Baltic Rim Economies

Bimonthly Review

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ISSUE NO. 1, 19 FEBRUARY 2010

EXPERT ARTICLES:

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EU-Russia relations - getting it right

By Jerzy Buzek

In 2009 we celebrated the 20th anniversary of the first free election in Poland as well as twenty years since the fall of the Berlin Wall. I recall these two events on purpose because, in common contemporary history, they signify the end of the division of the European continent into two antagonistic forces - West and East. Today we are still in the process of building lasting and stable mutual understanding, trust and respect, as relations between the European Union and the Federation of Russia during the last two decades have been profoundly marked by both ups and downs. Additionally, I am concerned by the results of recent surveys which showed that public perception of Russia within the European Union, as well as Russians' attitudes towards the West and its basic values, are still rather negative.

Why are good EU-Russia relations essential?
A glance at a map of Europe will persuade anyone that we cannot escape creating closer ties and maintaining dialogue. First of all, Russia brings a significant contribution to Europe's common cultural heritage. At the same time, both trade and investments between the EU and Russia remain substantial and continue to grow. It is well-known that the EU is by far Russia's main trading partner and investor, and Russia is the EU's third largest trading partner. Growing interdependence in economic terms depends not only on energy; impressive growth (of figures) has also been seen in services. Furthermore, Russia is an important actor on the geopolitical scene. The EU and Russia co-operate in dealing with a number of challenges, both internationally, as well as in our common neighbourhood. These include climate change, drug and human trafficking, organized crime, counter-terrorism, non-proliferation of WMD, the Middle East Peace Process and Iran. Nevertheless it is vital that this cooperation is based on respect for human rights and promotion of the rule of law. I am convinced that we should maintain the policy of constructive involvement of Russia in order to secure an effective international community. For those reasons I perceive relations with Russia as one of the key priorities of my foreign policy agenda.

The European Parliament has always supported putting EU-Russia relations on a stronger political level.
The Partnership and Cooperation Agreement (PCA) put in force in 1997, further complemented by the Four Common Spaces in 2005, created an institutional framework for regular consultations on diverse levels. As President of the European Parliament I am particularly glad of the EU-Russia Parliamentary Cooperation Committee's existence, whose members meet on regular basis and exchange views on current issues, but at the same time I believe that its role should be further strengthened. On the other hand I observe little progress in negotiations on a/the? new PCA. They must be accelerated, especially if the EU and Russia are to forge a partnership that can be called strategic. From the EU's point of view the new agreement should be broad ranging, comprehensive, legally binding with dispute settlement mechanisms, and based on shared commitments and values. Human rights should figure prominently in the treaty, as well as energy policy, based on the principles of the Energy Charter Treaty and the Transit Protocol.

Nowadays there are certain issues that attract the attention of the whole of Europe and the case of energy security is certainly among them.
From the European Union's point of view this burning issue is even more important as 40% of gas consumed, for both commercial and household needs, comes from Russia. Although EU Member States are major buyers of energy products, the relationship is one of interdependence and not dependence, as export to the EU constitutes a major contribution to Russian growth rates. Unfortunately last year's gas crisis undermined EU citizens' confidence and damaged Russia's reputation as a reliable supplier of energy. For that reason the EU must be able to avert any new gas dispute in the future. One way is to make sure that mutual energy relations are based on the principles of the Energy Charter Treaty (ECT), such as openness, transparency, reciprocity and nondiscrimination. As a representative of the European Union I need to stress that the EU wants to rely on a cooperation that privileges long-term mutual interests of stable demand and reliable supply over short-term political calculations.

One of the latest areas of mutual interest affecting EU-Russia relations is the Eastern Partnership policy.
I would like to strongly emphasise that this initiative is not aimed against any country, because the EU dismisses any notion of a sphere of influence and does not engage in zero-sum games. The Eastern Partnership should be perceived as a reinforcement of the already existing framework for relations with these neighbours that will enhance stability and prosperity in the entire region through mutually beneficial solutions. I truly hope that Russia will adopt a positive and constructive stance on this subject matter.

The European Parliament has repeatedly raised concerns related to Russia, regarding particularly rights of minorities, the situation of human rights defenders, rule of law, freedom of media, expression and assembly.
All members of the European Union share a common vision of the European continent based on the pillars of democracy, rule of law and human rights. On a number of occasions I personally expressed concern over a series of brutal murders of human rights defenders and stressed that the human rights situation is especially bad in Chechnya, where violence is on the rise and the atmosphere of lawlessness and impunity prevails. Furthermore, I have encouraged the authorities to pursue proper investigations as well as to ensure adequate protection for human rights activists and for the witnesses of the respective murder cases. This reminds me about the European Parliament's 2009 Sakharov Prize for Freedom of Thought for Russian civil rights defence organization "Memorial". In my speech I asked whether Andrei Sakharov would feel pride, or more a sense of sadness that today's Russia still needs such organisations. Regrettably, two of the prize recipients, Lyudmila Alexeyeva in the end of December and Oleg Orlov in the end of January, were put in detention after taking part in a protest with other human rights activists in Moscow. Those deeply disappointing and shocking actions send a message to the world that human rights defenders in Russia still cannot demonstrate freely.

The basis for a better EU-Russia relationship is neither confrontation, nor isolation, or unconditional cooperation, but a policy based on mutual trust, solidarity and the rule of law.
First and foremost the European Union pays particular attention to strengthening human rights and the rule of law as well as the independence of Russia's judiciary and legal system in line with the intentions already declared by President Medvedev. Both the EU and Russia should be able to discuss areas of disagreement in an open and constructive manner. On the other hand, while progress in the four common spaces is essential, success will ultimately depend on whether we can also create a common space of understanding and trust not only between our political elites but our societies. This is why I would like to warmly welcome initiatives such as the regular meetings of Young Citizens of Russia and the European Union. Our common work should continue to expand people-to-people contacts across the board. I am highly convinced that it will lead us to improving mutual understanding and trust in relations between the European Union and Russia.

Jerzy Buzek

President

The European Parliament

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Latvia's lesson – from crisis to sustainable growth

By Valdis Dombrovskis

On 27 January 2010, Joaquìn Almunia, then European Economic and Monetary Affairs Commissioner, stated:

"I commend the Latvian coalition government, the Saeima and the society at large for the courage and determination in delivering the efforts necessary to put the country on a more stable footing with the help of the EU and the wider international community. The multilateral assistance package, including the €3.1 billion loan by the European Union, has helped improve the economic conditions and outlook in Latvia by easing financial tensions and external financing pressures. Although not without difficulties, the government and the Parliament have delivered on their commitments, in line with the requirement set by the EU Finance Ministers and the criteria for the Balance of Payments assistance. However, the effort needs to continue, notably for what concerns further fiscal adjustment and ensuring a stronger and more sustainable economic activity in the future. While the recent budgetary consolidation progress in Latvia is very impressive by any standard there is obviously some way to go to bring the deficit below 3% of GDP to ensure a stable and sustainable environment in the future and with a view to adopt the euro".

The Commissioner's comments have made an encouraging start to the year, following a very difficult period for my Government, but even more so for most of the population.

Already by the end of 2008 Latvia was sliding into a deep economic crisis. The problems of the global economic recession were compounded by the unwise policies of previous years. GDP fell in 2009 by 19%, and unemployment has by now leaped to 20%. Tax revenues fell by 30% year-on-year in 2009. The real estate bubble burst.

Latvia had no choice but to turn to the IMF for a multilateral loan package, which came with stringent conditions. We will use the 7.5 billion euro stabilization loan over 2009-2011 to cover the budget deficit, refinance government liabilities, and support the banking system. At the same time, the government had to make many unpopular budget cuts and raise taxes in 2009, and the 2010 budget has been further consolidated by 500 million lats. Latvia's State budget for 2010 will have an 8.5 % deficit, and smaller deficits of 6% and 3% in the following two years.

Our fundamental aim is to carry out structural reforms – a set of economic and social measures that should improve Latvia's competitiveness. We are working in three directions:

First, boosting business through tax reform, reduction of the administrative burden, a more effective use of EU funds, and an Economic Development Program. The Program contains elements such as loans and guarantees for enterprises, support for start-ups and self-employment, and support for micro-enterprises.

Second, improving the effectiveness of public administration. This entails assessment of state functions, restructuring of expenditure, fiscal consolidation, and public administration reform. The purpose of this reform is to optimize institutions and their personnel, and to ensure a unifed pay system.

Third, reforms to our heathcare and education systems, boosting employment, and a social safety net to protect the very poorest and those who have no income once unemployment benefits have ended.

So, what lies ahead? My aim is to keep Latvia on the road to economic recovery this year, and never lose sight of the best exit strategy – a sustainable economy, which allows Latvia to meet the Maastricht criteria in 2012 and introduce the euro in 2014.

We estimate that GDP will contract in 2010 by about 2-3%%, and begin to grow after that, by at least 3-4% in 2011 and 5-6% in 2012.

As consumption power is down due to lower wages and higher taxes, we will rely mostly on external demand to stimulate the economy. To this end we are putting any available funds into boosting export competitiveness, and looking towards first signs of economic recovery in our export markets.

On an optimistic note, by some indicators Latvia is already on the road to recovery:

- Latvia's GDP decline is slowing down and the worst is behind us.
- The current account deficit has turned into a surplus of 9-10% of GDP; for the first time since 2000 our export is greater than import.
- The pace of consumer price growth continues to decline, leading to improvement of Latvia's competitiveness; inflation fell from a high of 17.5% to an average of 3.5% in 2009.
- Overall industrial production output was already growing quarter-to-quarter in 2009; metal working, chemical goods, paper products, transport and service sectors, as well as furniture and its component manufacturing have enlarged their export volume. The wood industry stands out with increasing volumes every month.
- Latvia's transport sector maintained solid indicators even during the deepest period of the crisis, and is currently improving, particularly in terms of railway and harbour turnover.
- Real estate prices have stabilized.

Of course, the economy is not just about numbers, and making neat rows of revenue and expenditure on paper. The state budget is about making choices that protect the most vulnerable sections of society in the short-term, but also benefit the greatest number of people in the long run.

As we begin to emerge from the current crisis, we must also look at the broader perspective and plan for the future. Across Europe, and especially in Latvia, demographic trends point to increasing fundamental challenges. As societies age, we will have to find new ways to balance public funds and adjust infrastructure to the new realities. Social security, health, education, housing, regional development - practically all spheres of government activity will be affected. If not addressed in a timely manner, these challenges have the potential to turn into a crisis.

I believe Latvia can borrow from the long experience of the Nordic countries in finding answers to the challenges regarding 'human capital'. Our regional neighbours are well-versed in labour market and re-training policies, show encouraging results to pro-birth rate incentives, and understand the importance of maintaining populations in rural areas. To this end the recently adopted European Union Baltic Sea Strategy should be useful as a framework for addressing demographic changes across our region. As Latvia this year holds the rotating chairmanship of the Baltic Council of Ministers, I will use available opportunities to raise this looming issue.

At present, as Latvia tackles the current crisis, we are already drawing lessons for the future. One of these lessons is simple - growth should be sustainable. Together with our regional partners, and with due attention to developing our human capital, I believe Latvia will meet its full potential.

Valdis Dombrovskis

Prime Minister

Latvia

Baltic Sea region offers great potential

By Mari Kiviniemi

The Baltic Sea region plays a major economic role for both Finland and the European Union. Altogether 40% of Finland's exports and 45% of imports in 2008 consisted of trade with Baltic Sea economies. Finland's three main trading partners are in the Baltic Sea territory, namely Germany, Sweden and Russia. Six out of Finland's ten main trading partners are in the Baltic Sea region. Over two-thirds of all inward foreign direct investment in Finland is from the Baltic Sea region and three-fifth of Finland's outward investment abroad is to the same region.

The Baltic Sea region already affords significant economic weight and potential. Approximately 15% of worldwide freight traffic takes place in the Baltic. Over 80% of Finland's foreign trade is by sea. Depending on the geographic definition, the total population of the Baltic Sea region amounts to around 85-100 million people. Aggregate GDP for the economies of the Baltic Sea coastline totalled over 12% of global GDP last year.

If we examine the Baltic Sea economies using different indicators of competitiveness, the area reveals itself to be an ever stronger and more dynamic European economic force, whose knowhow and experience in regional cooperation have stimulated interest across Europe and even further afield. Russia's role in the Baltic Sea region is growing steadily not only in terms of economic and knowledge potential but also in the context of environmental protection and in terms of challenges related to maritime transport. With St. Petersburg's role maturing into the second-most important centre in Russia, it has significant repercussions throughout the Baltic Sea region. The condition of the Baltic Sea and inter-regional economic cooperation have a direct impact on the wellbeing and sense of security of the Finnish people.

Economic growth in the Baltic Sea region notably builds on a high level of competence and innovation. Promoting and financing research and development projects, exploiting the best competencies as well as creating market conditions ideal for innovations are important factors in boosting economic growth in the region.

There is good capacity for economic growth not only in primary production but also in trade and commerce as well as in the service sector. Particularly interesting commercial opportunities from the viewpoint of Finnish entrepreneurship are to be found in the foodstuff industry and in telecommunications as well as in energy technologies and the financial sector.

Environmental protection and the economy share many factors in common. By combining these common denominators and by enhancing coordination we can pursue both objectives more effectively. Renewable energy sources is a good case in point. Finland as well as many companies in the Baltic Sea region offer high competence in energy efficiency and energy technologies. Finland boasts competencies and technologies in environmental protection and maritime safety, such as sophisticated vessel traffic management and monitoring systems, advanced dephosphorisation techniques and processing technology for soluble manure material, all of which ought to be marketed efficiently. Demand for such skills and products probably exists not only in the Baltic Sea region but in other marine areas too.

Opportunities in the Baltic Sea region for trade and commerce, subcontracting and investments have been exploited not only by large corporations but also small- and medium-sized enterprises alike. With cross-border entrepreneurship becoming more widespread, it is important to increase cohesion of the Baltic Sea market area, applying harmonised rules and procedures in the trade of goods and services and removing impediments to free movement of labour.

While it is also the EU's objective to create a common market area, in effect a considerable number of barriers to the full realisation of this potential still exist, especially in trade and commerce and in labour mobility. Free movement of labour, for instance, is not without obstacles even though it is now nearly five years since the Baltic States and Poland joined the European Union. Businesses also encounter various, mainly administrative impediments to trade, restricting and in some cases even hampering growth in reciprocal trade.

The Baltic Sea is virtually an inner sea of the European Union. The purpose of the EU's Baltic Sea Strategy is to devise a regional framework where the EU and its member states are free to determine their needs and to align them to the existing financial resources, thus creating sustainable environmental protection and generating prosperous economic and social development. Many of the European Union's common policies and programmes are instrumental for the Baltic Sea region too, and they will play a part in the implementation and financing of the Baltic Sea Strategy. The EU structural policy funds are the main sources of financing. Resources for the region have been sizeable to date and the Commission wishes the member states to allocate these funds to implementing key objectives of the Baltic Sea Strategy. Other related key policies are the EU's integrated maritime policy and implementation of the Marine Strategy Framework Directive, regulations related to the functioning of the internal market, the Lisbon Strategy for Growth and Jobs, and the trans-European policy on transport and energy networks.

The potential of the Baltic Sea region as a growing and more integrated economic area is enormous. The Baltic Sea region is unique and highly interesting both on the European scale and globally, mainly because its economies are at different stages of development, are different by nature and yet complement one another. We must now take advantage of this huge potential.

Mari Kiviniemi

Minister of Public Administration and Local Government

Finland

Security in a modern world - the example of the Baltic States

By Søren Gade

I have often said that freedom should never be taken for granted. Nowhere is this understood more clearly than in Lithuania, Latvia and Estonia. The approaches of the Baltic States on security issues have been exemplary since they gained their independence, and for two decades they have made a huge effort to come into their own. The Baltic efforts have been anchored in values such as solidarity and commitment, and the purpose of upholding their recently gained freedom cannot be mistaken. With substantial efforts the states are in the process of transforming their military forces in order to strengthen their ability to cooperate with other countries. When given the chance, Lithuania, Latvia and Estonia have demonstrated readiness and solidarity with the Alliance to take on both the tasks at hand in Afghanistan, and to direct their attention towards softer security issues, such as ensuring the safety of the Baltic Sea in cooperation with neighbouring partners. Denmark has enjoyed and still enjoys a broad cooperation with the Baltic States on defence issues including in operations in Afghanistan and earlier in Kosovo. I have witnessed first hand how this cooperation has flourished, as the three nations have integrated even deeper in primarily the EU and in NATO, but also in the Nordic-Baltic cooperation, and I feel strongly that the future prospects for enhanced cooperation looks very promising.

Changing security environment

The security of the Baltic Sea region has improved dramatically since the end of the Cold War, not least due to extensive cooperation in the region and beyond. The end of the Cold War signalled the beginning of a new era in the region. With the collapse of the bi-polar division of power, the security conditions in the Baltic region rapidly changed. Over the next decade, states formerly controlled by the Soviet Union gained their full independence, and some of them joined NATO and the EU. The change in the regional security conditions kicked off a period of economic growth and prosperity in the Baltic region. The progress was enabled first and foremost through the colossal efforts of each of the Baltic nations, and secondly through an extensive international cooperation in every field of society. Today, a financial crisis is challenging all our countries, and in the midst of requisite prioritisation, Lithuania, Latvia and Estonia stand firm in the international society's broad-spectred activities against terrorism in Afghanistan.

Facilitating NATO operations

For the last six years, NATO fighter aircraft have patrolled the skies over the three Baltic States. The so-called NATO Air Policing mission aims to enforce the sovereignty of the Baltic States, and preserve the states' territorial integrity. Since its beginning in 2004, the air policing has been supported with fighter aircraft from Belgium, the Czech Republic, Denmark, France, Germany, Norway, Poland, Portugal, Romania, Spain, Turkey, the United Kingdom and the United States. The continuous presence of NATO fighter aircraft is a visible sign of NATO's solidarity and commitment to the security and stability of the Baltic region. But foreign fighter aircraft cannot do the job alone. During one of my visits to the Baltic region, I have witnessed how the missions are effectively enabled through the various host nation support arrangements commonly provided by the Baltic states. The NATO Air Policing mission sends a strong signal to the surrounding world that the security of every single ally is the concern of all allies.

Providing security for others

Today, forces from the three Baltic states are deployed to distant theatres of operations, where they integrate efficiently with fighting forces from NATO members and other troop contributors. In Afghanistan, forces from Lithuania, Latvia and Estonia are deployed across the Afghanistan theatre of operations from Chagcharan in the west and Meymaneh in the north to Helmand in the south. Their forces are heavily engaged in missions ranging from direct action against the Taleban to reconstruction work undertaken in the Provincial Reconstruction Teams. During my visits to Afghanistan, I have heard many stories of the dedication and professionalism of the Lithuanian, Latvian and Estonian forces. Operating under the auspices of UN Security Council Resolutions, the three Baltic States set good examples of commitment and solidarity for the international community. Through their commitment they demonstrate that also smaller states have an important role to play in the fight for the security of the Alliance. The approach displayed by the three Baltic states commands respect.

Broad focus

The current period of stability in the Baltic Sea region has enabled the states to direct their attention toward other areas than security matters. With the approval of the so-called European Union Strategy for the Baltic Sea region, the region has signalled a strong determination to realize the potential for increased cooperation. The cooperation comprises enabling a sustainable environment, enhancing the region's prosperity, increasing accessibility and attractiveness, and ensuring the safety and security of the region. The strategy rests on the recognition that dealing effectively with transnational challenges requires international cooperation.

Lithuania, Latvia and Estonia have demonstrated the purpose and ability, not only to shift away from the security perceptions of the Cold War, but also to use resources to take part in the struggle against new security threats such as terrorism and cyber attacks, as well as safety related issues such as fighting pollution and enhancing maritime safety. These efforts are a testimony to the fact that transnational problems often require multinational solutions. Only through continued solidarity, and innovative and enhanced cooperation can we ensure the safety and security in the Baltic Sea region and beyond.

To me, the approach of Lithuania, Latvia and Estonia toward the tasks at hand in Afghanistan stands out as the quintessence of Alliance solidarity. In these times, Alliance solidarity is exactly what it takes to guarantee the security of us all.

Søren Gade

Minister of Defence

Denmark

Common and improved maritime surveillance

By Sten Tolgfors

At any given moment there are 2000 ships in the Baltic Sea. Oil transport has doubled in a short time and will continue to increase. Forty per cent of all Russian exports are shipped via the Baltic Sea, which is designated a Particularly Sensitive Sea Area (PSSA). Serious accidents could entail both humanitarian and financial risks for the countries in the neighbourhood.

A common recognised maritime picture (RMP) will make it easier for us to maintain and secure major transport flows through seas like the Baltic. At the same time, integrated maritime surveillance will make things easier in many other areas, such as maritime safety, marine rescue services, environmental emergency services and border controls.

During the Swedish Presidency of the EU, integrated maritime surveillance was a priority issue. There is a great need to improve coordination of maritime resources in the EU. This involves coordination of resources, both civilian and military, and also increasing coordination between maritime agencies.

Not only has the information acquired up to now been divided among countries, it has also been divided among various agencies within countries. The basic idea of increased cooperation on maritime surveillance is to utilise resources more effectively through improved coordination and increased interoperability between existing systems. The Swedish Presidency promoted the approach of linking systems already in operation rather than developing new systems.

Many of the civilian and military systems available in the EU Member States have not been equipped to exchange information with each other. But today's challenges with regard to crisis management do not allow a strict division between civilian and military actors. Instead, a coordinated approach is required to protect countries' interests more effectively.

Greater cooperation on maritime surveillance was initiated after the Estonia disaster in 1994. Like our neighbours, Sweden saw the need to improve maritime surveillance in the Baltic Sea so as to be better able to deal with accidents. Sweden and Finland began this cooperation by sharing radar images with one another. Step by step, this cooperation has been expanded.

A cooperative undertaking in which the Swedish Presidency was particularly active was the Sea Surveillance Cooperation in the Baltic Sea (SUCBAS) project. This is a regional project in the field of maritime surveillance involving cooperation between the defence forces of eight countries. SUCBAS is an administrative and technical solution for transferring information and means that the defence forces of the Baltic Sea region can exchange information on the maritime situation with each other more effectively.

Its use in civilian systems is designed so that sensitive military information is removed from the military maritime picture and the remaining information is transferred to a civilian system, e.g. the Swedish SJÖBASIS-system. In this way, civilian agencies can obtain rapid information to fulfil their tasks. This may involve, for example, intelligence on hazardous goods, maritime security and border and criminal intelligence. The system can also provide indications of abnormal shipping movements and warn the agency responsible. Other benefits are the provision of situation reports and oil spill drift forecasts in accidents. This year, Finland, Denmark and Sweden have obtained electronic access to each other's maritime pictures. The costs are small, currently a couple of hundred thousand Swedish kronor a year for Sweden, but the effect is considerable for our security.

