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CHALLENGES AND OPPORTUNITIES FOR AN EU FOREIGN ENERGY POLICY

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Executive Summary

- While the EU is relatively well placed compared to many other major consumers, such a challenging context means that the issue remains one of energy *insecurity* rather than energy security. The EU faces numerous challenges to its energy security.
- Energy security challenges are based on the twin elements of geological limits to hydrocarbon production and the complex nature of the political situation. Such concerns are exacerbated by problems directly related to energy supply, such as the ongoing Russia-Ukraine dispute over gas supplies and costs and disruption of international shipping, and also by the wider political context, which included the Russia-Georgia war (which had important ramifications for both energy transit in the South Caucasus and also Russia's relationship with the Transatlantic community) and ongoing instability in the wider Middle East area.
- The ongoing financial crisis sharpens the nature of the challenges faced by the European community by undermining investment in non-essential energy projects. This will have an important knock-on effect when energy demand begins to increase again in the future. Moreover, it affects political and economic stability within major producer states and has important ramifications for the relationships between international energy companies, national energy companies and states.
- It has long been noted that, in such a context, the European community should seek to enhance its own energy security particularly by increasing energy efficiency and enhancing domestic infrastructure capabilities. To a degree, this means further enhancing solidarity between member states. This is an important first step to gaining strategic initiative in developing an energy policy that on one hand is more robust in the face of challenges and on the other can take better advantage of opportunities.
- Greater internal coherence remains only part of the whole, though, and given the challenging international situation, a broader, more strategic horizon is necessary, one which includes a foreign policy dimension to EU energy security. This means developing realistic relationships in the Eastern Partnership programme and simultaneously engaging with Russia. It also means developing relationships in other areas, particularly Africa and the Middle East. On this more strategic horizon are a number of opportunities.
- Such a foreign policy dimension would also include greater cooperation with other related Transatlantic organisations, particularly the IEA and NATO, which increase both information sharing and the capacity to respond to emergencies and military threats to energy infrastructure and enhance opportunities for partnerships with important non-member states.
- Gaining consensus within the European community on the nature of energy security remains elusive, however the problem remains of "what threat and to whom"? Moreover, proposed solutions such as strategic gas reserves and

¹ Research Division, NATO Defence College, Rome. The views expressed here are those of the author and do not necessarily reflect those of the NATO Defense College or the North Atlantic Treaty Organisation.

diversification pose as many questions as they do answers – how would a gas reserve be best used? Which partners represent real diversity? Would greater diversity of suppliers and transit routes enhance or undermine solidarity within the EU? Which partners are significantly more reliable than those we already have?

• Energy security will have to be met in a competitive world in which the EU will have to implement an effective policy to secure its energy interests against strategic competitors who are not necessarily playing by similar rules. Moreover, the tools that the EU has used so far to develop foreign partnerships remain of limited use in developing relationships with states that have an ambiguous view of the EU or limited chance or desire to join the Union.

Introduction

Energy security re-emerged as a high priority international problem for the European community in 2005, reflected in the anxiety shown by the European Council presidency about Russian reliability as an oil supplier.² Such concerns were exacerbated by the gas dispute between Russia and Ukraine during the winter of 2005-2006 and then again by the oil dispute between Russia and Belarus during the winter of 2006-2007, events which had a limited practical impact on European energy imports but which generated significant political concern. This scenario is being repeated in early January 2009 with the ongoing price dispute between Gazprom and Naftogaz. While some member states have noted that they have sufficient gas reserves, Gazprom representatives have accused Ukraine of an unprecedented shut down of three of four pipelines, and allowing the transit to Europe of only 40 million cubic metres (mcm) instead of 225 mcm.³ As the dispute continues, it appears that more significant natural gas shortages are emerging in some European Union member states than was the case in 2006.⁴

These events, widely interpreted in the framework of the "re-emergence" of Russia and the vulnerability of Europe to Russian political pressure because of Europe's

² This report addresses a number of complex issues, particularly regarding the Russian energy sector, not all of which can be addressed in sufficient depth here. For more detailed information and

discussion, see this author's *Stakhanov to the Rescue? Russian Coal and the Troubled Emergence of a Russian Energy Strategy*, ARAG Paper, 07/34: Swindon: Defence Academy of the UK, November 2007; *Russia and the Security of Europe's Energy Supplies: Security in Diversity*, CSRC Paper 07/02. Swindon: Defence Academy of the UK: January 2007; *Russian Oil and EU Energy Security*, CSRC Paper 05/65. Swindon: Defence Academy of the UK: November 2005; 'Russian energy diplomacy: a Political Idea Lacking a Strategy?', *Journal of South Eastern Europe and Black Sea Studies*, 7:2, June 2007.

³ "European Gas Supplies Disrupted", BBC News, 6 January 2009.

http://news.bbc.co.uk/1/hi/world/europe/7812860.stm. Gazprom has sought to conduct a more effective information campaign than in 2006, including visits to Paris and London by the Deputy Chairman of the Board of Directors Alexander Medvedev, and is emphasising that Europe is being held hostage by the "irresponsible behaviour of a transit state". http://gazpromukrainefacts.com/. Gazprom has announced that it is increasing flows of gas through Belarus. For a view that is more critical of Gazprom's actions, see, for instance http://v-milov.livejournal.com/. For an in-depth examination of the Russo-Ukrainian gas relationship over a longer period, see Fredholm, M. "Natural-Gas Trade Between Russia, Turkmenistan and Ukraine: Agreements and Disputes". *Asian Cultures and Modernity*, Research Report No.15. November 2008.

⁴ A deal was struck on 9 January to facilitate an EU observation mission to oversee gas supply through Ukraine, clearing the way for gas flows to resume, though it remains unclear when the gas flow may recommence.

energy "dependence" on Russia, have served to focus attention on the geopolitical dimension of energy security.

At the same time, there are geological concerns about the scale and availability of remaining hydrocarbon supplies. If the wider international debate has been about Hubbert's peak (the plateau and decline of oil reserves and production), European attention began to focus on whether Russian oil and gas production would be able to meet European requirements. Christian Cleutinx, for instance, estimated in 2006 that by 2020, the EU's gas requirements will rise by some 200 million metric tons of gas per year, but that Russian gas production would rise by only 50 million metric tons.⁵ Such concerns are underscored by the stagnation of Russian gas production, the need to develop new infrastructure and gas projects in Russia and the inefficiency of the main Russian gas company Gazprom. The apparent consequent tension between supply and demand has raised questions about Russia being able simultaneously to meet rising demand in Russia with growing domestic consumption and the demand of its external contracts.⁶

Geopolitics and geology have served, therefore, as the two main prisms through which energy security has been discussed in Europe; within this discussion, the prime hinge of discussion and debate is Russia and its political and geological reliability as a supplier.

