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The Conundrum of Energy Security – Gas in Eastern and Western Europe

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This article aims to highlight some of the crucial issues of energy supply and supply security in Eastern and Western Europe. After describing the current energy/gas landscape in Europe, it looks into the main problems and key events associated with gas supply to see whether any lessons can be learned from the past and what the European Union can and cannot do to foster cooperative approaches and/or technical solutions for reducing energy dependence.

Energy supply and security back in the spotlight

Energy supply and concomitant supply security have returned to the spotlight. For more than a decade, supply security was a hot issue for energy specialists and political scientists only and the long period of stable oil and

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gas prices seemed to have convinced politicians that the problem had disappeared. This was especially so for European energy supplies from Russia as the collapse of the Eastern bloc was rather seamless as concerns energy and did not leave major repercussions on oil and gas supplies to Europe.

But, in the last few years, energy security has made it back on the political agenda as a top priority for leaders. From the 1998 Asian financial crisis and the subsequent oil bust onwards, energy market events have been plentiful: with the bust came something similar to the rebirth of OPEC, this was followed by the events of 9/11, the Venezuelan strike in December 2002, the Iraq invasion in 2003 and ongoing military interventions, the unexpected Asian rise in demand, the hurricanes and now oil prices that seem to have settled at a wobbly 70-75\$/bbl. With natural gas prices linked to those of oil, attention has been drawn to the question of gas supply and its security. Chinese and Indian mega-deals with Iran and Saudi Arabia, similar deals in Africa, and Russia's potential redirection of supplies have increased preoccupations about gas supply security as well.

Most energy supply concerns and concomitant political problems in Europe are focused on natural gas, not crude oil. This is due to the fact that it is pipeline-bound, thus in need of long-term commitments and cross-border agreements, mostly between more than two parties: the supplier, the transit nation and the consumer. This is complicated by the fact that once the infrastructure is in place, there is generally no readily available alternative supply route from any one place, indicating total dependence on the supplier.

Moreover, a slow but distinct politicisation of oil and gas has been noticeable. After having been temporarily *putsched* out of office in 2002, Venezuelan President Hugo Chavez has returned, flexing his muscles with warnings of an oil export disruption to the US, charming offensives towards China and the threat of euro-denominated oil exports. Quite similar oil market threats are currently being reiterated by Iran in a situation that seems unlikely to be resolved soon. Finally, the Russian-Ukrainian gas controversy, after having lingered in the air for almost a year, mostly unnoticed by Western European governments, finally erupted in early 2006. This was undoubtedly the event that sky-rocketed the Eastern European energy scenario and problems associated with natural gas to the top of the political agenda of European governments.

Russia's G-8 presidency could have been a reassuring moment for cooperation between the huge energy supplier and consumers. However, coming into the presidency during the ongoing Russian-Ukrainian gas dispute and announcing energy security to be the top priority left observers

bewildered. At the same time, Putin's March 2006 trip to China seems to have realised some of the European governments' worst fears: the cooperation agreement signed to link China by pipeline with *West* Siberian gas fields¹ – which have uniquely served the European market up till now – looks like a reorientation of Russian exports away from Europe. Also, Gazprom's insinuation that it would seek other markets if it did not receive access to European downstream gas companies was perceived throughout Europe as a direct threat. Tension is clearly rising.

Russian supply and related problems

Reorientation of Russian supply?

Today, Europe is by far the world's biggest natural gas import market and will continue to be through 2030. Contrary to common belief, neither Asia (China/India) nor North America (US/Canada) will be the main clients of world gas producers in the future. According to projections, annual imports of North America will amount to just 140 billion cubic meters in 2030, China and India together will come to some 80 bcm, while OECD Europe will total almost 500 bcm/y.² European imports will therefore be more than double that of the two regions together – a position that will have profound implications for global gas markets, their supply infrastructure and security – and, obviously, for the formulation of European interests.