The major challenge in efforts to integrate maritime surveillance in the EU is not a matter of investing in new, expensive technological systems, but primarily of legal and administrative issues.

To make existing systems for maritime transport and maritime surveillance more interoperable among Member States with coasts bordering the northern European maritime areas, the European Commission is co-financing a pilot project named MARSUNO (Maritime Surveillance Integration Northern European Sea Basins) for the northern European maritime areas. Twenty-three agencies from ten countries are participating in the project, which aims at showing how agencies working in the maritime area can cooperate more effectively by exchanging information among themselves and other measures.

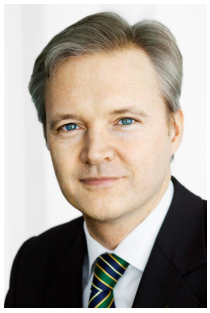
The objective is the more efficient exercise of official authority, cost savings and the facilitation of maritime transport by simplifying notification procedures for shipping, and to enable better support for different agencies.

Maritime safety and safe transport are necessary for positive development in the Baltic Sea region. During the Swedish Presidency the EU Member States agreed to continue the process of integrating maritime surveillance. Together with our neighbours around the Baltic Sea and other EU countries, we will continue to develop the capacity to handle major accidents and emergencies. In this way, we will establish the capacity for an effective, safe and integrated maritime surveillance that, in the long term, will be able to cover the whole of Europe.

Sten Tolgfors

Minister for Defence

Sweden



The Baltic energy sector

By Krišjānis Kariņš

In Europe, we spend a lot of time talking about the importance of the internal market. Although the market functions quite well in many areas, in the field of energy the internal market cannot function fully for the basic reason that Europe still lacks grid interconnections between Member States, and still retains an "energy island" in the northeast. The gas and electric grids of the three Baltic countries of Estonia, Latvia, and Lithuania are still almost completely isolated from the rest of the EU. There can be no functioning internal market for energy without a fully integrated grid system.

This energy isolation is a result of the full incorporation of these countries into the former Soviet Union. During the 50 years of Soviet occupation, the energy grids in the Baltics were completely folded into the Soviet grid system, to whose successor countries they are still intricately linked today. Although the Baltic countries remain mostly isolated from the rest of the EU, they retain and regularly utilize the interconnections that they share with each other in both the gas and electricity sectors.

The current sole exception to Baltic energy isolation is the Estlink electrical connection between Tallinn and Helsinki, which is currently undergoing capacity expansion. After many years of discussion, other large inter-connector projects are also finally getting underway for electric grid connections between Lithuania and Sweden and Lithuania and Poland within the framework of the Baltic Sea Strategy. As these projects come on line, security of electric supply for the Baltics will only increase, as will their ability to participate in the internal market as producers and sellers of energy, as well as buyers.

The Baltic gas grid, on the other hand, remains completely isolated from other EU countries, which means that there is currently no end in sight to the 100% dependence on Russian gas supply. Indeed, as I have seen in the central control room of Gazprom in Moscow, the large underground storage facilities at Inčukalns in Latvia are viewed by Gazprom as an intricate part of the broader Russian gas supply system. After all, this storage facility supplies gas to the St. Petersburg area in Russia during the long winter months. Gazprom effectively owns not only the gas resources, it also controls the gas distribution system in the Baltics. There would be no interest from Russia's side to change this situation.

As large EU projects such as Nordstream (between Germany and Russia) unfold, the isolation and hence vulnerability of Baltic gas supply will only increase. Currently, the EU acquires most of its Russian gas via Ukraine, which means that when Russia exerts pressure on Ukraine via the gas sector, the entire EU is concerned and gets involved in finding a solution. If Ukraine, as well as Poland and the Baltic countries are circumvented via Nordstream, possible Russian pressure on these countries will not directly affect the rest of the EU, and hence potentially leave these countries in a much worse situation than today.

This situation is compounded by the fact that as of January 2010, the Ignalina nuclear power station in Lithuania has been shut down, according to the accession agreement to the EU in 2004. In terms of electric generation, Ignalina accounted for 70% of Lithuania's electrical generation, or 111% of electric consumption, which means that Lithuania was a net exporter of electricity until the closing of the Ignalina plant. Its northern neighbor Latvia produces only about 70% of consumption, which means that it was a buyer of electricity from Lithuania (among others). The gap in Lithuania and Latvia in electric supply will be partly compensated by electric production via oil shale in Estonia (whose production accounts for 169% of consumption in Estonia), partly by ready electricity imports from Russia and Belarus, partly by increased use of renewables, and partly by increased use of gas-fired electric generation plants in the Baltics, which before the closing of the Ignalina plant already accounted for about 9% of consumption in Estonia, 29% in Latvia, and 27% in Lithuania.

Besides building new gas grid interconnections between the Baltics and the rest of the EU, the other way to reduce this (growing) gas dependency on Russia is through the increased use of renewable resources, which is in line with the EU strategy for increasing the overall share of renewables in the EU to 20% by the year 2020.

In the Baltic countries, the leader in renewables is Latvia, which has an overall rate of 32% of renewable resources in its energy mix. This comes from utilizing the ample hydro and forest resources that abound in the country. Latvia is currently the second "greenest" country in the EU, and one of the "greenest" countries in the world. In the electricity sector, renewables account for 42% of consumption.

Lithuania's and Estonia's situations are different. In Lithuania, renewables account for 23% of its overall energy mix, with about 13% renewables in the electricity sector measured against consumption. If more natural gas capacity comes on line in Lithuania, this percentage could decrease. In Estonia, the rate of renewable resources in the overall energy mix is about 17%, with only about 3% of production in the electricity sector measured against consumption. The pervasive utilization of oil shale in Estonia will also be potentially decreasing as environmental requirements will diminish production in the coming years.

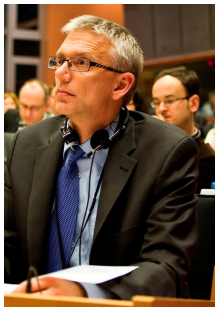
It should be taken to mind that increasing the share of renewable resources alone will not secure energy supply in the Baltics. Even Latvia with its 42% rate of renewable resources in the electricity sector produces only 70% of its total consumption. The Baltics will continue to also utilize fossil fuel sources coming from outside of their borders.

The full solution to energy security in the Baltics is by not only increasing the use of renewables and possibly building a new nuclear power plant, but by also becoming fully integrated into the EU electricity and gas grids. Grid interconnections are a prerequisite for a functioning internal energy market, which is the best guarantee of energy security not only for the Baltics, but for all of Europe.

Krišjānis Kariņš

MEP

Latvia



Save the Baltic Sea and boost the economy

By Anne-Mari Virolainen

We need concrete actions and sufficient financing to support the strategies aimed at developing the Baltic Sea region

The Baltic Sea region is a multi-faceted reality. Area consisting of nine coastal states and tens of millions of people combines interests ranging from environment and security to transport and economics. This complex reality involves vast challenges but gives huge opportunities. This fact should not to be neglected and on the contrary, adamant attention has to be given to our future as a "commonwealth of the Baltic Sea States".

Finnish government put out its Baltic Sea strategy in fall 2009. Almost in unison with Finland the European Commission revealed the EU Baltic Sea Strategy. These two long-term strategies support each other, no matter the differences in scope and in focus. Finnish government's strategy addresses mainly the environmental issues concerning the Baltic Sea. The question of how to salvage the sea and its fragile ecosystem is at the heart of the report. Focus is well-founded and these issues, no doubt, are the most urgent and need imminent action. The EU Baltic Sea strategy on the other hand is broader and has a more comprehensive way of examining the future of the Baltic Sea region. It embraces all the questions related to the well-being of Baltic Sea societies and issues range from environment to economics. I'd call it a strategical overview of Baltic Sea Region for it leaves almost nothing out. I'd also call it Baltic Sea's lifebelt because when successful, it really has the ability to save the Baltic Sea and economies surrounding and depending on it.

The strategy put forth by the European Commission has the power to put the Baltic Sea where it belongs to, among the top priorities of EU action. With good coordination and sufficient finance (20 million in 2010) we're able to bring every one - EU states, Russia as well as Belorussia - to the same table and make things happen. The potential results for Baltic economies and environment are beyond imagination.

Foundation of our well-being – environment

The first thing the visionary has to focus on is the environment. Nothing sustainable is created without the consistent care of the nature surrounding us. It is the very foundation of life and has to be nurtured. Before-mentioned strategies give us tools to act accordingly. We're able to steer the actions so that they fit best the demands of the environment and at the same time secure the cost-effectiveness. The nutrient load emanating from agriculture, waste water management, sea traffic as well as recreational yachting can be managed. Water pollution control and agriculture should not be pitted against each other, for we need both. Rather we should encourage farmers towards environmentally sound practices via suitable subsidies. In the future this trend has to be fortified and environmental subsidies for agriculture have to be aimed at areas causing the most of the discharge. This idea brought up in the Finnish government's Baltic Sea strategy is to be enforced from 2012 onwards.

For us the fear of an oil tanker being shipwrecked near our coast is ever present. This is something our fragile sea wouldn't be able to manage. As a result of the constant growth in marine transport in the Baltic Sea, the risk of a severe catastrophe is all-time high. The amount of oil and chemicals gliding through our sea everyday is titanic. This has to be taken more seriously because today we remain unprepared. Preventive measures need amplification.

We also need new thinking and new, reformist ways of operating. We need "a renaissance of ideas". Ideas such as emissions trading scheme for nutrient discharges or pilots for conserving endangered areas via rental arrangements are well worth considering. Appointing the Baltic Sea a status of a "special sphere" of nitric emissions, one could create stimulus for green innovations and technology, such as low-emission vessels or new waste water solutions. New ideas are not only welcome, they are necessary. We need both carrot and cane to succeed. The harsh fact that our sea is used as a dumping site has to be altered. The can be no more oil spills, no more lavatory waste discharges, no more deliberate actions going unpunished.

What is the prerequisite for prosperity? Cooperation, economics and transport

Cooperation is the magic word for Baltic Sea region's prosperity. There can be no success without reciprocal relations in all facets of society. This is especially true in the field of economics and transport. The Baltic Sea region and the interests within it intertwine in such a manner that the "soil for fruitful cooperation is fertile". More conscious advantage should be taken out of it.

The Baltic Sea region is the home market for Finnish companies, whether small, medium-sized or big. Investments and business opportunities within this market have created a positive momentum, sort of a "regional vigour" which has brought us all prosperity. We have to safeguard and boost this tendency. With most of the Baltic Sea States as members of the EU, the prospects for an ever-deepening companionship are better than ever. Internal markets, common currency and the free circulation of goods, people, services and money are all invincible foundations and facilitators for continuous partnership. These foundations should be fortified all around. This would help risk-estimation and result in a more long-term commitment.

For obvious reasons the trade in export and import should be encouraged. Common platforms for furthering these foreign and domestic investments within the Baltic Sea region should be created. By this, I don't mean a "Baltic Fortress" to be built. Rather the aim is to make the region realise more concretely the prospects of enhanced cooperation. Imagine the idea of a Baltic Sea energy grid that would be nimble and able to provide reasonably priced energy for the needs of people and business. Common rules would create common benefits.

Baltic Sea region needs new ideas. By distributing the know-how of our industries, regions and scientists, we're able to solve common problems and create common solutions. Investments in the field of research and development will bring forth new innovations and modern, environmentally sound technology. This in turn will create prosperity and new fields of economic growth. There are no real barriers preventing us from making this happen. Deepening regional cooperation will bring us balts new global leadership in innovative action. All we need is an open and cooperative mind.

Anne-Mari Virolainen

Member of Parliament

Finland

Promising challenges for Finnish economy - Russian market and Northern Dimension

By Ilkka Pöyhönen and Minna Martikainen

Economic crisis and process of globalization

Businesses in Finland and in EU have developed to global since 1980'. During that process meaning of close neighbouring relationships have become less important, especially when looking at business relationships. Before the globalization process, for instance, the co-operation among Northern countries was essential for businesses. However, since beginning of 1990's market structures in all main economies globally started to experience a drastic change towards international and global markets. Together with that process also financial markets changed globally.

When turning in to 2000's the word "global" started to reach new dimensions. From Finnish economy's view point year 2001 showed what the word "global" might mean. Finnish stock market crashed in year 2001 and value of listed companies vanished to one thirds of the values from 1999. Thru out 2000's slow recovery was observed, until year 2007. That specific year will remain in history as a year when the first real global economical crisis started. This crisis has really showed the true meaning of the word "global". It is known now that word "global" means higher risks than anyone ever could think of. It meant frauds in financial markets; in market sector that was thought to be most reliable and regulated. Word "global" also means huge amounts of high speed information flows. It also has meant more dead ends to businesses faster than anyone could imagine before.

Building up economic growth for future: role of Russian markets

What will be future like then? Key words for future development in economies will be reconstruction and safety. Reconstruction will be partially needed for all economies and businesses. Moreover, safe elements are needed to be able to do that. Finnish economy will need new ideas to support its future growth. It is evident that also Finnish businesses need to re-think their direction. Russian market has been a challenge and a promise to Finnish businesses thru out the decades. The fact that Russian market is geographically one of the largest market areas globally makes the challenge very promising. Main conclusion that always is mentioned at the end is that however undeveloped Russia market still might be, it's strength always is its' rich natural resources.

However, it is easy to get the impression that Finnish firms do not value Russian market as it could be valued. Mainly the reasons for under estimation are related to higher risks. However, Finnish should be able to control these business related risks more naturally than other nations or countries. This argument can be based on our joint history, even though the shared history has it challenges too. Our joint history guarantees that we have experiences thru out the decades, how people in our neighbouring country are behaving and how their lives have been thru out the years. Moreover, very importantly, the short distance and easy connection to travel to Russia, is definitely relevant issue related to the business environment with Russian firms. These two issues; an ability to reduce risk and cost are factors directly affecting to the productivity of business relations.

Role of Northern Dimension (ND) in Europe

One of Finland's goals in implementation of EU policies is to draw the Unions' attention to the special features of its Northern regions, and especially to the challenges and possibilities presented by having Russia as a neighbour. Specifically Northern Dimension (ND) policy is developed to promote cooperation on issues related to the whole Arctic region. Therefore final goal for ND policy is to promote stability, well-being and sustainable development in Northern Dimension. By supporting these strategic aims of ND also the development of whole EU area is supported.

Northern Dimension policy includes several cooperation areas. One of the most important themes is to reduce risks threatening well-being related to environment, health and social issues. ND policy also importantly is promoting economic welfare for instance by improving transport and logistics network. Moreover, cultural dimension is promoted by deepening cooperation among universities, higher education institutions and business sector. Also to support the joint interest of business sector Northern Dimension Business Council has been established to strengthen the networking of companies in the region. From European Union point of view Northern Dimension is been seen as mutually complementary and related to EU Baltic Sea Strategy. Both of these actions are supporting the development in important strategic areas of EU and are promoting mutually important issues for Europe. Northern Dimension policy is also warmly inviting countries outside Europe to join to the implementation of ND policy. Especially the countries like Iceland, Norway, Russia and Belarus, which are affecting to the Baltic Sea area, have a good opportunity to work in this policy and to affect for the future of the area.

Lappeenranta University of Technology specializing in NDI and Russian market

Lappeenranta University of Technology (LUT) is strongly supporting both strategic issues: to build the bridge to Russian markets and also to implement the Northern Dimension policy. Russian market has been one of the main strategic issues in LUT already for some years. LUT aims to be one of the main players in EU when it comes to developing and increasing the knowledge about Russian markets. The main tools for operating for this goal in LUT are education and research. LUT has several master programs where Russian specialists are been educated for different areas. The target of these programs is to educate Finnish or Russians, or even international persons to firms operating in Russian markets. One of LUT specialities is MITIM (Master in International Technology and Innovation Management) double degree program in the area of Business Administration. The master level program is educating business specialists fully educating them in two university structures at the same time. This special structure creates students to be very cross-cultural and strong persons to their future careers.

Lappeenranta University of Technology (LUT) is also supporting the implementation the Northern Dimension policy. Northern Dimension Institute (NDI) has been founded with the support of Northern Dimension Senior Officials' Meeting in autumn 2009. The purpose of NDI is to promote the implementation of ND policy by building up bridges among universities and governmental officials in ND area, including several other areas in EU. Moreover, one of the main goals of NDI is to create constant discussions and exchange of ideas and needs for ND and Northern Dimension Business Council. This way it is estimated that true goals of ND policy can be reached: to promote stability, well-being and sustainable development in Northern Dimension. Lappeenranta University of Technology will be coordinating NDI institute next three years. During that time LUT will make concrete steps to make ND policy to come effective. By supporting the implementation two important strategic issues; building up the bridge to Russian markets and also the implementation of the Northern Dimension policy Lappeenranta University of Technology (LUT) is forming sustainable and safe elements for the future of Finnish economy and EU.

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Baltic Sea as *Res Publica* - limits and prospects

By Oleg V. Kharkhordin

Baltic Sea is more than just a sea; it is a unique example of cooperation between nine coastal states. Among them, only Russia is not a member of the European Union. On the one hand, it poses difficulty for the single centralized EU policy-making towards the Baltic Sea as it would be in case of an EU «internal sea». On the other hand, it is not just a challenge, but also an opportunity for the European countries to have an additional space for cooperation in the Baltic region. Not only and not mainly Brussels officials, but those directly situated on the Baltic Sea -- like cities, local communities and coastal states -- finally define an agenda and development strategy for the region. In such a way, the Baltic Sea may become a «common thing» - *Res Publica* - for the coastal countries and people.

Thus, mechanisms of international cooperation, created in the region before almost all the Baltic countries joined the European Union, can be kept to get new impulses for further development. The best examples of such mechanisms are HELCOM and Council of the Baltic Sea States as well as many smaller network structures of different governmental and non-governmental actors. As a result of an intensive cooperation, a perception of the Baltic Sea is constructed not only as a resource, but also as an object for care, around which some common activities for better environmental, economic, social and cultural situation are staged.

One can say, of course, that in spite of a variety of existing networks around the Baltic Sea, it has not become *Res Publica* in the full meaning of the term. The main barriers are connected here with the predominantly intergovernmental character of cooperation. The main political decisions are still taken by the high-level officials. The disadvantage of this approach is most obvious in the case of Russia. Although the current President and Prime-Minister grew up on the Baltic coast, now they should pay attention both to Baikal Lake and Laptev Sea, to Sea of Japan and Black Sea. Therefore, the Baltic Sea is far from being the first of national priorities of Russia. Politicians and officials in Moscow sign very good international agreements and conventions, but when it comes to the allocation of the federal budget, they are not ready to fund the relatively wealthy Baltic region.

As research conducted by the Center for European Studies of the European University at St. Petersburg in the framework of international PROBALT project has demonstrated, implementation of the international obligations of Russia and its cooperation in the Baltic Sea in particular face serious limits. In most cases, local and regional authorities stay away from solving environmental problems. In the logic of «vertical of power» they wait for Moscow's moves to implement "their" international obligations and do not recognize these problems as local. This is especially clear in the Kaliningrad oblast, which depends strongly on the federal center both politically and financially. A little bit less acutely this problem is felt in a more affluent region of St. Petersburg, but still, this presents a sizable problem there also.

At the same time, in the subjects of Russian Federation some other actors, wishing to solve the Baltic Sea problems, are available. First of all, these are the scientific community and non-governmental organizations. Their potential is still underestimated not only by the Russian authorities, which maintain a traditional distance from society and the academia, but also by European partners. It is understandable, why the EU representatives prefer to cooperate with the agents having political authority. In contemporary Russia their word is really extremely important, and probably more important than the obligations of business, scientists or NGOs.

But this is not the only reason for the frequent neglect of Russian researchers on the part of the bodies of international cooperation. European partners still display some kind of distrust towards knowledge production of Russian scholars; frequently, they even promote their own academics. This strengthens the existing barriers between the authorities and scientific community even more. Russian officials prefer to speak about the «Western standards», which the country allegedly lacks, and do not see the home-grown research products. As a result, ignored scientific potential is lost for everybody.

An active involvement of the potential members of the Baltic knowledge community into the international cooperation is very important for the perception of the Baltic Sea as *Res Rublica*. And neither Moscow nor Brussels should see the Baltic region-building as a threat for their integration processes on the national and supranational levels correspondingly. The more regional integration projects the states and their parts have, the more flexible they become and the easier they can be then involved in the political and non-political communities of all levels including sub-national, national, regional and supranational ones. This thesis was argumentatively demonstrated in the book «North-West Russia: A Region or Several Regions?» recently published by the Center for European Studies of the European University at St. Petersburg.

In the 1990s, both politicians and academics enthusiastically talked about the new type of «region-building» across the national borders, with some common goal, problems and «common concerns» that tie many actors together. But plans for radiant future was also predicted for the Baltic region even before -- already in 1974 -- when the first version of the Helsinki Convention was signed. Thus, after all these projected plans, less and less optimism and hopes are expressed by the adherents of the single Baltic region-building in the 2000s. Still, this might be wrong. The idea of the Baltic as *Res Publica* does not necessarily contradict with other ideas: it just points towards the need for some additional civic activities, which would contribute to a better, more effective and more responsible problem-solving on the part of all actors involved.

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Education must be marketed

By Maija Palonheimo

Over the past few years, Finns have learned to associate the word 'Pisa' with something other than the leaning tower. Pisa surveys indicate that Finnish comprehensive schools work well and produce good results. Numerous delegations from different countries have visited Finland to learn about our schooling system. This miraculous situation can, naturally, be attributed to the decision-makers in charge of our national education policies – but also to the tens of thousands of teachers who carry out the actual educating work in our schools. And these teachers, who produce excellent results, have received their education in Finnish universities.

Education is a brand

International recognition has surely not been the primary goal of our education policy-making; the main aim has simply been to create a well-functioning education system. However, the successful schooling system, good teacher education and further training have resulted in a renowned product that could even be called a brand. So now that we have the product, how do we make it an exportable asset?

Education export strategy needed

Last year, the Finnish Minister of Education Henna Virkkunen set up a workgroup to prepare an education export strategy. The Government will address the strategy in February and March 2010. According to initial information, the goal is to significantly increase the proportion of education export in Finland's total exports by 2015. At the moment, exported education services amount to approximately four million euros, which only represents one-quarter of a per mille of the total service exports.

The education export strategy workgroup has addressed the following issues, among others:

- Providing students with education abroad
- Providing foreign students with education in Finland
- Teacher education and further training
- Export of teaching technology and material
- Consulting with regard to the creation of an education system.