In this evolving context, and reflecting the ongoing debates about these problems, a number of official and political reviews have been carried out by the European community in 2006, 2007 and 2008. These reviews have promoted a range of responses, including greater domestic efficiency in energy consumption, improved infrastructure and more effective relationships with non-member energy partners.⁷ The recommendations made in the Report by the European Parliament in 2007 and the 2nd Strategic Energy Review (SER), published in late 2008, are the focus of this paper, which seeks to place Europe's energy security in a strategic context.

Given the content of these reports, Europe is – at least theoretically – moving in the right direction regarding its energy security thinking: rightly, it is high on the agenda as a common concern. Rightly, there is an attempt to coordinate and promote both internal and external responses to energy security challenges. Rightly, there is a realisation that a European response, as noted in the SER, lies first and foremost in developing its own strengths while at the same time realising the importance of developing foreign relationships.

The European Parliament's report advocates a response based on four principles to bring added value to the efforts of member states to their energy security:

⁵ Comments during speech "Geopolitics of Energy Security", Brussels, 10 May 2006. <u>www.european-enterprise.org/public/docs/speech20061005.pdf</u>

⁶ For a recent assessment of Gazprom's declining production, see Mehdiyeva, N. "Russia vs. Gazprom", *European Energy Review*, November-December 2008. pp.52-5.

⁷ See, for instance the European Commission's Green Paper A European Strategy for Sustainable, Competitive and Secure Energy, March 2006; the Energy Policy for Europe, January 2007; the European Parliament's report Towards a Common European Foreign Policy on Energy, September 2007; and, most recently, the Second Strategic Energy Review: The EU Energy Security and Solidarity Action Plan, published by the Commission in November 2008.

diversification; unity in defending the EU's interests and speaking with one voice; solidarity in a crisis; and strengthened cooperation with partners.⁸

In many ways these principles were echoed directly in the SER, which notes that while member states themselves are in the first instance responsible for their energy security, solidarity between member states is a basic feature of EU membership. Moreover, among the Commission's proposals are the diversification of energy supplies and a greater focus on energy in the EU's international relations, essentially deepening relationships with partners by speaking with one voice.⁹ The recognition that energy issues are closely bound up with foreign policy is an important step forward.

Equally, however, important questions remain. While it is right to advocate solidarity among member states, how is this to be achieved? Moreover, can the achievement of greater diversity of energy source, route and type be matched to greater solidarity? One of the key problems of European energy security has been the lack of consensus about the nature of the problem, in large part because of the existing diversity of Europe's energy sources, transit routes and energy types. The main questions regarding energy security are "what threat and to whom?", and the lack of consensus over the very nature of the potential threat inhibits the development of a coordinated response. The clearest example of this, of course, is the EU's energy relationship with Russia, which some member states consider to be a primary threat to their energy security but which other member states consider to be a primary partner.¹⁰

Other potential tensions include the search for security of supply at affordable and predictable prices – but in an international environment in which oil and gas prices can fluctuate significantly. Moreover, there is the question of how the EU will seek to persuade major energy partners who are essentially beyond the usual EU foreign policy tools (the carrot and stick approach of offering membership) to pursue policies which run counter to what they perceive to be their "natural advantages".

In tracing the recommendations by the European Parliament and the SER, this report examines the nature of energy security in a foreign policy context in two main sections. First, the paper will look at the importance of having a coherent internal strategy – greater internal coherence alters the external strategic horizon significantly. The main focus of the paper, however, is on the external, foreign policy elements of an EU energy policy.

The thrust of the paper is that many of the internal proposals are coherent, if perhaps optimistic. The external proposals, however, while in many ways a sound starting point, are likely to be more difficult to implement. Moreover, while it is of course true

⁸ Saryusz-Wolski, J. "Towards a Common European Foreign Policy on Energy", EPP-ED Internal Publications. September 2007.

⁹ "Second Strategic Energy Review: The EU Energy Security and Solidarity Action Plan".

¹⁰ Even this broad division includes some contradiction. Italy was one of the EU states to suffer from the Russia-Ukraine gas dispute in 2006. At the time Italy was enduring a high demand for gas due to a cold winter. As a result of a shortfall of gas received from Russia, some limited strategic gas stocks were released by the Italian government to address the shortfall. Yet Italy continues to consider Russia a major partner, seeking to develop significant economic and trade relations with Russia, at the same time as providing political support to Russia, for instance during and following the conflict in the South Caucasus in August 2008.

that greater internal cohesion and coordination is essential to an effective energy strategy, it is equally so that all the options in the near future are fraught with complexity all along the strategic horizon. There will be no easy options, and such difficulties will require a nuanced and sophisticated policy.

Before turning to the main part of the report, however, it is worth adding some further context, since events in 2008 have exacerbated both geological and geopolitical concerns about energy security and enhanced the need for a coordinated approach to it in a foreign policy context. Disruption to supplies flowing through the South Caucasus, first by an explosion on the Turkish section of the Baku-Tbilisi-Ceyhan (BTC) pipeline on 5 August and second by the Russo-Georgia conflict which began on the 7/8 August had only short term practical impact on supplies.¹¹ Yet the perception of risk in the region has grown.

Though the conflict was not about energy security, and though not systematically affecting energy infrastructure, to some it had important ramifications for energy security: Prime Minister Gordon Brown, for instance, stated that no nation could be allowed to exert an 'energy stranglehold over Europe'.¹² Indeed, the flaring of hostilities in a region central to European efforts to diversify its source and transit routes caused the European Council to state that the events

illustrate the need for Europe to intensify its efforts with regard to the security of energy supplies. The European Council invites the Council in cooperation with the Commission, to examine initiatives to be taken to this end, in particular as regards diversification of energy sources and supply routes.¹³

The Council also noted that the conflict brought the wider EU-Russia relationship to a "crossroads", re-emphasised the interdependence between Russia and the EU and called on Russia to make a fundamental choice in favour of mutual interest, understanding and cooperation and not to isolate itself.¹⁴ The relationship, including negotiations for a replacement for the Partnership and Cooperation Agreement (PCA), resumed with a summit in Nice and negotiations in December. The EU has reaffirmed its desire to develop a southern gas corridor as one of its highest energy security priorities and has also emphasised the importance of EU-Russia energy relations, such that Russia will remain the EU's main partner far into the future.¹⁵ But clearly concerns remain – not least because of ongoing tensions in the region – and the impact and implications of the conflict are being carefully examined.¹⁶

¹¹ While the BTC itself was not affected by the military conflict, BP temporarily shut down the Baku-Supsa pipeline.

