 11% increase in renewables' output.

Furthermore, gas-powered plants ensure security of supply: they can be quickly geared up to full capacity and put to a halt just as fast. This type of flexibility provided by natural gas allows utilities to smooth the inherent fluctuations of wind and solar power generation.

Germany as the economic power house of Europe paves the way for creating a level playing field for all types of fuel thus parting with the experiments which have already cost European taxpayers and consumers dozens of billions of euros. Whether Germany's move will become a game-changer in terms of economy and ecology is truly a billion euro question.

Women in the Gas Industry

Speech by Elena Burmistrova, CEO, Gazprom Export, at the World Gas Congress 2015



It is my utmost pleasure to speak about the "unspeakable" subject: gender equality and social cohesion in the workplace, and in my case, making it to the top in the gas industry.

Frankly, in my younger days when I was green in judgement, I did not dream about getting intimately involved with drilling, compressing, pumping, estimating the rate of return on investment in pipeline infrastructure, calculating its

throughput capacity, bargaining over the "take-or-pay" clause in long-term contracts. And above all, I did not perceive the need to assess the benefits of LNG when delivering gas to a destination over 5000 km away or the expediency of hydraulic fracturing. An appreciation of all these joys came later.

It was back in 1995 when I received my BA from the Moscow State Linguistic University preparing to embark on a career in translation of Shakespeare or Thackeray texts. Not exactly the most likely starting point for a successful career in the oil and

gas industry. I had already witnessed and experienced tectonic shifts in the social and economic environment of Russia which had almost overnight subscribed to the principles of the free market and vigorous individual entrepreneurship.

Take my word for it: those were challenging times. The rules of the game had changed drastically. The terrain was rough, unpredictable and often incomprehensible. You faced the uneasy task of making a career choice that would best suit your intellectual and emotional aspirations, as well as expectations in life which were determined by a different set of values. I made my choice and decided to go into business and face the ups and downs of this trade, often referred to as a pretty sounding euphemism, "volatility."

And volatile it was, at full swing. First, however, I did my homework. In 2007, I completed the American Business and Practices program at Boston Northeastern University in the United States, and two years later earned my MBA at Lomonosov Moscow State University. The task to match theory and practice was far from easy. Gradually, however, I learnt on the job.

What I also learnt was that the oil and gas sector has traditionally been mainly a man's business, and Russia was no exception. I was young, I was a woman and I was blond. What were the chances of being taken seriously? But a more comforting observation came a bit later when I witnessed this trend if not reversed altogether then at least corrected in favour of a more balanced gender representation in the oil and gas industry.

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Statistics support the visual evidence: the gender gap in Russia is steadily decreasing as more and more female top managers enter the board of directors and executive floors in energy companies.

Gazprom, a company often associated with the image of a drilling rig and a pipeline piercing the horizon, follows the trend by recruiting of women with a wide array of qualifications and educational background. While women constitute only one quarter of Gazprom's total workforce, the company's headquarters are manned, no, are womanned by one third female employees.

Moreover, Gazprom is a transnational company with a global presence, with offices across Europe, Asia and the Americas. This is reflected in a truly multicultural workforce: our employees represent 46 nationalities each contributing to the melting pot of their professional strengths and management styles, but following the same guidelines in gender diversity.

I am truly happy to highlight this as a certain achievement: the executive

Nord Stream II – New Security for Europe



teams of Gazprom and its subsidiaries can boast of 8,178 female colleagues of Marie-José Nadeau, the first female chair of the World Energy Congress.

The gas business as an inherent part of global energy is undergoing fast and often turbulent changes. Governments and civil societies are debating what the future energy sources will be. Undoubtedly, efforts have to be put in to securing the place of gas in the energy mix of the future as an abundant, affordable and environmentally acceptable fuel.

The gas industry has to reinvent itself and be innovative. Gender diversity in senior leadership teams can contribute to this. It's time for our industry to benefit from young and talented female professionals willing to make a career in the gas sector.

Improving gender diversity in senior leadership is one of the ways the gas industry can demonstrate its modern way of thinking and ability to adjust to global trends. In addition, securing parity for women in leadership teams is key to business success.

