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Russian approaches to energy security and climate change: Russian gas exports to the EU

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The proposition that EU climate policy represents a threat to Russia's gas exports to the EU, and therefore to Russia's energy security, is critically examined. It is concluded that whilst the greater significance of climate-change action for Russian energy security currently lies not in Russia's own emissions reduction commitments but in those of the EU, an even greater threat to Russia's energy security is posed by the development of the EU internal gas market and challenges to Russia's participation in that market. However, the coming decades could see Russia's energy security increasingly influenced by climate-change action policies undertaken by current importers of Russian gas such as the EU, and potential importers such as China and India. The challenge for Russia will be to adapt to developments in energy security and climate-change action at the European and global levels.

Keywords: Russia; EU; energy security; climate change

Introduction

Russia is a major global actor in the sphere of energy, the largest exporter of natural gas in the world, with the world's largest gas reserves (BP 2011a, pp. 20–29), whose own energy security depends to significant degree on security of exports. With its geographical proximity to the EU and its share in EU-27 gas imports, Russia is also an important actor in European regional energy security. Although much has been written about energy security in EU–Russia energy relations, European literature on the subject (Van der Meulen 2009, Paillard 2010) is often (understandably) Eurocentric and therefore consumer orientated. Russian perspectives on energy security remain under-researched. This discussion is part of a broader research project that seeks to engage more strongly with Russian approaches to energy security (Sharples, in press).

Given their differing approaches to both energy security and climate change, and the importance of their energy supplier–consumer relationship, an examination of

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Russia–EU interaction in relation to energy security and climate change represents an important contribution to our understanding of both the issues and the actors involved. In what follows, I develop a critical examination of the Russian perception that EU environmental policy represents a threat to Russia’s energy security.

Theoretical and methodological considerations

In order to examine Russian approaches to energy security and climate change, I employ a social constructivist approach, which encourages consideration of discourses as indicators of values and interests of political actors (Burr 2003). Social constructivism posits that an actor defines its interests through interaction with other actors. Each actor then constantly redefines its interests (including security interests) on the basis of the results of ongoing interaction, which Wendt (1999) refers to as a ‘process of mutual adjustment’ (p. 82; Zehfuss 2006, p. 96). Therefore, it can be argued that Russian conceptions of energy security are based on interaction with other relevant actors – in this case, the EU as a strategic market for Russian gas exports.

Such interaction is measured through the analysis of communicative interaction between actors, a process referred to as discourse analysis (Wood and Kroger 2000). In this case, discourses and performative statements known as speech acts (Chilton and Schäffner 2002, p. 9) are drawn from policy documents and statements by Russian political actors, Russian analysts, and Russian media. This approach has already been applied to Russian Arctic policy (Jensen and Skedsmo 2010), climate change, and environmental security (Trombetta 2008), and has great relevance to the consideration of energy security, an area in which actors’ perceptions of their own security depends upon the perceived intentions of other relevant actors. This is especially the case in a supplier–consumer relationship such as that between Russia and the EU.

Potential critiques of this approach are anticipated and acknowledged. First, I aim to identify Russian conceptions of energy security, and then use those conceptions to explain why Russian actors may interpret EU environmental policy as a threat to Russia’s energy security. Therefore, statements, policies, and legislation are critically analysed as elements of discourse, but the analysis of their actual implementation is not the focus of this discussion. Second, a social constructivist emphasis on discourses does not discount the role of material interests. Rather, this approach emphasises actors’ subjective interpretations of their own material interests and how best to fulfil those interests, thus resolving Neumann’s (2009) ‘dilemma of how to reconcile meaning and materiality, discourse and practice’ (p. 83). Finally, one must be cautious in referring to Russia as a single, unified actor. There are many relevant actors in Russia, each with their own private interests and their own interpretations of Russia’s ‘national interest’. For practical purposes, reference is made to what may be termed ‘mainstream’ elite Russian opinion, as expressed in interviews with relevant experts and academics, in official statements by the Russian Government, President, and representatives of Gazprom, and in articles taken from the mainstream Russian media.