¹² Gordon Brown cited in "EU Intensifies Efforts to Resolve Energy Strife", *Financial Times*, 5 January 2009.

 ¹³ Presidency Conclusions of the Extraordinary European Council, Brussels, 1 Sept. 2009. 12594/08
¹⁴ Ibid.

¹⁵ See Second Strategic Energy Review: An EU Energy Security and Solidarity Action Plan. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. SEC (2008) 2794. November 2008. <u>http://ec.europa.eu/energy/strategies/2008/2008_11_ser2_en.htm</u>

¹⁶ See, for instance, *Perspectives on Caspian Oil and Gas Development*. International Energy Agency Working Paper Series, December 2008. <u>www.iea.org</u>

Furthermore, the spreading global financial crisis is having both geological and geopolitical effects. The crisis has a disrupting effect on global trade, the energy trade included.¹⁷ Perhaps more importantly for the longer term, major energy companies are having their short and medium term strategies affected, since they are capital intensive and heavily dependent on loan capital, not least since there has been a significant growth in energy capital costs over the last two years. This, in connection with a wider recession in which energy demand and prices are declining, is creating a context in which investment programmes are being cut and higher risk projects suspended. This will have a dual impact on international energy markets: first, it will lead to a postponement of major infrastructure development projects, particularly on pipeline projects. Second, it will have delayed impact, since, in time, when prices and consumption rise again, there may be a constriction on available supply.

The financial crisis is having a geopolitical effect in two ways. First, it is creating a context in which the nature of the market may be altered as state owned or controlled companies have more access to funding to maintain investment programmes – an important nuance, since state run companies even now control the vast majority of the world's hydrocarbon reserves. In the long run, this may further increase the role of states in energy markets, states which until recently have benefited from receiving a huge influx of petrodollars and a consequent increase in their political influence. Of more immediate note is that the financial crisis and falling oil price appears to be altering the nature of cooperation between states. In October, for instance, Russian President Medvedev met the General Secretary of OPEC, the first meeting at such a high level. A more cooperative relationship between OPEC and Russia – the largest non-OPEC energy producer – would significantly alter the strategic horizon of energy security.

Russia drafted and submitted a memorandum on cooperation with OPEC and on 11 December President Medvedev suggested that Russia was ready to join OPEC and cut oil production in line with OPEC to regulate prices.¹⁸ In the event, Russia did not join the organisation, but at the OPEC conference on 17 December, Deputy Prime Minister Igor Sechin suggested (though did not guarantee) that if prices remained low, Russia might reduce oil supplies by 320,000 bpd from January 2009.¹⁹ (In any case, Russia oil production has been declining in 2008, and it may be that if the decline continues, Russian production may match OPEC aims by default.²⁰)

Internal Dimensions

A key element of EU energy security in a foreign policy context is developing and enhancing internal coherence, much of which is outlined in the SER. The details and complexities of the EU's internal coherence have already been covered in depth and in a number of ways by many of the leading energy security experts, so will only be touched upon here to emphasise their importance as the basis of achieving strategic

¹⁷ For an examination of the importance of the financial crisis to energy security, see El-Gamal, M. & Myers Jaffe, A. *Energy, Financial Contagion and the Dollar*. Working Paper. James A. Baker III Institute for Public Policy. Houston: Rice University, May 2008.

¹⁸ "Russia Could Join OPEC, Cut Production – Medvedev", RIA Novosti, 11 December 2008.

¹⁹ This echoed a suggestion he had made in November that Russia would coordinate production with OPEC.

²⁰ "OPEC's Record Oil Production Cut", *RIA Novosti*, 18 December 2008.

initiative in implementing any policy in a foreign policy context. Without such initiative, external relations will remain largely reactive to the influence of foreign actors and events, and plans such as those to diversify energy sources, routes and types will remain fragmented and contentious and, ultimately, divisive.²¹

To a significant degree, EU energy security is in its own hands. Many of the problems that are faced, including the increased dependency on imports, would be better addressed by domestic EU improvements, not least because influencing external actors will be a long and difficult process. There are three well-known elements to this: greater efficiency in use of energy, coherent legislation to encourage development of domestic resources and greater interconnection within the EU.

While the enhanced development of domestic resources is important in prolonging the plateau and decline of domestic resources and therefore delaying the need to significantly increase imports; it is the efforts to enhance efficiency and interconnection that are most important. Regardless of quantity of supply, given the nature of the oil market, it remains the case that energy prices will fluctuate. The only way to avoid this is by reducing consumption of hydrocarbons.

It is worth noting here that the EU already benefits from a diversity of energy type, source and route. In terms of energy type, oil accounts for some 37% of EU energy consumption, natural gas for some 24%, solid fuels 18%, nuclear power 14% and renewables for 7%.²² While this does not reflect fully the importance of oil to the European energy mix, it does illustrate the roles other energy types play. Liquefied Natural Gas (LNG) is also beginning to take an important place in European energy planning. Russia of course looms large as a source, and rightly so given its role as one of the major global energy producer, consumer and transit states. But the Middle East provides the bulk of European oil. Other regions, including Latin America and Northern and Western Africa, provide diversity of oil supplies – as does Russia. As for natural gas, which is a more regional energy type, bound as it is through pipeline transit, Russia is a major supplier, linked to Europe by a dense network of pipelines. But EU Europe also has other important gas suppliers, including Norway,²³ and states in North Africa and the Middle East. These sources are maintained by numerous routes and other routes are being prepared.

This diversity is an important element of European energy security - to a degree it means that the impact of a disruption (for whatever reason) is likely to be relatively localised - and it should certainly be enhanced. Yet it creates a number of problems, particularly since energy security is considered to be a national concern rather than an transnational or institutional one. If it is true that the EU's new members, among

²¹ See for instance *The Gas Supply Outlook for Europe. The Roles of Pipeline Gas and LNG.*

Clingendael International Energy Programme. Clingendael: The Hague, August 2008; van der Linde, C. *Turning a Weakness into a Strength: a Smart External Energy Policy for Europe*. Note de L'IFRI. Paris: IFRI, April 2008; Helm, D. *The Russian Dimension and Europe's External Energy Policy*. September 2007 <u>www.dieterhelm.co.uk</u>; this author's *Russia and the Security of Europe's Energy Supplies*.