By OMV AG (Austria)

"OMV has a longstanding shared history with Gazprom; this is something we can build on," said Rainer Seele, Chief Executive Officer of Austrian oil and gas company OMV AG as he joined the company in July 2015. OMV signed a new Memorandum of Understanding (MoU) with Gazprom at the end of June. OMV is Austria's largest listed industrial company with around 25,500 employees in 30 countries. The most important international upstream activities are in Romania, through OMV's subsidiary Petrom, and in the North Sea. Over 4,000 filling stations complement the portfolio in downstream.

New challenges

The two key points of the MoU are:

(i): OMV and Gazprom are preparing to cooperate on the planned construction of the pipeline Nord Stream II, which is set to bring more natural gas to Europe from Russia via the Baltic Sea route; and (ii): the partners have agreed to evaluate OMV's participation in developing further areas of the Achimov formation in the Siberian Urengoy field.

OMV CEO Rainer Seele is also convinced that we "will have a new focus on Russia in the future," one which will go far beyond the gas supply contracts in place to date. Nord Stream II is an important step towards greater security for Europe's gas supply. The European markets need new gas. This is undisputable, even despite the recent decline in demand for gas. After all, domestic production in European gas fields is falling more rapidly than demand.

One example is natural gas production in the Netherlands. Unresolved technical questions mean that total gas produced will be around a quarter less than the level of the previous year, at around 30 bcm. What is more, exploration using hydraulic fracturing has had to be put on hold for the next five years.

The first two lines of the Nord Stream pipeline have proven that the route via the Baltic Sea is a good solution. The decision to build the pipeline was made in 2005, long before the issue had become the political hot potato it is today, and the gas has been flowing since 2011. Europe needs safe and secure transport routes like this. Make no mistake: supply interruptions in natural gas through Ukraine have created ongoing uncertainty among businesses and consumers in Europe.

A European project

Nord Stream II is an additional transport route which is very much in the spirit of Europe. The project is viable and sustainable; it is backed by a broad consortium of European companies. The strengths which OMV brings to Nord Stream II lie in its expertise with the Baumgarten gas hub, from which almost 100 bcm of natural gas is transported annually using the Austrian grid. The OMV subsidiary Gas Connect Austria has a network covering a total of 2,000 kilometers. Pipeline construction and efficient grid management are among OMV's core competencies.

Furthermore, the Baumgarten gas hub is at the heart of Europe's natural gas supply. The plant has been operating since 1959 and Russian gas supplies have been transported via Baumgarten since 1968. Continuous investment in the site has also made Baumgarten an exceptionally flexible hub for the "blue gold".

Nevertheless, establishing new transport routes is not the only concern of the European gas industry. It also needs a resolute, joint approach to natural gas as a product. Its image needs strengthening – through the efforts of every player in the market. The facts are obvious: natural gas is by far the cleanest fossil fuel and the model for success in order to escape the fallacy of coal. This also makes it the key to the challenges related to reducing carbon dioxide emissions in Europe. We need the support of Europe for natural gas as a product just as much as the support of our Russian partner. With complete understanding for the company's wish to diversify into Asia, we also need a clear commitment from Gazprom to Europe. This commitment has been given with the planned construction of Nord Stream II.

Nord Stream II will thereby not only establish yet another bridge between OMV and Gazprom; the project is also a bridge towards the more secure, long-term supply of new natural gas to Europe.



Dr. Rainer Seele, CEO, OMV AG

Dr. Seele is the new CEO and Chairman of the Executive Board at OMV AG, having joined the Austrian oil and gas company on 1st July 2015.

From 2009 to 2015 he served as Chairman of the Board at Wintershall and was also a member of Wintershall's Board of Executive Directors for Natural Gas Trading. During his time at BASF's subsidiary Wintershall, Dr. Seele placed great emphasis on strengthening Russian-German energy relations, playing a vital role in the company's participation in Nord Stream.

Dr. Rainer Seele is a chemist by trade, holding a PhD (1987) from Georg-August-Universität Göttingen

Post-Sanctions Iran: A Game-Changer of the Global Energy Landscape?