As a direct consequence of these numbers, Europe is seriously concerned about supply options and import origins. However, the same figures also make it highly unlikely that Russia will reorient significant parts of its gas exports to China/Asia. From an economic point of view, it would make little sense to miss out on the world's biggest market for a relatively small Chinese market. Also, the so-called Altai pipeline (from Western Siberia to Northwest China) calls for 3000 km of construction through extremely harsh terrain at an estimated cost of some US\$ 10 billion³ – an amount considered prohibitive by many.

¹ See R. Götz, *Europe and China competing for Russian gas?*, SWP comments 14, May 2006.

² OECD Europe comprises gas exporters Norway and the Netherlands. If Eastern Europe were added, projections would be even higher. OECD/IEA, *World Energy Outlook – Middle East and North Africa Insights*, Paris, 2005.

³ Cost estimations vary widely, running from \$5bn to \$10bn, skewed towards the latter: S. Blagov, "Russia's new China-bound gas pipeline sparks controversy", *Eurasia Daily Monitor*, 31 March 2006 <http://www.jamestown.org/edm/article.php?article_id=2370940>

These facts are certainly well known to the Kremlin. Thus Putin's announcement can easily be interpreted as an attempt to step up pressure on Europe and its politics of gas supply. Russia has undertaken to make a point of demonstrating that Europe is not the only market it can serve and has thus moved just a little closer to being perceived as the pivotal element of world energy supply.

Declining Russian share in European supply

Interestingly, Russia is in any case unlikely to supply the bulk of Europe's future supplemental gas imports. According to the scenario set down in the Russian Energy Strategy to 2020,⁴ Russian gas exports to Western Europe are predicted to increase by only 30bcm/y over the period.⁵ With European imports rising by approximately 10 times this amount in the same period, Russia's share in European gas imports will fall from two-thirds to one-third. Recent announcements by Gazprom have called the original estimates of the "Energy Strategy" too pessimistic and production estimates have consecutively been jacked up, but the order of magnitude stays the same: even with new production forecasts, the Russian share will fall to 40-50 percent.⁶

For a secure European gas supply, this evidently has significant implications. New gas supplies must be sought and strategies for their secure integration into the European market planned. North Africa will certainly play an increasingly important role and so will more remote sources (for example, the Caribbean). In the end, the resources of the Middle East inevitably come into focus as a result of their reserve potential, but even more their market distance. Iran, with 15 percent of total world proven gas reserves, is geographically closer to Europe than the West Siberian gas fields and may soon share a common border with the EU (Turkey).

This is not to insinuate that Russian gas is irrelevant, *au contraire*, Russia is projected to remain the biggest individual import source for Europe. But possibilities of competition between different suppliers will emerge, as will diversification of sources and transit routes. As energy import dependence increases, dependence on Russia alone is bound to shrink.

⁴ Approved by the Russian government in August 2003 <www.mte.gov.ru/eng>.

⁵ Some caution over these projections is required, as their realisation hinges upon the successful development of at least one of the giant fields in the High North, Barents or Yamal, for which most basic technological and crucial financing issues are far from being resolved.

⁶ For an insightful discussion of this issue, see R. Götz, *Russia and the energy supply of Europe – The Russian Energy Strategy to 2020*, SWP Working Paper, October 2005.

Russian supply gap and the lack of reform

In recent energy discussions, a new aspect of energy security is stirring up concern: Gazprom's rather dark production outlook combined with Russia's lack of market reform in crucial areas. Russia's capacity to deliver the quantities of natural gas to which it is committed is seriously being put into question. This may sound surprising, as Russia holds almost 30 percent of total remaining world gas reserves, but it only stresses once more the importance of regulation and politics over geology.