²² Second Strategic Energy Review: An EU Energy Security and solidarity Action Plan. Europe's Current and Future Energy Position, Demand-resources-investments. COM (2008) 744. p.8. Continuing high oil prices would reduce the share of fossil fuels in the mix by about 5% to 75% by 2020, with oil and gas share falling by about 4%.

²³ Norway seeks to provide Europe with 135 billion cubic meters (bcm) of gas per year by 2011 and exports to Europe are to rise by some 50% over the next 15 years.

others, rely heavily on Russia as a supplier, particularly for natural gas, many of the older members do not, either because they import from elsewhere, have their own domestic supplies or do not use significant quantities of gas. Perversely, it may be the case that if the EU was *less* diverse, it might be easier to create a coherent approach among members. At present, the agenda of each state varies, sometimes significantly, and essentially, as noted above, when an energy security threat emerges, the question arises of what threat and to whom?

Given this context, the lack of political and material investment in interconnectivity within the EU generates a lack of confidence with regard to external suppliers and the EU's ability to work together to enhance the energy security of all. A more interconnected domestic EU market would maximise the benefits of existing diversity of energy type, source and transit route. Currently, European interconnection is largely limited to bilateral links and the energy market is little more than a series of national networks with limited trade: not only does this limit trade, it also weakens security. Simply, if there is a shortfall of supply in one area in the EU, the common market should be able to provide supply from another area where there is not. It is worth noting here that without a coherent internal network, even such measures as a strategic gas reserve may have limited benefit because of the potential difficulties of drawing on it.

Moreover, this should be part of a wider effort to enhance infrastructure resilience and reliability, since one of the main threats to energy supply is domestic accident and third party activity. In many ways, European energy security is more about enhancing infrastructure safety and preventing accidents than anything else: third party interference accounts for some 50% of pipeline damage and construction or material defect and corrosion another 30%. While often of low-level impact, accidents can still have major impact on energy infrastructure, illustrated by the rupture of a high-pressure natural gas pipeline and consequent explosion at Ghislenghien (Belgium) in 2004 and the explosions at the oil depot at Buncefield (UK) in 2005.²⁴

External dimensions

Beyond the EU's complex internal relationships, the EU has multiple external relationships, including those with states and organisations which are not EU members but which are members of the same wider community, such as the International Energy Agency (IEA) and the North Atlantic Treaty Organisation (NATO), and those beyond – which include many of the major producing and transit states.

To a point, relationships with these two communities feature in both the European Parliament's Report and the SER implicitly and explicitly. Yet the remit needs to be broader and more explicit, and enhancing cooperation with the IEA and NATO could form a central element of an EU energy strategy beyond its own borders. A coordinated EU energy security strategy must take into account efforts on the one

²⁴ See the presentation "Critical Infrastructure Protection in the European Gas Industry" by David Pinchbeck, Chairman of the European Gas Research Group, September 2007, <u>http://www.gerg.info/publications/conference07.htm</u>; also <u>http://aiche.confex.com/aiche/s06/techprogram/P40438.HTM</u>; and

http://www.buncefieldinvestigation.gov.uk/index.htm

hand to seek greater transparency and reliability, on the other an ability to defend its interests against a range of risks, some of which may include military threats.

The wider membership of these organisations, which includes, among others, the USA, Canada, Norway and Turkey, and the more developed relationships they have with non-member key energy producing and transit states in the Caspian and Central Asian regions and in the Middle East and Gulf regions make them important partners in any discussion of international energy security, drawing as they do the horizon to a more strategic level.

Of course, the EU has its own relationships with partners, and its developing relationships in the EU's new neighbourhood are reflected in the Eastern Partnership programme, through which the EU seeks to enact a "step change" in its relations with Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. This programme envisages a "substantial upgrading" of the EU's current relations with these states and notes that EU policy towards them, should be "strong, proactive and unequivocal" in providing support.²⁵ An EU Eastern Partnership Summit is scheduled for March 2009. Moreover, of course, the EU has opened negotiations with Ukraine and Moldova about their accession to the Energy Community Treaty, and in November 2008, both states indicated their willingness to join this community. Commissioner Piebalgs also noted his hope of opening negotiations with Turkey in the near future.²⁶ This clearly builds on the stated aims of the SER and is to be pursued. Equally, however, it remains to be seen whether the policy toolbox contains sufficient implements to build truly effective relationships with states for whom EU accession is not high on the immediate agenda - while summits provide some stimulus, practical and sustained results may be harder to achieve.

But enhanced relationships with the IEA and NATO offer different kinds of associations. Focusing on oil, the IEA has more developed energy relationships with OPEC and other energy producers and transit states. As noted in the SER, the Commission proposes improving coherence with the IEA regime, and revising the EU's strategic oil stocks legislation. Greater coherence with the IEA's emergency response to oil supply disruptions could also be beneficial. There is also a PR dimension to this cooperation, with a particular need to highlight the active roles of the IEA and EU as European energy security providers for all members and the preparations already in place. Finally, if there is to be consideration of a strategic gas stock – despite the difficulties inherent in attempting such a step – there may be an opportunity for enhanced coordination with the IEA here also.²⁷

²⁵ The Eastern Partnership: an Ambitious New Chapter in the EU's Relations with its Eastern neighbours. Press Release, 3 December 2008. IP/08/1858.

http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/1858&format=HTML&aged=0&langu age=EN&guiLanguage=en ²⁶ Commission Opens Negotiations with Moldova and Ukraine Upon Accession to the Energy

²⁶ Commission Opens Negotiations with Moldova and Ukraine Upon Accession to the Energy Community. Press Release, 26 November 2008. IP/08/1783.

http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/1783&format=HTML&aged=0&langu age=EN&guiLanguage=en . Norway and Georgia are observers. ²⁷ The idea of establishing a European strategic gas reserve is one that has been entertained for some

²⁷ The idea of establishing a European strategic gas reserve is one that has been entertained for some time. Some favour the development of strategic reserves since they can provide some protection against disruption of supplies, and a tool for ensuring price stability, countering the political power of producers and providing support to partners. However, the costs for establishing a common European reserve would be significant. There is also the question of deciding when and how much to draw down

The SER does not, however, note the need for a relationship with another key transatlantic organisation, NATO, despite the advantages this could bring to the EU's energy security agenda. Indeed, it is worth noting that some European states have favoured introducing a NATO role in energy security because they remained unconvinced by the EU's ability to protect their energy security interests. Yet, although the full extent of a NATO role in energy security remains unclear, such a role would be limited and complementary to the activities of other organisations, most particularly the EU – NATO seeks to "add value" to the efforts of other organisations.²⁸

Moreover, a consideration of a NATO role in energy security highlights the broader strategic agenda that the EU also has to consider. Energy security is not purely reflected in political threats of energy manipulation, it is also about a number of important current threats to the integrity of what is becoming increasingly sophisticated energy infrastructure.