Defining energy security: Russian conceptions

The Copenhagen School of security studies defines a security threat as ‘an existential threat to the referent object’ (Buzan *et al.* 1998, p. 25). The securitisation of energy usually proposes energy supplies as the referent object, with the existential threat being the denial of such supplies. This approach is reflected in the International Energy Agency (IEA) definition of energy security as ‘the uninterrupted physical availability at a price which is affordable, while respecting environmental concerns’ (IEA 2011b).

Thus defined, energy security represents a consumer-centric concept. However, as Belova (2011) notes:

There is no single definition of energy security... For Russia, like any other energy supplier, energy security ... [is] more about the security of demand ... Long-term prices, long-term commitments ... As the supplier you have to make long-term, money-intensive investments ... How can you do anything in a situation with high uncertainty?

Such a view is supported by Zolotukhin, who suggests that for Russia, energy security in relation to gas exports to the EU is a two-way street: it is not only security of supply for the EU, but also security of market access for Russia, so that Russia does not lose the opportunity to supply the EU market (Zolotukhin 2011).

The need for consideration of both supplier and consumer interests is supported at a theoretical level by the possibility of securitising chain reactions – an attempt by one actor to increase their own security may be perceived as a threat by other actors, prompting those actors to take actions aimed at increasing their own security, resulting in a spiral of securitisation which represents a negative manifestation of Wendt’s ‘process of mutual adjustment’ noted above (Buzan and Waever 2003, p. 72, Wendt 1999, p. 82). Russian perceptions of EU energy and environmental policies (which aim to increase EU energy security) as a threat to Russia’s own energy security are a prime example of such chain reactions of securitisation.

Despite the need for a balanced account of energy security in the EU–Russia energy relationship, literature on energy security (especially on the issue of energy security in EU–Russia energy relations) is overwhelmingly oriented towards security of supply. There is a distinct lack of literature which reflects a conception of energy security as security of exports and the views of Russian experts such as those quoted above.

In the absence of such literature, the Copenhagen School approach to security offers a theoretical approach to energy security that reflects the multidimensional Russian conception of security of exports as a key aspect of energy security. The Copenhagen School model of security proposes five (overlapping) sectors of security: military, political, economic, societal, and environmental. It is possible to take Russian conceptions of energy as an economic, political, and social commodity, and construct a theoretical model of energy security as security of export that includes the economic, political, and social aspects of energy from a Russian perspective.

For Russia, the economic aspect of energy security derives from the importance of gas export revenues to the Russian economy. Thus, revenues from gas exports are the referent object for Russia. In 2010, revenues from gas sales represented 12% of Russia's exports, 12% of Russia's GDP, and 6% of federal budget revenues (Gromov 2011). The economic value of energy exports is reflected in the Russian Energy Strategy to 2030, which states that 'The strategic objective of the foreign energy policy is the maximum efficient use of the Russian energy potential for full-scale integration into the world energy market, enhancement of positions thereon and gaining the highest possible profit for the national economy' (MinEnergO 2009, p. 55). Potential threats to Russia's ability to generate such export revenues are identified in the Foreign Policy Concept of the Russian Federation, which refers to 'stability of demand and secure transit' as key aspects of energy security, alongside security of supply (MFA 2008, section No. 4).

Yet for Russia, natural gas is not only an economic resource. Energy security is perceived to be a political concept (Grib 2010). The political value of Russia's gas exports to the EU lies in Russia's role as a provider of energy security to the EU (Nord Stream AG 2011), which increases Russia's status in its relations with the EU and contributes to Russia's position as a 'strategic partner' for the EU. Hence Morozov's suggestion that Russia's role as a leading energy supplier to Europe is not just about money, but also about recognition and identity (Morozov 2010), and Zagashvilli's proposal that 'There is not only monetary profit, but also influence and status' in Russia's gas exports to the EU (Zagashvilli 2010).