Gazprom is facing heavy decline rates in its super-giant gas fields that have traditionally accounted for more than 75 percent of total production. Falling production is currently offset by the new giant Zapolarnoye gas field in Russia's far north which came on-stream in 2001, however, most studies show that decline rates will nevertheless exceed new production from around 2008 onwards.⁷ New fields, all significantly more expensive than those currently running (Zapolarnoye has already been termed "the last cheap gas"), will have to be explored and invested in soon. But Gazprom does not seem about to take up the challenge. Instead, it is overloaded with tasks and expenses: development of resources in East Siberia, expansion in Russia into oil and electricity, overhaul of pipeline systems in Central Asia and the notable downstream acquisitions in Eastern and Central Europe. In the meantime, Russia is facing extremely high internal gas demand that Gazprom is obliged to satisfy – at prices below production costs. Obviously, all these expenses weigh heavily on Gazprom's capacity to invest in new ultra-expensive gas fields.⁸

Currently, Gazprom's forecasts rely crucially on import of cheap Turkmen gas. However, adding up reports about quantities contracted for export by Turkmenistan, the numbers wittingly exceed total production capacity in Turkmenistan – it would take a miracle to fulfil them. Furthermore, the pipeline system from Central Asia has not been fully renovated, nor have the gas price negotiations with the volatile Turkmen-Bashi been very successful to date.⁹ Consequently, problematic supply disruptions can be expected in the future.

Last but certainly not least, the Kremlin seems to be following a strategy of (re-)monopolisation of energy markets, with Gazprom in the forefront.

⁷ See, for example, V. Milov, *Status and challenges of the Russian gas sector: the endless wait for reform* (Moscow: Institute of Energy Policy, September 2005).

⁸ Shtokman, the world's second largest gas field lying offshore in the Barents Sea, is likely to be the biggest individual investment in Europe in the first half of the 21st century.

⁹ Turkmen-Bashi has stopped gas deliveries several times in the last decade over price disputes with Russia.

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Not only is Gazprom, instead of investing in new fields, buying up the shattered parts of Yukos and other non-gas ventures, but more importantly, it holds the pipeline infrastructure under strict monopoly control. Independent gas producers and oil companies with associated gas production have basically no access to export infrastructure and have reportedly been forced to flare the gas or sell it to Gazprom far below market prices.

Market (and Gazprom) reform and especially third-party access to export infrastructure could remedy the situation and increase incentives for investment by independents. However, the Kremlin's policies at the moment indicate that recent warnings about Russia's gas production gap may well come true. Some analysts set the gap at around 25 bcm/y by the end of the decade and some at 80 bcm/y by 2020.¹⁰ Independently of all geopolitical and strategic considerations of gas supply in Europe, energy market reform in Russia could be *the* "pre-requisite for Russian and European energy security".¹¹

The Russian-Ukrainian gas dispute

The Russian-Ukrainian gas dispute earlier this year revealed quite an interesting string of issues that had been simmering for a number of years, just waiting to surface. When they finally did, Eastern and Western governments were taken by surprise, while actually, the underlying problems were long known.

The conflict between Russia and Ukraine was of both a political and an economic nature. Politically, Russia had been following the events of the so-called Orange Revolution at the end of 2004 with displeasure, as the Ukraine was and still is much more closely related politically and culturally to the Slavic home-base Moscow than are other "colour" revolution countries or the Baltic states where Russian influence has been all but dismantled. Ukraine's stated willingness to enter NATO and its attempted opening towards EU accession/Western cooperation were clearly not appreciated by the Kremlin.

Rather early in 2005, Russia took some initial steps towards pressuring the new Ukrainian president by announcing gas price increases – a clear sign

¹⁰ J. Stern, *The future of Russian gas and Gazprom* (London: Oxford Institute for Energy Studies, 2005).

¹¹ C. Mandil, *Securing the Russian-European Energy Partnership*, Working Paper (IEA: Paris, April 2005).

directed at the Ukrainian public, preparing for the run-up to parliamentary elections in 2006. Following similar demands made by Putin as early as April 2005, the Duma voted a motion in July 2005 demanding that Ukraine, Georgia and Moldova pay world market prices for gas imports.¹²

The demand for market prices can be interpreted in a number of ways: as a financial necessity for Gazprom, as punishment for the failed negotiations surrounding the ownership transfer of the Ukrainian pipeline network, as a consequence of the greatly increased gas prices (linked to the rise in oil prices) that can be obtained on the Western European market, or merely as a continuation of purely monopolist market power visions. However, negotiations over the price were already running with varying intensity throughout the second half of 2005, with both sides unwilling to compromise. Reportedly, initial Russian price demands were around \$100-120/1000m³, up from \$50, placing the Ukraine in one basket with most of the other former-FSU states (for example, the Baltics), considerably lower than the final, hardened position of December 2005 at \$220-240.