Therefore, alongside its wider membership and partnership activities, NATO offers a two-fold potential role that would work well alongside the EU. First, it offers civil defence and emergency management capability. This would be of benefit both within the territory of the EU, but also in response to emergencies beyond that would affect energy security more broadly – for instance in response to natural disasters which have a major effect on international energy supply, exemplified by hurricanes Katrina and Rita which affected about 1.5 million barrels per day of world oil supply.

Equally, second, there are a number of existing and potential military threats to international energy security, and NATO offers some capability to protect critical infrastructure, most particularly on the high seas. While the whole of the international supply chain cannot be protected, there are key choke points through which significant percentages of the world's oil and gas supplies pass each day:²⁹ points that NATO considers it should be ready to protect in case of disruption. Any serious, and particularly any sustained disruption at these points would undoubtedly affect the EU's energy security.³⁰

Existing and potential military threats are diverse. First, as one analyst has noted, the 'possibility that access to energy resources may become an object of large-scale armed struggle is one of the most alarming prospects facing the current world system'. Given that the economic and political stability of states can depend on their access to stable energy resources, competition for finite resources seems likely to increase.³¹ This can of course take a number of forms – violence or conflict driving up the prices of resources, the impact of using control of certain geographical choke

from those stocks. Moreover, there are a number of technical complexities about storing and the releasing the gas efficiently.

²⁸ For more on NATO's energy security role, see this author's *Energy security: NATO's Limited, Complementary Role*, NATO Defence College Research Paper No. 36. May 2008.

²⁹ Some 20% of the world's daily oil supply passes through the Straits of Hormuz, for instance. Other important choke points include the Suez canal, Straits of Malacca, and the Bosphorus.

³⁰ For discussion of this, see the chapter by RAdm. H. Haas, "Energy Security and Dependence on the Sea", in Cornell, P. (Ed.) *Energy Security and Security Policy. NATO and the Role of International Security Actors in Achieving Energy Security*. Oberammergau: NATO School, November 2007.

³¹ Russell, J. "The Militarisation of Energy Security", presentation at the Energy Forum, James Baker III Institute, Rice University, Houston, 21 May 2008.

points to cut off the transit of energy, or by seizing control of the resources themselves, among others.

Other threats include terrorism and piracy. At this level, the difficulties of carrying out a strategic attack on energy infrastructure mean that there have been only a few successful attacks by terrorist organisations or pirate groups, such as that on the tanker Limberg off the coast of Yemen in 2002, and attack claimed by Al Qaeda.³² But this clearly remains an important problem, not least given the statements of intent by key figures in Al Qaeda. It is a threat to which NATO can contribute part of the solution, offering maritime surveillance and alert capabilities and thus adding to situational awareness and coordination. NATO's new concept of Maritime Situational Awareness seeks to facilitate monitoring of activity on the high seas and share data among NATO navies – essentially developing an 'information and sensor network' which could detect anomalies in maritime activity.³³

Such elements of a NATO role have been envisaged since early 2006, particularly with regard to contributing maritime military capacity to defend sea lanes and protect shipments of oil and gas from West Africa against the threat of attack from pirates and terrorists. Nigeria, which is a key oil producer for NATO member states, is an important focus for NATO attention given the violent activity and threats posed by the Movement for the Emancipation of the Niger Delta (MEND). Such activity affects supplies, the effective exploitation of resources and the price of oil.³⁴

A second focus was to counter piracy off the Horn of Africa, and indeed this has since become increasingly prominent in 2008 off the coast of Somalia. NATO deployed Operation Allied Provider from 24 October to 12 December 2008 and coordinated the handover to the EU's Operation EUNAVFOR Atalanta.³⁵ While piracy is a problem for all shipping, its relevance to energy security was highlighted when pirates seized the MV Sirius Star, a super-tanker which carries about 25% of Saudi Arabia's daily oil production.³⁶ A number of other attacks have been launched on tankers, including the Abdul Kalam Azad and the Kriti Episcopi, the latter calling on the EUNAVFOR which responded and thwarted the attack.

Enhancing cooperation with partners should not just focus on building energy relations with major producers – though of course this is the central element of any foreign dimension of energy security. As importantly, it broadens the EU's strategic political horizon and illustrates the range of problems, particularly beyond the EU's immediate neighbourhood, that an EU energy strategy in a foreign policy context

³² Single attacks on pipelines are frequent. Yet the overall impact of such attacks in limited both in the scale and time of disruption. These usually have limited impact on the infrastructure and can be easily and quickly repaired. It is much more difficult to carry out the kind of sustained attack on energy infrastructure which would have a greater impact – not only does this require significantly more resources and coordination, but beyond the advantage to the attackers of the initial surprise, the responsive role of the defence forces becomes more important.

³³ Keynote speech by Jaap de Hoop Scheffer, "Energy Security in the 21st Century", 23 October 2008. <u>www.nato.int</u>.

³⁴ Haas.

³⁵ de Hoop Scheffer, "Energy Security in the 21st Century"; "NATO Hands Over Counter-Piracy Operation to EU", 15 December. <u>www.nato.int</u>.

³⁶ The tanker is still being held by pirates at the time of writing. "US to Lead New Anti-Pirate Force", BBC News, 8 January 2009. <u>http://news.bbc.co.uk/2/hi/africa/7817611.stm</u>

faces, including the connections between politics and values (and reliability of partners), and potential competition with other strategic actors such as Russia, the USA and China.