In Russian society, subsidised domestic heating is important to the quality of life of much of the population. The ability of Russia's largest gas company and monopoly gas exporter, Gazprom, to sell gas to the domestic Russian market at state-regulated subsidised prices depends heavily on profits generated by gas sales to the EU, where prices are four times higher (Gazprom 2011). To illustrate, in 2010, gas sales to the EU accounted for 26% of Gazprom's total sales by volume but 44% by revenue. Conversely, domestic gas sales accounted for 56% of sales by volume but just 29% by revenue (Gazprom 2011).

Gas exports to the EU have great economic, political, and societal significance for Russia. Therefore, anything that poses a threat to those exports is likely to be securitised by Russian actors, including an EU environmental policy that potentially curbs Russia's gas exports to the EU. Due to the multifaceted Russian conceptions of gas as a strategic resource, the securitisation of gas exports is not only a matter of economic, political, or societal security, but also an issue of energy security that has economic, political, and societal components.

Energy security and climate-change action: contrasting Russian and EU approaches

For energy consumers in the EU, policies that increase energy security and attempt to mitigate climate change are complementary: the development of local renewable energy sources and increases in energy efficiency will reduce dependency on

external fossil-fuel energy sources, thereby increasing energy security (of supply) as well as reducing greenhouse gas (GHG) emissions. To this end, in 2007, the European Council announced targets of a 20% reduction in GHG emissions, renewables to account for 20% of energy consumption (up from 10% in 2008 – European Commission 2011a, p. 4), and a 20% increase in energy efficiency by 2020. The purported benefits of these measures will include a ‘major contribution to combating climate change’, ‘more secure energy supplies’, and ‘€50bn a year less on oil and gas imports by 2020’ (European Commission n.d.).

Given the combination of Russia’s export-oriented approach to energy security and plentiful domestic oil, gas, and coal reserves, and growing nuclear industry, the idea of renewable energy and energy efficiency as increasing Russia’s energy security was largely confined to the rhetoric of Medvedev’s modernisation programme during his term as President (President of the Russian Federation 2010b). In reality, environmental policy has been a far lower priority for the Russian government than ensuring the security of Russia’s hydrocarbon exports. From the Russian perspective, environmental policy and energy security are not as interlinked as they are for import-dependent consumers in the EU.

Russia signed and ratified the United Nations Framework Convention on Climate Change (UNFCCC) in the early 1990s, and ratified the Kyoto Protocol in 2004, having signed the agreement in 1999 (UNFCCC 2011a). According to the terms of the Kyoto Protocol, Russia agreed that by the commitment period of 2008–2012, Russia’s GHG emissions would be equal to the base year of 1990 (UNFCCC 1998, pp. 3, 20). This ‘soft target’ was intended as compensation for the massive economic contraction that accompanied Russia’s transition from communism to capitalism and caused a significant decline in Russia’s GHG emissions during the 1990s. By 2009 (the most recent available data), Russia’s GHG emissions were 37% below the 1990 level (UNFCCC 2011b). Therefore, Russia was far below its 2012 target when Russian representatives arrived in Durban for the COP17 climate-change conference in December 2011. Yet during the conference, Russian representatives reiterated Russia’s decision not to participate in the second Kyoto Protocol commitment period of 2012–2020, as originally announced a year earlier at Cancún (Goldenberg 2010).

Russia’s original announcement in Cancún came shortly after a similar announcement by Japan, and was followed by that of Canada at COP17 (RIA Novosti 2011). Yet unlike Japan and Canada, Russia’s withdrawal was not driven by an inability to meet its emissions targets. Russia’s proposed emissions target of 15–25% below 1990 represented little more than ‘business-as-usual’ (UNEP 2011, p. 16), and Russian representatives confirmed that Russia would still meet its (now non-binding) emissions target (MFA 2011).

