EU-Russia energy relations: the need for active engagement

EPC Issue Paper No.45

March 2006

By Andrew Monaghan and Lucia Montanaro-Jankovski

ISSN 1782-494X

ENLARGEMENT & NEIGHBOURHOOD EUROPE

Table of Contents

About the authors

Andrew Monaghan is the Director of the Russia Research Network and Lucia Montanaro-Jankovski is a Policy Analyst at the European Policy Centre.

The two authors take joint responsibility for this paper. It has been a collaborative effort, but Parts IV and V are mainly attributable to Andrew Monaghan.

Foreword

By Dov Lynch

'Gas wars', 'power cuts', 'backroom deals', 'strong arm talks'. Energy makes good newspaper copy – and for good reasons.

The crisis in Russian-Ukrainian relations that began on 1 January 2006 had all the necessary ingredients of a drama, with gas supplies being cut during one of the coldest winters in recent memory. As well as directly affecting Ukraine, other European countries were also hit by the dispute.

In the end, extremely opaque, tightrope negotiations produced a shady and temporary compromise. In all the ensuing confusion, obvious points were missed. First, the crisis did not spring from nowhere: Russia and Ukraine had been negotiating on this issue throughout 2005, and, indeed, years before. Secondly, Ukraine has benefited from highly-subsidised Russian energy prices since the collapse of the Soviet Union.

The crisis did nothing for the public image of Gazprom – and it raised public awareness that things had to change.

Crises are salutary moments. They reveal distinct trends that were difficult to highlight beforehand. For the European Union, the dispute has been useful in catalysing thinking about several questions which have been in the air for some time: what can the EU do to ensure its energy security, and is the current approach appropriate for an increasingly difficult world energy picture? Is the Union's dependence on Russian energy dangerous, and what should the EU seek from its energy relations with Russia? In answering all these questions, sobriety should be our guide.

This paper, written by Andrew Monaghan and Lucia Montanaro-Jankovski within the framework of the European Policy Centre's Programme on Enlargement and Neighbourhood Europe, examines key dimensions of the EU-Russia energy relationship. In heady times, its balanced approach and sober tone are important.

The paper was first discussed at a meeting of the EPC's Task Force on Russia. A central objective of this Task Force is to address trends inside Russia that affect its strategic partnership with the EU. The questions raised by Russia's rise as an 'energy superpower', to use Russian President Vladimir Putin's words, are numerous.

On the one hand, energy is the Russian government's single most important source of revenue, allowing it to repay its foreign debt and bolstering domestic expenditure. Energy production and its export are one of its main shields against the vagaries of globalisation to which Russia has been subjected for the last decade. Energy wealth has provided Moscow with new room for manoeuvre in its foreign policy. It is no accident that the Russian government put energy security high on the agenda for its presidency of the G8.

At the same time, Russia's energy production raises concerns about its economic development. With growth rates and structural reform slowing, will Russia avoid the dangers of the so-called 'Dutch disease' (the phenomenon whereby the development of a country's energy sector limits other parts of the economy, hampering overall development and growth rates)? How should the EU respond to domestic developments in Russia's energy sector, specifically the increasing public/private overlap, which has made the sector less transparent and predictable? These are worrying questions.

Monaghan and Montanaro-Jankovski's argument is straightforward. In their words, "energy security thinking must move from notions of 'dependence' and 'producer against consumer' towards a more cooperative mindset". They propose a three-pronged strategy for the EU: it must improve its energy efficiency; enhance its relations with key transit states; and devote time to building a more effective relationship with Russia.

This relationship implies developing practical cooperation to protect critical infrastructure, investing in Russia's domestic efficiency and investing in the Russian energy sector.

In the end, the authors argue, the Union must craft a more coherent approach to its energy security, with this considered an element of EU foreign policy and coming within the remit of the EU's Common Foreign and Security Policy (CFSP). This is a question which must be debated.

Dov Lynch is chair of the EPC's Task Force on Russia.

EU-Russia energy relations: the need for active engagement

By Andrew Monaghan and Lucia Montanaro-Jankovski

Introduction

Energy has become an increasingly important and defining policy issue as the growing competition for access to limited resources has altered the global economy.

Population increases, dynamic economic growth (particularly in China and India), and the spread of prosperity are stimulating a rising demand for energy. However, high energy prices and the lack of spare capacity, particularly in the oil market, have made the global economy sensitive to energy disruption. Energy security, in terms of supply and stability of price (two key factors for economic strength and growth in industrialised and industrialising countries), is intertwining with geopolitics and international relations.

A shift is also taking place in the balance of power in the international energy market which is now dominated by a number of key 'producer' states. Since 'consumer' states are dependent on growing imports, and given the high price of oil and spot gas, the geopolitical advantages are beginning to shift back towards 'producer' states. How will these countries act as access to their resources becomes increasingly important, how reliable are they as suppliers and how will they use their assets to wield influence on the world stage?

As a major economic power, the role played by the EU and the way it seeks to address its increasing dependence on imports will be vital. The Union currently imports nearly 50% of its energy consumption, a figure which is expected to rise to 70% by 2030, yet it does not have a common, effective energy strategy and policy. In addition, it lacks coordination and foresight. Preparing appropriate plans to ensure strategic energy security should be its top priority in the energy field.

Given that the EU's relations with Russia form a central element of its energy security, the way that it manages this relationship now and in the near future will be crucial to its long-term energy security.

The EU-Russia strategic partnership, which is based on the Partnership and Cooperation Agreement and the EU-Russia Four Common Spaces Policy, provides a good framework for an enhanced energy relationship.[1]

It is important to realise that Russia is 'triple-hatted'. It is a major energy producer, consumer and transit state.

Since 2000 the two sides have been developing a formal energy dialogue which has led to a "true partnership, offering wider prospects which go beyond the narrow questions of energy trade and extend to transport-related problems and to the environmental impact of the energy sector".[2] In 2005, the UK Presidency of the EU prioritised the energy dialogue and it remains high on the agenda in 2006 as it is one of the Austrian EU Presidency's main concerns. It will also loom large during an energy Permanent Partnership Council (PPC) meeting during the Finnish presidency that begins in July 2006. In addition, there are concrete EU-Russia joint projects under way on energy efficiency, the harmonisation of gas standards and renewables.

However, the strategic EU-Russia partnership is often considered hollow and flawed, and too few of its plans come to fruition. Relations became fractious and difficult in 2004, with disagreements over Moscow's handling of the terrorist attack in Beslan, the elections in Ukraine and concerns in EU Member States about the Russian government's increasingly authoritarian approach.

Unease is growing in many quarters that the EU will find itself increasingly dependent on Russia for energy imports and that Moscow could use this as a diplomatic lever. These concerns surfaced

during the bilateral summit in London in October 2005, when questions were raised about whether the EU's dependence on Russian energy would undermine its ability to address disquiet about the country's political developments. They surfaced again in early January 2006 when Russia cut off gas supplies to the Ukraine, which also had an impact on gas supplies to EU Member States as Ukraine is a transit country for Russian supplies to Europe.

The reliability of Russia – one of the world's most important energy suppliers and the EU's single most important supplier – is now being questioned.

There are also signs that Russia is concerned about the EU as well. As a key market for Russian hydrocarbon exports, the Union supports a large part of the Russian economy. There is unease in Moscow that if the EU diversifies its imports to reduce its dependency on Russian energy, Russia will lose its primary export market and this could undermine its economy.

This has prompted both Russia and the EU to consider other markets in an effort to enhance their respective energy security. This could create an 'energy security dilemma' – a variation on the 'military security dilemma', when one state, suspicious of another's military preparations, begins to make its own preparations in case the other threatens it. This escalates the situation and generates instability.

This paper first considers the current state of the EU-Russia energy dialogue. It then focus on the key tenets of energy security (efficiency and diversity) and places the EU-Russia energy relationship in context. Finally, it assesses Russia's capabilities as a supplier, and examines the oil and gas elements of its energy sector.

The EU needs to address a number of problems. Provided that the political conditions allow it, its energy security thinking must move from notions of 'dependence' and 'producer against consumer' towards a more cooperative mindset. The EU's relationship with Russia is reciprocal and mutually supportive – neither side can afford to lose the other as a key element of its energy and economic security. The Union must invest in Russia in order to rebalance the relationship and influence political developments in the country.