Russia is a key partner for the EU, and the EU-Russia Energy Dialogue, established in 2000, was the first such real dialogue established with an external partner, reflecting the importance of the interdependence of the two partners.³⁷ The EU-Russia Energy Dialogue has established a framework in which EU member states, the Russian government, industrial representatives from the EU and Russia and the European Commission all play important roles in defining the relationship. The Dialogue meets in the Permanent Partnership Council format and seeks to promote contacts and exchanges and compare energy strategies. As EU officials note, there are no big political declarations, but work is being done and steady progress is being achieved". The approach is a bottom-up one, seeking to identify key issues of common interest.³⁸

Equally, there are a number of ongoing tensions in the relationship. EU officials note the impression that Russia has taken decisions on infrastructure management which do not appear to be according to purely commercial, environmental or safety criteria (such as the oil supply via the Druzhba pipeline to Mazeikiu refinery). They also note the different understandings of "reciprocity", with both parties seeking greater access to the other. As they define it:

reciprocity in Russia means equality in end results...asset swaps of equivalent financial or commercial value; for the EU, it means commonly agreed principles and access to markets and investments – a level playing field with the end result being left to free competition.³⁹

Senior Russian figures also note disappointment in the Dialogue, and that Russia expects "reciprocal steps" from the EU, rather than unpredictability and suspicion.⁴⁰ The EU, according to the Chairman of the Duma's International Affairs Committee, is trying "not so much to work with Russia as to defend itself from it". The EU, according to Konstantin Kosachov, uses the Dialogue not as a model for cooperating with Russia, but as a tool for neutralising Russia as a risk. The Dialogue is an "enormous list of things Russia should do".⁴¹

One point on this list has been an issue of contention for some years now: Russia's ratification of the ECT. Yet Russian officials and leading experts confirm Russian opposition to ratifying the ECT, noting that it would be against Russian interests. Alongside the Gazprom monopoly, the current infrastructure is considered by Moscow to be a national competitive advantage, and it seems unlikely that the EU will succeed in the near future in persuading Russia to break up and liberalise Gazprom and to ratify the ECT.⁴²

³⁷ For a recent examination of this relationship, see Cleutinx, C. & J. Piper, "The EU-Russia Energy Dialogue", in Barysch, K. (Ed.) *Pipelines, Politics and Power. The Future of EU-Russia Energy Relations.* London: Centre for European Reform, 2008.

³⁸ Ibid, p.31.

³⁹ Ibid. p.28.

⁴⁰ Yastrazhembsky, S. "Trust, Not Double Standards: What Russia Expects from the EU", in Barysch, (Ed). pp.36-39;

⁴¹ Kosachov, K. "Do We Have a Shared Future in Energy?", in Barysch, (Ed). p.48.

⁴² For more discussion of this, see this author's "Russian Energy Diplomacy", op. cit. p.284.

On this Russian "hinge", and because of the perceived difficulties of dealing with Russia, there has been considerable discussion of the need for "diversification", in many cases meaning not so much "diversity" as "diversification away from Russia". It might be characterised as "aggressive diversification". There are two dimensions to the discussion of "diversification". First, as noted above, there has been for at least two years an acknowledgement on the EU side of concern that Russia may not be able to supply an increase in the EU's demand. The EU must therefore seek other sources to satisfy a growth in demand. Second, and perhaps more loudly heard, are calls for diversification in reaction to potential political threats from Russia, particularly political reliability and Moscow's control over both sources and large parts of the energy infrastructure on the territory of the former Soviet Union. Diversification in this case is thus the means by which Moscow's political "leverage" over the EU can be reduced.

Such diversification is simply a start, however, and is not an end in itself – indeed, all too often it appears to simply be a reaction to Russia, rather than a developed, coherent strategy. There are two points of immediate import. First, it should be part of a coherent plan: diversification is predominantly about gas supplies, so the effort is focused on how to avoid increased gas imports from Russia. One of the proposed solutions to this is to increase the role of coal in the energy mix. However, coal is expensive to produce and transit and so member states such as Germany are reducing domestic coal production in favour of importing it. A primary source for this coal will be Russia. Second, it will be very expensive to create new networks of suppliers and infrastructure at a time of financial constriction. The financial crisis seems likely to have a delaying effect on strategic diversification.

Beyond these immediate points, there are a further two important sets of subsequent questions. First, such "aggressive diversification" tends towards creating an "energy security dilemma" in relations between the EU and Russia, undermining what has to date been, by and large, a mutually beneficial relationship. By stating a desire to diversify, the EU undermines confidence among producers – why develop the resources if the major market will not buy them? The result of this diversification is that Russia will seek alternative markets to sustain its economic development,⁴³ thus creating a cycle in which confidence on both sides is undermined by the repeated assertions of the other about seeking other partners. Rather than enhancing stability in the long run, such a policy runs the risk of generating the conditions for systemic instability in the relationship.

The second question regards potential new sources of energy. Calls for diversification away from Russia too rarely place this in the wider strategic context of international supply and demand. If there is to be diversification away from Russia and Russian controlled pipeline networks, it remains unclear which sources and routes would be particularly more beneficial and reliable. Some potential alternatives, such as Trinidad and Tobago do not offer substantial alternatives for the medium to long term. Other

⁴³ There are many statements to this effect, not least in the chapters by Yastrazhembsky and Kosachov in Barysch (Ed.). In a similar vein, Prime Minister Putin recently suggested that if the EU does not want the Nord Stream pipeline, Russia would change its plans and build LNG infrastructure instead, selling the gas as LNG on the open market – clearly emphasizing that the EU would be competing with other markets, such as the USA, which also seek LNG. Recently, Russian oil and gas companies are also working to develop Eastern markets.

states, including the major Latin American gas producers clearly pose political questions, given their resource nationalism. Iran is also a major potential alternative gas supplier, but while it holds some 16% of the world's gas reserves and Tehran proposes sales to Europe, its domestic political situation and international political stance are at least as awkward, if not more so than Russia's.⁴⁴ Furthermore, significant investment is needed in Iran's oil and gas infrastructure to sustain production.

Central Asian states, particularly Turkmenistan, are also considered to offer good potential partnerships, and the EU has recently negotiated a deal with Ashgabat for a yearly supply of 10 bcm of gas. A recent audit of Turkmenistan's gas fields by the British firm Gaffney, Cline & Associates appears to reflect a hugely increased estimate of gas reserves in Turkmenistan – the low estimate is of 4 trillion cubic meters (tcm) of gas, 6 tcm as the best and 14 tcm as the highest estimate. The 6 tcm estimate would make the deposit at South Yoloten-Osman the fourth or fifth richest in the world, exceeding Russia's Shtokman field (4tcm). Even giving these figures due leeway in accuracy, this is a striking increase in Turkmenistan's potential role as a regional and global energy player, making it an attractive partner, even if the energy infrastructure needs development.

Equally, this leads to two further considerations of diversification, first of which is the nature of competition for reserves. Russia and China seek access to Turkmenistan's reserves with both signing contracts for gas. The discovery of such large reserves in Turkmenistan is only likely to enhance competition. Yet, while the audit appears to suggest that there are significant reserves, it seems that they will be difficult and expensive to access. As a result, in the short term, there is likely to be a shortfall of available gas for export to meet all these contracts – it seems, for instance, that the agreements for Turkmen gas to China for 2009 may not be met. This may not bode well for the EU's agreements. It is not clear yet, therefore, that it is a more reliable source for Europe than Russia.