Good product packages needed

Science has always been global. Over centuries, researchers and research groups have travelled around the world. However, the international mobility of university education itself lacks long traditions. The existence of a product or expertise does not constitute an export product as such; sales and marketing skills are also needed in the process.

The field of education needs exports as well as imports. Attracting degree students is not enough, because most of the students who complete a degree free of charge in Finland do not stay in the country. Education exports could also bring financial gain.

Over the past few years, universities around the world have started to market their education offerings, some even quite aggressively. Many universities have independently or jointly conducted market research in such countries as China and India and then implemented extensive, expensive marketing campaigns on the basis of the research results. The marketing has mainly focused on recruiting degree students. However, as the seller of a product or expertise, an individual university is a far too small and lightweight operator; marketing requires co-operation on the regional and also nationwide scale.

Marketing resources needed

Every university has a communications department. The main focus area, and also the strongest area of expertise, in university communications has always been information distribution. This may be one of the reasons why universities have traditionally allocated very low resources to communications. Recently, Finnish universities – as well as many universities in the Baltic region – have started to employ professional marketing experts, marketing managers and planners. Many universities have included communications managers in their management groups. This is a good foundation for the marketing of education exports.

The first major challenge is to generate a positive attitude towards education marketing within universities. Some people may still see science and education as sacred topics not suitable for the world of marketing. Resource allocation is another challenge for marketing. One marketing planner cannot make miracles happen alone. The various channels of social media could also be of great assistance, at least on a short-term basis, in the international marketing of education.

As an example of education exports, the University of Turku and the Saudi-Arabian campus of Arab Open University (AOU) have signed a letter of intent with regard to the development of teacher education in Saudi Arabia in January 2010. The King Abdullah School Educational Reform Initiative aims at reforming teacher education in Saudi Arabia. The project entails providing 500,000 Saudi-Arabian teachers with further training over the next five years. The proven good practices deployed in Finland are to be utilised in the project in co-operation with the University of Turku.

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Baltic interconnections and beyond - how the European Commissions works towards energy security in Europe

By Gerhard Sabathil

In the east of the Baltic Sea, Finland, Estonia, Latvia and Lithuania are four member states which remain isolated from the integrated European Union gas transmission system. Traditionally, these member states have depended heavily on Russia as single supplier for gas and, in some cases, electricity. Helping diversify the energy access of hitherto isolated markets is one of the priorities of the work of the European Commission in the field of energy, and part of the overall strategy to ensure energy security for Europe in the future.

The Baltic gas market

Overall gas supply to the EU is changing rapidly, and the isolated markets in the Eastern Baltic region, with their accumulated demand of roughly 10 billion cubic metres (bcm) per year, need to be regarded within the overall adaptations of gas supply to Europe. Russia remains one of the major suppliers of natural gas for Europe. Considerable gas reserves are available in Norway which is in close proximity to the markets in question, and further supplies can be activated through liquefied natural gas (LNG) terminals, as well as further interconnections towards the South and the East, once all gas markets within the EU are fully interconnected. The long-used gas fields in EU member states (United Kingdom, The Netherlands, Denmark and Germany) are slowly depleting, and may contribute to the region for a period of time to be calculated rather in years than decades. Due to different geological conditions in the member states, not all are suited for establishing underground gas storage. This is another sign that only a regional approach can provide an economically suitable security of supply. Conditions for underground supplies are good in Latvia, Germany, Poland, and Denmark and possibly in Lithuania. The most important gas storage in the region is Inčukalns in Latvia.

The scars of a divided Europe are still visible in the area. Over the decades, two almost separate systems of pipelines were constructed. While member states which were formerly part of the Warsaw Pact are supplied by Russia, others were supplied mainly by The Netherlands and Germany. Some links exist between both pipeline systems, especially the Yamal-Europe pipeline – but this works only in one direction, from East to West. Without usability in the opposite direction (the "reverse flow" possibility) the pipeline contributes only little to the overall security of supply. While Russia is capable to meet the current demand in the East Baltic Sea region, such supply depends heavily on the availability of the Inčukalns gas storage and is sensitive to possible disruptions.

The role of the European Commission

In November 2008, with the Second Strategic Energy Review[1], the European Commission outlined its Energy strategy for the years to come. One of the six priorities of the action plan is the establishment of an integrated Baltic energy market. The idea is simple: a regional energy market can only become reality if the isolation of energy markets is overcome by new key infrastructures that make possible the cross-border trade in electricity and gas between EU member states in the region. To this end, the President of the European Commission, Barroso, launched the idea of a "Baltic Energy Market Interconnection Plan (BEMIP)" at the 2008 autumn European Council.

The role of the European Commission has been first and foremost that of a facilitator. With its expertise, it helps identifying the necessary interconnections to pave the way for a fully functioning cross-border energy market. The project will be successful when member states, national energy regulators, energy industries, and public and private financial institutions work hand in hand. In order to coordinate the individual activities, the Commission chairs a High Level Group has been set up with the participation of Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Sweden, and Norway as an observer. The Group completed the initial work on an action plan June 2009, which has been transferred in a Memorandum of Understanding among the member states that form the High Level Group.

Internal market rules and interconnections

Today, the BEMIP has left the planning stage. The phase of implementation has begun. Three main areas of work have been identified: to establish the legal and regulatory framework for a real electricity market, to build the necessary electricity interconnections and ensure electricity generation, and to establish a gas market with the appropriate infrastructures. Based on the Nordic electricity market model, the completion of the Plan will allow all EU member states in the region an equitable access to an open energy market.

Regarding electricity market integration, always in conformity with the EU internal electricity market rules, key measures are:

- the removal of regulated energy tariffs in order to allow the formation of market prices
- clear operating frameworks for transmission system operators (TSOs), that transmit electrical power from generation plants to regional or local electircity distribution operators (DSOs), to allow for transparent access to infrastructures.
- removal of cross-border restrictions
- establishment of market based congestion management as well as common reserves and balancing power market
- full opening of the retail market to end-consumers
- establishment of common power exchange for physical trade of energy products in the Nordic and Baltic area.

New electricity infrastructure projects are to be constructed between the Nordic countries, linking Finland and Sweden, Sweden and Norway, Denmark and Norway, and others. Additionally, there will be projects linking the Baltic area with the Nordic countries, as well as Poland, as well as interconnections between Poland and Germany.

On gas, infrastructure may include new interconnections, the better use of existing infrastructures (e. g. establishing or enhancing the possibilities to use supply lines that have primarily been used in one direction, also in the other direction (reverse flow), facilities for LNG, as well as the development of additional gas storages).

[1] Second Strategic Energy Review : an EU energy security and solidarity action plan of 13 November 2008 (http://ec.europa.eu/energy/strategies/2008/2008_11_ser2_en.htm)

The Baltic initiative as part of the overall EU energy policy

The BEMIP is an important element of the overall policies of the EU, combining a regional approach (with the "EU Strategy for the Baltic Sea Region"), with policies in the field of energy and the environment (with the 20-20 by 2020 climate goals and the energy security strategy). The European Commission can use various financial tools to support the BEMIP projects, including the European Economic Recovery Programme (EERP), the cohesion fund, the programme on Trans-European Networks for Energy (TEN-E), etc.

With the Lisbon Treaty in force, the EU will have an even greater role to play in ensuring energy supply to all member states. The challenge is twofold: to create the internal market set-up and to ensure the energy supply from third countries. The current Treaty on the Functioning of the European Union (TFEU)[2] makes the Union an energy actor of its own right, attributing to the Union a shared competence together with the member states (Art. 4 TFEU). Title XXI of the TFEU deals exclusively with the Union's role in the field of energy and outlines the goals of a truly European energy policy: ensure the functioning of the energy market, ensure security of energy supply, promote energy efficiency and energy saving, and the development of new and renewable forms of energy, and promote the interconnection of energy networks. These significant changes will provide the Commission with the necessary tools to actively ensure energy security in the Baltic region and beyond.

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[2] consolidated version in OJ C 115/47 of 9 May 2008 (to be found on http://eur-lex.europa.eu/en/treaties/index.htm)

Happy end of pipeline conflicts?

By Leonid Grigoriev

Experts on gas industry in Europe may not believe their eyes. Orthodox Christmas of 2010 is behind us and no gas war at all! After five years of gas conflicts in Eastern Europe and struggles for and against new pipelines now it's quiet. May be skeptics were right and gas did not matter but politics? Some sober minds often hinted at it, but the heat of debates was too high to take it easily.

What was so important about gas? What were these conflicts about? Since the demand for gas is down at the time of the severe industrial recession in EU also there is much less pressure on Russians to invest and close the possible supply gap. Now it is not a suppliers', but the consumers' market. But pipeline gas pricing is based on oil prices – so, downturn in prices and incomes is limited. Gazprom and other suppliers now are concerned with economics of the projects. EU forecasters keep reducing the projections for gas demand. And Russian experts are quite concern again: few years ago on the supply – now on the demand. Still there is a danger that rosy scenario of 20-20-20 may be not actually realized on time. May be the EU is gambling on renewable and CCS by 2020. In this case the common wisdom recommends more Russian gas available in a decade.

Any way the race of pipelines and upstream projects is visibly easing, diversity of energy (gas) supplies is increasing in EU. The serious pressure applied by Brussels on Ukrainian politicians to exclude any steps on their side dangerous to gas supply (as in 2009). Russian Prime-minister made Gazprom to go on serious concessions in "take or pay" contract system (for Ukraine only) this winter to prevent any "Russian gas issue" in recent presidential elections in Ukraine. It appears all three sides tried in earnest to avoid `complications of the previous year and succeeded. Political collapse of Victor Uschenko has cleared the way for more cooperation on the repair of pipelines by involved parties. And Ukrainian economy will not be consuming so much gas as before the crisis.

Starting project by project approach from North to South we look at Shtockman first. Now it will be delayed by few years due to a limited demand in EU, and the shale gas & LNG suppliers in the USA. Russian huge gas field was in the focus for years but now it is a very big project, but not a controversy of the ownership and management. Of cause it will contribute to the EU supply in 2020. But the Final Investment Decision for Shtockman is delayed by another year – gas suppliers are not going to create the excessive in the near term after crisis. As the Oriental proverb says: Cautious is Sister of Wisdom.

The next goes the North Stream – its "ecology" was quietly approved by Swedish and Finnish governments. So much political ink was spent around that project. To say the truth Brussels always stood by the North Stream. Probably this lesson must be highlighted separately from all – politics should be separated the commerce. Russian experts mostly believed in this outcome and happily report it to the public. Now it will go on the commercial basis, and also will be delayed by the recession.

Belorussian story of pipelines and conflicts has nothing to do with the European energy security. It's an issue of "sort of subsidy" between two countries. Again we see the serious improvement this year – actually no damage to supplies by a financial (energy related) conflict. Moscow Ministry of Finance has managed to get back some of export duty concessions from colleagues in Minsk. And again – no major headlines in Media.

South Stream is knocking again on the doors of Bulgaria with an expected success eventually. Romania tried to divert it to itself but failed and established (as compensation?) some elements of American Anti-Missile Defense. On this background Russian-Turkish energy cooperation has been strengthened. Second Blue Stream may be coming, Turkish waters may be used for South Stream and Nuclear Station may be built as a package.

What is the overall outcome the long snowy winter of 2010? EU has time for renewables, and Russia has time for more development in upstream and infrastructure. Transit countries are becoming friendlier to avoid future losses. Turkmenistan starts gas delivery to China and restarts them to Russia. One loser is obvious: Nabucco is again without money and gas (but with a lot of "goodwill"). Personally I believe it will be completed some day for Iranian gas.

My prediction in the fall of 2009 was pretty simple: given there is no new Ukrainian gas conflict in 2010 – we may see "Gas Returning scenario" to Europe. Gas has still the best economics among fuels and decade or two in vision. Nuclear power is politically difficult, coal is waiting for CCS, renewable look like slow. After losing the role of "a politically suspicious fuel" in EU natural gas may become again an energy favorite in years ahead of us. Winter 2010 has proved how quickly the political mines can be discharging by commerce and common sense.

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The future role of LNG in EU's gas supply – issues for consideration

By Boyan Kavalov and Hrvoje Petric

The sharp increase in energy prices in 2007-2008 and the temporary cutbacks in pipeline gas imports from Russia over the past few years have heightened EU concerns about the security, diversity, reliability and affordability of natural gas supply. The delivery of liquefied natural gas (LNG) by sea from various suppliers, as an alternative to mainstream shipments through pipelines, is seen as a way to relieve these concerns. Thus, world LNG trade has soared over the past three decades and is set to continue its rapid growth in the future. An accelerated penetration of LNG in the EU gas market by 2020-2030 may, however, present some important issues that deserve careful consideration.

LNG already contributes to the security and diversity of natural gas supply of the EU, even though its share of overall gas imports is moderate (≈15%). The gains in terms of diversity of supply may be reduced and even become doubtful if LNG takes up a much larger proportion of EU's gas imports. LNG supply is heavily concentrated in the hands of a small number of countries. The LNG market will most likely remain a seller driven market for the foreseeable future, because the development of world liquefaction capacity (the supply side) is lagging behind the development of re-gasification capacity (the demand side). The recently formed Gas Exporting Countries Forum (GECF), which is sometimes described as a "gas-OPEC", does not have the power to control pipeline gas deliveries in the world, but its members hold the lion's share of world LNG supply (≈85%). The dominance of GECF over world LNG supply is not expected to ease in the foreseeable future and it is most likely to remain at 75-80% in the next 10 years, underpinned by GECF's ≈70% share of world gas reserves. Based on these arguments and given the specifics of gas trading and logistics, the creation of a cartel of LNG exporting countries should not be ruled out, even though the emergence of a global gas cartel seems unlikely. In this context, it is worth noting that OPEC's share of global oil supply is approximately half the size of GECF's share of world LNG supply; notwithstanding that more than half of OPEC members are also members of GECF. Unlike OPEC, the eventual LNG cartel will most probably not go for "hard" measures, such as quota fixing, but rather for "softer" approaches, such as co-ordinated (but not regulated) production, price regulation (setting some form of "floor price/s"), optimisation of shipments by regions ("tying/linking" certain users to certain suppliers), offering more favourable contractual terms and conditions (for exporters), increasing the share of flexible "spot" cargoes, etc. The future development of GECF is important for the EU, because Europe currently sources almost all of its LNG from GECF members. The involvement of Russia in GECF will be critical for the overall success of the cartel.

LNG projects are among the most expensive and technically complicated energy projects. Coupled with the likely predominance of supply over demand in the foreseeable future, if the EU chooses to go for a large contribution of LNG to meet its overall gas demand, EU customers will most likely face higher prices for gas. Price affordability may become a key issue when taking the political and investment decisions on LNG.

The LNG supply chain tends to be more energy intensive than the supply chain for pipeline gas, because of the extra processing steps. The difference is narrower when LNG is compared to remote pipeline deliveries, but closing the gap does not seem feasible in practice. Similarly, the LNG supply chain has a poorer balance of greenhouse gas (GHG) emissions than the pipeline gas supply chain. Typically the GHG performance gap is smaller than the energy efficiency gap, because of the unavoidable methane leaks from pipelines. LNG may be a less GHG-intensive option than pipeline supplies under certain conditions, e.g. when the alternative is very remote pipeline deliveries of gas or when LNG is brought to the end-users in liquid form and then re-gasified on-site. However, if LNG is going to be fired in advanced power generation plants equipped with carbon capture and storage facilities, its overall GHG balance might become comparable to that of coal and oil derivatives.

Owing to the liquefaction process, which involves some mandatory cleaning of the raw natural gas, LNG has higher purity, higher methane and overall energy content, and a more stable composition than pipeline gas. Hence, LNG can be considered as a superior fuel to the "leaner" pipeline gas. However, the superior quality of LNG, obtained at a higher cost in terms of energy use and GHG emissions, is actually a problem in Europe today. This is because the vast majority of end-use facilities are tuned to the "leaner" pipeline gas quality that dominates the overall EU gas mix. In order to meet quality requirements of users, LNG is usually blended ("contaminated" with pipeline gas or nitrogen) at the expense of further energy and GHG losses. With LNG's share of the EU's overall gas consumption widely expected to expand, some changes to the gas quality specifications in Europe may be necessary. There might therefore be a case for optimising LNG use by taking advantage of its superior quality over pipeline gas, i.e. evolving from a purely *logistics* concept to a *product* concept. The transport sector could be a potential niche market for LNG, where LNG could be used as a high-quality automotive fuel.

Shipping is the most volatile cost parameter in the whole LNG chain. It may define the relative competitiveness of LNG supply options against each other and with respect to other gas and non-gas energy alternatives. The development of the LNG fleet has closely followed that of LNG trade and this trend is likely to continue in the future. Unlike LNG production, the ownership structure of the LNG fleet is rather dispersed, at least at the present time. Although significant growth in LNG trade by sea is expected by 2020-2030, its impact on the overall traffic by sea, including in the main "choke points" of the English Channel, Dardanelles, Bosphorus and Suez Canal, will be negligible. This is because the LNG fleet accounts for only a modest share (currently less than 2%) of the global merchant fleet. While new LNG carriers are unlikely to be built in Europe, the anticipated growth in voyages to Europe may offer more ship repair opportunities to European shipyards, especially in Southern Europe. The main challenges facing LNG shipping appear to be the growing crew shortages (with potential negative implications for the safety records of the vessels operating) and traffic delays and related congestion risks in specific zones where there are more stringent safety and security rules for handling LNG carriers.

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Eurasian oil and gas - are perceptions changing too fast?

By Pekka Sutela

What a difference a year can make! In early 2009, after gas flows from East to West through Ukraine had just been restored, all the talk was about diminishing EU27 dependence on Russian gas. Though commentators necessarily disagreed on the exact division of the responsibility for supply disturbances between Russia and Ukraine, they were unanimous that this supply route had proven unreliable, that the EU27 dependence on Russian gas is excessive, and that speedy measures must be taken to moderate overall gas consumption, to diversify supply sources, and to create at least some of the infrastructure for a more common European gas market. Much has changed since. The issue however is, whether we are risking taking short-term cycles for long-term trends.

This, in particular, concerns the impact of the economic crisis. A few percentage points of global output have been lost, and the demand for resources has been correspondingly lower. The issue is whether post-crisis economic growth has been damaged for the medium-to-long term, or whether the world will return to previous trend growth in a year or so. If the latter were the case, as the most prestigious forecasting institutions, lead by the IMF increasingly believe, energy demand would - other things being equal - return to pre-crisis levels very soon. If, on the other hand, post-crisis growth would be permanently lower, even a single per cent drop in potential growth rate would imply a major shift in the demand-supply equation and therefore in prices and investment. But we really do not know yet, and the precautious decision would be to proceed as if potential growth has not been suppressed. Therefore, the forward-brought peak oil predictions, with obvious consequences for price, technical change and investment, must be taken more seriously than before.

But there is also an issue of peak demand. If growth in the wealthy nations remains low, and as growth in China is bound to moderate in several years, if true climate change goals are adopted and followed through, and if needed technical change is available, energy demand will not necessarily grow infinitely. If the EU27 potential growth rate is - say - less than 2 per cent annually, a historically relatively modest energy efficiency improvement of 2 per cent annually equals lower energy consumption in Europe. The 3 per cent growth rate in the USA would imply some increase in consumption, while a 5 per cent growth in China would indeed lead to much increased energy consumption. Two caveats are in order. China's future growth will be basically fuelled by coal with relatively modest implications for world energy trade. Also, a backward country like China has much wider efficiency potential than the OECD countries already at the technological frontier.

One cannot exclude the possibility of energy production being constrained by demand, not by supply in the decades to come.

At the same time the market is evolving. Additional LNG is now available and that together with demand depressed by the crisis, the diversification plans induced by the gas scare of early 2009 and continued emphasis on moderating climate change brought both oil and gas prices down, but nothing like the levels one could have expected in an environment of lower world economic activity. Instead of the 40 USD barrel prices widely expected, we are facing a price level double that. Whether that is because of exceptionally successful OPEC quota cuts, the strength of energy as an investment instrument or some other factors, the resilience of oil and gas prices has been a major surprise. Therefore, though the oil-linked and lagged Eurasian gas pricing mechanism has been vocally questioned, emphasis on long supply contracts may still stage a comeback. Pipeline gas suppliers have an evident interest in such contracts: very major investment outlays are involved both in opening up new fields and in maintaining old ones. In addition, any elementary textbook in economics tells that price discrimination is in the best interest of the seller, whether she is Russian, Norwegian or Libyan. Therefore, destination clauses have been a self-evident feature of supply contracts. Neither are they necessarily against the interests of the buyer. Especially when combined with supplier's ownership share in pipelines or otherwise downstream, they can be seen as part of a very strong commitment device potentially of high value in case of supply scarcity.

This is not to deny the merits of a more common European hydrocarbons market. While nobody would deny the need for more storage facilities and interconnectors, it is less self-evident how a spot-like market for gas might in practice combine with the continued relevance of long-term supply contracts. The European market continues to be geographically divided into three: Russia-dependent East, North Sea based West, and North Africa -dependent South. LNG has somewhat softened this division, but the time when the Baltic countries might consume Algerian pipeline gas is as distant as ever. Building parallel infrastructures would add into transport costs, as would any politically dictated unbundling of ownership - in fact a bureaucratic micromanagement of corporate governance - over extremely costly structures.

One more change is the recent euphoria over Northern American unconventional gas. At least the Shtokman project is seen by Russian authorities as conditional on US import demand for LNG. If however this demand shrinks to basically nothing, as it may, Shtokman should be postponed perhaps by decades. Concentrating Gazprom's highly stretched resources on Yamal would seem to make prominent sense anyway, and a clear-cut decision on shelving Shtokman would facilitate it. What happens in Northern America thus has a bearing on Europe as well. There seem to be geological reasons why unconventional gas will never have a major role in Europe itself. Further, extracting shale gas goes with huge environmental damage. Surely, environmental issues would in any case be much more pronounced in EU27 than in thinly populated parts of Canada, the USA and potentially Russia.

Finally, the scene has somewhat eased politically. There is less purely politically motivated pressure in favor of Nabucco, where the underlying question - "But where is the gas?" - very much remains unresolved. There is also much less politically motivated opposition to North Stream. Overall, this together with the shifts in demand and supply just outlined seems to open a window -probably for several years - for rational and more relaxed consideration on how to combine the interests involved in Eurasian oil and gas. Basic facts remain: also in future oil and gas will flow from East to West, money, technologies and investment from West to East. This should create a sufficient basis for the necessary double coincidence of needs underlying any business transaction, small or large.