This paper recommends that the EU adopt a three-pronged strategy. It needs to improve its domestic energy efficiency, develop strategies to enhance relations with key transit states and foster a more effective relationship with Russia. This should be done through practical cooperation to protect its critical infrastructure and improve domestic energy efficiency and through investment in its energy sector. Since the EU needs a more coherent energy security policy, the paper recommends that this should be considered as an element of foreign policy and thus come within the remit of the EU's Common Foreign and Security Policy (CFSP).

I. The EU-Russia energy dialogue

Russia is the EU's main supplier of hydrocarbons and the Union is the main market for Russian hydrocarbons. The EU-25 imports 50% of its gas and 30% of its oil from Russia, while Russia exports more than 50% of its energy to EU-15, and this mutual relationship is expected to grow.

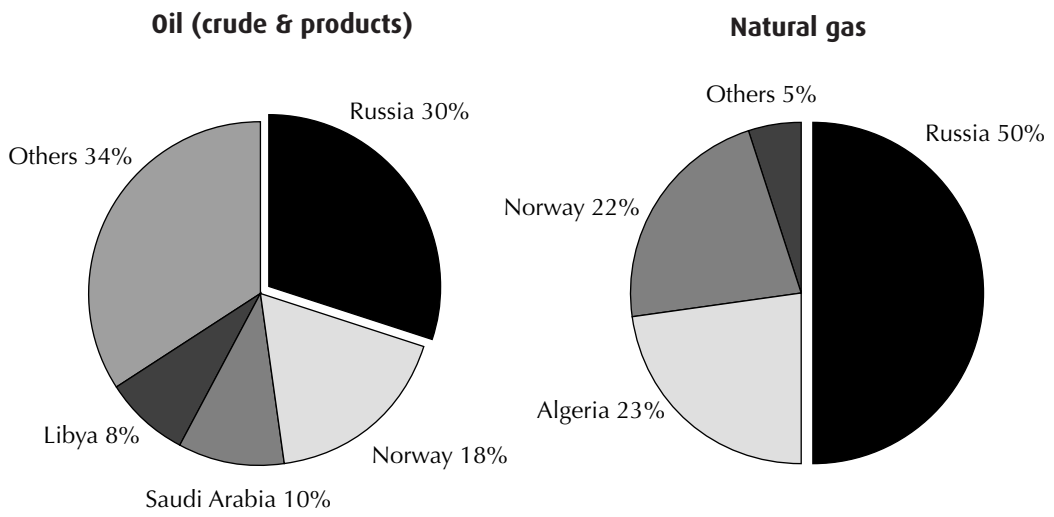
The EU-Russia energy dialogue was launched in 2000 in the context of an increase in energy prices and, consequently, the publication of the EU's Green Paper on Energy Security. This dialogue reflects a recognition that Russia and the EU are natural partners in the energy sector and have mutual interests in enhancing the continent's energy security. Its main objective is to provide a forum to discuss questions of common interest in the energy sector and to bind Russia and the EU into a closer relationship. It also aims to contribute to security of energy supply and energy demand; foster cooperation on energy-saving measures; rationalise production, transport infrastructures and electricity connections; facilitate investments; and improve relations between producer and consumer countries.

Senior officials on both sides were appointed to oversee the dialogue.[3] Working groups meet regularly;[4] and a Technology Centre was established in November 2002 to exchange information and promote new energy technology to speed up the development of Russia's oil and gas sectors. The centre has organised roundtable discussions on exploiting Russian reserves and improving Russian oil refining.

During the second half of 2005, the UK Presidency of the EU sought to prioritise the energy relationship and add new dynamism to the dialogue. To this end, a Permanent Partnership Council (PPC) meeting was held on 3 October 2005 at which plans and aims were agreed, and an implementation framework established. This has helped to structure the relationship by creating a broader set of interlocutors. In a move that has been welcomed by officials on both sides, the dialogue now encompasses Russian and EU business and political authorities, which are represented in four thematic groups: investment, infrastructure, trade and energy efficiency.[5]

The energy dialogue has acted as a forum for tackling problems, with positive results, opening the way to European investment in the Russian energy market. As a European Commission Communication on

The origin of imports into the enlarged EU



Source: European Commission: DG Tren

this issue declared: "Frank and open discussions have already permitted substantial progress to be made", and the dialogue has developed into a true partnership, offering wider prospects which go beyond the narrow questions of energy trade.[6]

The EU has been at pains to point out the strong *common* interest in the energy sector, and it has repeatedly confirmed that Russia has been a reliable supplier and has always respected agreed dates, amounts and prices, even during periods of internal political turbulence or dramatic world developments.[7]

For its part, Russia has sought to be a cooperative partner and there have been no signs that it is using its energy resources as a lever over the Union – indeed, EU officials and experts agree the opposite has been the case, pointing out that Russia has never suggested curtailing its energy supplies to the Union, in particular to the EU-15.[8]

The Union also believes that the energy dialogue has helped to integrate the energy market through a number of measures, including the interconnection of electricity grids; agreement on regulatory principles for internal markets and long-term supply contracts; and enhanced cooperation in the nuclear energy field and in advanced energy technologies.

However, problems and differences remain, and the two sides have differing interpretations of therelationship and their priorities. Russia seeks support to modernise its energy sector and protect itself, while the EU wants Russia to reform and open up its market by creating a more positive business climate.[9]

It is clear that EU-Russia energy cooperation is a 'greater glue' to certain other paradigms.[10] One of the challenges in the near future will be to organise a proper, representative and coherent EU-Russia energy dialogue.

II. Understanding: confidence, diversity and efficiency

Energy security is based on intangible feelings of comfort and changing perceptions. The West is in a vulnerable position when it comes to energy supply, since an oil or gas shortage which lasts for more than a couple of weeks could pose major problems for Western economies and military forces, and raise serious domestic political questions.

Part of this vulnerability stems from the lack of reliable information about how much oil is in the ground, or how much of it is (or will prove to be) economically viable. There is fierce debate between those in the so-called 'peak camp', who argue that hydrocarbon reserves are running out and the world will soon face an energy crisis brought on by shortages, and the 'optimists', who argue that technological development will ensure that new reserves are found.

At best, all the figures available are informed estimates, and the statistics can be calculated in different ways, adding to the confusion.

This confusion is further compounded by high levels of business and state secrecy. Although publications such as the *BP Annual Statistical Review* and those of the International Energy Agency (IEA) provide some information, precise knowledge about the state of play is regarded as a highly profitable business asset. This is not only the case in business: Moscow recently announced that information about Russian reserves was a state secret.

Much of the planning and negotiation goes on behind closed doors,[11] and the figures are sometimes manipulated or the real facts ignored completely in texts 'highlighting' soaring demand and falling production.

The wider international context – including the state of global markets, regional political stability and, above all, the nature of the producer-consumer relationship – has a strong impact on countries' concerns about security of supply.[12]

The global market is currently tight, and there is little spare capacity to meet growing demand or cope with any potential disruption, particularly to oil. There are many valid concerns about regional political stability and reliability, particularly in the Middle East, which is home to some two-thirds of the world's proven oil reserves and is the most important area in terms of spare capacity to meet increases in demand. Political instability in West Africa, another oil-producing region, is also causing concern, as is the EU's dependence on Russia, particularly after the dispute between Russia and Ukraine in January 2006.

This crisis raised questions about the reliability of foreign producers, especially Russia, and underlined the need for the EU to diversify its energy sources. Uncertainty about *foreign* imports and producers is a crux of the energy security problem, and an 'us and them' approach to energy security – with 'them' being foreign producers – is a recurrent theme.

In relation to Russian supplies to the EU, three points should be considered.

First, the Union's oil supplies are already diversified, with imports coming from the Middle East as well as Russia, and the Union has three key gas suppliers, although Russia is its main source. In the medium term, oil will remain the single most important element of the EU's energy mix. Diversifying away from Russia is not the key here: in fact, the Union could consider slightly increasing its share of Russian oil in order to enhance security of supply.

Second, alternative suppliers for both oil and gas should be assessed carefully. It is unclear whether the main alternatives – Iran, Nigeria, Venezuela, Algeria (already a major provider of gas to the EU, supplying some 23% of its needs) and Libya – are much *more* stable, friendly and trustworthy than Russia.