Events took a particularly bad turn towards the end of the year, with Ukraine categorically demanding a continuation of the \$50 price, basing itself on an interpretation of current contracts and political will, while Gazprom and the Kremlin reiterated that the huge subsidies would no longer be paid to Ukraine. The clash was predictable, what was surprising was Ukraine's PR-supremacy concerning the interpretation of events.¹³

From an external, Western European point of view, the events lay shadows over the supply security of Russian gas. While it is true that in 30 years of imports, Russia has always fulfilled contracts – under Cold-War conditions that were certainly more fragile than those in Europe today¹⁴ – the events surrounding the cut-off of gas deliveries to Ukraine and Ukraine's illicit (or at least not agreed) extractions of gas from the pipeline will remain in the back of the minds of people in government for a long time to come.

¹² R. Lindner, "The Post-Orange Era. Political Compromises, Reform Backlogs and Energy Crisis in Ukraine" in Friedrich Ebert Stiftung, Latvian Institute of International Affairs (eds.), *The European Union's Eastern neighbours after the Orange Revolution* (Riga: Latvian Institute of International Affairs, 2006, p 68-83.

¹³ Ukraine was able to blame the gas supply shortfall to Western Europe on Russia – however, it was the Ukraine that extracted gas from the pipeline "as needed".

¹⁴ It should be borne in mind that the gas export infrastructure from Western Siberia to Europe was agreed upon and paid by Western Germany/Europe against strong initial opposition by the US; see discussion by O. G. Austvik, *Norwegian natural gas* (Oslo: Europrogrammet, 2003), Chap. 10.

Cornerstones of energy security

The Ukraine events exemplified the main problems of political cooperation and energy security in Eastern Europe, which can be summarised into three main cornerstones:

- price issues
- dispute settlement
- single-supplier dependency.

Price issues. From a market-based perspective, Russia's demand for a higher price for its exports to the Ukraine was a perfectly legitimate request. It is normal market behaviour that the owner of a good or resource sets the price, while the consumer either buys, refrains from buying or buys elsewhere (thus bringing into play the third cornerstone). If Russia has been subsidising Ukraine with prices far below market prices¹⁵ for historical, cultural and political reasons, retracting them – as difficult and painful as this may be for Ukraine – is certainly not illegitimate. This may explain why the EU was hesitant to condemn the price raise itself. The EU and its market members are convinced that market prices give the proper signals to consumers and producers – and are in the end the best tool for allocation of resources in the broadest sense. Rather than insisting on a certain price, the Ukraine should have undertaken a discussion about the price-path to choose for transition into the non-subsidised world.¹⁶ From a political perspective, lessening reliance on transfers from Russia is a definite step towards increasing factual independence from Russia and restating its own sovereignty – a link the Baltic States have clearly understood by setting out very early on price-paths leading one day to market prices. Ukraine is currently dependent not only on Russian gas but almost as much on Russian subsidies.

Dispute settlement. At the core of the irresolvable confrontation between Russia and Ukraine was the complete lack of institutionalised or legalised

¹⁵ Market prices in a proper sense don't exist for natural gas in Europe (except the UK). However, this term is used here to mean the price Russia can earn for its gas on the Western European market.

¹⁶ For political reasons in view of the coming elections, the Ukrainian parliament had decided not to pass the price increase on to the end-user/the public. The difference (euro 660 million per year) is currently financed by Naftogas Ukrajiny. True prices leading to incentives for energy conservation would have been the wiser way and could have been supported by direct transfers to low-income households.

dispute settlement. Neither Russia nor Ukraine had ratified the Transit Protocol of the Energy Charter Treaty¹⁷ (Russia had not even ratified the Treaty itself) – a fact that was now regretted, as the Protocol explicitly sets out rules for settling international disputes between transit, producer and consumer countries (or respective companies). With no dispute settlement agreement in place between the two parties, the door was open to untransparent, closed-door negotiations with no procedural certainty.