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Russia's future gas export capability

By Rafael Fernández

It isn't easy to determine Russia's future gas export capability, as this depends on the evolution of many different factors, both supply and demand side. However, despite what some commentators have suggested, especially just preceding the world crisis, it is my opinion that Russian supply agreements with European countries are not, and have never been, at risk.

From the standpoint of supply, the growth potential for Russian production in the medium term is certainly limited by the decline of the two West Siberian super fields of Yamburg and Urengoy. The depletion rate of these fields is difficult to predict, but, according to official sources, the entire production of Nadym-Purtaz, which accounts for 90% of all Russian output, is not expected to rise above 470 bcm in 2020, considerably below the 592 bcm produced in 2008. Given this sharp decrease, Russia will soon be forced to put into operation the huge reserves located in the Northwest (Yamal, the bays of Ob and Taz, Bolsekhetskaya, Shtokman) and East of the country (Eastern Siberia, Far East, and Sakhalin).

There is no doubt that, in the long term, these new regions have an enormous productive potential, but for the near future the question will be whether the investments required to commercialize these resources will arrive in time to offset the decline in production recorded by the large fields that were open during the Soviet era. In this respect, the most pessimistic analyses indicate that Gazrprom's passive investing policy until the early years of the new century, coupled with its recent policy heavily focused on expanding gas business abroad, make it impossible for new regions to grow so quickly as to avoid an overall drop in production.

However, there are reasons to be somewhat more optimistic, because Gazprom managers are well aware that becoming a global energy company also requires strengthening the core business, which is upstream, inside Russia. Thus, since 2005, the state company, in absolute harmony with government strategic policy, has been leading the development of major projects for drilling, production, and transport of gas from the East and Northwest regions, almost always sharing risks with large foreign companies.

Moreover, it is useful to recall that domestic production does not depend exclusively on Gazprom's production. Today, independent firms, including both gas (Novatek) and oil companies (Lukoil and Rosneft, in particular), share 17% of Russian output; in the future, these companies will surely register the highest production increases. The difficult thing is to guess how large these increases will be.

If over the next twelve years these companies were able to double their production --not an impossible goal-- Russian production could reach 800 bcm, even while Gazprom's production remains close to pre-crisis levels (550 bcm). Of course, 800 bcm could also be achieved if the independents fail to raise output to over 200 bcm by 2020 (production in 2008 was at 112 bcm); in this case, it would be necessary for Gazprom's production to reach 600 bcm, requiring a growth rate of just 0.7% per annum.

Authorities are confident about surpassing 800 bcm in 2020. Indeed, in the Russian energy strategy to 2030, recently approved by Parliament, production was placed in the range of 803-837 bcm, with three quarters coming from Gazprom and one quarter from the independents. Such growth would assume that in 12 to 15 years, 'new' regions will raise production from just 20 bcm in 2008 to around 300 bcm, providing more than one-third of Russian output in 2020 and more than half in 2030. These estimates are probably exaggerated, but beyond the numbers the government's new plan shows that in recent years companies and authorities have finally decided on a roadmap to address the challenges facing the gas sector.

Finally, it should be noted that Russian supply is not equivalent to domestic production, since the country has the opportunity to import gas from Central Asia. Although Turkmen gas to Russia was interrupted in 2009, and Gazprom wants to slash gas purchases to a maximum of 10.5 bcm per year from 2010-12, down from around 42 bcm/yr in 2007 and 2008, both countries are able to trade around 70-80 bcm annually, which, together with Kazakh exports, gives Russia an additional margin of nearly 100 bcm to meet both domestic and foreign demand, despite competition from China.

Therefore if total supply in 2020 (including imports from Central Asia) was in a range of 850-900 bcm, exports could reach 330-380 bcm, always provided that domestic consumption is kept within reasonable margins of growth. These rates might be around 1%, if we take into account that a) Russian economic growth will hardly meet the expectations made before the crisis, b) gas domestic prices are rising, and c) there is still ample room for energy saving through the gradual renovation of power plants, industrial capital, and housing stock. However, authorities foresee that consumption will rise faster, from 457 bcm to 539-564 bcm, translating to an annual growth rate that ranges between 1.3% and 1.7%. According to this growth, exports level in 2020 would be around 290-350 bcm. The Russian energy strategy hopes to reach 330 bcm.

Currently, almost 100% of Russian exports go to Europe, but Russian strategy envisions a substantial increase in sales to Asia; the government aims to raise Asian market share to 15% in 2020. This goal will not be easy to achieve, because investments are very much concentrated in Northwestern fields, but if gas from West Siberia is pumped to Asia through the Altai pipeline, the scope for export growth to Europe will be reduced: Russia's exports of gas to Europe could probably not be above 300 bcm from 207 bcm in 2008.

However, the European region includes the EU, Turkey, and CIS importing countries. As CIS demand will tend to shrink, as Russian export prices tend to rise, it is reasonable to expect that exports to the EU (plus Turkey) could reach 250 bcm in 2020 from 155 bcm in 2008. This increase is more than sufficient not only to ensure compliance with gas trade contracts, but to remain Russian share in EU gas imports close to present levels.

Finally, this overall balance is currently presenting even more flexible margins, because European consumption suffered a sharp drop in 2009, resulting in lower Russian exports, which were down 24% from 2008 (with 31% to Germany, 19% to Italy, 10% to France, and 17% to Turkey). As a result, Europeans are now ironically finding it difficult to satisfy trade contracts, since they are required to pay according to contracted use, regardless of actual use. This decline, however temporary, can be of great importance in the long-term, because it allows Russia to "keep" gas (Gazprom production fell to 462 bcm in 2009 from 550 in 2008, and overall production dropped to 583 from 664 bcm) and buy time to develop its investment projects, some of which (Shtockman, for example) are experiencing significant delays. In this way, Russia and the EU may leave behind the tensions that have surrounded gas trade in recent years.

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Gazprom's uncertain future within the gas market's 'quiet revolution'

By Roderick Kefferpütz

Last year has certainly been a roller-coaster ride for the natural gas market. Starting with Europe's longest interruption of gas supplies during the Russian-Ukrainian stand-off in January, the year ended with an unexpected oversupply of gas that threatened to lead to commercial disputes between Gazprom and its Western counterparts as the latter was loath to buy the required amount of gas stipulated under the take-or-pay contracts. Both events have cost Gazprom dearly. Sales fell 11.4 per cent last year to 140 billion cubic meters (bcm) with export revenues expected to have plummeted to $40-42 billion in 2009 compared with $64 billion the previous year.

While the Great Recession certainly shaved off a couple of percentage points from the overall gas demand as industrial output shrunk in order to cope with the new economic realities, thereby affecting Gazprom's exports, this is not the only factor. In fact, two other dynamics have continued to gradually transform the market to the detriment of Russia's gas monopoly.

First and foremost, the gas market is slowly but steadily becoming more and more global as new liquefied natural gas (LNG) supplies are rapidly expanding. Qatar is spearheading those developments having increased its LNG production by 67 per cent last year and hoping to expand exports to over 77 million tons per annum (tpa) while other actors, such as Australia, which is boosting its LNG capacities with the new Gorgon project, are also joining this trend. Abundant spot-market LNG supplies were particularly sought after in Europe as they were cheaper than Russian gas, whose price is indexed to oil. As such, European industries decided it was better business to buy gas independently or through other traders in the third and fourth quarter of 2009 for roughly $116 per thousand cubic meter (mcm) than for over $287/mcm under Gazprom's long-term contracts. The fact that the United States reduced its natural gas imports made even more LNG supplies available to other players such as the European Union.

This reduction in American natural gas imports is due to the second fundamental factor. US wildcat gas companies have advanced in drilling technology that has made the extraction of natural gas from shale formations possible. This has dramatically changed the outlook of gas supply. While just a couple of years back everyone thought the United States was running out of natural gas, now the market in America seems awash with it. This new 'shale gas' is a veritable game-changer. PFC Energy, for example, believes that developing shale gas could more than quadruple the world's known gas supplies. In this context, the major oil and gas companies have sought to acquire this new drilling technology named hydraulic fracturing, or fracking, by buying up some of the US independents or concluding co-operation agreements. ExxonMobil, for example, is acquiring XTO Energy for $41 billion while France's Total and Norway's Statoil have made joint venture agreements with Chesapeake Energy on its Barnett shale assets. And while the US is particularly rich in shale gas, other regions are not badly endowed either with companies investigating shale gas opportunities in China, India, Argentina and Canada. The former in particular would benefit from such gas supplies as it would provide it with greater energy security and a more environmentally-friendly fuel. In this context, Barack Obama together with Hu Jintao has recently launched the US-China Shale Gas Resource Initiative in order to use the experience in the US to assess China's potential supplies.

Europe also holds shale gas reserves, which are currently being explored in Sweden, Austria, Germany and Poland. The reserves of these unconventional gas supplies in Europe are unknown. But the International Energy Agency estimates them to be roughly at 35 trillion cubic meters. While this is significantly less than US or Russian supplies, it is still roughly six times the continent's conventional reserves. Tapping these gas supplies in the European Union could potentially reduce Russian gas imports. Gazprom has tried to downplay this fact stating that its gas is significantly cheaper than unconventional gas supplies but developing shale gas is, according to some sources, even profitable at $3.20 per mBtu (million British thermal units) although others put that figure closer to $8.50. Furthermore, if Russian gas continues to be indexed to the price of oil, unconventional supplies could certainly become competitive depending on dynamics in the oil market. Even if shale gas does not meet expectations in Europe, the expansion of unconventional gas supplies in the US will, as mentioned above, certainly benefit the European Union since reduced LNG imports from the US will re-direct tankers to re-gasification terminals in the EU, which are expanding in numbers, thereby boosting EU supplies and exerting downward pressure on prices.

Shale gas is, in the words of BP's Tony Hayward, truly a 'quiet revolution' that has the potential to significantly change the natural gas market. Even Gazprom has, according to Kommersant, recently acknowledged this stating that 'virtually all companies speak about the prospects of shale gas production – something that may radically change the entire global gas market'.[1] Unsurprisingly, rumours have circulated that the Russian gas giant might at some point decide itself to invest in some of the US wildcat unconventional gas developers in order to acquire their expertise.

Be that as it may, while Gazprom will certainly continue to play an important role in the global energy mix, it will have to adapt to the changing realities in the gas market, which will increase competition and thereby make its market share more vulnerable.

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[1] 'Gazprom to discuss strategy as US market set to slip away', RIA Novosti, 26 January 2009.

The surge in unconventional gas - implications for Russian export strategies

By Indra Øverland

This brief comment outlines the changes underway in the production of unconventional gas in North America and sketches the possible chain of consequences for Russia's role as a gas exporter. *If* the current trend in the production of unconventional gas continues, it may have a considerable impact on Russia's export strategies and economic prospects. In an extreme scenario it might even undermine the viability of the Nord Stream, Shtokman and Yamal projects.

Shale gas

There are several kinds of unconventional gas; here the focus is on shale gas. In recent years, two technologies have transformed natural gas production in North America: horizontal drilling and hydraulic fracturing. Horizontal drilling makes it possible to access larger areas within hydrocarbon fields. Hydraulic fracturing involves injecting mixtures of water and sand at high pressure to crack rock so that it releases gas once considered unreachable. As a result of new ways of combining these two techniques, shale gas fields previously deemed unprofitable to develop have now become highly attractive. In the two decades from 1990 to 2010, the use of shale gas expanded from covering 10% of US supplies, to 40% – and is still increasing rapidly.[1] As a result, gas prices in North America, where the new techniques were pioneered, have fallen sharply.

Four consequences

These developments on the other side of the Atlantic could potentially have several consequences for Russian gas exports. Let us look briefly at four of them.

(1) The first consequence can already be observed. With prices in the North American market falling, it has become less attractive to develop LNG projects which depend wholly or partially on that market. Import terminals for LNG in the USA are running at 10% of capacity.[2] The USA, which was until recently expected to become increasingly dependent on imports, might even become a net exporter of natural gas in the long term. In 2008, net imports accounted for 13% of natural gas consumed in the USA,[3] so it would not take much to close the gap.

(2) Because the North American market is saturated, more LNG from other parts of the world will also find its way to Europe, creating further competition for Russian gas there. Europe has excellent infrastructure in terms of a large number of reception terminals for LNG. In the North Atlantic Basin, LNG is supplied by countries such as Algeria, Nigeria, Libya, Trinidad and Tobago, Egypt and Norway. Any LNG not sold on long-term contracts and any future increases in LNG production (for example, from Angola) yet to be contracted may go to Europe, where there are already many import terminals, with more under construction or planned.

3. Although the geological potential is still poorly mapped, shale gas is likely to be found and extracted in Europe itself on some scale. The question is how much, at what cost and whether environmental concerns related to the use of large amounts of water in hydrological fracturing will dampen these developments in Europe (perhaps also in North America). The International Energy Agency has estimated that unconventional gas reserves could be six times greater than conventional gas reserves in Europe.[4] There are currently projects to examine the shale gas potential in France, Germany, Poland, Sweden and the UK, and more countries will probably be added to this list. If – and this is still a major 'if'– there are big plays in unconventional gas in the EU and Ukraine, that would put downward pressure on natural gas prices in Europe, Gazprom's profits and the financial buoyancy of the Russian state. Such trends would be particularly salient if countries such as Poland and Ukraine, keen to lessen their current dependence on Russian gas, were found to have major reserves of shale gas. That could lead to a reshuffling of today's geopolitical power relationships in the region.

4. Unconventional gas also exists in the Asia-Pacific region, including in China, although there is great uncertainty as to the magnitude of reserves and whether they are suited for extraction. If these resources are developed on a large scale, Russian gas exports could be squeezed from both the West and the East. Increasing Alaskan, South American and Middle Eastern LNG exports to the Far East due to the North American (and possible European) glut could reinforce the eastern part of such a squeeze. However, the consequences in the Far East may prove smaller, because the energy deficit there is growing faster than in the West.

Broader ramifications

If Russian gas exports should become partially displaced by unconventional gas and LNG from other countries, that would reduce the interdependence between Russia and its customer countries, lessening Russia's clout in the post-Soviet republics and Western Europe. It would also dampen economic growth in Russia and increase the pressure for an industrial policy more genuinely oriented towards innovation and manufacturing. On the other hand, there would also be less pressure to raise domestic Russian gas prices – thus *removing* an incentive for industrial diversification.

In a scenario in which shale gas is found and developed on a large scale in Europe as well as North America – still entirely hypothetical at this point – projects such as Nord Stream, Shtokman and Yamal (as well as Nabucco) might be cancelled, at least for the time being. Such developments would also mean that the Baltic countries would be facing a different Russia.

In the longer term (say 20 years), a shale-driven global gas glut could also have some rather different consequences. Readily available supplies of gas worldwide combined with the enforcement of a global climate regime and steadily expanding global LNG production could result in an evolution towards a world gas market, or at least tighter linkages between today's regional markets. The possible

[1] Yergin and Ineson, 'America's Natural Gas Revolution', Wall Street Journal, 2 Nov. 2009, http://online.wsj.com/article/SB10001424052748703399204574507440795971268.html, accessed 1 Feb. 2010.

[2] Shale Gas Blasts Open World Energy Market', Sunday Times, 1 Nov. 2009, http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article6898015.ece, accessed 1 Feb. 2010.

[3] EIA, 'Natural Gas Imports and Exports: 2008', http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2009/ngimpexp2008/ngimpexp2008.htm, accessed 2 Feb. 2010.

[4] Eric Watkins (2010) 'Shell Begins Drilling for Shale Gas in Sweden', Oil and Gas Journal, 15 Jan., http://www.ogj.com/index/article-display/3531908459/articles/oil-gas-journal/drilling-production-2/drilling-operations/2010/01/shell-begins_drilling.html, accessed 3 Feb. 2010.

combined eastern and western squeeze of Russian export markets mentioned above would be one such interlinkage. In such a situation, Russia might reinvigorate its initiatives towards Iran and other countries with major gas reserves, aiming at greater coordination of gas export policy and possibly even cartelisation. The potential emergence of larger spot markets with free trade in gas, driven by oversupply of unconventional gas and LNG, could prove particularly conducive to cartel-like behaviour.

Doubts

All these hypothetical developments would depend on the criss-crossing interactions between developments in the natural gas sector, global economic growth, the international climate regime and technological innovation. For example, the future international climate regime might promote gas strongly, thereby reducing the oversupply. Future technological developments could make unconventional gas cheaper to extract, or could allay the currently growing concerns about environmental impacts.

Actors oriented towards peak oil perspectives and convinced that the world will start running out of hydrocarbons in the near future hold that unconventional gas will prove to be a mere blip. They argue that production of unconventional gas surges rapidly, only to plummet after a very short time. In that case, the consequences of unconventional gas outlined above are likely to be non-events. Others argue that the long-term costs of extracting shale gas will undermine it as a major factor.

In contrast, organisations and commentators critical of peak oil perspectives, among them Cambridge Energy Research Associates (CERA), believe that the growth in unconventional gas will have a long-term impact. They argue that even if the decline rates for unconventional gas are relatively high, the cost of drilling is recouped so fast that it will still make economic sense, and that the reserves of unconventional gas are so great (at least in North America) that it is always possible to move on to new fields. If they are right, the possible consequences for Russia outlined above deserve more thorough analysis.

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Factors explaining the smooth co-operation between German and Russian gas companies

By Andreas Heinrich and Heiko Pleines

Co-operation between German gas companies, namely E.ON Ruhrgas and Wintershall (BASF), and Russia's Gazprom has developed slowly but steadily since the end of the Soviet Union. Their strategic partnership has expanded from the gas trade to joint investment projects in the upstream and downstream sectors. Although there have been delays and long negotiations over specific deals, there has never been a major setback or a real clash between the partners. This fairly smooth relationship is in sharp contrast to the experience of many other big foreign investors in Russia.

To uncover the factors behind this relative success, we conducted a survey of 20 international experts on German-Russian energy co-operation with company, advisory or academic backgrounds. The experts were asked in an open question to name the major explaining factors and rank them according to importance. However, about half of them declined to rank the factors, arguing that importance is difficult to quantify and that the various aspects are interdependent in their impact.

Although 85% of our respondents cited political factors as contributors to the smooth co-operation, not a single expert ranked them as the most important factors. Company strategy was mentioned by 80% of the respondents and ranked as the most important factor by a third of them. Macro-economic and historical factors were each mentioned by 50% of the respondents. Cultural and technological factors were at the bottom, mentioned by only 30% and 25% of the experts, respectively.

Political factors

When asked about political factors, the experts emphasized Germany's foreign policy, which has helped to forge a basic trust between the two countries since the 1970s. In the experts' view, this trust forms the basis for the continuous political backing of the gas companies as well as government support in both countries for closer economic ties. This mutual trust is seen as a kind of political 'insurance' against potential investment risks in Russia. On both sides, pragmatism prevails over a normative approach at the governmental and company levels.

In addition, some experts cited geopolitical considerations: The strategic partnership between the two countries gives both a bigger weight in European politics, especially concerning energy policy. Both countries prefer a bilateral energy policy and emphasize the role of the state in energy relations; this makes them 'natural' allies in their objections to the liberalization of the European gas market.

Experts closer to the companies put more stress on lower level politics, like support from specific ministries and specific government programmes as well as public programmes in the form of cultural exchanges or 'sister city' arrangements.

Company strategy

Concerning company strategy, experts stressed complementary interests based on the gas trade and a common desire to e.g. promote energy security through direct export links (such as the Nord Stream pipeline). Many also pointed to mutual asset ownership as an important strategic element.

Experts closer to the companies also mentioned mutual trust, continuities in personnel on both sides, an open-minded approach towards each other, and pragmatism. The exchange and training programmes for company employees and a relatively high number of German company employees with a Russian background were cited as examples. Some experts also mentioned sponsored activities as lower-ranking factors.

Macro-economic factors

The macro-economic factors mentioned by the experts can be divided into two groups: 1) German dependence on energy imports from Russia and Russian dependence on Germany as a major export market and access point to the vital EU market and 2) similar economic policy concepts and market structures. The experts highlighted the similarity of the German and Russian gas markets, e.g. their high degrees of state regulation and very limited competition due to oligopolies.

Historical factors

The experts offered examples of historical factors from the spheres of politics, macro-economics and company strategy. These were not argued to be direct causal links but rather elements contributing to tradition and continuity. The countries' business relations, which reach back more than three decades, have resulted in mutual experience and familiarity with one another. In this view both sides have come to trust and rely upon each other; these business relations have also created durable personal networks among the business elites in both countries.

Cultural factors

Some experts described Germans as being culturally closer to Russians than other Western nationalities active in the Russian oil and gas industry. A number of them explained this as a simple matter of cultural predisposition. Other pointed to what one expert called the Germans' lack of 'imperial hangovers' that could offend Russian partners; another respondent referred to the Russians' lack of 'superpower reflexes' toward Germans, who they see as the losers of World War II. Finally, several experts cited Germany's eye-level approach to co-operation, which entails equal rights and obligations for both partners (which are defined jointly and not just by the Western side).

Technological factors

Several experts noted that the existing pipeline infrastructure has become a factor in its own right. The mutually interlocking pipeline infrastructure makes it virtually impossible for the companies to cease co-operating even if all other factors of influence were no longer valid.

Conclusion

In the experts' view, the German gas companies' smooth and stable partnership with Gazprom is clearly rooted in the long-term co-operation strategy of German companies and the German government. This strategy is based on a deliberate restraint from criticism and a willingness to compromise, or an eye-level approach. In addition, the German government as well as the companies have developed a multitude of contacts and projects with Russian partners at the working level, which has led to stable personal networks at the lower levels of management and state administration.

This strategy is built on complementary interests in foreign policy in general, but specifically in foreign trade and energy security. This interdependence has been cemented for the long-term through a mutually interlocking pipeline infrastructure. The co-operation between German gas companies and Gazprom is also supported by a certain (perceived) cultural proximity. Finally, the long history of co-operation has created a feeling of familiarity and predictability, and therefore constitutes an explaining factor in its own right.

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Russia's Wild East - problematising Russia's gas industry in Sakha

By David Dusseault

Introduction

Unlike many regions of the Russian Federation, the Republic of Sakha (Yakutia) was able to withstand the economic hardships of the post-Soviet period due to the republic's natural wealth. While exports of Sakha's diamonds, coal and gold have since maintained an above average standard of living for the Republic's population, diversification of the traditional resource export economy looms. Resting on Sakha's economic horizon awaits a hydrocarbon driven boom, which if correctly harnessed, could serve to transform the Republic from a raw commodity exporter to the economic dynamo for the whole of Russia's Far East.