Russia’s representatives have cited the failure of the treaty ‘to provide adequate participation of all countries, including rapidly developing economies’ (notably the United States, Japan, Canada, and developing countries such as China, India, and Brazil) as the reason for withdrawing its support for the second

Kyoto Protocol commitment period (RIA Novosti 2011). Not only is the Kyoto Protocol in its current format (with or without Russian participation) incapable of sufficiently curbing global emissions to reduce global warming, but the collapse in carbon credit prices (Reuters 2012) has reduced the potential for Russia to benefit from foreign investment in Joint Implementation schemes. Hence, from the Russian perspective, there is little benefit from participation in the Kyoto Protocol second commitment period.

Russia's representatives have offered support for a universal agreement for the post-Kyoto period, as proposed by the Durban Platform (UNFCCC 2011c). A new universal agreement could see China and India increasingly using gas in place of coal as a means of curbing their emissions (IEA 2011a, pp. 37–39), which could expand the market for Russia's gas exports in the future. However, current disagreements on burden sharing between developed and developing countries mean that the negotiations over a universal agreement are unlikely to be concluded quickly or easily.

In light of Russia's hydrocarbon export-orientated approach to energy security and currently limited commitments in relation to international climate-change action, it may be argued that the significance of climate-change action for Russia lies not in its own GHG emissions reduction commitments, but in the commitments by those countries to which Russia exports gas, namely those in the EU. This may account for Russian interpretations of EU environmental policy (and EU 'domestic', rather than Kyoto Protocol, emissions targets for EU member states) as a threat to Russian energy security.

EU environmental policy and Russian energy security

Russian interpretations of EU environmental policy as a threat to Russian energy security

From the Russian perspective, the fate of Russia's gas exports to Europe represents a chain reaction of securitisation: in seeking to provide for its own energy security (and at the same time contributing to climate-change action) by increasing energy efficiency and increasing the share of renewables in its energy mix, the EU is, in effect, proposing curbing fossil-fuel consumption, including that of gas. Given that Russia is the largest external supplier of gas to the EU, such a reduction is bound to limit the volume of Russia's gas exports to the EU, thus threatening Russia's energy security. In 2010, then-President Medvedev implicitly confirmed this interpretation when he claimed that:

There is the idea of 'preventive measures' taken by developed countries as a sort of carbon protectionism. These kinds of decisions, especially unilateral decisions aimed at specific countries or groups of countries, could limit export opportunities for some of Russia's commodities on international markets and serve as a pretext for increasing unfair competition against Russia. We therefore need to weigh this situation up, discuss it, and propose a scheme that would enable us to contribute to

preventing climate change while at the same time maintaining our economy's competitiveness in our main export sectors. You all understand what I am talking about. (President of the Russian Federation 2010a)

The view that the 'decarbonisation' of the EU economy is worrying for Russia because it creates uncertainties over European demand for Russian gas is supported by Russian analysts (Konoplyanik 2011a) and, unsurprisingly, by Gazprom Export:

It is important for Gazprom to clearly understand what gas volumes will be needed by Europe and what share of this demand will be met with Russian gas. The results are frustrating. All total-demand scenarios show a decline in gas demand ... We analyzed several available carbon-reduction roadmaps, produced primarily by consultants and NGOs and concluded that even under the standards set by the mostly pessimistic EU roadmap, the consensus is that the demand for gas in power generation will increase from current levels. (Komlev 2012, p. 4)

However, the impact of EU environmental policy on future EU gas demand is difficult to predict, especially given that future EU gas demand regardless of EU environmental policy is equally open to question.