Third, costs must be considered: changing suppliers involves infrastructure and contract costs. However, if exporters like the Libyans and Nigerians are willing to sell their gas at a price which reflects well-head costs (meaning when the gas actually comes out of the ground; i.e. not including processing and transport costs) that would make them competitive with the Russians.

These cost risks do not mean that the EU should not seek diversity in its hydrocarbon suppliers. It should, as diversity of source is an important part of its energy strategy. However, this requires careful, sober planning in the long-term context and should not be initiated as a knee-jerk reaction.

As long as substitutes (i.e. nuclear energy and renewables) remain comparatively expensive, oil and gas will remain the world's most important sources of energy. In the context of geostrategic scrambles for diversification, only new energy sources can provide a real alternative.

However, a new factor is emerging: the 'High North' – the region between Norway and Russia, in the Barents Gulf, which has 25% of the world's discoverable energy resources.[13] This could provide an answer to Europe's future energy needs as it is close to Europe, but it raises sensitive environmental issues as it is also one of the world's largest fishing areas.

Another way for the EU to diversify is by combining energy sources. There are plans to increase the use of Liquified Natural Gas (LNG), nuclear energy and 'clean' coal, and to develop renewable energy sources. This is, however, a complex issue as it is both controversial (particularly in the case of nuclear power) and expensive. It is also a long-term project: renewable energy sources will not provide sufficient capacity to cope with an energy security crisis in the short to medium term.

In the wider context, populations in developing regions are growing and their quality of life is linked to their energy consumption. This combination of larger populations and growing energy demands, coupled with the need to reduce the use of fossil fuels for environmental and political reasons, make it important to develop other energy source options, including fusion.

Renewable energy technologies (solar, wind, tidal, biomass, geothermal and hydro) are in the process of being developed. But these will only meet some of the extra demand.

Nuclear energy is another part of the answer. The ITER project on nuclear energy is an example of the important long-term energy partnership between EU and Russia. In the past, nuclear energy based on fission appeared to be the way forward; now, however, controlled fusion seems to be a major promising development. ITER is an international project to design and build a fusion reactor involving the EU, China, India, Japan, Russia, South Korea, Switzerland and the United States, under the auspices of International Atomic Energy Agency (IAEA). The project, which is based in southern France, is expected to cost 10 billion US dollars. Controlled nuclear fusion promises to be environmentally benign, widely applicable and inexhaustible, and it is hoped that it will result in centralised, inexhaustible nuclear energy generation in the latter half of this century.

EU energy security policy requires a diversity of sources, transit routes and energy sources. However, although the first of these is crucial, energy security begins at home. The Union can enhance its position by completing the internal energy market and making it more efficient, so that products can more easily flow from one part of the EU to another when supplies are scarce.

One idea that is also gathering momentum is to create an internal EU network of reserves and interconnecting pipelines in order to be able to help any Member State suffering from reduced energy supply. To develop an integrated and attractive European gas market, the EU must improve fluidity and interoperability, abolish barriers and be able to compete on price. The EU's competition rules should also recognise the positive role played by long-term supply and transport contracts, and *ad hoc* exemptions from access to new infrastructure for third parties. As an outsider, Russia would need to respect the rules of this internal market and give more parties access to Russian hydrocarbons.

Energy security also depends on more efficient energy use and the main starting point here is to reduce demand by curbing consumption and increasing efficiency. The energy market, particularly for oil, is global. Oil is an interchangeable energy source which can be acquired from different producers. Moreover, world market conditions, not individual states, govern the price of oil, which means that Russian prices may rise because of outside events, irrespective of political machinations in Moscow. Diversifying supplies is helpful but it does not guarantee energy security.

Governments concerned about their energy security also need to enhance domestic efficiency and reduce the use of fossil fuels. As the European Commission's Green Paper of 2001 noted, consumer behaviour is of key importance, particularly in the transport and construction industries.

The Green Paper highlighted the value of better-controlled consumption through carrot-and-stick fiscal measures, particularly higher taxes on gasoline.[14] Other initiatives, such as information campaigns to raise consumer awareness, and steps to encourage the development of fuel substitutes and other technologies, particularly in relation to transport and reducing energy use in buildings, are contributing to greater EU efficiency.

However, there is still room for improvement, with official estimates suggesting that the EU could reduce its current energy use by 20% in a cost-effective manner, not least by fully applying existing measures.[15]

The Union has begun to make progress both in terms of the energy mix and energy efficiency (particularly when compared to other major consumer countries), and plans are being made to encourage further progress. However, as imported energy will still be needed to meet much of the EU's demand, questions about foreign sources and the producer/consumer relationship will remain.

III. Energy security: producer vs. consumer?

There is a key foreign policy dimension to energy security, given that much of the EU's energy is provided by sources outside the Union and transported through other non-member states. Much of the recent high-profile comment on energy security has focused on the reliability of producers, and seems to posit producer and consumer in opposition to each other. However, seeing energy security as a 'producer vs. consumer' issue implies mistrust and is detrimental to understanding the complexities of energy security, which are affected by a more dynamic series of relationships.

As the 2006 G-8 summit showed, the distinction between 'producers' and 'consumers' is not all that clear – Canada, Russia, the US and the UK are all both leading producers and consumers, as is China.

This blurring of the difference between the two is particularly relevant for EU-Russia relations, because it highlights the importance of Russia's domestic market. Although growth in demand has been slow since the collapse of the USSR, experts predict that Russian domestic consumption will outpace that of the EU, and that Russian energy demand and consumption might grow by as much as 150% by 2030.[16]

This has several ramifications for the Union, because rising domestic consumption will absorb some of Russia's finite reserves. It also means that energy efficiency will become an even more important issue on the Russian energy agenda and in EU-Russia relations. In addition, if Russian domestic prices rise in response to demand, then the growing domestic market will become a larger and more attractive mainstay of Gazprom's sales. Since this will reduce Europe's ability to buy oil from Russia, the EU will no longer be Russia's main source of foreign currency.[17]

Moreover, these producers – who are often regarded as "unreliable foreigners controlling prices or access" – such as the Middle Eastern states and Russia, are not as untrustworthy as they might initially appear. They need the relationship as much as the consuming states.

Most definitions of 'energy security' only describe it from the consumer's point of view, without looking at it from the producers' standpoint, even though this is a key element of the energy security debate.

As one expert has noted, most past interruptions of oil and gas supply did not occur after foreign producers cut off supplies to outside countries. Far more often, consumer countries reduced their imports because of sanctions and boycotts against oil-producing countries.

In addition, many of the interruptions in supply have resulted from domestic political and technical problems. In France and the UK, for example, industrial action (blockades) or technical problems resulting from a lack of investment, regulatory failures or cost-cutting have been responsible for cuts in energy supplies.[18] It is also true, however, that over the last five years, there have been interruptions to supplies in the Baltic states, Belarus and Poland which were not caused by technical problems alone.

Just as consumer countries need secure sources, producer states need secure markets and stable incomes.

This has three consequences for Russia. First, the Russian economy has been buoyed up by high oil prices, so a price reduction would have a major knock-on effect on the rest of the economy. Second, it would reduce the income from stable exports, such as those to Europe (from 2002-4, increasing oil exports were the main source of Russian GDP growth). A price reduction would also make transit costs more prohibitive, making Russia dependent on fewer markets

Just as having fewer energy sources undermines consumer security, so having fewer markets undermines producer security. For example, the high price of oil means that Russia can transport it to China by train, even though this adds an extra 5-7 Us dollars per barrel to the cost. However, should oil prices fall, this would no longer be economically viable and Russia would lose not only income but

also a market until new pipelines could be completed.[19] As these are expensive to build, a fall in the cost of Russian oil would undermine the financial case for construction.

All this is significant for the EU-Russia relationship, because it helps explain why Moscow appears to be even more concerned about the future of the energy relationship than the Union.

There are a number of reasons for this. First, while the EU's internal market creates opportunities for Russia by creating the world's largest and most integrated energy market on its doorstep, it also generates anxieties.

Russian analysts Leonid Grigoriev and Anna Chaplygina believe that the European Commission will show "maximum tenacity and assume a hard stance" in safeguarding EU interests. Russia can only have a successful dialogue with the Union if the various Russian interests involved can reach a solid consensus on Russian interests in the energy sector.

This is likely to be difficult to achieve, with many questions left unanswered. What is the goal of Russia's energy policy in Europe? What are the limitations and risks involved? How can export revenues best be used for Russia's development?