There are high expectations for and the possibilities to fulfill common socio-economic interests concerning Sakha's new role as energy dynamo for the Far East. Nevertheless, structural challenges to the fulfillment of the Republic's as well as Moscow's vision are posed by the region's extreme climate and environmental conditions; a substantial lack of basic infrastructure; the Republican administration's ability to coordinate domestic versus federal interests; as well as the sheer scope and ambition of the projects discussed below.

Growth and Investment in the Gas Industry

The resource base for Russia's energy sector is increasingly orientating towards Eastern Siberia and off the continental shelves of the Arctic Ocean and Okhotsk Sea for pre-peak or undeveloped greenfield projects. Within the context of the Far East Federal Okrug, Yakutia produces 38% of the gas (approximately 1.6bcm), 32% of which is utilized for power generation, while 65% is employed in district heating.

The Republic's major fields currently under production are located along the south-western reaches of the Veluj river valley towards the Republic's border with Irkutsk Oblast. This central cluster of fields which forms the basis for Sakha's growing gas industry is divided among the federal monopoly Gazprom (Chajadinskoje Field 2mt oil / 25bcm natural gas), the privately owned oil giant Surgutneftegaz (Talakanskoje Field 6.5mt oil / 790mcm natural gas), the Republican owned Sakhatransneftegaz (Otrjadinskoje Field 100mcm natural gas) and the joint stock company Taas-Jurjakh Neftegazdobycha (Srednjebotuobinskoje Field 4.5mt oil / 430mcm natural gas).

To augment the Republic's gas industry's activities beyond that of power and heat generation or gas export, the Sakha administration has earmarked funding for major capital investments in the transit and value added sectors. These mega investment projects include the Chajadanskoje-Khabarovsk gas pipeline, which will run natural gas from the central field cluster along the path taken by the ESPO oil pipeline to the Pacific port of Khabarovsk. Additionally, a combined natural gas and oil refinery complex will be built in the city of Lensk along with two smaller natural gas refineries in the cities of Yakutsk and Seligdar.

Regional gasification is also an important component of the Republic's gas strategy. In line with Federal directives and already accepted into law in 2002, Sakha's gasification programme had already constructed 1200km of pipeline and begun to deliver gas to 67 localities.

Assessing the Challenges

Unlike the more consolidated structural conditions observed west of the Urals, the planned development of Russia's energy sector in the Far East faces several daunting and interlinked challenges. First, there is the social component inherent in the country's domestic gas strategy. While Gazprom understands that it needs exports to derive revenue for its upstream operations, the company also realizes that the legitimacy of its business as well as the political system on the whole rests on providing affordable energy for domestic industry and individual consumers. Tensions between the Sakha administration and Gazprom surrounding the ultimate destination of Chajandanskij gas demonstrate this rift. The issue here goes beyond access to revenue streams. More importantly, deciding where the gas goes is an issue of agenda control for local, regional and federal interests.

Second, while the consideration above may be a debate about percentages, the ultimate viability of Sakha's gas industry may be of greater concern. Regardless of the financial crisis, businesses and the government are forging ahead with these megaprojects. As with all strategic ventures, there is a large degree of uncertainty surrounding the appropriateness of and ultimate chance of success for the chosen policy trajectory. What Russian federal and Sakha's regional interests are striving for is the establishment of **an integrated value chain** for the gas industry in the Far East. This may be easier said than done. The massive investment in the upstream can only be recovered if the products produced can be delivered profitably to consumers both in the domestic arena and markets abroad. None of the projects mentioned here can achieve reasonable rates of profitability by themselves without the successful interlinking with the other components in the upstream, value-added or downstream sectors.

This then brings me to the most crucial point, the issue of institutional coordination. Obviously, the scope of the natural gas strategy discussed goes beyond that of Sakha's geographical boundaries. Hence, the number of divergent interests within the private sector, administrative structures, and among consumers is huge. While companies will busy themselves with the construction of capital assets as well as the associated number-crunching, governmental institutions need to be additionally aware of the even distribution of associated benefits and costs derived from the energy sector to the public over the long term. Assigning competencies for oversight of the various stages in the gas industry's development is an overlooked aspect of the overall development strategy. With the physical, financial, informational and institutional structures still in flux, assigning environmental protection responsibilities, service provision and policy implementation powers to institutional bodies will also remain an open question. Just how this coordination vacuum will influence the overall socio-economic value of the gas sector industry in Sakha and the Far East remains to be seen.

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Russian gas exports in 2010s

By Mikhail Korchemkin

The "shale gas revolution" and the current economic crisis have changed the future of Russian gas exports. In a forecast published in September 2008, Gazprom anticipated a rapid growth of pipeline gas exports to Europe in the period from 2010 to 2015. However, in 2009 the exports dropped 12%, which has put a big question mark on the plans of Russian gas monopoly (see Table 1).

Table 1. Russian Gas Exports to Europe by Pipeline, bcm/year

	2008	2009	2010	2015	2020
Gazprom-2008 forecast:					
Contracted volumes	159	165	167	189	189
New contracts	-	-	-	29-33	30-36
Total:	159	165	167	219-222	220-225
Realistic forecast:					
Contracted volumes	159	140	150	170	180
New contracts	-	-	-	-	-
Total:	159	140	150	170	180

Sources: Gazprom; East European Gas Analysis.
Note: In the reporting format of Gazprom, Europe includes Turkey, but excludes Estonia, Latvia and Lithuania.

The sharp decline of Russian gas exports was caused by three major factors.

1) The drop of gas demand in Europe combined with the oversupply of LNG (rapid growth of shale gas production in the US has freed large volumes of LNG that were diverted to Europe).

2) Inflexible pricing policy of Gazprom (Russia has become one of the most expensive suppliers).

3) Gazprom's decision to cut off gas flow to Europe over the disagreement on the 86 million cubic meters of fuel gas with the total value of $35 million (Ukraine and Russia disagreed on the origin of fuel gas for compressor stations needed to transport Russian gas to Europe).

Despite being the second biggest loser in the European gas market after Nigeria, Gazprom still insists on the use of the old pricing formula and high minimum levels of take-or-pay contracts. With the price of spot gas and LNG being much lower than the price of Russian gas in Europe, Gazprom can sell just the minimum volumes allowed by the existing contracts. Chances for signing new contracts are very low.

Table 2 shows the capacity of gas export pipelines running from Russia to Europe and the corresponding flows in 2009 and 2020. In 2008 - the record year of Russian gas exports, Gazprom has utilized nearly 80% of its export capacity. It looks like this rate will remain a historic record. If Gazprom fulfills all its pipeline construction plans by 2020, the capacity utilization rate will be somewhere from 54% to 67%.

Table 2. Gas Export Capacity of Russia, bcm/year

	Capacity		Flow		
Export Route to Europe	**2009**	**2020**	**2009**	**2020-Min**	**2020-Max**
Existing pipelines:					
Exports via Ukraine	142	142	93	-	34
Exports via Belarus	35	35	32	24	35
Exports to Finland	7	7	4	6	6
Blue Stream (to Turkey)	16	16	11	16	16
Sub-total:	200	200	140	46	91
New pipelines:					
Nord Stream	-	55	-	55	55
South Stream	-	63	-	63	63
Blue Stream-2	-	16	-	16	16
Sub-total:	-	134	-	134	134
Total:	**200**	**334**	**140**	**180**	**225**

Low load factor and a longer transportation distance will increase the gas transmission expense of Gazprom and make Russian gas less competitive in the European market.

International Energy Agency estimates the reserves of shale gas in Europe at 15 trillion cubic meters, which is equal to the size of gas reserves of Yamal peninsula in Russia. This "European Yamal" will define the mid-term future of the European gas market. If the IEA estimation is correct, the growth of Russian gas exports to Europe may be postponed into the 2020s.

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Increasing energy efficiency is vitally important for the Russian economy

By Laura Solanko

Russia's economy is in many ways unavoidably dependent on energy production and energy exports. The largest enterprises are oil and gas giants, which are large by any measure even by global standards. Oil and gas companies and their subsidiaries are unquestionably the major companies in Russia. Only 19 oil and gas companies made their way into the Expert rating of the top-400 companies in Russia in 2008. Those 19 companies, however, accounted for 33% of the total sales of the 400 rated companies.[1] The remaining 381 companies accounted for only two thirds of total sales.

Additionally, these energy majors are often the main customers and owners of many service companies, especially in transportation, banking and construction. Therefore, it is not surprising that the energy sector as a whole comprises a large part of the domestic economy. According to many estimates, the energy sector accounts for a third of Russia's GDP. The figure should not be an over-estimate, as the country's largest company, Gazprom, claims to produce alone some 10% of Russia's GDP. Additionally, almost 50% of federal government revenues directly derive from taxing oil and gas extraction and exports.

Due to its dependence on energy resources Russia is, and will continue to be, dependent on the gyrations of the global economy. During the last ten years the Russian governments have managed the windfall revenues of constantly increasing export prices very prudently, storing large shares of them in sovereign extra-budgetary funds. These funds, counted among the central bank's foreign exchange reserves, did indeed provide a warmly welcomed cushion that insulated public expenditure from the dramatic decline in revenues in 2009. But even the large stabilization funds and extremely low public debt cannot insulate the Russian economy from a global shock.

The current crisis underlined the fact that even a country that manages one of the world's largest hydrocarbon resources needs global financial markets for funding its largest corporations. This is especially true considering that huge new investments are needed to keep up the current production levels in the future. At the end of the day, this may be one of the major lessons of this crisis for the Russian economy.

This dependence on global energy prices renders the Russian economy vulnerable to external shocks. Moreover, dependence on export earnings from a few raw materials is often seen to lead to the "resource curse", an equilibrium where the domestic economic institutions (eg rule of law, education, courts) remain in a poor condition, which leads to slow economic growth and wide income disparities. This scenario would clearly contradict all attempts to create a "modernized", innovations-based Russian economy – an idea most recently promoted by President Medvedev in his state of the nation speech in November 2009. Finally, production volumes of oil in particular are not projected in increase in the future. Future growth has to be found elsewhere.

The visions of diversified and modernized economy have yet to result in concrete action plans and forceful implementation. Therefore, at least in the medium term, Russian economy is likely to remain just as energy-dependent as it is now. This means that maintaining energy export capabilities will be a top priority in Russia's economic policy-making. As even the optimistic forecasts do not see large increases in production volumes in oil and gas over the next 20 years, securing export volumes in the future requires both curbing domestic energy consumption and securing the current volumes of energy imports (from Central Asia). Therefore, the improvement of energy efficiency will become vitally important for Russia. The potential is clearly huge and, encouragingly, Energy Strategy 2030 seriously discusses these issues. A new law on energy efficiency was adopted in November 2009, hopefully increasing awareness of energy efficiency in the country. Further, continuing price liberalization in wholesale electricity markets and in industrial use of natural gas will slowly force domestic consumers to optimize their energy use. But much remains to be done. Importing the already existing technologies and know-how from other countries would be the fastest way to achieve real results.

From the Russian perspective, the other important element in securing export capabilities is the securing of sufficient and reliable transport capacity. Besides the standard maintenance and repair, this includes the building of new oil and gas pipelines as well as new export harbors, in order to reduce dependence on sometimes unreliable transit countries. This explains why projects like the gas pipelines Nord Stream and South Stream, and the oil pipelines BPS-2 or TCP-2 are seen as vitally important by the Russian government.

Seen in this light, Nord Stream (planned to run from Russia through the Baltic Sea bed to Germany) is neither simply targeted against Ukraine or the Baltics nor ment to provide the Russian Baltic Fleet a missing *reason d'etre*. It can be seen as an unavoidable investment for securing uninterrupted deliveries of natural gas to Russia's major export markets.

All of this is readily acknowledged among the Russian policy-makers. The government's Energy Strategy strives for an economy in which the energy sector's role is less than 20% of GDP and energy efficiency is much improved by 2030. Even in the best of the cases, reducing energy dependency is a long-term goal. It would imply that the non-energy sectors of the economy should grow at faster rates than the energy sector. Increasing global energy prices are likely to make this target extremely difficult to attain. At the same time, the current large uncertainties of the structure and level of future energy demand in Russia's main export markets add to the vulnerabilities. Radical increases in energy efficiency and a decreasing role of hydrocarbons in the EU's energy mix would not be welcomed news in Moscow.

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[1] Expert-400 rating in the Russian weekly Expert Magazine no. 38(675) 2009.

Russia energy efficiency initiatives - a window of opportunity for the EU?

By Vadim Kononenko

2008-2009 witnessed a growing high-level interest to the problem of energy efficiency in Russia. Both President Medvedev and Prime Minister Putin stated that the government considered energy efficiency as a prerequisite for successful development of the country's economy. The issue was included in Russia's Energy Strategy for 2030 (although it was added to the document at a later stage). Despite that Russia's massive energy wastes and inefficiency of energy distribution and consumption have been discussed for years, the political will to radically improve things emerged only recently. The question is: will this nascent initiative be sustained by robust policies?

Russia has an enormous potential for improving its energy efficiency. The starting point is very low as Russia's economy is notoriously inefficient. According to EBRD data, Russia uses more than seven times more energy per unit of GDP than in Western Europe. Energy waste in the housing sectors is also very high as well as among the public sector buildings. In some way Russia's predicament is a legacy of the Soviet era's economy, when the energy was cheap, subsidized and plentiful. Now that the internal prices and tariffs for energy, even though still subsidized, have been on the rise, they become an incentive for the current energy efficiency initiatives.

The new legislation that was adopted in November 2009 puts forward several important steps as to how energy efficiency can be increased. The law establishes basic principles for the regulation of energy consumption to increase its efficiency and, inter alia, to encourage energy saving, and provides for various amendments to existing legislation (on technical regulation, housing, town-planning, taxation, etc.) to enforce energy-saving rules. The new law also establishes a general rule that buildings and other structures should meet applicable energy efficiency requirements both when being commissioned and during their subsequent operation. There are incentives such as tax cuts and also control measures such as the penalties including heavy fines, which may in certain cases be accompanied by confiscation of goods destined for circulation in breach of the applicable energy-saving and energy efficiency increase legislation.

The adoption of the new legislation in 2009 was welcomed by experts and practitioners however it is sometimes described as too general. There are several factors that make the implementation of the energy efficiency policies difficult.

First, it remains mostly ministry-led project with a strong top-down approach. The main bulk of work needs be done in Russia's regions by local authorities, in many cases as low as at the level of municipalities. Unfortunately, Russian municipal authorities lack expertise, funding, and administrative power to conduct energy efficiency projects. Furthermore, the energy needs, level of consumption and therefore energy efficiency potential varies throughout the regions. So far there have been only a few examples of successful energy efficiency projects in Nizhny Novgorod and North-West Russia.

Secondly, there are legal difficulties that pertain to ownership rights for energy delivery and distribution infrastructure in the housing sector. Private consumers can do very little in terms of cutting down on their consumption and thereby compensating for the rising energy costs unless they have the right to decide on energy distribution, insulation and other relevant infrastructure improvement in their houses. Things might change if a real energy efficiency market emerges in Russia with clear rules, tariffs and prices, taxation, and competition between consumers and providers of energy efficiency technologies and services.

Finally, the level of public awareness on energy efficiency is very low which makes it difficult to introduce new policies. In general, problems related to environment receive very little attention on the major TV channels if compared to the intensity of "green talk" in Europe and the US. The government is likely to face difficulties explaining to the people in Russia why the need to pay more for the new type of energy saving light bulbs, and more importantly, for heating and electricity in their homes, fuel for cars, and many other goods which include the price of energy. There is a need for comprehensive and effective measures to change the patterns of thinking among the people not only about energy consumption but also in a more general sense about responsibility for the environment and possibilities that the new legislation provides.

Can the EU help?

It is in the EU's interest to cooperate with Russia extensively in the field of energy security. Russia has an obvious need for expertise and knowhow as well as investments into energy efficiency projects. It is often argued that by responding to this need, the EU might make its energy relations with Russia more balanced and not so negatively and politically charged as it has been the case during the recent years. Although it is not likely that cooperation on energy efficiency alone can improve Russia-EU energy relations, it can still provide for a venue for positive and constructive interaction. This cooperation may include development of joint Russia-EU programs for technical support and exchange of information. There is also a big need for introducing new standards and techniques to educate Russia energy specialists and economists.

Geographically, it is important for the European actors to focus on Russia's regions and the municipal level of governance and on small and medium-size enterprises. In fact, the European agencies of cooperation including regional bodies such as EBRD, CBSS or Nordic institutions, for example NIB, Nordic Council of Ministers, have energy efficiency cooperation with Russia on their agenda but this trend could be ever strengthened.

Obviously, there are also vast opportunities for the European companies working in the energy efficiency, construction, infrastructure and other related industries, particularly among the Finnish and Nordic companies due to similarity of climate.

By improving energy efficiency, Moscow seeks to make Russia's economy more adapted to the challenges of today. While this is to a great extent an internal task for the Russian government to fulfill, it is important for the EU to realize the opportunities of its involvement.

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Vulnerability in interdependent energy relations

By Andres Mäe

The aim of this article is to find some practical advice from energy security studies for the decision-makers in designing an energy policy of a certain country.

Recent studies, focused on the vulnerability of interdependent energy relations, offer a number of indicators, risk variables and specific methodology, which are very useful for analysing vulnerability of energy supply of a certain country. The problem with such approach lies in the heterogeneity of risks and unclear time horizon that should be taken into account when evaluating energy vulnerability.

The very same indicators and variables will become rather impractical when used for calculation of energy vulnerability and diversity indices because a country will get no substantial help from its position in another table of vulnerability or diversity index to elaborate its energy policy. Those indices are ineligible for calculating possible economic loss from energy shortfall not to mention practical advice how to minimize energy vulnerability.

Another study offers expected shortfall as a vulnerability indicator. For energy policy designers this approach gives a possibility to calculate expected economic loss in case of shortfall of energy supply, which will show the extent of vulnerability of energy system of a certain country. Once those potential costs are known, the question is what should be done to minimize energy vulnerability.

The concept of opportunity costs is helpful in quantifying the value of alternative policies that seek to reduce expected economic loss.

The theory of interdependence uses vulnerability dimension of international relations to indicate the availability and costliness of alternatives. From this definition derive two aspects of alternatives – availability and affordability.

Availability is the extent to which resources are known about, accessible and feasible to extract. Affordability is the ability to purchase available resources without endangering other economic activities. Accordingly the vulnerability of energy system of a country can be measured by the availability and affordability of alternatives.

For example, country A imports all its natural gas from country B and for some reason started to worry about the security of supply, be it unexpected price increase of the commodity or interruptions of deliveries etc. Country A has now two options: (1) look for alternatives or (2) to acquiesce with the unstable situation. First option means that country A can substitute natural gas with some other fuel or look for another supplier. By second option country A has to acquiesce with existing relationship if there are no alternatives available or these alternatives are not affordable.

It has to be emphasized that energy dependency does not inevitably mean energy vulnerability because a country can be dependent without being vulnerable and be vulnerable without being dependent. Accordingly there is no need for country A to look for alternatives if the current dependence on country's B natural gas deliveries does not cause concern about the security of supply.

There are at least two partners in interdependent relationship. How would the decision of country A to prefer alternatives in terms of natural gas supply affect country B? A country exporting energy carriers like oil or natural gas might be vulnerable if energy exports represent the major part of its fiscal resources.

The theory of interdependence considers a relationship being interdependent if there is mutual interest in maintaining that relationship. From this definition derives that country's B behaviour will depend on the scale of its commercial interest towards the natural gas deliveries to country A.

Therefore A's decision to substitute natural gas import from country B should not remarkably influence B's behaviour if A's relative importance as an importer of natural gas is rather low or even insignificant for country B.

For example, a EU member state's dependence on Russian gas might be 100% but if the commercial interest of Gazprom towards gas export to that particular country is rather low then this member state can substitute imported natural gas with domestic fuels to minimize its vulnerability from increasing gas price without being afraid of harming economic relationship with Russia.

The main problem with analysing energy vulnerability is evaluation of the likelihood of the occurrence of an energy crisis and its impact on the economy. Because vulnerability is more a qualitative concept expressing the unbearable dimension of evaluated subject, it is only the actor itself who could estimate the vulnerability of relationship.

Accordingly country A may consider its energy relations with country B vulnerable while country C is satisfied with similar energy relations with country B. Countries are not equally faced with energy vulnerability and their responses may be different too, because of the strategic and political importance of vulnerability, which must not be underestimated. For example, the energy vulnerability of the Baltic States lies not only in 100% dependence of Russian gas but in the structure of the consumption of that gas: roughly equal parts are consumed by the petrochemical industry and district heating. Vulnerability issue concerns mostly the last one (shutting down petrochemical plants because of gas shortfall should not be considered as an energy security issue). Despite the fact that natural gas is easily replaced by heating oil, statutory requirement is needed to establish emergency stocks of heating oil in all co-generation power plants and boiler stations in case of sudden interruptions of gas supply.

A country deciding to replace an existing energy relationship with an alternative one or balancing it with diversification of energy supply has to take into account the following problem with minimizing energy vulnerability: liberalized energy market involve cost-saving reductions in spare network and generating capacity. Market is not favouring reserves or overcapacity be it a set-aside production units or emergency stocks of energy carriers necessary for energy security.

But liberalized energy market promotes effectiveness: effective energy consumption, effective technologies, energy saving, etc., which are also essential to minimize energy vulnerability.

Therefore the solution is to opt for a market-based policy for higher efficiency, but to complement it with additional intervention, e.g. taxation, subsidies or mandates, so as to ensure sufficiently high security stockholdings, fuel-switching capabilities and cross-border solidarity.

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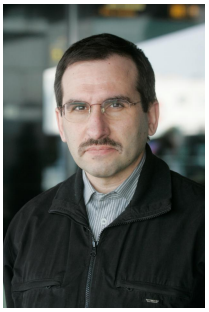

Russian natural gas production and exports - the outlook to 2020

By Simon Pirani

The outlook for Russian natural gas production and exports has altered substantially as a result of the world economic crisis, which cut demand sharply. Fears that Russia could experience a supply squeeze have been overtaken by uncertainties about the rate at which European and FSU economies, and gas demand, will recover. The pace at which the Yamal peninsula gas fields will be developed, and the extent to which Russia might call on non-Gazprom producers and central Asian imports, are open to question.

The Russian gas balance is supplied from (with 2008 volumes in brackets): Gazprom production (550 bcm); non-Gazprom production, from independent gas companies and oil producers (114 bcm); and purchases from central Asia (61 bcm). Gas from these sources supplies European pipeline exports (160 bcm); CIS export markets, mainly Ukraine and Belarus (90 bcm); and the Russian domestic market (353 bcm).