Another consideration regarding diversification is the nature of competition and transit routes. One of the main aims is to seek and enhance routes that are not controlled by Moscow: but Moscow is actively pursuing competitive pipeline systems. Noted above was Russian interest in Turkmen gas – in large part to make up for its own predicted shortfall in gas production. To this end, Moscow is seeking to enhance the infrastructure in Central Asia – refurbishing the Central Asia Centre pipeline and seeking to finalise plans for the Pre-Caspian pipeline. Furthermore, Moscow is attempting to enhance competition for exporting its gas to Europe. Moscow denies that its North Stream and South Stream pipelines are designed to compete with EU favoured projects such as Nabucco, but clearly there will be a finite amount of gas available. In sum, in seeking such diversification, the EU will need to compete harder in markets with which it is not as familiar or well placed as some of the other competitors.

To date, transit diversification focuses on the South Corridor – essentially through the South Caucasus, reflected in the BTC and Baku-Tbilisi-Erzerum (BTE) pipelines, and Nabucco. Yet in attempting to escape Moscow's control, the diversification infrastructure both runs through an unstable area – the South Caucasus remains beset

⁴⁴ Tehran has also pushed the idea of a gas equivalent of OPEC more than Russia.

by ongoing separatist conflicts, clearly illustrated in August 2008 – and through Turkey.

Turkey is an important element of the EU's energy security debate, since Ankara seeks to establish Turkey as the fourth main artery of European energy security. Yet Turkey also poses interesting challenges as well as opportunities. First, Turkey's own domestic gas consumption is rising and increasing demands may be made on gas that transits through Turkey. Second, Turkey has an important energy relationship with Russia – and, as such is part of the broader Russian transit network. Third, many of the existing diversification plans appear to centre on Turkey – and therefore the strategic question should be asked of how much this is real diversification. Turkey is an important partner, and a strategic player but it is also not an EU member: a negative trend in EU-Turkey relations could have a knock-on effect on EU energy security.

One final point regarding diversification merits attention, that of looking further afield, particularly in terms of building positive relations with major producers in the Middle East and Africa, particularly, of course, Algeria and Nigeria. This is certainly beneficial: any diversification must be viewed in a global, rather than regional, context: enhancing Eastern Partnerships will likely bring some benefit to EU energy security, but adopting a more global perspective will enhance it by a much greater factor.

Moreover, it will offer wider prospects for building cooperation with a range of other partners. The UN sanctioned international effort to address piracy off the Somalian coast represents common interests of the EU and NATO and Russia, China and India, all of whom have deployed forces to assist the counter-piracy effort. Indeed, the Russian frigate Neustrashimy, which has been deployed since the end of October 2008 was involved in coordinated actions with HMS Cumberland (a Royal Navy vessel that was part of the NATO operation) in deterring pirate attacks.⁴⁵ Such events could provide opportunities for developing greater coordination between NATO and Russia and building on previous maritime cooperation such as in Operation Active Endeavour.

Equally, however, seeking to build partnerships in the Middle East and Africa will not remove the risk of significant disruption and will face their own specific regional complexities. Challenges will include facing competition from those same partners who may cooperate in other circumstances. The Middle East suffers from its own complex network of relationships, of course. As the IEA notes, many of the major oil disruptions in the last 30 years have occurred in the Middle East. Moreover, potential major suppliers such as Iraq remain unstable and others, such as Qatar, vulnerable to regional instability.

Africa, too, poses challenges – including social instability and, as noted above, threats from piracy and organised crime. Moreover, for its part, Russia also will seek to further develop its partnerships with producer states, and the EU will have to be aware of any consequent "diminishing diversification" some African states may therefore

⁴⁵ "Russian Warship Protects Trade Vessels From Pirates Off Somalia", *RIA Novosti*, 14 November 2008.

represent, particularly, for instance, with Algeria, one of the three main gas providers to Europe. China and India have actively sought to enhance its security of supply by building relationships in Africa. This will highlight the different approaches the EU will face in securing its supplies: China and India have been prepared to agree to security of demand and have also invested in other parts of their producer partner states' economies without applying pressure on their domestic political situation. Chinese and Indian approaches may have their own drawbacks for the producer states,⁴⁶ but the EU will still need to compete in this larger, strategic horizon and both decide how to use the foreign policy tools it has to best effect, and understand those that it will need to develop to achieve the results it desires with states either that do not seek membership or are too large to be significantly influenced by the other tools the EU possesses. This is not to deny the importance of diversification – it is to emphasise that it is no easy option and will require much the same sophisticated policy attention and effort that engagement with Russia will need.

Conclusions

It is rarely a good time to draw conclusions about energy security – least of all at the time of writing (December-January). The short-term horizon for the EU's energy security appears as dramatic as 2008 has been. Both EU-Russia relations and EU energy security are likely to be complicated by continuing instability in the South Caucasus: despite the ceasefire, the situation in and around the conflict zones in Georgia remains unstable. These are two separate problems entwining as one – the broader EU-Russia relationship will again come under pressure if conflict breaks out anew. The ongoing dispute between Russia and Ukraine and the shortfall of natural gas supplies to EU member states adds pressure to this position, posing as it does an energy security problem and also the question of how this will affect the wider political picture of Russia's relations with the European and transatlantic communities. Such difficulties may become exacerbated by the ongoing financial crisis which appears set to continue into 2009 with economic ramifications into 2010.

Three immediate conclusions may be noted: first, this dispute may set the tone of increased pressure on the Czech presidency of the European Council, already burdened with the responsibility of dealing with the ongoing resolution of the situation in Georgia, from which the OSCE is withdrawing. Second, it seems likely to underscore discussion of diversification, particularly with regard to South Stream and Nabucco projects. Third, it seems likely to contribute to the ongoing wider discussion about a new European architecture in Europe – as with the conflict in the South Caucasus in August 2008, this dispute may serve to underscore Russian beliefs (shared by some in the transatlantic community) that the proposals become more relevant and necessary while simultaneously bolstering the views of others that a new discussion which would include Russia at the heart of decision-making is undesirable.⁴⁷

⁴⁶ Reduction in energy demand in both China and India during the financial crisis is likely to be only a temporary phenomenon.