Russian analysts argue that export priorities, routes, projected costs and sources of finance still need to be developed, as no detailed plans exist at present.[20] This lack of consensus undermines the Russian negotiating position. For example, the country's producers and transporters disagree: producers want to boost exports and have criticised Transneft, the pipeline monopoly, for its inadequate infrastructure. To deflect such criticism, Transneft has proposed restricting oil production and following OPEC's example by establishing state control over oil output.[21]

Some Russian commentators have argued that the EU's objective in the energy relationship is to put pressure on Russia to reform its energy sector, particularly with regard to domestic prices. The Union, they argue, is trying to force Russia to bring its domestic tariffs closer to those of the world market.

Official statements reflect such concerns, with President Putin warning in 2003 that "the EU will not succeed in twisting Russia's arm in its desire to achieve a sharp hike in fuel prices". Moscow has argued that it is politically unrealistic to increase the prices paid by poor consumers significantly, that energy resources are Russia's natural competitive advantage, and that raising prices would cause difficulties for Russian enterprises.[22]

The EU and its Member States should realise that it would be just as difficult for Moscow to impose increased costs on Russian businesses and consumers (who are used to negligible energy costs) as it would be for Western governments to impose more efficient energy use or cuts in consumption on their own populations.

Finally, while many experts predict that EU demand for gas will grow, there are concerns in Russia that the Union's demand for oil will not rise significantly and that the market is restricted. Indeed, Russian analysts have noted that oil consumption in Europe is not growing substantially. They point out that over the last 25 years, Europe has rapidly shifted from consuming traditional fuels, primarily coal and oil, to natural gas and, to a lesser degree, nuclear energy.

Between 1973 and 2000, oil's share of Europe's energy consumption dropped from 60% to 40% and oil demand growth in the EU-27 (including Bulgaria and Romania) is likely to have fallen by 12.5% from 2000 levels by 2015. The development of the Baltic pipeline system is therefore of limited strategic importance for Russia, since its function is to supply a stagnating European market.[23]

Even though Russia is an important European oil supplier, European 'dependence' on Russian oil is questionable. Even analysts who argue that the EU is vulnerable to Russian political manoeuvrings acknowledge that while the Union imported 16% of its oil from Russia in 1999, this had dropped to

around 14-15% by 2004.[24] Moreover, while the EU's share of Russian exports has doubled since 1991, its share of total Russian oil exports has fallen. This again suggests that Russia is more dependent on EU demand than the Union is on Russian supply.

The situation is similar in relation to Europe's 'dependence' on Russian gas. Given that the EU imports a high percentage of the gas it needs from Russia, the Russian gas industry is effectively being maintained by revenues from its exports to Europe. Although exports to the Newly Independent States will become more profitable, one expert has argued that only if Russian earnings from European gas imports drop considerably will it be time to question whether Russia "can afford to jeopardise security of gas supplies to Europe".[25]

Another drawback of the 'producer vs. consumer' prism is that it underestimates the importance of the third party – the transit states – which have a significant impact on both producers and consumers. Three examples of key importance for the EU's energy security will suffice.

The first concerns Ukraine, a central actor for both Russia and the EU. Ukraine is a key transit state for Russian exports, which flow through the Druzhba pipeline. Austria, France, Germany, Hungary, Poland and Slovakia were all affected by shortages during the latest Russian-Ukrainian gas crisis, when Gazprom turned off supplies to Ukraine. This captured the headlines around the world, with Russia and Gazprom shouldering much of the blame.

However, it now appears that the reason why gas supplies to EU Member States fell was that Ukraine was taking gas destined for Europe to make up for its own shortfalls.[26] In addition, Ukraine's decision to amend the Russian-Ukrainian supply and transit contract in Spring 2005 – demanding that market prices be paid for the transit of Russian gas – could be considered a unilateral breach of contract under international law, thus invalidating the contract. However, Russia clearly lacked the public diplomacy skills to explain its position effectively.

This crisis also had more far-reaching consequences. It undermined Russia's reliability and reputation as a prominent energy supplier, reducing consumer confidence, and highlighted the risks of relying on foreign sources and transit. This in turn triggered EU concern and underlined that energy security is a generic issue beyond considerations of Russian foreign policy.

Some EU Member States are extremely vulnerable to changes in Russian energy supplies. Among the Visegrad states, Slovakia is the most dependant on imported Russian oil, gas and nuclear supplies (97% dependent for gas and 98% for oil). However, Slovakia is also Russia's major transit route, creating an interdependence that will tilt against Slovakia as Gazprom seeks to diversify its transit routes, and their interests will become increasingly at odds. As a result, complex diversification – suppliers, routes, energy mix – is a national priority for Slovakia, regardless of what Russia does. A larger central Europe energy security approach is overdue.

The other two examples highlight the importance of the Caucasus as an alternative transit route. Georgia is crucial for exports from the Caspian Sea, particularly as part of an alternative route to avoid Russian-dominated transit networks (the Baku-Tbilisi-Ceyhan [BTC] pipeline). However, Georgia has an unsettled relationship with Russia, as well as many unresolved domestic problems, including the growth of separatist movements. Although Georgia may seek to be a reliable transit state, there are factors beyond the government's control which undermine its reliability.

The final example is Turkey, a key transit state as oil is transported through the Bosphorus Straits and the Blue Stream pipeline. Although the Bosphorus Straits are international waters, Turkey has, in the past, restricted the movement of long and large capacity tankers through the straits at night. Since this is the most cost-effective method of transport for charterers and cargo-owners, these restrictions create a more expensive chokepoint, increasing both producer and consumer costs.

As this affects exports from the port of Novorossiisk, it has a significant impact on Russian

exports. Moscow claims that by increasing restrictions on access to the Bosphorus Straits, Turkey could be violating the 1936 Montreux Treaty, which prohibited Turkey from taking unilateral action to interfere with the 'innocent' passage of vessels.[27] However, the right of innocent passage is not without restrictions, especially in relation to the transport of dangerous goods such as oil, and the Bosphorus is already a heavily congested route.

It is important for the EU to diversify its energy transit routes so that one actor or state (e.g. Russia) does not completely control or dominate them, and all of the current transit routes pose problems for EU energy security. There is also the issue of Russian control over central Asian energy in Kazakhstan, Turkmenistan and Uzbekistan. As Russia has the potential to unlock those resources, particularly if it goes ahead with the planned construction of energy supply infrastructure, central Asia needs to be an integral part of the EU strategy.

To sum up, energy security depends on a number of elements: diversity of sources and transit routes, energy type and energy efficiency. The EU is already beginning to address these issues. However, energy security is also about perceptions and confidence, underlining the need to build up an effective producer-consumer relationship.

IV. Russian hydrocarbon production and export

Russia is the world's leading producer and exporter of gas, and its second largest producer and exporter of oil. Its discovered and projected reserves are considered to be among the largest on earth, with its gas reserves estimated at approximately 47 trillion cubic metres (26% of the world's total) and oil reserves estimated at in excess of 100 billion barrels.

In addition, western Siberia is the world's richest hydrocarbon province,[28] and there are also potentially enormous reserves in other regions which have yet to be exploited or even fully explored, such as east Siberia, the Komi Republic, Nenets Autonomous Okrug and the Barents region.[29] Overall, there has been a major increase in Russian production and export since the late 1990s, with its oil exports reaching a new post-Soviet high of 9.53 million barrels per day (mbpd).[30]

Russia may not, however, have the ability to convert this potential into long-term profit as the conditions for developing a stable energy sector with long-term accelerated growth prospects are not propitious. A number of experts and officials are predicting that Russian oil reserves will soon be depleted and that the country will not be able to develop its gas reserves.