The fall in demand made 2009 the hardest year in the Russian gas sector's history. In the European market, demand fell by about 6% year-on-year. Imports, especially Russian imports, were cut back more severely than domestic production, due to (a) the supply disruption caused by the Russia-Ukraine dispute in January 2009, and (b) buyers minimising purchases from Russia, whose gas was made disproportionately expensive when demand was lowest, in the first half of the year, by the oil-linked pricing structure used in long-term sales contracts. In the first nine months of 2009, Russian imports to OECD Europe were 21% down year on year. CIS sales fell even further – to Ukraine, by at least 40% year-on-year; Russian domestic sales fell by 6-7%.

The effect on Russian production was unprecedented: in 2009 it fell year on year by 12.3% (to 582.4 bcm), with Gazprom's output down by 16% (to 462.2 bcm) (preliminary figures). This short-term slump combined with uncertainty about the speed of economic recovery to upset previous assumptions about the necessary pace of investment in new production.

Production and import perspectives

For Gazprom, the central dilemma has been how to pace investment in the Yamal peninsula fields, which have the potential to produce 250-300 bcm/year. These are the only deposits capable, in the long term, of replacing production from the west Siberian gas fields (Urengoy, Medvezhe and Yamburg), which historically accounted for most Russian output, but are now in natural decline. (Their aggregate output is falling by 15-20 bcm/year, from about 475 bcm in 2005.) The Zapolyarnoe field, which began production in 2001, was an initial means of compensating for the decline.

Prior to the economic crisis, Gazprom's investment programme had provided for Bovanenkovo, the first of the Yamal fields, to start production in 2011 and increase it within three years to 115 bcm/year. In 2009, Gazprom announced a one-year delay in the start-up of Bovanenkovo, to late 2012, and a reduction in capital expenditure at the field by 30% to about $5 billion. (This was in the context of a 25% cutback in its overall investment programme, in line with those in the industry internationally.) Gazprom also confirmed its plan to build a major pipeline corridor from Bovanenkovo to Ukhta, in preference to the alternative of linking to existing lines from Yamburg, which would have implied a slower ramp-up of Yamal production. The Shtokman project, originally due to start up in 2013-14, seems more likely to be postponed to the late 2010s or early 2020s.

Nevertheless, the upset caused by the recession in both European and Russian markets means that a further slowdown of the Yamal development is possible. In this case, additional supplies from non-Gazprom producers, or from central Asia, would provide the most obvious means of compensating for the decline in western Siberian production in the meantime. However such an approach would impact negatively on Gazprom's balance sheet, and consequently on its ability to invest. How these dilemmas are resolved, and which approach is eventually taken, depends largely on debates in government, and between government and Gazprom, the outcome of which are not clear.

One possibility is that supply from the independent gas producers and oil companies will increase. In 2009 they collectively increased production by 5.5%, to 120.2 bcm (preliminary figures), confounding initial expectations that they would be compelled to cut back. A key factor is access to transport infrastructure. Despite general political commitment to the principle of third-party access, Gazprom, which owns and manages the network, has limited other producers' output by refusing access. In 2009, government took steps to enforce rules to raise utilisation of associated gas produced with oil, and to ensure that pipeline access was provided; estimates of associated gas flared annually range from 16 bcm to 38 bcm, and this is a significant potential source of additional supply. Another is the main independent gas producer, Novatek. Its 2009 output was 32 bcm. This could increase: Novatek has recently made an unprecedented challenge to Gazprom's market dominance by concluding supply contracts with OGK-1, one of Russia's largest power producers.

A further dilemma for Russia concerns central Asian imports. While Russian purchases from Uzbekistan and Kazakhstan are little changed, those from Turkmenistan, which have been 45-50 bcm/year in recent years, were cut entirely from April to December 2009. Gazprom refused to take Turkmen gas while demanding a renegotiation on price; Turkmenistan responded by intensifying its efforts to diversify export. A pipeline to China is completed and about 6 bcm will be exported in 2010, rising to 30 bcm/year or more within three years. Turkmen exports to Russia are expected to be only 10-11 bcm in 2010.

Exports and demand uncertainties

Some of the greatest dilemmas facing Russian gas production concern the European market. Its sales there are of disproportionate importance: for Gazprom, non-CIS sales account for just under one-third of gas volumes but for up to two-thirds of revenue. This will change only slowly: although Russia and other CIS governments have taken decisions to bring domestic prices up to European netback levels, such a transition is not expected to be completed until 2015.

The major uncertainties are (i) the pace at which demand will recover (it is expected to do so more slowly than in other regions), and (ii) the extent to which it will be served increasingly by alternative sources of supply, and in particular liquefied natural gas (LNG), including volumes diverted from the US and new volumes from Qatar.

Furthermore, the 2009 gas glut has raised the possibility of highly significant changes in the oil-linked pricing regime that could also have adverse consequences for Russia.

Prices on the spot market were at a substantial discount, for much of the year of around 50%, to the oil-linked prices. European consumers who buy gas on long-term contracts from Russia (i) reduced purchases from Russia, in favour of spot purchases where available, up to and in some cases beyond the limits imposed by contractual take-or-pay provisions, and (ii) raised the issue of pricing formulae in long-term contracts being amended to switch towards partial linkage with spot prices.

As economic recovery gets underway, volumes sold under long-term contracts seem likely to be maintained, but pricing formulae may be altered. Furthermore, there must be considerable doubt about whether there will be any demand in Europe for additional volumes of Russian gas up to 2020.

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Energy diversification towards the East - strategic imperative and operational response to the uncertainty of energy demand

By Danila Bochkarev

Gazprom is currently suffering from a drop in gas consumption and prices on the spot markets. The global financial crisis has reduced the volume of Russian gas sold both abroad and domestically. Gazprom's sales fell by 11.4 % last year, while its export revenues decreased from $64 billion in 2008 to $42 billion in 2009.

Situation analysis

Russia's oil and gas exports are still primarily focused on the European market, however Moscow is increasingly eager to diversify its export routes and find new customers. Taking into account the following factors, short- and mid-term prospects for Gazprom's exports to Europe appear bleak:

1) The EU's interest in energy supply diversification and the commitment of Brussels to its ambitious 'green' energy agenda. Even a partial implementation of the EU's 20/20/20 goals could significantly limit the natural gas consumption growth in Europe.
2) The liberalization of the EU gas market could significantly limit Gazprom's ability to enter the European energy downstream. Also, attempts by several EU energy companies to re-negotiate both pricing and volume parameters of the long-term contracts threaten the profitability of Gazprom's gas exports to Europe.
3) Commercial non-conventional gas produced in the U.S. and Europe and supply of cheap liquefied natural gas (LNG) from Qatar decreased significantly the price attractiveness of the North American market and put a serious pressure on the long-term contracts in Europe. It is estimated that the price of Gazprom's natural gas supplied to Europe is higher than deliveries under spot contracts. This explains the fact that Gazprom clients in Europe tend to contract the lowest volumes under their long-term obligations. Favourable conditions in North America would have allowed Gazprom to re-direct a part of his exports to the U.S., however these plans have been significantly altered by new discoveries of shale gas in Canada and the U.S.

Understandably, Russia's interest in diversifying towards Asian customers is explained by the level of uncertainty in the EU – Russia energy relations. It is partly based on Moscow's fears of economic over-dependence on the EU and its normative regulations, as well as on the uncertainty of the future level of gas consumption in Europe.

Operational response

There are delays to investment decisions – such as Gazprom's announcement to postpone the development of its Bovanenkovo gas field in the Yamal peninsula until 2012 and Shtokman field in the Barents Sea. At the same time, Sakhalin – II remains high on the company's agenda, and Gazprom, despite significant challenges, is likely to be engaged into new infrastructure projects in Siberia. One of the more important deals signed by Vladimir Putin during his visit in Beijing in October 2009 was a framework agreement on the natural gas supplies, expected to reach China in 2015. The agreement signed by Gazprom and the CNPC includes provisions for the construction of two gas pipelines to China from Siberia and Russian Far East. The Russian national interests in the security sphere are based on the principle of the state control over the energy infrastructure which is often used to direct export flows of hydrocarbons towards the specific markets. In case of cooperation with China and other Asian countries the company's commercial and strategic goals coincided with these interests.

Policy response

The development of closer energy relations with Asia, particularly with China, is determined by the Far East regional development initiative and national energy strategic goals. The latter aims at increasing Asia's share in Russian energy exports from its current 8 % of total exports to 25 – 30 % by 2030. Moscow by all means actively supports energy exploration, production and infrastructure development projects in Siberia and Russian Far East. Recently launched Transneft's ESPO pipeline and new energy deals with China pipeline serve as a good example of the government's interest in further opening towards the Pacific.

New rules of the energy game

The uncertainty of production/demand balance is the major reason for the Russian leaders to call for more global energy co-ordination between the major players, as President Dmitry Medvedev stated in his 'Conceptual Approach to the New Legal Framework for Energy Cooperation' presented in Helsinki in April 2009. Medvedev's energy proposal focuses, among other points, on establishing global "energy balances" that would define an adequate volume of energy production and consumption. Indeed, the certainty about demand/production balance will provide a necessary framework for major timely upstream and midstream investment projects, thus allowing to avoid both the supply crunch and over-production.

Conclusions

Russia will start playing a more active role in the Asia-Pacific region, gradually diversifying from its trade and energy partners in Europe, due to uncertainty of prospects for energy demand in the EU. Moscow understands that careful engagement with Beijing, Tokyo and other Asian capitals may bring the sustainable economic development of the Far East and thus contribute to the national GDP growth. However, this 'Asian connection' will remain limited for a number of objective security and economic reasons. As a consequence, Russia and the EU will be economically bound until at least 2030.

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(*)The views expressed here are those of the author and are not necessarily shared by the organisation, its board of directors or other staff.

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Nord Stream project – as seen from the Swedish point of view

By Maija Hyypiä

The building of the Nord Stream natural gas pipeline has given rise to a lot of debate in the countries surrounding the Baltic Sea, including Sweden and Finland. In Sweden, the approach to the Nord Stream has been quite different than in Finland, where the discussion of the issue has mostly evolved around the environmental aspects of the project. The public discussion in Finland has emphasised that the gas pipeline does not represent a security policy threat, whereas in the Swedish discussion the combination of Russia and the gas pipeline together is mainly seen as a threat.

Ever since the start of the planning of the project, the Swedish newspapers have written a lot about the issue. The general opinion has been that the project is a threat to Sweden and that its building should be prevented. The gas pipeline has been described as a political project, with the help of which Russia is trying to increase its international influence. As the gas pipeline is important to Russia both economically and strategically, its vicinity to Sweden's territory has been regarded as very problematic for the Swedish defence. It is also feared that political tensions will increase in the Baltic Sea region due to the pipeline. The writers of the Swedish newspapers have also expressed their concern over the Russian Navy's plans to monitor the pipeline. This would increase the presence and movements of the Russian Navy in the Baltic Sea and could potentially create a military threat to Sweden. It has even been argued that Russia could use the gas pipeline for spying on Sweden. The general view in the Swedish newspapers is that Russia is using its energy resources in order to try to increase its global and regional influence and power.

The Swedish debate over the Nord Stream gas pipeline has been linked to Russia's geopolitical ambitions. It has been asked whether the supposed threat that the pipeline represents, has any genuine effects to Swedish national security or whether the purpose is only to justify the opposition to the building of the pipeline. It has also been discussed whether Russia's geopolitical position should be defined through its history. Is Russia a superpower only because of its past? Should that old image be abandoned and replaced with a new worldview, where Russia is one of the equal international actors? Despite this kind of discussion, the general view in the Swedish newspapers seems to be that Russia and its gas pipeline are a threat to Sweden and the building of the pipeline should be prevented.

Another characteristic of the Swedish discussion on the Nord Stream is the criticism of Russia's internal development. It is argued that Russia's adverse internal development is a threat to other countries, also to Sweden. Putin's administration is criticised and the discussion emphasises his influence on the Russian state's pursuits. Russia, with Putin as its leader, is headed in the wrong direction and this is one of the reasons, why the building of the pipeline has been considered to be a threat to Sweden. The pipeline is regarded primarily as Putin's project and it should not be permitted to be built too close to Sweden's border.

At the same time the Nord Stream project has raised discussion in the Swedish media over whether Russia genuinely is a strong state or not. Is Russia still a superpower or is it becoming one? Should it be feared because of its present position? On the other hand it is being pointed out, that Russia is a weak state and its influence and power towards Europe has decreased and therefore it should not raise any concerns. Russia's position seems to be difficult to analyse and the future of the country is unforeseen.

The environmental concerns have also been brought up in the Swedish media. It has been highlighted that the pipeline would be a significant risk for the Baltic Sea. Wartime mines, old chemical weapons and old ammunitions should be removed and this could present serious environmental problems. However, the environmental concern has not had as big of a role in the Swedish discussion than it has in Finland. It even seems that the environmental aspects are raised only because they could be used to prevent the building of the pipeline.

The fact, that the pipeline would be built through Sweden's economic zone, is seen mostly as a burden, because Sweden will not even be able to benefit from it. According to the Swedish newspapers, a better option for the gas pipeline would be to build it aboveground through the Baltic States and Poland. These countries have been astonished by the fact that this option was not even considered. It has been discussed in Sweden, that the way Russia uses energy as a weapon and how it has excluded the Baltic States and Poland from the project, is an example of how Russia is trying to divide the European Union. It has been emphasised that this is one important reason, why the EU should have a common energy policy.

In November 2009, the Swedish government gave the permission to use its economic zone for building the pipeline under the Baltic Sea. After the decision the government was criticised in the newspapers for not taking into account the security policy threats. There was also criticism, that it is unsustainable policy from the government to see the Nord Stream only as an economic project. The government was accused of selling Swedish environmental interests for the benefit of Russian gas. However, at the same time it was admitted in some of the newspapers, that the Swedish government actually had no other choice than to give the permission. The rejection would not have been politically possible and, besides, there were two powerful neighbours – Germany and Russia – bringing on pressure. It was argued that Russia's influence in the EU will now increase and it can promote its own goals through the pipeline. There are also concerns that the Swedish Navy's presence in the Baltic Sea is not significant enough at the moment and it has poor knowledge about what is happening in the east side of Sweden. Because the gas pipeline will be built, the presence of the navy should be substantially increased.

The discussion in the Swedish newspapers over the Nord Stream gas pipeline is an excellent example of the continuous need of Russia's neighbouring countries to analyse Russia and its position. The Russian state is seen as a problematic actor. The example of the discussion also shows how a project that is primarily an economic and environmental one can be interpreted as a matter of foreign and security policy.

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Consequences of the decommissioning of Lithuanian nuclear power plant

By Joanna Hyndle

Despite many concerns and even protests of Lithuanian citizens Ignalina Nuclear Power Plant has been switched off on 31 December 2009. It happened at Brussels' demand for security reasons – Ignalina NPP had the same and the last in UE Soviet-designed RBMK-1500 reactor which exploded in the 1986 in Chernobyl. This forced decision has significant political and economic consequences for Lithuania. The most controversial remains the question whether the positive effects of decommissioning of Ignalina plant will prevail over the negative ones.

It is believed that with the closure of Ignalina NPP Lithuania has lost its symbol of energy independence. But in fact, the Lithuanians were first of all deprived of locally produced cheap energy on the Lithuanian energy market. Exclusion of Ignalina's power did not cause any shortage of energy but the electricity prices increased by 30 percent. Lithuania was forced to import from Russia more gas to maintain local energy production in few other Lithuanian power plants (the biggest energy producer is now state-controlled the natural gas and fuel oil-fired thermal power plant in Elektrenai with its 4 units each of 300 MW capacity). There is no doubt that growing energy prices and consumption of imported gas will affect increase the prices of daily consumer goods and will adversely impact Lithuanian economy (decline in GDP, inflation). Lithuania lost also the position of energy-exporting country, although in recent years, it was difficult to find customers due to the lack of electrical interconnections with countries and regions where there were shortages of energy.

Lithuanian authorities - the president Dalia Grybauskaite and the members of the government of Andrius Kubilius – prefer to underline the positive consequences of switching off Ignalina NPP. Their optimism is apparent from the decision to start from 1 January 2010 the real though a gradual liberalization of electric energy market (formally it started in 2002), which is to be completed in 2015. Also the great expectations of authorities are associated with the opening of the power exchange based on the Scandinavian Nord Pool platform.

With its cheap energy and big production capacities Ignalina NPP was a domestic monopolist. As long as it had been producing electricity no competition was possible for local producers and importers. The closure of the old nuclear power plant has created an opportunity to make significant steps towards implementation of common European Union energy policy and EU directives as well as a reform of the electricity sector.

In order to create an effective competition and market relations similar to those in other EU countries the government adopted new rules on electricity production and trading. In fact, the energy import is not a necessity for Lithuania. Even without Ignalina NPP Lithuanian domestic producers can potentially generate as much as 12 TWh annually. But production in Lithuanian power plants based on imported gas which Lithuania has to buy from the Russian Gazprom is more expensive than imports. The price of Russian gas delivered to Lithuania is comparable to those paid by other countries in Western Europe and again shows an upward trend due to rising oil prices.

Under the new regulations laid down in December 2009, only up to 4.5 TWh (half of Lithuania's demand for electric energy as it is predicted for 2010) will be covered by domestic production. The second part of Lithuania's needs for electricity will come from imports. The domestic production and some of imports from Estonia will be subsidized by the state and sold at regulated prices. 35 percent of energy users (consumers needing a capacity of 400 kW and upwards) have to buy energy on the exchange or conclude bilateral contracts with suppliers of imported energy. In few years government will undoubtedly stop subsidizing local energy producers and all of them will have to compete on the market. Authorities expect that during this transition period towards a totally liberalized market electricity prices will decline and local producers will be better prepared for competition on the market.

After only few weeks of operating it is difficult to identify the main trends of the Lithuanian energy exchange. The prices of electricity established on exchange are rather low and till now it satisfy the largest electricity consumers in Lithuania. If this trend continues the energy exchange can attract more consumers who have now direct contracts with suppliers. Among active participants were Latvians with their cheap hydro-generated electricity and Estonians with energy produced from Estonian oil shale. Lithuanian and Estonian companies entered also into a long-term contracts with Lithuanian clients. The strong position on the Lithuanian market have intermediary companies trading Russian electricity.

Before starting the exchange concerns about Russian domination over small Lithuanian energy market were prevalent in Lithuania. It is serious threat to the market and energy security of Lithuania. The establishing of exchange created a possibility for Lithuanian consumers to choose the provider of the electricity and the price factor became dominant over the origin of energy. This situation is especially difficult for Lithuanian producers dependent on Russian gas. They can find it hard to compete with Russian companies, since Lithuanian producers are subject to the obligations laid down by the EU and charged local taxes. In such a situation it can be necessary to impose restrictions on imports of Russian energy in order to protect local producers. Such a decision would be obviously contrary to the principles of free market. There are also promising negotiations under technical conditions of transit of the Ukrainian energy based on nuclear technology through Belarus to Lithuania. In this case, Russia may also try to use its influence in Ukraine and Belarus to hinder cooperation with Lithuania.

Unfortunately, till now operates only one electrical interconnection between the Baltic and Nordic electricity systems (submarine cable between Estonia and Finland). It seems clearly that there is no other option for Lithuania but to build new power links to Western European and Scandinavian energy systems. The EU founds allocated for electricity bridges from Lithuania to Sweden and Poland seems to accelerate decisions and actions of Lithuanian authorities on their construction.

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Shale gas – a game changer in the global energy play?

By Hanna Mäkinen

Shale gas – natural gas from rock formations – has become an important resource for energy industry. Earlier its extracting was considered too difficult and expensive but recent technological advances have made the exploitation of shale gas easier and more cost-effective. The shale gas revolution has already been spreading in the United States and profoundly transforming the North American natural gas market. Now some are expecting shale gas boom to hit Europe as well.

The exploitation of the so called unconventional natural gas sources – gas shales, coalbed methane and tight gas sands – began in North America approximately a decade ago. The existence of natural gas trapped in shale formations was nothing new but the break-through in technology – horizontal drilling and hydraulic fracturing – made shale gas exploitation highly productive. The gas shale resources in North America are huge and the production from shale formations is expected to be the fastest-growing source of unconventional natural gas production. According to the U.S. Energy Information Administration (EIA), natural gas production from shale formations will increase from 0.03 trillion cubic meters per year in 2006 to 0.12 trillion cubic meters – 18 % of total U.S. production – in 2030. Some analysts estimate the production to grow even faster, up to 50 % of total U.S. natural gas production in 2020. Resource estimates made by different organisations vary widely and are likely to change over time as new information and technology become available.

According to the International Energy Agency's (IEA) recent estimate, Europe's unconventional gas reserves could reach 35 trillion cubic meters, of which almost half in shale. Although amounting far less than in North America, the IEA estimates that these reserves would be enough to substitute natural gas imports for 40 years at current levels. It's not a surprise that the idea of indigenous natural gas reserves sound particularly appealing to Europeans that aim to decrease their dependence on imported energy. The shale gas resource base is global and large shale gas reserves are likely to exist for example in China and Central Asia, North Africa, Latin America and Australia. It is possible that unconventional gas could change the global geopolitics of natural gas when new supplier countries emerge and reliance on only a few suppliers decreases.

However, the unconventional gas exploration in Europe is in embryonic stage and both the size and the exploitability of the European unconventional gas reserves remain highly uncertain. Some experts see great potential in European shale gas resources whereas others regard the early estimates as highly exaggerated. There are also several factors that can slow down or complicate the shale gas production in Europe. To begin with, there are considerable geological differences with North America, and European shale formations aren't expected to have as much gas trapped in them. Therefore the technology developed in the U.S. can't just be transferred to Europe as such. Second, the building up of the required infrastructure takes some time, and certainly a lot of money. In addition, drilling is a large operation which can cause problems in densely populated Europe where wide open space is hard to find. Finally, the environmental impact of the shale gas exploitation has raised concerns in the U.S. and this will likely be brought on the agenda in Europe as well. Hence, whatever the size and recoverability of European shale gas reserves, it will certainly take a long time before any significant shale gas production can take place in Europe. It is expected to take at least a decade before shale gas can have a significant effect on European natural gas supply – before 2020 only minimal production volumes are predicted.

Despite all the uncertainties concerning the potential of Europe's shale gas reserves, several oil and gas companies are already exploring on European soil. Countries, where exploration projects are taking place, include at least Austria, France, Germany, Hungary, Poland, Sweden and the U.K., and the results are still pending. However, for example the Alum Shale of Sweden, the Silurian Shales of Poland and the Mikulov Shale of Austria are already considered to have high shale gas potential – according to some estimates the recoverable shale gas resources of the three basins combined range up to 4 trillion cubic meters. On the research front, the 6-year Gas Shales in Europe (GASH) project was launched in 2009 by the German Research Centre for Geosciences. The aim of the oil industry-funded project is to predict shale gas formation and occurrence in time and space, focusing on the potential gas shales of Europe.