By Valery Nemov, Deputy Head of Contract Structuring and Price Formation Directorate, Gazprom Export

The agreed phase-out of sanctions against Iran, as stipulated by the Vienna agreement, has become the hottest topic of the global energy industry. It seems that the prospect of sanctions being lifted has influenced markets to date more than it was anticipated. The oil price drop in July-August this year from around \$65 to less than \$50 per barrel of Brent pretty much reflects the expectations for additional volumes from Iran coming to the market in the future. But beyond all the speculation we should look scrupulously on the real state of play in the Iranian oil industry and its ability, despite its apparent eagerness, to supply extra volumes on external markets.

In 2011, a handful of traditional purchasers of Iranian oil cancelled or considerably reduced their import volumes. At the end of 2011, the United States prevented importers of Iranian oil from making payments through Iran's central bank, though it exempted some countries that had made a "significant reduction" of their purchases. Other measures constrain Iran's access to foreign capital markets so that funds from oil buyers can only be used for bilateral trade with the purchasing country or to access humanitarian goods.

Extra-territorial sanctions imposed by the United States target foreign firms that would provide services and investment related to the Iranian energy sector, including investment in oil and gas fields, sales of equipment used in refining oil, and participation in activities related to oil export, such as shipbuilding, port operations, and insurance on transportation.

In 2011, as the sanctions on the Iranian oil sector were imposed, hydrocarbon exports provided more than half of Iran's budget revenue and made up one-fifth of the country's GDP. Oil exports have more than halved since then and amounted to just 52 million tons in 2014. Domestic consumption at the same time has grown by 4 million tons. The output decline has been driven by falling exports, and the question now is how quickly Iran is able to increase oil production after the phasing out of sanctions.

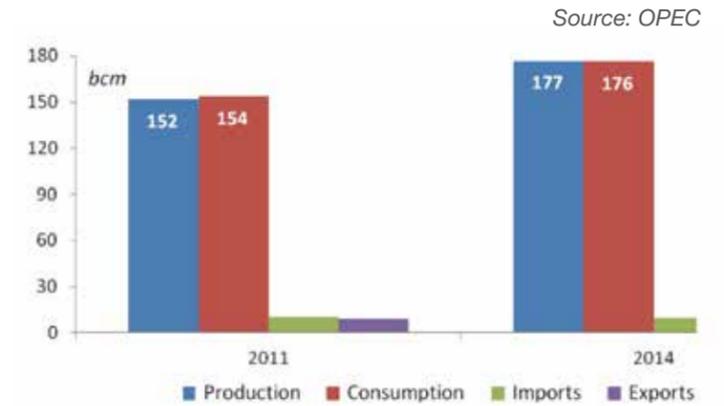
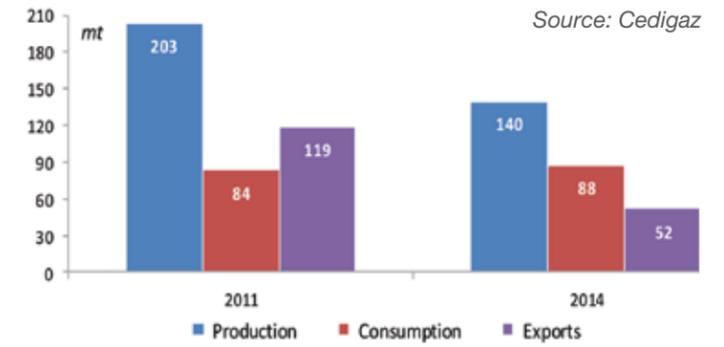
Sanctions have influenced not only the Iranian budget, but the industry itself. Some extra volumes might be produced on existing wells, but to reach the level of 2011 it would demand new investments and new technologies from international operators and creditors. IHS Energy believes that successful negotiations with Iran would send another 100-200,000 barrels per day to markets within two to three months from "Implementation Day" and up to 600,000 barrels a day after one year. In the event that energy related sanctions are phased out by the end of 2015, we expect that Iran in 2016 will be able to additionally supply 15 million tons of oil, in total. This makes up just 0.34% of the world's oil consumption, and despite the current oversupply, the market will easily absorb these additional volumes. Especially, taking into account expectations that oil demand will increase at a rapid rate: primarily because of low prices.

However, further increase of Iranian oil supplies is hardly possible as international companies are very much reluctant to take any investment decisions in the current unfavorable pricing environment. Such investments for them would be like sawing off the bough on which they are sitting.