According to Gennadi Shmal, President of the Russian Union of Oil and Gas Producers, Russia's energy exports are in danger if a geological exploration programme for new deposits is not introduced. "Unless the government and public stop thinking about oil and gas as some magic wand that works and works, and doesn't ask to eat, soon Russia will lose its export capacities," he has warned. The only solution, he argues, is to establish a wide programme for geological exploration and the tapping of new deposits.[31]

Yuri Trutnev, Minister of Natural Resources, has also declared that exploration is urgently needed to prevent a levelling-off or even a fall in Western Siberian output after 2010.[32]

Interestingly, official Russian estimates for production are considerably more conservative than those of the International Energy Agency (IEA). The IEA forecasts that Russian production will be approximately 10.4 million barrels per day (mbpd) in 2010 and 10.7 in 2020, while the Russian Energy Strategy is predicting levels of 8.9-9.8 mbpd in 2010 and 9.0-10.4 in 2020. Similarly, IEA forecasts suggest that Russian gas production will stand at 655 billion cubic metres (bcm) in 2010 and 801 in 2020, while the Russian projection is lower, at 555-665 bcm in 2010 and 680-730 bcm in 2020.[33]

However, to make the most of the wealth of its natural resources and meet increasing demand, Russia needs to invest more in both infrastructure and exploration. Although concern is often expressed about the state-ownership of Gazprom, energy companies are also partly state-owned in France and Norway. The determining factor is whether the energy sector is efficiently managed, not whether it is publicly- or privately-owned.

Russian oil production

Western energy experts have pointed to Russia's mounting dependence on a small number of very large, moderately to very mature fields.[34] Although production in these fields could increase again, it is unlikely that it will return to previous peaks. This does not necessarily mean that shortages are imminent, as reserves have not been fully exploited and oil remains in the flanks of fields or at deeper levels than those currently being developed. The current level of production in the fields in operation can therefore be maintained for several years.[35]

However, this raises two problems. First, depending on a decreasing number of large fields makes the oil sector fragile and vulnerable to accidents. An accident which shuts down 50% of one large field's production could have an impact on national production.[36] Second, the new fields which are the important sources of long-term growth are not yet in production and are hundreds of miles away from the existing infrastructure. There is continuing uncertainty about when production will begin and

geographic constraints pose serious problems for the economic exploitation of Russian oil.

Many of the Russian reservoirs that have yet to be explored and exploited are in areas with very harsh climates, and lie thousands of miles from the nearest markets, which significantly affects the costs of both production and transportation. One estimate suggests that a barrel which costs an average 1-1.5 US dollars to produce in the Middle East costs as much as 12-14 US dollars in Russia. Russia also has to paytransport costs to deliver the oil to its markets.[37] This means that, for financial reasons, some Russian oil will be beyond the reach of technology for the foreseeable future and more will only be viable in an era of sustained high oil prices.[38]

Russian gas production

Although Russian gas output is expected to expand until 2020, there are problems with its production and export, which have fluctuated significantly since the collapse of the USSR.

Production fell quite steeply from 1996 until 2002 (from 601.1 bcm to 581.5 bcm), when the super field Zapolyarnoye came on line. Exports rose and then fell: in 1996, Russia exported 198.5 bcm, rising to 205.4 bcm in 1999, falling to 185.5 bcm in 2002. In 2002, 80% of Russia's gas was being produced at mature fields with declining production.

The new fields are the important sources of growth, but they are some way from coming online. Although the development of new gas fields in eastern Siberia, the Far East and the Arctic north is expected to become a priority, this is heavily dependent on the main producers' ability to raise the required investment. That is why a leading expert on Russian gas has forecast that Russian gas production will again plateau and begin to decline by 2010.[39]

V. Problems in developing the Russian energy sector

There are a number of limits to potential future growth, including the geographical constraints, insufficient export capacity, low prices, political interference and voluntary restraint.[40] As mentioned above, many of the areas ripe for development are far away from existing infrastructure and in places with extremely inhospitable climates. This raises development costs significantly and reduces the attractiveness of these areas to Russian companies.

In addition, Gazprom and Rosneft, the two main state companies, are already heavily in debt. This has meant that Gazprom, in particular, has avoided developing the new large fields which would produce long-term gains in favour of developing smaller fields nearer the existing ones.

Moreover, in many areas, transit capacity is either insufficient or non-existent.[41] Many of the gas pipelines are 'mature' and need upgrading. In addition to this, bottlenecks in the port and pipeline system mean that export capacity cannot meet the producers' ambitions.

The US Department of Energy estimates that of the 7 million barrels per day (bmpd) for export, 4 million are exported by trunk pipeline and the rest transported by rail and barge. This means that unless there is significant investment to expand the pipeline infrastructure, only non-pipeline exports will be able to grow in the near future. This poses a problem for Russia, as exports are vulnerable to the vagaries of oil prices. Should prices fall, then rail and river transport become uneconomical. Yet, at the moment, the only way to supply oil to East Asia is by rail.

However, other authorities disagree about Russia's short-term possibilities. The IEA noted in 2004 that a considerable number of pipeline and export terminal expansions were planned up until 2008, including the extension of the Baltic pipeline system, the de-bottlenecking of the Novorossiisk export facilities, new capacity on the northern leg of the Druzhba pipeline system, and the potential reversal of the Adria to Druzhba pipeline. Although political, financial and fiscal uncertainties could undermine these,[42] export capacity could rise by 500 thousand barrels a day (kbpd) between 2004 and 2008 if they all reach fruition.

The IEA report also suggested that limits to export capacity growth may prove less of a check on Russian crude production from 2004-8 than previously seemed likely. However, it did acknowledge that this might be more problematic in the longer-term, since it would depend on the speed with which new provinces and key export projects could be developed.[43]

Major financial and expertise investment will be needed to increase production and enhance the reserve base and export capacity. Pyotr Sadovnik, Russia's Deputy Minister of Natural Resources, has estimated that 65 billion US dollars would be needed to explore and put new gas and oil fields into operation by 2020 in north west Russia alone. Of this, 5 billion would be spent on exploration, approximately 50 billion on operations and 10 billion on pipelines.[44] The IEA estimates that investment totalling just under 1 trillion US dollars will be needed up to 2030 to maintain and develop Russia's energy infrastructure.[45]

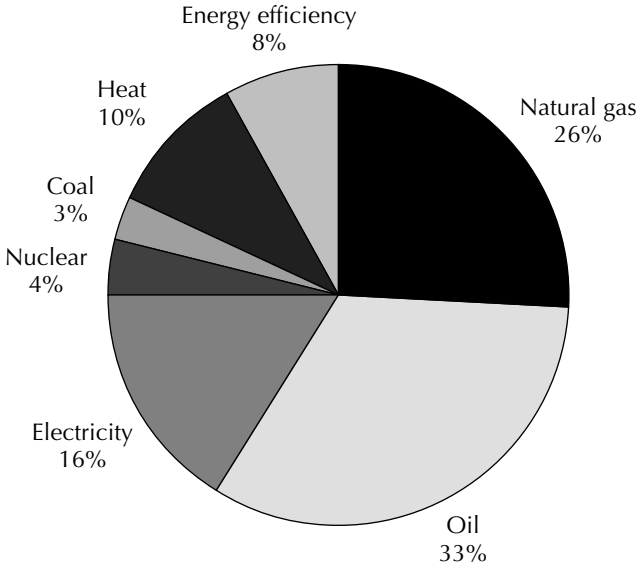
Clearly the underlying issue here is investment and not the availability of capital. A policy, administrative and legal framework secure enough to support both Russian and international investor confidence is required. The main challenges to developing the Russian oil industry are project management capabilities, the need to integrate advanced technologies into very large projects (for example, deep-water drilling and advanced offshore development), and the lack of the latest equipment required for arctic exploration.

However, production forecasts depend as much on political as on technical considerations. The political and business climate in Russia has been both ambiguous and dynamic since the collapse of the USSR, which has in turn created a difficult investment climate.

Two main problems stand out. First, foreign investment in Russia has been limited. The Kremlin has viewed the energy sector as central to the re-establishment of the Russian economy and as a strategic asset which it can use to assert itself on the world stage. As a result it has 'ring-fenced' a number of the reserves to prevent them from being bought by foreign investors.

Although the list of ring-fenced assets was shorter than expected, Moscow's attitude towards foreign investors remains unclear. It seems to have accepted some companies, which have made direct equity investments such as BP, Total, ConocoPhillips, EON-Ruhrgas. However, the investment environment remains uncertain, and while new restrictive legislation is being drafted for some parts of the energy sector, in others, the limitations on foreign investments are being lifted.[46]

Russian energy sector investment requirements



Source: Russian Federation: Russia's energy strategy until 2020 and European Commission

Total requirements 2003-2020:
$735 thousand million

Second, even if there has been greater political stability in Russia under President Putin, there have also been political problems, such as government interference and the legislative uncertainty facing Russian companies themselves. The YUKOS case is the most well-known example of this,[47] but it has affected all investment and transport. Administrative questions remain about private property, and huge capital outlays are unattractive in such an atmosphere. According to one commentator, investment requires a "new appetite for risk"[48] and Russian experts note that this is holding back investment decisions.