It is still worth mentioning that even though shale gas production in Europe will require years to start, Europe can benefit from shale gas before that in the form of decreasing natural gas prices and growing liquefied natural gas (LNG) supply. The North American shale gas boom has already led to oversupply of natural gas in the U.S., which has driven prices down and forced companies to temporarily cut back drilling. Before the new technological advances in the shale gas production, energy companies were investing billions of dollars in LNG facilities in the U.S. Now LNG import terminals run at very low capacity and there has even been discussion about turning them into export terminals instead. Due to the growing natural gas supply imported LNG will no longer be needed in the U.S., which will probably free LNG shipments to other destinations. This could cause a slump in natural gas prices even on a global scale and increase LNG affordability.

The IEA expects a large growth in LNG production during the next few years. On the flipside, it warns that plummeting natural gas prices and weakening demand together with the current economic situation could jeopardise future investments. This could lead to re-tightening natural gas markets after a few years, when the demand for natural gas supplies recovers. On the other hand, if the shale gas exploitation becomes more common and spreads outside North America, the amount of natural gas in the global markets may well increase.

Natural gas fits in well with the targets to reduce carbon emissions because it causes lower carbon emissions than other fossil fuels. It can be seen as a bridge between oil and coal, and renewable fuels, and unconventional gas could indeed drive a transformation in the energy sector. Another important energy issue, focal for Europeans, is security of supply. If European – and worldwide – shale gas reserves proved to be wide and their extraction cost-effective, shale gas could really turn out to be a game changer.

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'The BSAG way' - new ideas to rescue the Baltic Sea

By Anna Kotsalo-Mustonen

Throughout the years, the Baltic Sea has been illustrated in a number of ways in this Journal. Each author, naturally, has his or her own perceptions on the issue based on a combination of personal knowledge, experiences and relationship to the sea. What is common to all authors is that they value the sea and perceive it worthy of saving. But the motives differ. For some, the sea is a source of livelihood or has geopolitical value; the importance of the sea can be the result of simply enjoying the sea or the motive can even be as light as that it is trendy and socially acceptable to be conscious about the sea. Most authors present ideas how to save it and how to prevent further damages, but very few report action carried out or action to be started.

Interestingly, even though we all value the sea, it is in terrible shape and facing severe risks. One could ask why we haven't reacted even though we regard the sea valuable. It wouldn't be fair to say that we haven't reacted, as we have, indeed. We – all the countries constituting HELCOM (a lengthy agreement otherwise known as the Helsinki Commission Baltic Sea Action Plan) – have agreed on measures that should be taken for the sea to reach good ecological status. The agreement, signed in Krakow on November 15, 2007, provides a roadmap on how to save the sea. At present, we are living the beginning of 2010 and, so far, only Sweden has produced a national implementation plan.

We have reacted, but our pace is too slow. Simply put, the sea cannot wait. If we allow it to deteriorate further, we face the risk of passing the threshold from where there is no turning back. We need rethinking to pick up the pace. One type of analyzing of the current situation is that, roughly thinking, nobody actually owns the sea. Ownership usually means a natural incentive to treat well one's property and make sure that its value doesn't decrease; rather it should increase. Ownership has been the standard solution by economists to the tragedy of commons; in other words, joint ownership leading to disaster with lack of responsibility. Interestingly, the latest Nobel Prize winner Professor Elinor Ostrom has found evidence that also mutual dependence can lead to desirable results. By this I mean treating joint property, such as rivers, in a sustainable manner. As we cannot designate the ownership of the Baltic Sea to anyone, at least in the short run, we should look for new solutions. Professor Ostroms findings are encouraging.

When we, Saara Kankaanrinta, Ilkka Herlin and I, founded the BSAG foundation in 2007, we thought from the very beginning that we need a new approach. The existing methods to solve the problems of the sea are not enough and are too slow. Due to the urgency and large variety of problems, a new way of thinking of the problem is a must. Our hypothesis was that we need re-thinking or 'social innovation' on at least at two levels:

First, at the level of single projects: The traditional way of planning single projects and then collecting funds from the public to implement them one-by-one is an effective means to solve local problems and problems that are easy to 'package' and respond to the psychological needs of donors. However, this approach can never be fast enough to solve all the problems needed to save the sea. Also, the interest of the public is unpredictable, as new targets for nurturing guilty conscience emerge constantly.

BSAG's discovery here is not to collect money and buy implementation, but to catalyze a wide variety of concurrent projects by identifying natural incentives of different parties, companies, organizations, public entities, NGOs, to carry out projects that, at the same time, benefit the Baltic Sea and the implementing party. The outcome we are after by catalyzing win-win situations is that each party uses their own best competence or added value for the benefit of the sea, rather than donating money for the purchase of competences from third parties. By catalyzing projects, we also create a situation in which it is in the self interest of these parties to oversee that the projects are completed with high quality standards, as their own interests are in line with the Baltic Sea goals of the projects.

The problems of the Baltic Sea are many, and several direct and indirect competencies are needed to treat the problem-areas related to the eutrophication, maritime risks and emissions, threats imposed by hazardous substances and last but not least the threats to the biodiversity. The competencies in form of products, services and know-how are used directly and indirectly to work with these problems.

We already have proof that our innovative approach works. Some 120 companies, NGOs and public entities from all the nine coastal countries as well as from the U.S., the Netherlands, Belgium, France and Norway, have publicly manifested at www.bsas.fi that they will carry out a new project that will directly or indirectly help the Baltic Sea. During only nine months, and with minimal resources, the new innovative approach used by the BSAG has generated more new activity than anybody could dream of.

Second, at the societal level, the BSAG introduced a concept that has potential to be the dominant design for saving the sea and other nature targets in future. This social innovation can more or less be described as creating positive interdependencies in a social context. Our preliminary thoughts are encouraged by the path-breaking research findings by Elinor Ostrom. We continue our efforts to identify interdependencies and creating opportunities for new interdependencies.

An example of the latter one is the bold suggestion by the BSAG foundation to the President of the Republic of Finland, Ms Tarja Halonen, and the Prime Minister of Finland, Mr Matti Vanhanen, to form an exceptional trio for a novel approach. This led the trio to work together for the Baltic Sea in a process that we call the *Baltic Sea Action Summit -process* (BSAS-process). In the process, BSAG, as an agile NGO, manages the collection and follow up of the commitments; the president and prime minister support the process as the representational leadership of the country by providing their influence and networks.

The BSAS-process culminates into a high level *Baltic Sea Action Summit* in Helsinki in February 2010 where all those who have made a commitment to act will meet. Public decisions to act are called *commitments for the Baltic Sea*. The interdependencies will materialize in several levels: firms solving some problems of the sea together, and thus being interdependent on each other, for the outcome. Some problems present an opportunity for R&D, new markets or new networks. Simultaneously, heads of state will present commitments that, in turn, will create opportunities for companies.

The work by BSAG foundation will continue after the BSAS Summit 2010. The foundation will continue to bring together the best of public, scientific, entrepreneurial and philanthropic approaches to benefit the Baltic Sea. This requires an open mind and a fearless attitude to further challenge current practises and look for new and better approaches at all levels of the Baltic Sea work.

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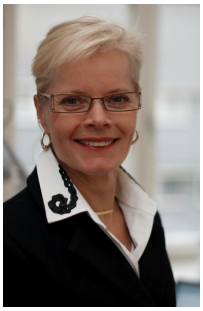

The EU strategy for the Baltic Sea Region - a first step

By Pertti Joenniemi

A milestone has been reached with the EU Commission having approved a Baltic Sea Strategy in June and the Council then endorsing it in October 2009.

Pawel Samescki, Commissioner for Regional Policy, rightly called the strategy a "new animal". It presents something entirely different, he argued, in allowing the EU to coordinate its policies in the region "in a "new modern way". And more generally, whereas the Union has for some time been occupied by developing policies and approaches vis-à-vis its exterior, it now seems that this direction of development has been complemented by an increase in the emphasis on intra-EU forms of integration.

In order to give such kind of regionalization a further push the issue has also landed on the Commission's agenda and the approach chosen is one of devising a comprehensive strategy common to the EU at large, albeit specifically directed at the Baltic Sea area as an initial test case. If the endeavour proves to be a success, the argument goes, it might be followed by other sea areas but also by mountain areas such as the Alps or river basins like the Danube. They could be similarly targeted.

Significantly, in the context of aspiring for an integrated approach the Baltic Sea area has then also been depicted as a singular entity both because of its potential for development as well the problems faced in the region. In being embraced as a 'macro-region' and elevated into a 'model', addressed as a 'test case' or characterized as a 'pioneer', the future of the Baltic Sea area has inevitably turned into an issue of considerable concern not only for the Commission and other potential candidates but also for the Union at large.

Thus, regionalization appears to have been provided with a more pronounced, legitimate and instrumental standing within the Union. It is in fact assigned with considerable priority as macro-regions are being viewed as important instruments for the EU to achieve its own internal grand objectives. The strategy is, in this sense, not just about the Baltic Sea region *per se* and macro-regions are not merely depicted as something that the Commission has to relate to and digest because of bottom-up pressure from the region itself. Instead, they are purported as an integral aspect of the essence of the Union. Moreover, the strategy does not just offer insight into the policies of the EU in relation to a particular region but it also provides crucial information on how regionalization and macro-regions such as the Baltic Sea-related one are viewed and approached in the context of EU-developments at large. Already the use of labels such as 'pilot' or 'experimental' testifies to this. It indicates that something beyond the ordinary is aspired for. The target set is not just one of intensifying the pursuance of established policies but one of embarking upon something new. Thus, the vocabularies used points to efforts of achieving a temporal change and progress beyond the ordinary.

The turn is then also quite concretely to be evidenced in the role assigned to the Commission. Whilst development in the Baltic Sea area has previously been shouldered by the countries of the region with the Commission mainly being present as an observer, the aspiring for an integrated approach in the context of the new strategy grants the Commission as far more central role. It has been allotted with a coordinating of the proposed initiatives, tasked with the reviewing of eventual progress and made responsible for the maintenance of the dynamics inherent in the Action Plan part of the strategy. The Commission is thus far from an observer once the implementation of the strategy starts this year as one of the key tasks faced by the new EU Commission.

Yet another sign of change consists of the employment of the concept of a strategy in naming the document approved. It unavoidably carries connotations of something out of the ordinary. The usage of the concept conveys the meaning that something of exceptional importance is being addressed and sorted out. Once employed, stakes are raised and issues get deliberately politicized as ordinary approaches do not appear to suffice. Furthermore, there is the implicit recognition that things could and should take a different turn. This is then to say that changes are called for and borderlines broken particularly in a temporal sense. Hence 'progress' is a word frequently used in the context of devising a strategy, this then implying that there is assumedly both a need and potential for the prevailing state of affairs to be altered. Progress may be warranted in the form of a re-start with regional integration having stalled or having experienced an outright backlash such as the one caused by the recent economic downturn or, to include a more positive perspective, because the success already achieved provides the ground for the region to take further steps on the path of regionalization and European integration. A strategy in the latter sense is not about remedying stagnation but providing stimulus and direction for further progress.

It may be safely assumed that the use of the terms strategy is deliberate and well considered in the document put forward by the Commission. Clearly, the Baltic Sea Strategy is meant to steer away from the current and ordinary state of affairs for the region to steam towards further change. The use of the concept is, in this sense, openly performative. It testifies to an interest of providing regionalization with a further push within the internal sphere of the Union and to single out, to a degree, a particular European region as a target for strategic thinking and quite distinct policies. Moreover, the EU itself has been allotted – as noted above – with a key position in the process of formulating a strategy, although it has at the same time been bound to do so by engaging itself in a dialogue with various other relevant actors such as the states of the region, some subnational units (Ländern, voivodeships, committees of the region etc.) and a variety of region-specific organizations.

Although the approving of an EU strategy for the Baltic Sea Region stands for something ground-braking as such, it is also to be noted that the very process of coining and formulating the document has yielded important insight into the state of affairs in the Baltic Sea area. Of particular value is the critical insight including the recognition that the Baltic Sea area appears to be too densely organized. There has been a considerable proliferation of region-specific bodies and yet it appears difficult to get them to work in a coherent and target-specific manner. In short, the high degree of institutionalization has sometimes hampered rather than advanced the pursuance of effective and successful policies. This is to be remedied, the strategy proposes, by improving the coordination of the various initiatives, by singling out priority areas, designating lead partners each responsible for their specific areas as well as by the introduction of specific targets and review dates. Above all the aim is one of moving beyond the tradition of empty declarations, a tradition that has to some extent been discernible also in the sphere of Baltic Sea cooperation.

It is quite logical in this light that the strategy does not propose the establishment of new institutions. However, it also refrains from passing recommendations that aim at a bolstering of regional developments through the allocation of additional financial means – with the caveat that this reservation and policy applies "at this time". Thus, in some sense the strategy is left hanging in the air. It is profoundly in the interest of the other regions within the EU as well as the Union at large that the Baltic Sea area really succeeds as a 'pioneer', and yet this insight does not seem to have sufficiently dawned upon the other regions part of the Union. Obviously, a competitive approach prevails and has to be challenged and revised for a further break-through to be achieved.

At the same time it is to be noted, though, that the Commission refers in no uncertain term to a process which is merely at its infancy. Only the first step has been taken so far and it may well be expected that once the visions are outlined and priorities set as well as agreed upon, the more practical and instrumental aspects of the strategy will fall in place with the Commission also taking upon itself the responsibility for coordination, monitoring, reporting, facilitation of the implementation and the follow-up. Among other things a review of "the European added-value of the strategy" and further implementation of the Action Plan is foreseen in 2011.

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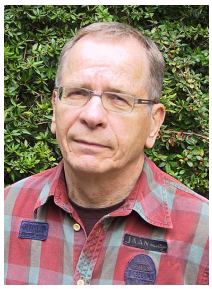

Baltic Sea Region, environment and recycling

By Timo Kuusakoski

In the near future, environmental laws in the Baltic Sea Region countries are going to be built according to targets set by joint EU environmental policy. In addition to Sweden and Finland, newer EU member countries like Estonia, Latvia, Lithuania and Poland are going to build their national environmental laws according to the EU's approved guidelines and directives.

The waste directive approved by the EU parliament and committee determinates clear goals and course regulations regarding how member countries should build their laws according to environmental policy set by the EU.

The amount of waste ending up in landfills should be clearly decreased, and at the same time re- use, recycling and recovery should be developed.

A five-step waste hierarchy should be similarly implemented by all membership countries as part of their national law by the year 2011. The hierarchy is as follows:

- avoid creating waste
- re- use
- recycling
- recovery
- landfilling

Approved detailed directives set by the EU are already determining the Baltic Sea Region's waste policy - for example incinerating, landfilling and cross-border international transportation of waste. In addition to those previously mentioned, the EU has set a whole bunch of producer liability-based directives, guiding producers and importers to take care of the waste management of products they have produced. During the 2000 decennium, end-of-life vehicles (ELVs), waste electronic and electric equipment (WEEEs) and battery producers are obliged to organize those products into re –use, recycling and other waste management.

Approximately 80 million people live around the Baltic Sea cost lines. This population is creating plenty of waste to be re-used, recycled and recovered. If using rough benchmark figures – annual daily living and industrial business work creates around 12 million metric tons of ferrous scrap, roughly 0,12 million tons of different non-ferrous metals, 40 million tons of mixed household waste, 8 million tons of construction waste, and different kinds of bio waste fractions to be further utilized amounts to at least 8 million tons. Currently, the utilization rates of all of the previously mentioned materials are varying, but it can definitely be said that they are not highly or optimally organized.

The mentioned benchmark figures are naturally varying depending on the regional wealth and industrial levels of the coastline cities and villages. Independent of the region's wealth or population, it is important that this, one of the most unique Sea regions in the world, is actively setting standards, which are setting guidelines for other countries and regions in the world. The set targets should be reached by effective recycling and material recovery rates – of course, taking into account the environmental aspects.

One point of concern is that the implementation of producer-liability principles to each of the Baltic Sea countries' own national laws has not come to fruition according to the EU's target time schedule. Another concern is that the organization of waste management has also proved to be difficult in certain countries. This has created a situation where it is impossible for the member countries to fulfill the EU´s utilization targets.

Kuusakoski Recycling has built a network covering the Baltic Sea Region, which enables waste sourcing, processing, re-using and land filling in a way that emissions and burdens to the environment can be minimized. Harmonized waste laws and working principles of the EU member countries are enlightening co-operation between the membership countries and enabling effective working models which are making it easier to combine the waste streams of different member countries. This way, economical advantages can be achieved and a more cost-effective way for utilization is created.

Citizens and decision makers of the Baltic Sea Region are required to take a much stronger and proactive grip to encourage behavior that helps to reach these targets. In addition to primary resources, there are possibilities to save the environment, energy and at the same time to even create electricity heat and valuable raw materials. Co-operation between environmental authorities has to be active, and the EU region's harmonized criteria must aid in achieving higher utilization rates and planning how waste management should be developed. For private companies, like Kuusakoski Recycling, the co-operation between the public and communal sectors is broad. There are big differences in ways of organizing waste management in the Baltic Sea member countries, but the best possible co-operation is giving best results.

The set goals should be approached by the support of utilizing effective technology, which should be constantly further developed. Also, technology and logistical development are influencing people's attitudes in their every day living, this increasingly starts to support proactive actions.

Assuming co-operation is heading in the right direction, the Baltic Sea region will be an impressive example to the rest of the world on honoring the environment in a responsible way and, from a business point-of-view, being an effective, harmonious area.

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President and CEO

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Nanotechnology on the northern shores

By Risto Nieminen

Nanotechnology is perceived as a great enabler for innovations across a wide range of industries and applications, from information and communication technologies to molecular medicine, from energy and environment to recycling and waste treatment. The roots of the ongoing rapid progress in nanotechnology can be traced back to the revolutionary 20th century discoveries in the physical sciences, when the conceptual and experimental groundwork for the atomic and molecular world was laid. These discoveries include the advent of techniques for atomic-scale probing and investigation, and the development of the theoretical framework based on quantum physics and chemistry.

Following Physics Nobel Laureate Richard Feynman's 1959 visionary challenge to physicists, the term "nanotechnology" was coined in the 1980s to describe the concept of designing and manipulating nanometer-scale objects down to the size of individual atoms and molecules. This includes both the miniaturizing, "*top-down"* approach which, starting in the 1950s, has enabled semiconductor microelectronics and the information-technology revolution, and the *"bottom-up"* approach. The latter is based on the programmed and controlled self-assembly and self-organisation of atoms and molecules, mimicking the biological world in its ability to fabricate objects with atomic-scale precision.

The key target of the nanotechnological approach is *functionality,* the idea to process materials as atomic assemblies to achieve the desired physical, chemical and biological properties. At the ultimate limit, atoms and molecules can be viewed as Lego bricks assembled to myriads of possible structures. The challenge is to do this in *a controllable way*, and to be able to *scale up* the building process to the levels required by industrial and economic viability. If this can be done, the possibilities for nanotechnology are boundless, and can lead to the ultimate recycleability of atoms on Earth.

Starting from the 1990s, the worldwide investment in nanotechnology and the underlying sciences has grown rapidly, and is presently at the level of 5-6 billion € annually. There are major government-funded programs underway in the EU, the US, Japan, and the Asia-Pacific area. Russia's government has recently announced that it will inject 318 billion rubles (7.8 billion €) by 2015 into its ambitious plan to develop and commercialize nanotechnologies.

Among the other Baltic Rim countries, Finland has been an active and early player in nanotechnology research and development. Tekes, the Finnish Funding Agency for Technology and Innovation, launched an early drive in the 1990s, followed by larger, ongoing research programmes in nanotechnology and functional materials. The Academy of Finland, responsible for basic-research funding, is running an agency-wide nanoscience programme, following a succession of targeted materials-research programmes. During 2005-2009, the total public-sector investment in nanotechnology was over 120 million €, including approximately 30 million € for infrastructure and instrumentation at universities and research establishments. The public funding was at least matched by private-sector funds. The public investment in nanotechnology and materials research continues rise, despite the economic downturn.

The role of basic research is crucial for the science underlying nanotechnology. It provides a major intellectual challenge, and is by nature deeply interdisciplinary. Research centers, where scientists with diverse backgrounds in physics, chemistry, biology, medicine and materials research meet each other in joint efforts, have been spawn at universities and research establishments worldwide, also many in Northern Europe and the Baltic Rim countries. Nanoscience and nanotechnology are also an important opportunity and challenge for universities in their efforts to revamp curricula and degree programmes to meet modern requirements.

Successful nanoscience research is critically dependent on high-quality infrastructure, including clean-room facilities for growth and processing, high-resolution instruments for atomic-scale imaging, manipulation and characterization, as well as major computing facilities for predictive modeling and simulation. The strongest nanoscience research constellations in the Nordic area are in the Helsinki-Espoo region in Finland and in the Öresund region in Denmark and Sweden, with many smaller, more focused activities at several university campuses. In the future, the major investments by the Swedish government in the world-class facilities for synchrotron-radiation and neutron sources in Lund could make it a unique hub for advanced characterization of nanomaterials.

Nanotechnology is seen as a cross-cutting competence area to enable innovation in all the key clusters of Finnish industry: information and communication technologies (ICT), the forest cluster, energy and environment, metals, construction, as well as health and well-being.

In *ICT*, nanotechnology in the form of novel materials, printed electronics and photonics means new types of devices, especially mobile, with enhanced functionalities and longer battery lifetimes. Among the new functionalities will be integrated sensor and monitoring capabilities, better displays and larger memories. The *forest cluster* is looking for new wood-based materials as well as nanotechnology-enhanced production technologies.

Cleaner and more efficient solutions for *energy and environment* are crucial for sustainable societies. Nanotechnology enables the development of environmentally benign materials and processes. An important example of the latter is heterogeneous nanoparticle catalysis for cleaning engine exhaust gases. More affordable and efficient solar-cell and fuel-cell concepts are also emerging from nanotechnology.

The *metal industry* is looking for novel lightweight alloys and composite materials, as well as intelligent solutions for production and automation. In *construction*, nanotechnology enables anti-fouling, self-healing and self-cleaning surfaces, as well as concrete-steel assemblies with tailored properties. In the *health sector*, nanoparticles are used in diagnostics. There are major opportunities in biomaterials for regenerative medicine, in drug discovery, and targeted drug delivery.