Single-supplier dependency. Ukraine's dependency on Russian gas supply and Russian infrastructure (for gas transits from the Caspian) touches on another of the cornerstones of energy security. This episode will hopefully have taught the lesson that whatever the political goodwill between the actors, in the long run an unduly high dependence on any single country (or supply infrastructure) poses high political risks. At the opposite end of the spectrum, the same reasoning holds true for Moscow, which is actively looking for alternatives to the quasi-monopoly the Ukraine enjoys on gas exports to Western Europe.¹⁸ The fact that Ukraine "diverted" pipeline gas for domestic use without paying the demanded price in January 2006 (as happened regularly during the 1990s), has certainly made Russia's determination to build the North European Gas Pipeline (offshore in the Baltic Sea) even stronger.

Unfortunately, the deal reached at the end of the dispute lacks transparency and can thus hardly be called a "solution". The details of the agreement are shrouded in contractual mystery and only recently has some scattered information appeared about the involvement of the highly untransparent RosUkrEnergo, a Swiss-based, Austrian offshore and Russian venture, which is supposed to manage Ukraine's gas imports.¹⁹ Looking much more like a murky deal made to enrich circles of oligarchs on both sides, than a secure legal framework for energy imports, it seems unlikely that this fragile solution will be able to hold for long. Another round of dramatic price discussions and possible cut-offs is highly probable in the future.

¹⁷ The Energy Charter Treaty aimed at integrating the energy sectors of the former Soviet Union and Eastern Europe into the broader European and world markets after the end of the Cold War and containing a declaration of principles for international energy including trade, transit and investment, was signed in Lisbon in December 1994 and came into effect in April 1998.

¹⁸ Some 4/5 of Russian gas exports to Western Europe flow through Ukrainian pipelines.

¹⁹ Lindner, "The Post-Orange Era", and T. Warner, "Key man in Ukraine gas dispute faces questions", *Financial Times*, 13 July 2006.

What can the EU do?

What can be done to avoid a future repetition of the critical energy events of last winter – and, especially, what tools do the consumer countries of the European Union and/or the European Commission have to avert another gas disruption?

Price issues. The EU's creed of market-based approaches inherently includes a commitment to the free evolution of market prices and excludes favouring subsidy solutions. Consequently, the EU's aim in solving price disputes can certainly not be to avoid adaptation towards market prices – more specifically, to try to prevent Eastern European country gas imports from adapting in the long term to Western European market prices (WTO accession precludes this in any case). More importantly, the EU can offer help with negotiating the price-path between Russia and the importing nations. This is particularly useful, as the macro-economic damage caused by higher prices is largely determined by the time horizon over which the rise occurs. An EU offer to multilateralise the negotiations would also reduce the Eastern European country's impression of sitting alone ("again") at the negotiating table with the overwhelmingly powerful Russia. Should the negotiations yield a price-path that would prove too much of an economic burden to cope with, the EU and its members could potentially offer the Eastern country support in financing (parts of) it.

Not of secondary importance in the case at hand is the fact that Ukraine is one of the most energy-intensive countries in the world.¹⁹ Huge inefficiencies in the industrial (and household) sector are compounded by the transformation sector which has power and heating plants with efficiencies far below current technological standards (50 percent of total gas consumption is used for power generation – a sector where efficiency gains are comparatively easy and with highest yield). As a direct consequence, gas import needs are outstandingly high. This could be seen however as an opportunity for the EU, as improving energy efficiency in the Ukraine, for example, has a huge potential for lowering imports from Russia and thus mitigating the price effects. At the same time, subsidies for such programmes could come from the EU's environmental programmes (an EU-Ukraine Action Plan already lists efficiency measures) and, to make it even

¹⁹ Energy intensity (total primary energy supply per unit GDP) in Ukraine is 4-15 times the EU-25 average (depending on calculation in nominal or real PPP terms): *Energy Balances of Non-OECD countries* (Paris: IEA, 2005).

more “sellable” inside the EU, could provide a push for further exports of European technology-based energy industry.