The impact of EU environmental policy on EU gas consumption: a matter of speculation

Given the sheer number of relatively unpredictable variables that will impact upon EU gas consumption over the next two decades, predictions regarding the potential impact of EU environmental policy on EU gas consumption and imports should be viewed with a significant degree of caution. First, the rate of future economic growth, which strongly influences energy consumption, cannot be easily predicted. Second, the prices of oil and gas and the relative economic competitiveness of renewable energy sources also cannot be easily predicted. Third, it is far from guaranteed that EU targets regarding renewable energy use and energy efficiency will be met. Taken together, potential future EU gas consumption and Russian gas imports remain matters of pure speculation.

Thus, there is significant variation in predictions of future EU gas consumption and imports. As a baseline figure, in 2010, the EU-27 imported 117.4 billion cubic metres (bcm) of gas from Russia, which represented 35.8% of total imports of 327.7 bcm and 22.5% of total consumption of 521.5 bcm (Eurogas 2011).

Eurogas predicts that EU-27 gas demand could reach 555–606 bcm by 2020 and 575–621 bcm by 2030 (Eurogas 2010, p. 5). The IEA predict that EU gas demand could rise to 558 bcm in 2020 and 591 bcm in 2030 (IEA 2011a, p. 104). By contrast, Cambridge Energy Research Associates (CERA) predict that if the EU goal of a 20% increase in energy efficiency is achieved, EU gas consumption could fall to 434 bcm by 2020 and to 336 bcm by 2030 (Pipeline and Gas Journal 2009).

Gazprom estimates that the EU's need for imported gas will grow to 380 bcm by 2020 and to 440 bcm by 2030 thanks to a combination of steadily rising demand and declining 'domestic' EU production (Golubyev 2011). In 2010, the European Commission predicted that EU gas imports are set to rise to 334–390 bcm by 2020 and 353–404 bcm in 2030 (European Commission DG Energy 2010, pp. 31, 45, BP 2012).

Given the uncertain future demand for Russian gas in the EU, from the Russian perspective, it appears that the key to maintaining demand is the continued consumption of gas in the EU as part of a 'low carbon' primary energy mix over the coming decades.

Russian gas as a 'green fuel' for Europe?

In an effort to encourage continued consumption of natural gas in Europe, several Russian actors have attempted to market its gas as the 'greenest' of the hydrocarbons and as a cost-effective solution to the EU's problem of meeting its GHG emissions reduction targets. The most prominent of these actors is the Head of Gazprom Export, Alexander Medvedev, who has stated that in the long-term struggle for energy security and the reduction of carbon emissions, a 'correct analysis will show that natural gas can and must play a crucial and growing role on both fronts' (Medvedev 2009), and that switching half of Europe's coal-fired power stations to gas will result in a 60% decrease in CO₂ emissions at only 40% of the cost of doing so through renewable energy (Medvedev 2010). Whilst such a view should be expected from the head of a major gas export company, the idea of gas as a transition fuel has also found support among Russian analysts (Protasov 2011, p. 28, Kokorin 2012) and the Russian media (Götz 2011).

The extent to which natural gas can feasibly be defined as a 'green' fuel remains open to debate, with critics and supporters offering equally partisan arguments. Proponents of renewable energy such as Friends of the Earth, Renewable UK, and the European Climate Foundation have been keen to emphasise that gas is more carbon-intensive than renewable energy, that investment in gas is a threat to investment in renewable energy, and that gas is not a viable alternative to renewable energy (Harvey 2011). Conversely, Russian views on gas as a bridge to Europe's energy future have (equally unsurprisingly) found support among European gas companies, such as Wingas (2010) and BP (2011b), and among the members of the European Gas Advocacy Forum (Centrica, Eni, E.ON Ruhrgas, Gazprom, GDF SUEZ, Qatar Petroleum, Shell, and Statoil; EGAF 2011) who themselves have a vested interest in the continued use of gas in Europe. According to BP (2011b):

Natural gas used to generate power has half the CO₂ emissions of conventional coal power generation and near zero sulphur emissions. Gas is expected to displace coal in power generation across the OECD... Coal displacement is likely

to be strongest in Europe, where regulation is most advanced. The gas share in fossil fuel generation grows from 42% in 2010 to 65% in 2030. Yet the growth in renewables means that the gas share in total generation increases modestly from 20% to 24%. (p. 53)

Whilst the energy lobby may be powerful in the EU, the European Commission and its related institutions will determine the regulatory and legislative framework within which energy companies will have to act in the future, and will influence the energy policies of the EU member states. Therefore, the views of the European Commission on the future role of gas in the European energy mix must be considered.