Moreover, it is worth noting that natural gas consumption in Iran went up from 154 bcm to 176 bcm or by 14% from 2011 to 2014. Production volumes have increased proportionally, and imports and exports are relatively stable. Iran's domestic gas market is developing in fast, and at the same time the use of gas to re-pressure oil reservoirs is a very crucial factor impacting the wider industry.

The lion's share of gas reserves is concentrated in the south of the country, while the bulk of consumption is located in the northern regions. Constrained transport and storage infrastructure limits gas supplies to consumers, so Iran needs to import missing gas volumes from Turkmenistan, especially during the winter period. We consider that Iran would rather supply its own population and economy with cheaper gas, solving problems on the domestic market and winding up bottlenecks, and intensify oil exports. Taking into account the lack of investments, it is pretty clear that Iran will have no extra volumes of gas to be exported in the nearest four to five years.

Any incentive to export gas from Iran after 2020, no matter whether by pipe or as LNG, will require building new infrastructure. This is the key point we should keep in mind when discussing Iran's return to the international gas markets, but this scenario largely depends on the regional geopolitical environment and on the restored willingness of international companies to invest in new upstream and liquefaction projects in Iran.



Gazprom Marketing & Trading Group Secures USD 500 Million Revolving Credit Facility

In August 2015, Gazprom Marketing & Trading Limited (GM&T Ltd.) successfully signed a 364-day USD 500 million syndicated Revolving Credit Facility ("RCF" or the "Facility").

The facility consists of a USD 400 million 364 day USD denominated multicurrency revolving credit tranche with GM&T Ltd. as the borrower and a USD 100m USD single currency revolving credit tranche with GM&T Singapore Pte. Ltd. as the borrower.

The Facility was launched at USD 350 million and was subsequently increased to USD 500 million after being significantly oversubscribed with commitments from 17 international banks from around the world including European, Asian and American banks.

Alexander Kim, Executive Director of Finance, GM&T Ltd., said: "The Company is building upon its successes by continuing to develop its strong position in the market, with the ability to secure this facility representing a vote of confidence in the company's strategy and future growth plans." "For the first time ever, funding was secured via our subsidiary GM&T Singapore Pte. Ltd. This is a very positive development and ties in with PAO Gazprom's ("Gazprom") strong focus on expanding its business into the Asia Pacific region."

As a wholly-owned subsidiary of Gazprom, GM&T is responsible for the optimization of Gazprom's energy commodity assets and downstream expansion through its marketing and trading network. GM&T Ltd. via this marketing and trading activity also contributes to Gazprom's wider commitment to ensure reliability of supply in Europe.



GM&T Signs Technical Consulting Agreement with Gazprom Flot for Design and Construction of Floating Storage and Regasification Unit

Gazprom Marketing & Trading (GM&T) and OOO Gazprom Flot (Gazprom Flot) have signed an agreement to provide technical and commercial advisory services during the construction of a Floating Storage and Regasification Unit (FSRU). Both companies are subsidiaries of PAO Gazprom (Gazprom).

The FSRU was ordered earlier this year by Gazprom at the Hyundai Heavy Industries (HHI) shipyard in Ulsan (South Korea). The FSRU will be delivered in November 2017 and used to supply natural gas to the Kaliningrad Region of Russia.

The FSRU will combine excellent LNG storage (max capacity 174,100 bcm) and natural gas processing (max sendout 500

mmscf/day) capabilities with superior sea-going (speed up to 19.5 knots), energy efficiency (BOR below 0.09%/day) and ice class (Arc 4 ice class from the Russian Maritime Register of Shipping) characteristics, which will enable the FSRU's flexible utilisation as a regasification plant, an LNG shuttle or a conventional LNG carrier depending on the energy security situation in the Kaliningrad Region.

In addition, the FSRU will be adapted for handling small-scale LNG vessels for Gazprom's future LNG bunkering business in the Baltic Sea. It also includes expanded accommodation and specialised equipment for shipboard and LNG handling training of cadets from the Russian maritime universities.