Dispute settlement. EU demands for ratification of the Energy Charter Treaty have been rather low key. Yet, the Charter is a first-class tool for enhancing energy security in Europe, due not only to its arbitration and dispute settlement mechanisms, but also to its underlying openness towards investments in the energy sector and open/transparent access to the pipeline infrastructure. The EU should thus make a greater effort to stress the importance of ratification. It could use the G-8 presidencies of this and next year to clearly lay out a common European demand. Germany may well use its presidential semestre of the European Union in the first half of 2007 to reiterate the project. If Russia’s opposition to the Energy Charter is too strong, it could make sense to abandon it, adhere to the principles, rename it and run a similar process under a different tag. Ukraine, while a ratified member of the ECT, has not ratified the subsequent Transit Protocol, owing much to heavy domestic opposition to a potential transfer of ownership of the gas transmission pipelines. However, discussions with the Ukrainian government should be taken up again.

At the same time, the EU could vastly improve European energy security by institutionalising and especially multilateralising the Energy Dialogue with Russia. Projects like the Ukrainian-Russian-German pipeline consortium are a commendable example of multilateralised energy cooperation which offers all parties a comforting level of congruent interests. The EU would do well to support such projects and could enhance their efficiency by entering into the dialogue surrounding them.

Transit diversification – the NEGP. From a Russian perspective, the bilateral monopoly of Russia and transit country Ukraine clearly indicates that it makes economic and political sense to seek alternative export routes. The North European Gas Pipeline (NEGP) would allow Gazprom to save transit fees as it runs off-territory, to increase its bargaining power towards transit countries concerning transit fees²⁰ and to increase gas prices for exports to these Eastern neighbours without risking the dangerous stalemate position prior to the events of January 2006. From a geostrategic point of view, the NEGP can also be seen as yet another move of the

²⁰ Even with the NEGP and a capacity of around 28 bcm/y (potentially expandable to 56 bcm/y), the greater part of Russian gas exports (around 200 bcm/y to Eastern/Western Europe) will still be exported in 2020 by land-based pipelines through the traditional countries.

Kremlin/Gazprom in its "great game" in its energy backyard in Eastern Europe.

The pipeline also makes sense from a Western European perspective as it implies diversification of import routes, increases Russia's export capacity (even though still by less than the projected additional gas imports from Russia for 2020 of some 30-50bcm/y), saves the transit fees otherwise implicitly included in the border price and, to the dismay of Eastern Europe,²¹ decreases (ever so slightly) Europe's dependence on transit countries. These reasons led the EU to promote the project to the status of "Trans-European Network" in late 2000, in an attempt to increase supply and transit routes.

Last but not least, it should be remembered that the pipeline agreement gave the involved companies the opportunity of upstream development of the Yushno Russkoye gas field, reportedly under a state-granted licence scheme together with Gazprom. Other than on Sakhalin, no licenses have ever been granted in the Russian upstream gas sector. In this regard, the NEGP seems to have made possible at least a partial opening to foreign upstream investment – in itself quite a success.

Conclusions

Secure energy supply will stay at the top of the agenda in Eastern and Western Europe and certainly dominate several more G-8 meetings and EU presidencies. In this respect, natural gas has turned out to be the main concern for Europe, as it is pipeline-bound and demands long and stable relationships between the producer, the consumer and the transit country. Over-dependence on any one specific energy infrastructure (that is, pipeline) as much as over-dependence on any one single source-country are bound to cause future supply problems. In the longer run, energy politics will only achieve some degree of freedom if sources are truly diversified, which under the current circumstances means a huge step into the future worldwide market of liquefied natural gas.

²¹ There has been much Polish criticism of the pipeline, but this is mainly due to the fact that it is seen as a direct threat to Poland's international bargaining power in that it would lessen the relative weight of Poland's current natural gas transit pipeline. However, the very fact that pipelines are thought of in terms of international bargaining power gives the Germans and Russians an argument for constructing an alternative route.