⁴⁷ For more on the proposals for a new European architecture, see this author's "Russia's 'Big Idea': Helsinki 2 and the Reform of Euro-Atlantic Security", *NATO Defence College Report*, 3 December 2008.

Russia is set to continue to pursue a foreign policy that is at once one of confidence and one of insecurity, at once seeking to secure its interests by any means and one of seeking to be accepted as a reliable international partner. President Medvedev has focused on international energy diplomacy, with visits (among others) to Latin America, Central Asia and Azerbaijan to enhance energy relationships. Equally, Russia is presenting itself as a major international pole, and proposing a reconsideration of the European architecture – this offers an interesting opportunity for EU engagement, and the EU should ensure that it also features prominently among President Medvedev's plans for partnership.

Further engagement with Russia is unlikely to be easy, but it is essential - other partners are beneficial, but cannot be seen as serious and substantial alternatives. Furthermore, such engagement simply illustrates the difficulties that the EU will face with almost any other major partner. The thrust should be to engage Russian national disadvantages for mutual benefit, not seek to break down what Moscow perceives as its advantages. A good example of this is Russian domestic infrastructure and enhancing the efficiency of Russian gas use. Projected insufficiencies in gas, combined with plans for further gasification in Russia will both stretch Gazprom's ability to meet demands, including exports. The EU can seek to become involved indirectly in this issue using different tools, for instance through the Northern Dimension.⁴⁸ Through this programme, the EU can contribute both to more efficient construction programmes – thereby improving domestic energy consumption efficiency and also to publicity campaigns to improve consumer awareness. To be sure, these are indirect and supplementary measures. Nevertheless, they are areas in which there are mutual interests and measures which build on the low level successes of the Energy Dialogue.

Despite the progress made, EU energy thinking in a foreign policy context continues to pose conceptual and practical problems. Conceptually, "energy security" could become one of the main prisms for reconsidering EU foreign policy as a whole, as it seeks to emerge from a foreign policy toolbox based on membership perspectives. First, it encourages a truly strategic horizon for the EU, looking beyond local and regional solutions of specific pipelines. Simply, energy security is a global issue and must be treated as such. Connected to this, energy security is an instrument for deeper engagement with states and organisations beyond the traditional tools of carrot and stick in membership perspectives. Energy security can be used as a prism through which different states can see common interests: almost all states are producers, consumers *and* transit states (rather than simply consumers or producers) and energy is a chain from the point of its exploitation to the point of its consumption: all the elements of the chain have vested interest in its functioning.

Yet a number of practical challenges continue to exist. Despite the high profile of certain issues, gaining consensus over the very nature of energy security remains the primary difficulty, with clear ramifications for policy. Many of the points raised in the SER have been recognised for some time and have been frequently repeated in official EU documents. Realising them in practice has proven difficult, in large part because Europe's energy agenda remains fragmented between different states, private

⁴⁸ For more discussion of the positive progress of the ND, see Progress Report for the 1st Ministerial Meeting of the Revised Northern Dimension Policy, held in St. Petersburg, 28 October 2008, http://ec.europa.eu/external_relations/north_dim/

businesses and international institutions. Perhaps counter-intuitively, diversification contributes to this lack of consensus by undermining unity over what the nature of a threat may be and from where.

Select bibliography

Baker Institute Study, *The Geopolitics of Gas*, Number 29. Houston: Baker Institute, March 2005.

K. Barysch (ed.) *Pipelines, Politics and Power. The Future of EU-Russia Energy Relations.* London: Centre for European Reform, 2008.

BP Statistical Review, London: BP, 2008.

Clingendael International Energy Programme, *The Gas Supply Outlook for Europe*. *The Roles of Pipeline Gas and LNG*. Clingendael International Energy Programme. Clingendael: The Hague, August 2008.

Cornell, P. (Ed.), *Energy Security and Security Policy. NATO and the Role of International Security Actors in Achieving Energy Security.* Oberammergau: NATO School, November 2007.

M. El-Gamal & A. Myers Jaffe, *Energy, Financial Contagion and the Dollar*. Working Paper. James A. Baker III Institute for Public Policy. Houston: Rice University, May 2008.

European Commission, Second Strategic Energy Review: An EU Energy Security and Solidarity Action Plan. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. SEC (2008) 2794. November 2008.

Fredholm, M. "Natural-Gas Trade Between Russia, Turkmenistan and Ukraine: Agreements and Disputes". *Asian Cultures and Modernity*, Research Report No.15. November 2008.

Grace, J. *Russian Oil Supply: Performance and Prospects*. Oxford: OUP/ Oxford: OUP/Oxford Institute for Energy Studies, 2005.

Helm, D. *The Russian Dimension and Europe's External Energy Policy*. September 2007 <u>www.dieterhelm.co.uk</u>

IEA, Perspectives on Caspian Oil and Gas Development. Paris: IEA, December 2008.

IEA, *IEA Response System for Oil Supply Emergencies*. Paris: IEA, 2008. Kalicki, J. & D. L. Goldwyn (Eds.) Energy and Security: Toward a New Foreign Policy Strategy. Washington, D.C.: Woodrow Wilson Centre Press, 2005.

van der Linde, C. Turning a Weakness into a Strength: a Smart External Energy Policy for Europe. Note de L'IFRI. Paris: IFRI, April 2008.

Mehdiyeva, N. "Russia vs. Gazprom", *European Energy Review*, November-December 2008.

Monaghan, A. *Energy security: NATO's Limited, Complementary Role*, NATO Defence College Research Paper No. 36. May 2008.

Monaghan, A. Russia and the Security of Europe's Energy Supplies: Security in Diversity, CSRC Paper 07/02. Swindon: Defence Academy of the UK: January 2007.

Monaghan, A. 'Russian energy diplomacy: a Political Idea Lacking a Strategy?', *Journal of South Eastern Europe and Black Sea Studies*, 7:2, June 2007.

Monaghan, A. *Russian Oil and EU Energy Security*, CSRC Paper 05/65. Swindon: Defence Academy of the UK: November 2005.

Noel, P. Beyond Dependence: how to Deal with Russian Gas, Policy Brief. London: ECRF, November 2008.

Saryusz-Wolski, J. (Rapporteur), *Towards a Common European Foreign Policy on Energy*. EPP-ED, Internal Publication. Brussels: European Parliament, December 2007.

Simonov, K. *Energeticheskaya sverkhderzhava* (Energy Superpower) Moscow: Algorithm, 2006.

Stern, J. *The Future of Russian Gas a Gazprom*. Oxford: OUP/Oxford Institute for Energy Studies, 2005