GM&T's Shipping unit provided technical and commercial advice to Gazprom during the development of the FSRU's technical specifications and the negotiation of the shipbuilding contract with HHI. Now it will be providing technical expertise and supervising the full cycle of the shipbuilding process, including the detailed design, construction, commissioning and delivery of FSRU. It will also provide advice on the selection of technology, with a specific emphasis on LNG ship-to-ship transfers, ice and cold temperature operations and small scale LNG solutions to comply with the most advanced industry practices.

Mr. Nikolai Grigoriev, Global Director of Shipping, GM&T said, "This project builds upon the strong technical expertise of GM&T in LNG and ice class shipbuilding and operations. We are extremely proud to support Gazprom, our parent company, and to be involved in the construction of the world's first ice-class FSRU with such advanced technical characteristics, and of such importance for Russia."

The EU Continues to Ignore the Tesla project. A South Stream Symptom?

By Gábor Stier, Foreign policy analyst; Head, Foreign Affairs Desk, Magyar Nemzet, Hungarian Daily Newspaper



The post-Cold War relationship between Russia and Europe, once based on firm foundations of trust and interconnectivity, has suddenly been turned on its head. Energy supply,

which used to bind the two Eurasian poles together in a system of mutual dependence, has become a source of heightened tensions. Geopolitical disputes have taken precedence over business rationale, and Gazprom watches cheerlessly as its role of reliable gas supplier is called into question. Yet in this clash of two giants, the ones left to suffer the most are Southern and Eastern European countries.

In the wake of the EU's South Stream cancellation, these countries have been left without critical gas infrastructure. As Gazprom establishes an alternative supply route – the new Turkish Stream pipeline – it is now up to Europe to help countries ensure a reliable and diverse energy supply by supporting the construction of East-West interconnectors. Unfortunately, the most viable blueprint fulfilling the connection requirements – the Tesla pipeline passing through Greece, Macedonia, Serbia and Hungary – is now being targeted by the EU.

After the fall of the Soviet Union, energy cooperation between Russia and Europe took off, and it was clear that mutual interests and interdependence improved the competitiveness of both parties. Furthermore, particularly for Eastern European countries, energy security and diversification depended on

reliable Russian supplies. Indeed, experts agree that Europe's energy supply could not exist without Russian gas; meanwhile Europe has served as Russia's most important customer. Unfortunately, times have changed and this mutually beneficial relationship was called into question by the Ukrainian conflict and the West's outspoken criticism of Russia's actions.

However, these geopolitical tensions need not define the business relationship between Russia and the West. The construction of Nord Stream – and the eager participation of several European firms – shows us that the commercial partnership between Russia and Europe has been functioning well. Business leaders understand that Russian gas enhances the security of supply by remaining reliable, flexible, and cheap.

Unfortunately, while Germany and Northern Europe were able to secure their own gas supplies, they have neglected their Southern neighbours. The cancellation of the South Stream pipeline occurred due to several factors; the project faced many different stakeholders which made consensus difficult to achieve and saw more vigorous EU enforcement of the Third Energy Package. Moreover, the ongoing crisis in Ukraine contributed further to tensions, and ultimately, to the pipeline's cancellation.

This left the problem of East-West supply connections still unsolved. Southern and Eastern European countries share a common interest in energy diversification, and they recognize that Russian gas is a critical component to meet this. Gazprom has thus developed Turkish Stream as the logical alternative to South Stream, supplying Russian gas through Turkey into the Balkan region.

It offers Europe a path to greater energy security, and it is being taken seriously by Eastern Europe. Several different pipeline proposals have been drawn up and are competing to

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transport Russian gas from the Turkish-Greek border. One of them is Eastring, a Slovak- and Czech-backed project involving Bulgaria, Romania, Ukraine, and Hungary, which would use much of the already existing infrastructure. However, the involvement of Bulgaria, a country that has been largely blamed by the East for blocking South Stream, is worrying participating countries. Furthermore, recent tensions between Hungary and Eustram, the operator of Eastring, are putting the project at risk.

Then there is the Hungarian-backed Tesla pipeline. This pipeline aims to transport at least 30-36 bcm of gas annually across Southern Europe, at a total estimated cost of 5.5 billion Euros. Hungarians are more sympathetic to the Tesla project than they are to Eastring. While not unambiguously refusing the Czech-Slovak blueprint, Budapest has articulated its preference for the Greek-Macedonian-Serbian-Hungarian route.