Although the new government decisions on tax are positive for investment, they have not yet come into force. Since 2005, the state has taken nearly 100% of revenues over $25/barrel. This, combined with other administrative problems, makes exploring and developing expensive oilfields and maintaining high production rates less attractive. As one Russian expert put it, "progressive taxation + expensive alternative transport = profitless development of expensive oilfields". Companies also face the threat of having their licences revoked for exceeding the maximum levels of production as specified in the licence agreements, even though these levels are based on 1980s' oil production technologies.[49]

Finally, the Russian energy sector is inefficient in two important ways. The first concerns its structure: are the big companies the most efficient vehicles for exploiting the oil and maximising shareholder wealth, and does the fact that the industry is concentrated in the hands of a few big giant companies obstruct the long-term maximisation of supply? The second tier of smaller companies which would have exploited the energy sources is shrinking as they are being bought up by the larger ones. According to one expert, this means that "low-cost and more sustainable…augmentation of supply is forsaken".[50]

Second, the energy sector is inefficient because its gas industry remains so centralised and is the least market-oriented and competitive sector of the Russian economy.[51] Apart from Gazprom only five companies – BP-TNK, LUKOil, Novatek, Rosneft and Surgutneftegaz – have the ability to increase their gas production substantially in order to sell to markets west of Siberia. The giant Gazprom still dominates market access, accounting for 86% of production and sales, and makes (state-supported) hostile attempts to take over other companies. Its dominance and political weight limits rivals' export capacity and, indirectly, their ability to act independently.[52]

However, the problem does not necessarily lie in the state's defence of its national interests through its 51% controlling share of Gazprom. As has been noted before, the situation is similar in other countries, such as Norway, where Statoil is 79% state-owned, and France, where EDF-GDF only recently started its privatisation process. The issue is how these companies are managed, whether sufficient investments are made to meet their development needs and their levels of transparency.

It is unclear who owns the Russian energy sector's main assets. The privatisation process of the 1990s has been reversed, but this has not led to greater transparency or public control. Companies have not been renationalised. Only public property, which is 100% state-owned, is subject to any formal control and efficiency responsibilities. These new acquisitions are 'daughter' or 'grand-daughter' companies, which, because they are not fully state-owned, are not burdened by the same obligations.[53] This is worrying, for reasons of efficiency and because of the lack of transparency in decision-making.

The strong recovery in Russian production since the late 1990s will not necessarily continue. There is a danger of either a long time-lag between the exhaustion of proved reserves and another strong growth period, or of a more persistent decline over time. Given the geography and the costs involved, it is more likely that growth will decelerate and then plateau for a number of years, followed by a slow decline in production levels.[54]

VI. Competition for Russian energy

Two additional points must be taken into account when considering the strategic long-term perspective.

Given the finite nature of Russian oil production, there is likely to be competition for its reserves. China, India, Japan and the US have all been negotiating deals with Moscow to increase their access to Russian energy in order to meet their increased consumption. According to Viktor Khristenko, Russian fuel exports to Asian and Pacific countries may rise six-fold by 2015 as a result.[55]

The energy relationship between the US and Russia has been problematic and slow to develop, and the US accounts for only a very small percentage of Russian hydrocarbon exports. The US is, however, the world's leading consumer of hydrocarbons and Goldman Sachs estimates that, even assuming continued robust growth in China, it will remain so for decades.

Washington has recently begun to look to Russia as part of its strategy to diversify supplies. Russian and American firms are cooperating in Russia, and Russian companies have assets in the US. In the long run, the EU should be prepared for increased US competition for Russian supplies. Although this may not significantly reduce the quantity of Russian hydrocarbons imported into the EU, it could drive up prices.

These advances suit Moscow as it seeks to maximise exports and diversify its markets to enhance export security. None of these relationships are yet fully developed, but when they are, they will bring increased competition for a share of Russian energy.

Some Russian experts have already noted that all this is making the Union uneasy, with senior EU officials voicing their displeasure at Russian intentions to export energy eastward and to the US.[56] However it would not be wise to over-politicise the competition for resources, because oil can be replaced by another energy source: its value depends on world market prices, which can go up and down. If western Siberian energy is tapped to feed the Far Eastern markets while eastern Siberian deposits are still being explored and developed, then competition for Russian energy will drive up prices and pose problems, particularly for slower-growing economies.[57]

Although western Siberian reservoirs are still producing oil, they are mature fields, which are unlikely to peak again, and there will be a time-lag before newly discovered reservoirs begin production. During this time (i.e. over the next five to ten years), consumer demand for existing supplies is likely to grow.

Natural gas is mainly traded through inflexible pipelines, a system on which both Russian producers and consumers have to rely. However, Russia is now seeking to develop Liquified Natural Gas (LNG). This will give it much greater export flexibility, as it allows gas to be exported to any region or country with LNG terminals.

Even though it is expensive and remains essentially a project for the future, the development of LNGwill make gas a global commodity, with benefits and drawbacks for both consumers and producers, particularly in terms of competition. It is important for the EU to develop its LNG terminals as the US and Japan have already done to avoid becoming a vulnerable player in this competitive global energy market.

Conclusions

Energy is a crucial element of the EU-Russia relationship. Although this relationship has often been sluggish, the UK's successful prioritisation of the EU-Russia energy dialogue in 2005 reinvigorated this process and broadened the range of those with a vested interest.

Russia made energy a priority for its presidency of the G8 and the Austrian EU Presidency has also put it high on the agenda, with a Commission Green Paper, "A European Strategy for Sustainable, Competitive and Secure Energy", due to be presented at this year's EU Spring Council. Its objectives are to complete the internal energy market, establish coherent external relations with producers and consumers, diversify energy supply and energy mix, and build solidarity and energy as a model for growth. It is indeed clear that the EU should define a common standard for security of supply and analyse all aspects of energy policy, their advantages and drawbacks.

EU concerns about Russia using its energy resources as a 'weapon' against it stems from two popular stereotypes: fears about energy security and fears about Russia itself. Myth, perception and the political agenda have all played important roles in generating such fears. Even if there are some legitimate concerns arising from interruptions in supply and prospective problems, it is also clear that some of these fears are, in fact, little more than thinly-veiled Russophobia (although some countries, such as Estonia, Latvia, Lithuania and Poland might have good historical reasons to be concerned about Russian intentions).

In addition, even if the tariff increases imposed by Russia are legitimate, the cutting off of gas supplies to Armenia, Moldova and the Ukraine does raise questions about Russian reliability that need to be addressed.

However, it seems unlikely that Russia will seek to use its energy resources against the EU in a politically-motivated attack or as a diplomatic lever in the short to medium term, although this cannot be ruled out completely. The use of energy (particularly oil, but also gas) as a weapon is often counterproductive and, as Russia has discovered, damages its reputation as a reliable supplier.

There are a number of tangible reasons why the EU should not be overly anxious about its energy security relationship with Russia. Russia needs the income from its hydrocarbon exports to sustain its economic growth. Europe is its main market and thus the main source of this income. For the foreseeable future, Russia is a 'captive source' as there is considerable infrastructure linking Russia and the EU. It would be extremely costly for Russia to diversify exports away from the Union.

There are, however, grounds for concern about a disruption of Russian hydrocarbon supplies to the EU because of the lack of investment in infrastructure. This will lead to technical problems caused by ageing infrastructure or bottlenecks resulting from its limited capacity. As a result, despite Russian hydrocarbon capacity, there may be problems in exporting these resources to meet Europe's growing energy needs in the medium term.

There are other significant problems for the EU, too. One is the lack of a coherent, coordinated energy strategy both in Russia and in the Union. The proliferation of competing interests on both sides means that it is not clear what is being negotiated. In a market which requires considerable strategic planning and long-term financial outlay, this lack of clarity undermines the practical possibilities of the relationship.

The EU will also have to monitor the situation carefully in important non-member transit states, particularly Georgia, Turkey and Ukraine, as third-party relationships have already had an impact on the EU's supplies. This is all the more important because Russia's relations with its neighbours, particularly Georgia and Ukraine, are likely to remain difficult in the short-to-medium term.