In the Roadmap to 2050, the European Commission supports the view that natural gas will act as a 'bridge' to the era of renewable energy, and perhaps beyond: 'Gas will be critical for the transformation of the energy system. Substitution of coal (and oil) with gas in the short to medium term could help to reduce emissions with existing technologies until at least 2030 or 2035' and could even be utilised at levels similar to those seen today in 2050, according to some scenarios. Given the potential future role of gas in the EU energy mix, the Roadmap also acknowledges that 'as conventional gas production declines, Europe will have to rely on significant gas imports in addition to domestic natural gas production and potential indigenous shale gas exploitation' (European Commission 2011b, pp. 11–12).

This being the case, future EU gas demand looks set to remain significant. If European scepticism on whether the development of shale gas will prove to be a 'game changer' in Europe as it was in the United States (Barysch 2010) proves to be justified, the ongoing decline in EU states' conventional gas production will ensure continued EU demand for gas imports, even in a scenario of limited increases in overall EU gas demand. Therefore, the greater threat to Russia's energy security in relation to its EU gas exports lies not in debates over future EU gas consumption and the environmental merits of natural gas, but in the challenges posed by the development of the EU internal gas market.

Further challenges for Russian gas exports to the EU

Politicisation of Russian gas exports to the EU

Until the beginning of the twenty-first century the Soviet Union, and then Russia, was regarded as a reliable supplier of gas to Europe. Even during the early 1990s, when the Russian economy was going through a difficult transition, the gas flows from East to West continued uninterrupted. However, during the first decade of the twenty-first century, Russian gas exports to Europe became increasingly politicised. Terterov argues that such politicisation would not have happened but for two events: the expansion of the EU in 2004; and the gas transit dispute with Ukraine in January 2006, which received a significant amount of media attention and captured public imagination at a time of high oil prices and Western political discourses of 'resurgent Russia' (Terterov 2010).

The expansion of the EU in 2004 brought into the Union three former Soviet states (Latvia, Lithuania, and Estonia), and four former members of the so-called Eastern Bloc (Poland, Hungary, Czech Republic, and Slovakia) which, to a greater or lesser degree, were united in their occasionally difficult political relations with Russia and their high levels of dependency on Russian gas imports. The role of Russian gas in their gas consumption in 2010 ranged from 56% to 100%, with an average of 78.5% – far above the EU-27 average of 22.5% (Eurogas 2011). EU expansion therefore increased overall EU dependence on Russian gas.

The Russian–Ukrainian gas dispute of 2005–2006 then exposed the dangers of such dependency. The conflict was essentially a breakdown in negotiations between Russia and Ukraine over the renewal of contracts for Russian gas supplies to Ukraine and the transit of Russian gas to Europe via Ukraine, which resulted in the halting of Russian supplies to Ukraine and Russian supplies to the EU via Ukraine for several days. Whilst the intricacies of the conflict have been considered in detail elsewhere (Stern 2006), what is noteworthy here is the negative effect the dispute had on European perceptions of Russia as a reliable gas supplier. The dispute gave a substantial boost to the development of EU energy policy regarding security of supply and supply source diversification, as seen in the Green Paper (European Commission 2006) published just months after the dispute. Subsequent Russian disputes with Belarus (2007) and Ukraine again (2009) served to reinforce European concerns over Russia as a gas supplier.