The number of Finnish companies active in nanotechnology has grown rapidly, and exceeds now 200. More than 70 of them have commercial products or processes. The annual turnover of the nanotechnology sector is approximately 320 million €, and the industry employs approximately 3000 professionals. The projected size of nanotechnology sector in Finland exceeds 1.3 billion € in 2013, with more than 10000 employed professionals.

This bodes well for the Finnish industry in its effort to maintain diversity and competitiveness. Given the rapid growth of nanotechnology applications, it is also important to engage the society at large in a dialogue of possible environmental and health issues related nanotechnology, notwithstanding their often exaggerated role in popular literature.

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Economic crisis in Russia - specificity of management policy and lessons for economic policy making

By Boris Porfiriev

The waves of the major financial and economic crisis, which started in the USA in late 2007 and then shortly enveloped the biggest word economies reached Russia and hit the national economy in October 2008. This impact turned to be the most severe among the G8, at least by the end of 2009 as cool statistics reveal.[1] The key reason why the crisis in Russia has been most severe among the G8 roots primarily in *the structure of the Russia economy* with oil and gas persisting as undisputable leaders of its export. However, the protracted nature of the crisis to some extent at least could be attributed to the tardiness of crisis response dependent on the policy makers' *perception and assessment of the negative changes both in the US and other major economies and Russia.* No less important is such a perception in terms of the crisis recovery efficiency: in January 2010 some key officials believed that the crisis was over while many economists kept considering it too early to declare.

The policy makers' perception evolved though three modes. Initially it implied denial of a crisis. As late as November 2008 the official media cited the minister of finance saying, "we see some problems, no crisis", "Russia is the only safe heaven in the world economic turmoil". By that time the EU first (Q3 2008) and then USA and Japan (November 2008) admitted recession. Curiously enough, also by the end of November 2008 the Russia government developed the draft of first anti-crisis program. The next crisis perception mode involved partial admission with grace notes. From December 2008 to February 2009 the prime minister mentioned about "crisis occurrences or events", need to "cope with the implications of the global crisis to the local economy" and "withstand to the financial infection from overseas". By that time the government's first anti-crisis program was published with the draft of its second, improved version ready, too. Finally in March 2009 the crisis was formally admitted and the government's final version of the anti-crisis program was published focused on internal economic vulnerabilities.

The evolution of the perception modes above is in no way unique to Russia but instead is quite typical for crisis portraying both by policy makers and media.[2] However, *implementation of the crisis management policy carried out in Russia as a set of governmental anti-crisis programs or stimulus packages* (as in the other major economies) had its specificity. The key features and peculiarities of the programs included: tardiness of development and approval with the delay no less than 6 months; the highest cost among the G8 and China in relative terms: at our estimate, the percentage of the cumulated anti-crisis federal budget allocations and appropriations in the GDP by the end of 2009 amounted in Russia to 20 ($560 billion)[3] ; in EU – to 13 ($2000 billion); USA – to 10 ($1500 billion) and China – to 8 ($580 billion) (the numbers are rounded).

In addition, the first federal anti-crisis program turned to be vague dispersed over 17 so-called 'priority areas' with excessive bias on bailing out banks and big corporations (resembling somewhat Polson plan in USA), short-term and expensive credits poured to commercial banks and cheap subordinated credits generously splurged on 'fat cats', most of whom converted rubles to hard currencies then deposited in foreign banks. However, the second federal anti-crisis program was more focused with priorities declared reduced to seven: entirely fulfilled obligations of the government to provide social protection to the most affected communities; maintaining and strengthening industrial and technological capacity for the future economic development; internal demand as a basis for recovery and future development; modernization of economy (rushing from oil & gas growth to development based on innovations including investments in human capital and energy efficient technologies); protection

[1] In terms of economic growth, investment and domestic demand reduction in Q4 2008 GDP growth rate plummeted to 2.2% from 7.8% in Q1-Q3 2008 followed by a net decline of 8,5% in 2009 (preliminary data). This was precipitated by industrial production output in 2009 fell by 11.5% while investment into fixed assets shrank by as much as 17.6%. Latest official economic forecasts of the GDP growth rate for 2010-2012 vary depending primarily on the expected oil price dynamics from conservative estimate of 5.2% – implying that 2009 sharp decrease will not be overcome – to moderate optimistic 11.2%, which would mean increase by 2.2% above the pre-crisis 2008 indicator. (See: Ministry of Economic Development of the Russian Federation (MED), Updated Forecast of the Socioeconomic Development for 2010 and Planning Period of 2011-2012: Basic Parameters (in Russian). Moscow, December 2009. www.economy.gov.ru/minec/resources/8848ae8040dcabc7bd59bfc8cc8c99f3/prognoz20102012.doc) Thus even if achieved it would be mere 0.7% of average annual GDP growth between 2008 and 2012 that correspond to stagnation or weak economic growth. (These numbers match the earlier estimates by MED providing for 0.1% to .3% in 2010 and up to 2019. See: A. Kudrin (the Russia minister of finance) and A. Klepach (the deputy minister of MED) presentations at St Petersburg International Economic Forum in summer 2009). The annual growth rate of retail sales slowed by 6.7% in 2009 and expected to rise to modest 5-6% in 2011-2012. The picture above should be amended by other macroeconomic indicators showing: 1) the budget shortage (up to 10% GDP with the National Wealth Fund operations inclusive) in 2009 and decreasing by over 5% GDP established earlier for 2010 and 3% GDP in 2011; 2) external borrowing increase over $10 billion after 2010 with conceivably no more Reserve Fund after 2010! 3) dynamics of external trade balance (in any scenario is assumed that exports will exceed imports by $100 billion in 2012); 4) currency outflow and persisting and huge corporate debt burden with almost $500 billion or corporate debt accumulated by late 2008 with $60 billion paid in Q4 2008 and $160 in 2009 meaning international reserves declined markedly. One should also add persisting high level of inflation by the end of 2009 amounting to 11.7% (although reduced against 13.3% in 2008 and expected further reduction to 6-7% in 2010-2011 and 5-6% in 2012). This will facilitate increasing the amount of real disposed income by 10.3% in 2010-2012 but at the same time the amount of living wage is expected to change negatively with the percentage of those with the level of incomes below the living wage benchmark remaining almost the same in 2012 (around 13%). Unemployment that reached some 6.5 million people in 2012 will go down to optimistically 5.6 million or 7.7% of economically active population (or conservatively to 6.2 million or 8.5%, respectively).

[2] See, e.g.: Rosenthal, U., Boin, R.A. and Comfort, L. (eds.) Managing Crises: Threats, Dilemmas and Opportunities. Springfield (IL): Charles Thomas, 2001; Boin, R.A., t' Hart, P., Stern, E. and Sundelius, B. The Politics of Crisis Management: Public Leadership under Pressure. NY: Cambridge Univ. Press, 2005.

[3] By mid April 2009 the total anti-crisis package amounted to some 12% of the GDP with half of this making up the fiscal stimulus and another half composed of liquidity provided by the Central bank and the government on a temporary basis. See: Kudrin, A.L. (Deputy Prime Minister and Minister of Finance of the Russian Federation). Russian Economic Policy and the Global Financial Crisis. Transcript of speech given at the Peterson Institute for International Economics on April 24, 2009.

of business from officials and combat against corruption; securing normal functioning of the financial sector including stock market, making timely and efficiently implemented decisions; responsible macroeconomic policy, maintaining equilibrium ruble rate, curbing inflation.

Implementation of the policy priorities above in 2009 was far from declarations, partly for objective reasons (too huge inertia of the existed poor institutional system, too little time for 'big expectations', etc.) and partly due to the 'human factor'. For instance, funding of the targeted development programs was frozen or cut. Allocations for energy infrastructure and 'clean' innovations within the federal anti-crisis program are miniscule with less than 2% of the respective package against 12% in USA, 21% in Germany, 23% in France, 38% in China and skyrocketing to 89% in South Korea. As the president of Russia put it at the International Economic Forum in St Petersburg in July 2009, "innovations fail to make any progress".

Specific lessons and recommendations for policy making involve set of measures in both commodity and financial sectors of the national economy as well as in its governance. In the financial sector these should include: 1) Reduction of inflation by constraining appetite of monopolies and cutting down utility and transportation tariffs, food prices and cutting down huge budget expenditures on administration and management. In 2009 the rate of inflation reduced to less than 9% almost totally thanks to the sharp decrease in demand caused by the crisis. 2) Adding to the "long" money funds for investment via reform of the national pension insurance and insurance systems. The capacity of the existing systems in Russia is miniscule with accumulative pension funds of the enterprises amounting to some $10 billion (versus around $150 billion in Kazakhstan) and collection of insurance premiums less than $40 billion or a bit over 2% GDP only. Good news is that the federal government has already increased the level of pensions in 2009 and will add 40% more in 2010. However, given that the current level is some 25% of the average wage against the 40% minimum recommended by ILO this should be considered with reservation. 3) Strengthening the banking system by decentralization and loosening the Ministry of Finance (Treasury) excessive control over "budget" organizations and increasing efficiency of the Central bank operations.

In the commodity producing sector the focus of the policy should be development of the *realistic and efficient strategy* to diversify economy. While diversification means little right at the moment when markets all fail at once, it is a decisive advantage when recovery begins and long-term development is considered or when individual vulnerability to crisis agents' impact is involved.[4] Diversification implies: 1) Reducing the tax load on enterprises on condition that the savings are invested in modernization of machines and equipment, particularly in energy and electrical machine building, modern regional and big cargo planes production, gas- and petrochemical industries and wood processing. Special attention should be paid to development of the 'clean technologies', which comes in tune with the official strategy for innovative growth and pledges to reduce carbon emissions up to 25% by 2020; 2) Increasing the investment component of the federal consolidated budget and 3) Using the part (up to 50%) of the national currency reserve as loans to commercial banks for crediting investment projects.

In the *area of governance* of the economic development a set of the major institutional changes should be carried out under the permanent and tough control of the president and prime minister to provide efficiency of government and public management via: a) combating corruption at all levels of decision making, and b) upgrading the professional qualities of municipal and regional officials, including those in the crisis management area.

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[4] See: Nor just straw men. The biggest emerging economies are rebounding, even without recovery in the West. The Economist, June 20th 2009, p. 60-62.

Russia's social model of bureaucracy

By Jon Hellevig

I have identified three main problems which Russia has to overcome in order to create sustainable prosperity. These are: inflation, corruption and bureaucracy. I believe that the two former ones have been properly identified and even when the results are not so evident as we would wish the fight against them goes on to full extent. But in regards to bureaucracy it seems that even the problem has not been properly identified.

President Medvedev and Prime Minister Putin are the first to admit that Russia has a problem with bureaucracy. And like with any serious problem, the admission goes a good way for the cure. But apparently they do not fully grasp the nature of the problem. Bureaucracy is not just a question about how state officials behave; rather the whole administrative culture is the problem. However maliciously or vexatiously the bureaucrat acts, he is only acting within the received framework of the system of detrimental social practices and laws. Ignoble social practices cannot be changed overnight, but these political leaders have all the power on earth to change the laws of Russia. But it seems to me that they have not realized that they should start with just that. Instead it seems that too much effort goes on to conceive of ways to change the psychology of the bureaucrat and to conceive new rules which would deter his insatiable bureaucratic appetite.

These leaders could start with a total revamp of the laws of Russia. Each piece of legislation presently in force in Russia is modeled on the Soviet rule-kit – the idea to equip each law with useless but mandatory bureaucratic procedures that companies and citizen have to comply with just for the sake of doing it. To some extent these ideas stem from the maxim of the command system according to which all that is not explicitly allowed is to be considered forbidden. On the other side of the coin is the idea that the lawmaker wants to catch all potential law breakers– that is, in their mind all of us - before they actually break the law. There is an underlying firm belief that by requiring a lot of documents to be produced in a set form this aim will be achieved, even though it is this very aim that creates the opportunities for machinations by manipulating the form which in Russia is so much more valued than substance.

A very peculiar consequence of this bureaucratic formalism is that the lawmaker kind of considers that it does not have the power to pass binding laws before all the subjects explicitly express their consent by complying with the rules. In this vein, for example, the corporate laws of Russia require that companies undergo cumbersome processes of re-registering their charters to comply with any new provisions of the law. In countries with a mature administrative culture it goes without saying that a company charter is not valid to the extent it is in breach of law and no ridiculous mass re-registrations are needed. Last year minor changes in the law on limited liability corporations led to the need to re-register the charters of every single LLC company in Russia. This was a task that the tax authority in its capacity of registration authority, of course, was not prepared for. And because the bureaucrats at the tax office contrary to the Russian constitution refuse to accept a signed power of authority by the general director, all the general directors in the country had to stand personally in line for hours and sometimes days in order to do the filing. At least from Moscow we have reports that to comply with the bureaucracy people had to occupy their place in the line as early as four o'clock in the morning.

But bureaucracy in Russia is not only about selective and arbitrary adherence to cumbersome and absurd rules and red tape; rather it characterizes the entire administrative culture. It forms the misconceived model of how to conduct common affairs in an organization. Unfortunately the bureaucratic model has permeated society at large and even private enterprises follow the same bureaucratic command model. Russian enterprises mirror in all essentials the state administrative culture, a conspicuous feature of which is that cabinet ministers and executive committee members come to meetings as if they were schoolboys that have been summoned before the principal to get a lesson they will not forget. In this model there are no consultative meetings, rather the chief summons his subordinates for monologues, commands and reproaches.

Unfortunately this model is even actively propagated by the way Russian television cover government meetings. Most conspicuously the bureaucratic model entails the acceptance of the hierarchical command structure which effectively prevents any candid feedback from floating to the top.

We know from modern Western business administration that the quality of the corporate culture plays a decisive role for a company's success. We could compare the national economy with a corporation. Any corporation that would run such a corporate culture like the Russian administrative system would likely fail sooner or later. To succeed in the competition companies have cut down administrative barriers and organized themselves to meet the demands of the customer. And so have countries. A proper corporate culture spells better operations, more revenue and more profit. The same effects come about when a country liberalizes its administrative culture. Cutting bureaucracy would equal billions and billions of stimulus money as companies would be faster to seize and capitalize on opportunities and efficiency of operations would increase. I am confident that if Russia would seriously start mending its dire administrative culture then that would give an extra one to two percentages of GDP growth each year for at least a decade. Russian economy started a decade ago from very low levels and therefore there has been impressive growth even with these problems in the baggage. But to reach the next level of prosperity bureaucracy has to go.

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Russia

Challenges and prospects in economic use of local natural resources in Belarus

By Aleksei Bykov and Svetlana Vertai

The offence to economic and energy safety is the most important of the challenges for a sustainable development of open export oriented economy of the Republic of Belarus which is the result of high dependence on imports of intermediate goods, including raw materials and fuel and energy resources. The world crisis consequences, with growing protectionism in foreign markets traditional for Belarus among them, result in increase of the negative foreign trade balance. The latter leads to permanent external borrowings and disbalances in the national financial system. A possible factor that could allow reducing imports and boosting exports of goods and services is the extended economic use of local natural resources.

Natural resources that are not to be transported outside the regional economic system under consideration are viewed as local and can be used within its territory; otherwise a resource is considered as centralized. The majority of Belarusian natural resources can be equally classified as local or centralized.

The analysis of scientific publications on natural resources economics and management proves that resource abundance does not automatically turn to economic benefits for a country, yet it may become a significant condition for its sustainable development.

We have studied retrospectively the factors of material, capital and labor intensity in gross value added that influence the production growth in Belarusian industries, as well as the share of local resources in the total material consumption over the period between 2000 and 2007. The analysis was based on “input-output” tables’ data processing using correlation and regression methods. We found out that the industry supply with local resource did not essentially influence on the production growth. The analysis also revealed the basic causes that hinder the production growth in Belarusian industries with a big share of local resources, including:

- insufficient advanced processing of the local raw materials into final products;
- low competitive position of goods produced by specific industries with a big share of local natural resources due to the use of obsolete and overworn equipment as well as insufficient application of the innovative management technologies, particularly marketing concepts, entrepreneurial skills, flexibility and adaptability.

The analysis done helped to ground methodological approaches to economic assessment of local natural resources involvement into economic circulation. The general idea for the techniques offered is the choice of the value added parameter as a main criterion for decision-making:

1. Method of decision substantiation for export of products based on local natural resources is applicable for goods traded at a stock exchange. The best variant of raw materials use (provided its economic efficiency) is where we create the maximum value added on a standard raw material unit.
2. Method of efficiency estimation for investments into projects of processing local natural resources. The project to implement will be the one with the minimum value of the key indicator of the gain capital capacity, taking into account its commercial payback. The gain capital capacity indicator is calculated as a ratio of the project investments amount to the annual value added created in the project.
3. Method of efficiency estimation for delivery of products manufactured mainly with the use of local natural resources, to the domestic market. It assumes the analysis of the value chain within a integrate business process – from raw material extraction or purchase to consumer goods production and selling. It is followed by calculating indicators of goods prices, total value added and material costs within the value chain. The efficiency criterion shall be the indicator of total material costs adjusted to the price and quality of the final produce; this indicator should be minimized.

These techniques applied to Belarusian companies specialized in forestry, wood processing, road construction and food processing has allowed validating strategic directions for development of firms that exploit local natural resources:

- The strategy of re-investing incomes from the export of raw materials into technological re-equipment implies the development of manufactures with advanced processing of raw materials through accumulation of raw material export incomes accrued during a period of favorable pricing environment.
- The strategy of joint value chain management is based on the interaction between the companies included in the integrate business process of the final produce, to find optimum decisions for all participants and decide on the subsequent joint distribution of incomes.

It is obvious that the principal limit to solve the problem of economic use of local natural resources in Belarus are considerable capital investments in manufacture modernization that will be required.

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Thematic network on geopolitics and security

By Lassi Heininen

The Thematic Network (TN) on Geopolitics and Security was established and approved in autumn 2009 by the Council of the University of the Arctic (UArctic) and the Steering Committee of the Northern Research Forum (NRF). The two detailed focus areas of the TN are first, Studies on (northern) Geopolitics and second, Studies on Security and different security dimensions. These two themes include different sub-themes, such as how geopolitics is present and implemented in the High North, what might mean indigenous point(s) of view of geopolitics, and how the North is seen in world politics and economics; and what might be among key indicators of the geopolitics in a changing North. And further, how different discourses on security are implemented in the North, what are special features of Northern security, and what kind of security factor climate change is.

The main aims of the Thematic Network on Geopolitics and Security are on one hand, to combine the two focus areas together, promote 'interdisciplinarity' and draw up a holistic picture on Northern (geo)politics, and on the other, to identify and analyze key indicators of northern geopolitics as well as special features of northern security. One more aim is to implement the interplay between research and teaching, between senior and young researchers as well as scientific and traditional knowledge(s), and between science and politics.

Behind the focus areas and aims of the TN is the 21st Century's geopolitics, where the High North is not a marginalised and isolated region, but closely integrated into the international community with a manifold growth in its geo-strategic importance in world politics. The region is also (very) stable and peaceful based on active and much institutional cooperation both regionalism by strong civil societies and region-building by democratic nation-states. Furthermore, there is a growing interest toward the region and its resources, and new options for to utilize them, both among the arctic states and globally due to the region's rich energy resources, new (though still potential) global sea routes and its high military-political importance. In addition of these there are also globalization and its flows and global environmental problems, such as climate change. All this means that the circumpolar North has entered into a significant and multi-dimensional geopolitical, geoeconomical and environmental change with new kinds of pressure of both security threats and interests from outside the region which easily emphasize state sovereignty.

At the first stage the Network is consisted of the following scholars from Europe, Russia and North America: Rasmus Bertensen from United Nations University, Matthias Finger from Swiss Federal Institute of Technology, Gunhild Hoogenson from University of Tromsö, Rob Huebert from University of Galgary, Nikita Lomagin from St. Petersburg State University, Heather Nicol from Trent University, Larisa Riabova from Kola Science Centre, Gleb Yarovoy from Petrozavodsk State University, Willy Östreng from Ocean Futures, and Lassi Heininen from the University of Lapland – he is also the lead for the Network.

Among the planned activities for to implement the aims and promote discourse on the two focus areas are to run an annual workshop back-to-back to international meetings and to act as a joint platform for dialogues for the UArctic Institute for Applied Circumpolar Policy and the Northern Research Forum. In 2010 the first event is the Calotte Academy 2010 – it is an annual, international travelling symposium and sub-forum for the Northern Research Forum – which will be organized in Apatity, Russia; Kirkenes, Norway and Inari, Finland in April 8-13, 2010. The main theme of the Calotte A 2010 is *The High North in World Politics and Economics.*

The second event is the 3rd conference of the UArctic Institute for Applied Circumpolar Policy with the title of *Climate Change and Human Security*. It will take place in Rovaniemi, Finland in the second week of September 2010 and be organized together with the Dartmouth College and the University of Alaska at Fairbanks and the University of Lapland. Finally, the Thematic Network on Geopolitics and Security will be involved in the 6th Open Assembly of the Northern Research Forum. This assembly with the main theme of *Our Ice Dependent World* will take place in Oslo and Kirkenes, Norway in October 24-27, 2010.

Discussions in the NRF Open Assemblies are open, democratic and lively with a method for "real-world problem-solving". Particularly they highlight matters of the role of research both in a society and the whole international community, and thus implement the interplay between politics and science, which is much needed, but not so much used, in political decision-making. Behind, is a perception that science is more than labs – it is the people and the environment for to cluster talented people, and build and promote both human capital and social capital.

For example, the 6th NRF Open Assembly entitled *Our Ice Dependent World* will discuss on the significance of Ice and the impact of dwindling ice on the complex interface of nature and society in all climatic zones of the world, both globally and particularly in the Arctic, the Antarctic and the Himalayans. The 6th will take place in October 24-27, 2010 in Oslo and Kirkenes, Norway.

All this is on one hand, based on the mission of the NRF "to provide a platform for an effective dialogue among members of the research community and a wide range of stakeholders to (a) facilitate research relevant to issues on the contemporary Northern agenda and (b) engage researchers, the policy community and other stakeholders to discuss, assess and report on research results and application". Consequently, the fundamental aim of the NRF is both "Dialogue-building" for problem-solving and confidence-building and "Stage-building" for to create a new kind and wider platform and to seek fresh thinking and bold new ideas from the leading minds across the North, and to implement the interplay between politics and science.

In addition to the biennial Open Assemblies there are also other activities organized by the NRF, such as Theme-workshops that lead up to or follow Open Assemblies, various sub-forums and NRF Network of Experts consisting of the NRF Young Researchers. The newest activity is the NRF Theme Project Groups on relevant northern issues acting as an epistemic community in their field(s) by gathering expertise from academia, political activity, administration, business and civil society. These groups are open for those who are interested in to participate in the work.

For more information, you can visit the NRF website (www.nrf.is).

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