Most importantly, Russia's ability to meet demand may be considerably lower than anticipated, particularly in relation to gas production, and especially without significant investment. Finally, there will be increasing domestic and international competition for these limited Russian resources.

Recommendations

The EU should adopt a three-pronged approach towards its energy security and its relationship with Russia:

1) Efficiency

- Energy security begins at home. The EU needs to enhance domestic efficiency further. Many of the key alternatives to hydrocarbons are still a long way from being viable alternatives. The launch in 2005 of the European Commission's Green Paper on energy efficiency has reinvigorated this debate, but it needs to be developed further.

- The EU should consider a more effective system for stockpiling energy supplies and distributing them throughout the Union, although this has been contentious in the past for many reasons. If the EU had its own reserves, this would ease the tensions over Russian supplies to eastern and central EU Member States, which argue that they are vulnerable to being cut off by Russia while it continues to supply other Union countries.

- A pan-European energy community with a common regulatory space needs to be created. The EU should carry out a thorough review of its competition rules in relation to upstream providers in the internal EU energy grid, and formulate rules to address the existence of one dominant gas supplier to the EU market. Providing guidelines on long-term contracts, joint ventures in gas transport, and storage and distribution will help the EU to regulate its market.

2) Energy strategies towards transit states

- The EU should consider its energy strategies towards the key transit states, particularly Georgia, Turkey and Ukraine. These countries control both the current main and alternative routes. The EU particularly needs to increase information-sharing about contracts and data transparency with these parties.

3) Relations with Russia

- The EU-Russia energy dialogue could be brought within the remit of the Union's Common Foreign and Security Policy (CFSP), thus making Javier Solana, High Representative for the CFSP, the European Council Secretariat and EU Member States responsible for it. As the key supplier and transit states are outside the EU, energy relationships with these countries have a clear foreign policy dimension. Energy could be a useful vehicle of international relations and the CFSP could also provide a clearer legal basis for the energy dialogue. It might also be useful to have energy clauses in third-party contracts (as is already the case in relation to Weapons of Mass Destruction), thus giving Mr Solana more leverage to raise questions in this area.

- Confidence-building: The EU should develop its relationship with Russia further and seek to foster mutual confidence. Confidence, or the lack of it, is a fundamental element of energy security and a basic problem in the EU-Russia energy relationship. The establishment of a clearer framework for the energy dialogue in 2005 provided a basis to develop the relationship. This success should be built on by involving more people with vested interests, particularly business interests, in the dialogue.

- Enhanced communication between the two sides: The EU should seek greater input from Russia, particularly in the case of any disruption to supplies and in relation to other parties, and to improve the transparency of data. The Union should also consider sharing information about the modernisation and liberalisation of its energy sector. One aim of this improved dialogue should be to persuade Russia to ratify the European Energy Charter and particularly the Transit Protocol. Long-term contracts with Russia are desirable, as they also serve to improve producer confidence.

- Continuing efforts are needed to push for the liberalisation of the Russian energy sector, and particularly its gas market. A balance will have to be struck, as greater liberalisation and competition

may well increase efficiency in some areas but may also mean that the more distant Russian reserves will not be able to compete on the European market, which may drive them to find other markets.

Practical measures for managing emergencies

- Given that energy supply can be interrupted for a variety of reasons, either intentionally by terrorist attacks or due to *force majeure* such as natural disasters, it is in both Russia and the EU's interest to minimise these risks. The two sides should cooperate more actively on the protection of critical infrastructure. Indeed the European Commission's Green Paper of March 2006 stresses that the EU needs "a new mechanism to enable rapid and coordinated reactions to emergency energy supply situations". Gazprom is responsible for protecting gas pipelines and Rosneft for protecting oil pipelines, and 1 billion US dollars per year is dedicated to the security of these pipelines. The EU has proposed a joint 3-million-euros project on the protection of transport networks within the TACIS framework. Moreover, it should use a regional satellite monitoring system deployed on the basis of Galileo/Glonass radio-navigation systems to ensure the safety of these networks. The EU should also cooperate more closely with Russia to implement physical measures to protect the integrity and maintenance of pipelines and electricity grids.

- Military cooperation with Russia to protect pipelines, sea lanes and vulnerable facilities: Increased satellite cooperation and enhanced civil emergency cooperation could be used to monitor the security of supply. Concentrating on specific elements of the relationship would bring a clearer focus to this cooperation. It could also serve to build up a bank of small success stories to enhance the overall tenor of the EU-Russia relationship.

Investing in Russian energy efficiency

- Projects are already part of the lending portfolio of European financing institutions, and form part of the dialogue and cooperation activities with Russia. The framework for the EU's Northern Dimension (ND) policy also includes developing the dialogue on infrastructure and business and on environmental and natural resource issues. The current ND framework is due for renewal in 2006, and energy efficiency should be prioritised within it. The EU could contribute to construction, to improving energy efficiency in buildings and to publicity campaigns to promote consumer awareness.

- Investing directly in the Russian energy sector: recent discussions about arranging financial assistance from international bodies for the construction of gas pipelines should be pursued.[58] The EU should also consider other sources of funding, including the European Investment Bank (EIB) and the European Bank of Reconstruction and Development (EBRD), since direct investment in the Russian energy sector is clearly in the European interest when it can support commercially-led investment. Not only is investment in the under-funded energy sector necessary, but this could also give the EU some influence over the development of the energy sector. The EIB and EBRD could therefore facilitate the financing of energy infrastructure projects more actively by giving access to loans and improving conditions for project promoters.

The EU should therefore change the context of its energy relations with Moscow. Russia should not just be considered as a (rather unreliable) producer state, since it has proven its reliability, even during Cold War times. A renewed and more engaged approach to Russia – the EU's most important energy supplier – needs to be consolidated.

The essential EU-Russian partnership should be emphasised at the global and regional level. At the global level, both the EU and Russia are consumers and producers, although at slightly different stages of development. A lack of investment in Russia's infrastructure may mean that it is only a few years behind the EU in terms of reaching peak production. Moreover, the Union has valuable experience in modernising its energy sector from which Russia could learn.

On a more operational level, the two sides should begin to look together at developing common approaches to common challenges such as managing transit security and third-party reliability.