Expansion and Transformation of the Global LNG Industry

By Hiroshi Hashimoto, Senior Analyst, Gas Group, Institute of Energy Economics, Japan (IEEJ)

Overall expansion of the LNG industry and pricing changes

During the next couple of years, the global LNG industry will see a significant transformation in trading patterns along with an unprecedented expansion of the industry itself which has been ever-evolving for years. Australia and the United States are expected to increase their presence as two major production centres, bringing another layer of flexibility and liquidity into the market.

The main questions the industry will focus on going forward are how new

Yet, while Eastring is at the forefront of the European Commission's Energy Union efforts, Tesla is not. The project has been ignored by the EU and, along with Eastring, looks to be heading in the same direction as South Stream – cancellation. This is worrying for my country and our region. Continental Europe sits in a comfortable position as Nord Stream gas continues to flow, while the Balkans and Central Europe are given the red light by the EU and much-needed Russian investment is stymied.

For our region Tesla is a feasible blueprint to replace insecure supply routes and therefore should receive the blessing of the EU. By failing to lend its support, the EU is showing once again that political angling trumps smart business sense.

sources of LNG will be priced and what impact they will have on other sources of natural gas as well as on the competition among various energy sources.

Asian pricing features – oil linkage and spot prices

People may think that Asia-Pacific LNG has been expensive because of the traditional pricing linkage to oil. This has sometimes been the case, but sometimes it has not. Along with the expansion of production and consumption, the growing number of importing and exporting countries and other market players, LNG price formation has evolved over time. In the next couple of years, more changes are expected as the global LNG industry expands further.



Hiroshi Hashimoto

issue in price negotiations between LNG sellers and buyers for a long time.

One of the most noticeable features of recent Asian LNG prices is the dynamic movement of spot cargo prices - both prices at which cargoes are actually traded and those assessed by price reporting agencies. Although spot price assessments have not been established as benchmarks yet - as liquidity is not high enough - they can be viewed as an indicator of market sentiments.

Independently fixed pricing has been used for an increasing number of cargoes traded outside of traditional long-term contracts. Those independent prices have been sometimes higher and sometimes lower than prevailing long-term contract oil-linked prices. Up until recently, those independent prices have been influenced by Brent crude and NBP gas prices as a lot of cargoes have been diverted from the Atlantic LNG market.

New elements of LNG pricing – prices in the United States and flexible LNG

In the future, another new important element for Asian LNG price formation are gas prices in the United States. In the next year, LNG from the United States is expected to start flowing into Asian LNG markets. While there remains uncertainty over whether it would lead to lower prices of LNG in the Asian region, it is certain that it would bring diversification of LNG pricing. However, when landed prices in Asia for LNG from the United States are expected to be higher than oil-linked LNG prices in Asia, some of the American LNG, or the gas before liquefaction, may be diverted to other markets, either in the United States or other LNG/gas consumers.

Some LNG offtake arrangements from the United States are directly linked to Henry Hub prices and others are based on liquefaction tolling agreements. There should be possibilities to introduce different indices other than Henry Hub depending on future developments in gas markets in the United States.

Japanese and Asian LNG long-term contract prices have been linked to crude oil prices for decades. This is due to the fact that oil was considered to be the main competing fuel against LNG and there has not been a better indicator to represent the general energy market trends in the region. The linkage was in general accepted as a reasonable practice until around 2008, although the percentage of the oil-linkage within a contract has been a contentious

For example, although spot gas prices in the New York area still fluctuate more wildly than those at Henry Hub, the former stayed at lower levels than the latter for an extended period in 2014 as gas production from the Marcellus Shale increased significantly.

Asian players should stay vigilant when they procure LNG from the United States as various gas sources in the country may have very different prices.

Increasing the share of equity LNG and other flexible LNG procurement options are also adding flexibility in LNG pricing. Some LNG producing companies secure some volumes for their own marketing from third-party production, while some traditional LNG buyers also have participated in LNG production projects, notably in Australia, to have their own flexible volumes.

Regional price gaps encourage changes

Gaps between gas prices in different regions around the world sometimes increase and sometimes shrink. Before 2005, Japanese LNG import prices were more or less competitive against gas prices in other regions. Since 2008, however, in the wake of the rapid increase of natural gas production in the United States, the price gap between Asia and North America has widened and even more so after the 2011 nuclear crisis in Japan.