Endnotes

1. For a more indepth examination of EU-Russia relations, see D.Lynch (ed.) *What Russia Sees*, Chaillot Paper No.74, Paris: ISS, 2005; A.Monaghan 'From Plans to Substance: EU-Russia Relations During the British Presidency', *Russie.CEI.Visions*, No.5, August 2005. www.ifri.org.
2. Communication from the Commission to the Council and the European Parliament 'The Energy Dialogue Between the European Union and the Russian Federation between 2000 and 2004', COM (2004) 777 Final, 13 December 2004. pp. 2, 10.
3. Victor Khristenko, Russia's Deputy Prime Minister (now Russian Minister for Energy and Industry) and François Lamoureux, Commission's Director General for Energy and Transport.
4. Working groups address energy strategies, technology transfers, investments and energy efficiency.
5. Joint EU Presidency and European Commission Press release on the EU 'Russia Permanent Partnership Council on Energy', London, 3 October 2005. http://www.europa.eu.int/comm/external_relations/russia/summit_10_05/ip05_1218.htm. Interviews: Moscow, Brussels, London, June, July, October 2005 & January, February 2006.
6. Communication from the Commission to the Council on Energy Dialogue, 13 December 2004. www.europa.eu.int. EU-Russia Energy Dialogue, 5th Progress Report, November 2004. www.mosnews.com. 'Putin, Blair Positive on Russia-EU Ties', 4 October 2005. www.technologycentre.org.
7. Summit Press Release 'Russia-EU Energy Dialogue Synthesis Report No.1, September 2001', 4 October 2005. www.europa.eu.int.
8. Interviews with EU officials, June & July 2005.
9. D.Lynch *Russia Faces Europe*, Chaillot Paper No.60, Paris: ISS, 2003, p.65. In fact, as Lynch points out, both sides are *demandeurs* in the negotiations.
10. www.clingadael/nl/ciep.
11. Arguments that Russia poses a threat often rely on such secrecy and obscurity, saying that there is 'little or no presentable evidence but it is happening'.
12. R.Skinner & R.Arnott 'The Oil Supply and Demand Context for Security of Oil Supply to the EU from the GCC Countries', Report, WPM 29. Oxford: Oxford Institute for Energy Studies, 2005. p.25.
13. 2003 US Geological survey (USGS) report.
14. European Commission Green Paper 'Towards a European Strategy for the Security of Energy Supply', adopted November 2000 COM(2000) 769 Final.
15. European Commission Green Paper on Efficiency 'Doing More with Less', (COM (2005) 265 Final, 22 June 2005.
16. Interview with John Roberts.
17. J.Stern*The Russian-Ukrainian Gas Crisis of January 2006,* Oxford: Oxford Institute for Energy Studies, January 2006.
18. R.Skinner *Energy Security and Producer – Consumer Dialogue: Avoiding a Maginot Mentality*, Presentation to Government of Canada Energy Symposium, 28 October 2005. www.oxfordenergy.org.
19. Rail exports travel via the Zabaikalsk (Russia-Chinese border) and Naushki (Russia-Mongolia border) railway stations, and are run by East Siberian Railway, a subsidiary of the state company Russian Railways. The construction of an eastbound oil pipeline is considered one of the most important tasks facing Russia's oil sector, according to Gennadi Shmal, the President of the Russian Union of Oil and Gas Producers. 'Union of Russia's Oil and Gas Producers Says Oil Exports in Danger', 16 March 2005. www.mosnews.com.
20. L.Grigoriev & A.Chaplygina 'Looking into the Future: The Energy Dialogue Between Russia and the European Union', *Russia in Global Affairs*, May 2003. http://eng.globalaffairs.ru/numbers/3/476.html.
21. Interview with Julian Lee, Senior Energy Analyst, Centre for Global Energy Studies, August 2005. 'Pipeline Monopoly Suggests Russian OPEC', 23 March 2004. www.mosnews.com. It is also worth noting the differences in expectation of oil production capabilities, for example, 'Russia won't be able to increase oil production – Economic Minister', 17 June 2004. www.mosnews.com, and 'Russia to increase oil production – Russian Finance Minister', 24 May 2004. www.mosnews.com. There seem to be ongoing differences between the Ministries for Natural Resources, Finance and Economics about legislation and planning.
22. Putin cited in Paramonov & Strokov, p.7; J.Robinson West has noted that many Russian industries remain highly inefficient and rely on cheap energy to subsidise their operations. p.125.
23. Grigoriev & Chaplygina; V.Milov *Russian Energy Policy Challenges,* Presentation, Moscow, February 2005.
24. I.Gorst 'Russian Pipeline Strategies: Business vs. Politics', *The Energy Dimension in Russian Global Strategy*, J.A.Baker III Institute for Public Policy of Rice University, October 2004. p.3. J.Leijonhielm & R. Larsson, *Russia's Strategic Commodities: Energy and Metals as Security Levers*. Oslo: Swedish Defence Research Agency, FOI, 2004. pp.47, 50-1.
25. J.Stern *Gazprom*. p.144.
26. J.Stern *The Russian-Ukraine Gas Crisis*.
27. J.Helmer 'Putin's Hands on the Oil Pumps', Asia Times Online. www.atimes.com/atimes/Central_Asia/FH26Ag01.html.
28. J.Grace *Russian Oil Supplies: Performance and Prospects*. Oxford: OUP (for the Oxford Institute for Energy), 2005. p.213. Interview with Roberts.
29. B.Brunstad et al. *Big Oil Playground, Russian Bear Preserve or European Periphery? The Russian Barents Sea Region Towards 2015*, Delft: Eburon Publishers, 2004. pp. 21-49.
30. 'Russia's Oil Output Hits Post-Soviet High', 3 October 2005. www.mosnews.com.
31. Cited in 'Union of Russia's Oil & Gas Producers Says Oil Exports in Danger', 16 March 2005. www.mosnews.com. A.A.Konoplyanik 'Is Oil Production Crisis Imminent in Russia?', *Journal of Mineral Resources of Russia*, 1/01. www.geoinform.ru.
32. Trutnev cited in Gorst, p.9.
33. Cited in M.Kim *Russian Oil & Gas: Impacts on Global Supplies to 2020*. Australian Commodities, Vol.12, No.2, June, 2005.
34. A major reason for the acceleration in oil production was the exploitation of 'old' oil – oil which was explored and easily accessible during the 1980s and 1990s because it was either bypassed by less efficient production techniques or because of the economic disarray of the 1990s. By exploiting these opportunities, Russian producers in fact increased production in a large number of previously neglected post-peak fields. C.Gaddy, 'Americanski vzglyad na russkuyu neft'', *Mezhdunarodnaya Zhizn*', No.11, 2004. J.Grace. p.215.
35. Interview with Lee. J.Grace. p.183.
36. Ibid, p.183.
37. Paramonov & Strokov, pp.3-4. J.Grace. p.215. Grace also points out that developing these fields entails addressing environmental protection concerns.
38. J.Grace. pp.190, 205.
39. J.Stern, *Gazprom*. p.202.
40. J.Lee *Future Russian Oil Production: the CGES View*, presented at CERI Oil Conference March 2004. www.cges.co.uk.
41. J.Grace. p.190.
42. There have, however, been clashes between private companies and state monopolies over the construction of pipelines. A consortium of Russian private companies sought to build a direct pipeline from western Siberia to Murmansk to export oil to the US market. This encountered serious opposition from Transneft, putting the pipeline in doubt. One explanation for state authorities opposing private oil pipelines is that control over the pipelines is the only lever of influence over the oil firms.
43. *IEA Oil Market Report: A Monthly Oil Market and Stocks Report,* 12 May 2004, 21. www.oilmarketreport.org.
44. 'Russia needs $65bn to explore its North-western oil and gas fields', 11 February 2004, RosBusiness Consulting, newsonline. www.rbcnews.com.

45. Cited in C.Mandil *Securing the Russia-European Energy Partnership*. www.iea.org/textbase/papers/2005/russia.pdf.
46. V.Milov *The Power of Oil and Energy Insecurity*. Moscow: Institute of Energy Policy, January 2006.
47. An early examination of the YUKOS case can be found in V.Volkov. *The YUKOS Affair: Terminating the Implicit Contract*. PONARS Policy Memo No.307, November 2003. Even if other Russian oil companies have professed greater loyalty to the regime since the YUKOS affair, it is still too early to assess many of the ramifications of the proceedings.
48. J.Robinson West. p.126.
49. Interview with J.Lee.
50. J.Grace. p.222. A Russian expert has also noted that vertical integration has caused a stagnation in the Russian refining industry, which has become a secondary business and uncompetitive. V.Milov.
51. V.Milov *The Power of Oil*.
52. J.Stern, *Gazprom*. pp.203, 211.
53. V.Milov *The Power of Oil*.
54. J.Grace. p.216; A.I.Gritsenko, N.A.Krylov, V.V.Alenin & V.P.Stupakov 'Oil & Gas Of Russia in the XXI Century: Forecast of Production and Development of the Resource Base', *Journal of Mineral Resources of Russia*. www.geoinform.ru.
55. 'Russia to Boost Oil and Gas Production By 2015 – Minister', 31 October 2005. www.mosnews.com. See also 'Export of Russian oil to China to rise 1.5 times – Chinese Oil Chief', 9 June 2005. www.mosnews.com.
56. A.Arbatov, V.Feygin & V.Smirnov 'Unrelenting Oil Addiction', April-June 2005, *Russia in Global Affairs*. http://eng/globalaffairs.ru/numbers/11/914.html.
57. I.Gorst. p.15; Smith. p.15; Yeomans. p.118; Lovins et al. p. 22.
58. EU in Challenge to Russia Over Energy', *The Financial Times*, 9 February 2006.

Executive summary

The EU needs to develop a coherent strategy to enhance its security of supply. Relations with Russia will be a key feature of this strategy, given the existing inter-relationship between the two sides.

Russia is a key supplier for the EU, as an alternative to the Middle East for oil and as the EU's main gas supplier, while the Union is Russia's most important market for hydrocarbon exports.

There are, however, are a number of problems in the relationship and the two sides needs to become more engaged. Dialogue must be enhanced and confidence-building measures implemented.

A key problem for the EU is that Russian hydrocarbon reserves, although plentiful in the short term, may not have long-term "staying power". Thus significant investment is necessary in the Russian energy sector, both to improve energy efficiency and in terms of exploration, production and transit.