Many LNG buyers have realized that it would be structurally very difficult to reduce the gap, if they continued relying mostly on oil-linkage. Most recently, however, and thanks to the declining oil prices, price levels are converging. Those historical lessons have encouraged players to seek diversification of supply sources and pricing mechanisms.

Different pricing and diversification to come

In the next couple of years a larger and more flexible LNG market is highly likely. The global market is expected to grow to 400-million-tonne-per-year by 2020. Demand is anticipated to grow, but with significant uncertainty, thus greater flexibility is not only expected but is necessary.

The new reality of lower crude prices and calls for more competitive LNG prices pose challenges - but they can be overcome through cooperation between suppliers and consumers. Different pricing and diversification will finally arrive in Asia in 2015.

First Firefighting Vehicles Powered by CNG Introduced in the Czech Republic



Source: Czech Gas Association

Two special firefighting vehicles fueled by compressed natural gas (CNG) have been introduced in the Czech Republic's Vysočina region, as reported by the Czech gas association. These vehicles will be the first of its kind in the country's firefighting brigades.

The new vehicles have been named Snow White, referring to the advanced

technology of firefighting technique using CO₂, part of which is converted to solid parts similar to snowflakes during the fire extinguishing process. The CO₂ technology is applicable for extinguishing fire at electric installations, and also flammable gases or liquids.

Moreover, the CNG engine enables the reduction of operational costs by more than 50% compared to diesel vehicles. Another benefit is the decrease in emissions. In comparison with older special firefighting vehicles that were compliant only with Euro 3 emission standards, the CNG powered firefighting vehicles comply with the far stricter Euro 6 emission standards. The new cars have a tank for 34 kilo CNG and have a driving range of up to 350 kilometers, which in itself is a unique achievement.

Gazprom Marketing & Trading Singapore Hosts Scientists



In summer 2015, Gazprom Marketing & Trading Singapore hosted a conference of Russian-speaking Academic Science Association (RASA). Some 30 scientists from Russia, Singapore, Great Britain and

Germany working in public and private research and development organizations took part in the event which resulted in the creation of the RASA Coordination Council in the Asia Pacific Region.

Young Talents Illuminate Summer Academy of Arts

Austria hosted the traditional Summer Academy of Arts "Energy for Life" as a part of the international children project "Open World."

This year the project celebrated its 10th anniversary. Since its inauguration it has become a significant event in the social and cultural life of Vienna and Austria in general. The project is implemented under the patronage of UNESCO and UNICEF and under the auspices of Erwin Pröll, Governor of Lower Austria.

The Academy gathered over 100 talented children aged between 10 and 16 from Austria, Russia, Germany, Slovakia, Bulgaria and Georgia who could take part in master classes ranging from sports choreography to journalism. Master classes conducted by leading scholars from Austria, Germany, Slovakia and Russia gave children an opportunity to use practically their theoretical knowledge and skills, learn a lot and to develop their creative potential to the full.

In addition to the sessions and master classes, the children were able to showcase their skills in several concerts organized as part of the Academy. For example, the Open Day featured performances by participants of master classes in choreography and rhythmic gymnastics. Young TV journalists

from the Academy's media group demonstrated their reports and interviews prepared during the sessions. Participants were also hosted by ORF NÖ, the regional channel of Austria's national broadcaster, and met with journalists of the channel's main news show NÖN – Die Niederösterreichischen Nachrichten (News of Lower Austria) – to get acquainted with the work of this news team.

It has become a good tradition that participants of the Academy performed at the School for children with disabilities (city of Wiener Neustadt), thus once again emphasizing the importance of communication among children from different social groups.

Another remarkable event was the visit to the Technical Museum in Vienna: children took part in the interactive game organized by Austrian oil and gas company OMV, a long-term patron of the project. All participants of the Academy were given mementos and winners of a competition during the visit received special souvenirs.

This socially important and exciting event marked the 10-year partnership of two energy companies – Gazprom Export and OMV – in form of the "Open World" project.



The Summer Academy of Arts is held annually by the social foundation "Energy for Life" with support from major energy companies in Russia and Austria — Gazprom Export and OMV Gas & Power.

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