The politicisation of Russia's gas exports to the EU is significant because it acted as a driver for the three policies discussed below: EU diversification of gas suppliers, increased gas trading in the EU internal market, and efforts to curb the powers of energy monopolies (including Gazprom) through liberalisation of the internal EU energy market.

Increase in supply-side competition on the EU gas market

From the EU perspective, the Russo–Ukrainian dispute of winter 2005–2006 highlighted the dangers of over-dependence on a single energy source, and fuelled demand for diversification of suppliers. What was traditionally a regional fixed-pipeline-based market with a small number of external suppliers (Russia, Norway, and Algeria) is becoming increasingly competitive with liquefied natural gas (LNG) supplies imported from Qatar, Nigeria, Libya, Egypt, and Trinidad and Tobago (Eurogas 2011, p. 8). This increased competition has contributed to Russia's share of EU gas imports declining from 47.7% in 2001 to 34.2% in 2009, whilst the combined share of Russia, Norway, and Algeria in EU-27 gas imports declined from 91.7% in 2001 to 79% in 2009 (Eurostat 2011). The increase in LNG sales to the EU was further boosted by the development of shale gas in the United States, which significantly reduced US LNG imports, enabling that gas to be redirected to the EU market.

European opinion on shale gas is sharply divided. Whilst France has banned shale drilling, Poland is actively promoting its development. The European

Commission has commissioned several reports on legal and environmental aspects of shale gas production. Whilst shale gas is not expected to reach production until 2014–2015 (Shepherd 2012), and its widespread development in the EU is far from assured, any increase in EU gas production represents a potential reduction in EU gas imports, and therefore poses a challenge to Russia's gas exports to the EU.

This increasing supply-side competition has led Russian analysts to consider the EU gas market to be an increasingly challenging environment for Russia as a gas supplier, as Yastrzhembsky (2008) explains:

We would need a common understanding of how much gas the EU will require in say, 10, 20 or 30 years, and how much of that it would expect to buy from Russia. Then we could align our plans accordingly. Instead, we hear panicky statements about the need to reduce Europe's 'over-dependence' on Russia. How can we develop and co-ordinate our energy strategy under these circumstances? (p. 36)

Romanova (2010) adds that Russian politicians have expressed the opinion that it is unfair for the EU to encourage Russia to build pipelines and become hostage to the European market, while at the same time pursuing diversification. However, it is not only the potential future demand for Russian gas imports which worries Gazprom and Russian analysts, but also the level and stability of prices at which that gas will be sold.

Spot trading as a challenge to long-term contracts and oil-indexed gas prices

Gazprom's gas exports are made under the terms of long-term contracts (LTCs), which index-link gas prices to those of oil with a six- to nine-month time delay and include 'take-or-pay' clauses to ensure that consumers purchase at least a minimum amount for the duration of the contract, which can run for 10, 20, or even 25 years (Gazprom 2012). However, the last decade has seen an increase in 'spot-trading', whereby gas is traded within the EU with prices based on supply and demand rather than oil prices. This has been made possible by the elimination of 'destination clauses', which had previously prevented European energy companies from re-exporting imported gas (Melling 2010, p. 46). The combined effects of increased LNG supplies to Europe, economic recession and restricted growth between 2008 and 2010, and the related slump in European gas demand relative to supply led to spot prices in the EU falling far below the prices in Gazprom's long-term contracts. Following these developments, European energy companies began to pressure Gazprom for a greater share of 'spot pricing' in the LTC gas price formula, while several European companies also appealed to the Stockholm Chamber of Commerce (SCC) Arbitration Institute (a well-known centre for the resolution of international trade disputes) for arbitration on disputes over gas prices (SCC 2012). In response, Gazprom

offered discounts on LTC gas prices in January 2012 (RIA Novosti 2012a). The question for Gazprom is whether it will be willing to continue discounting LTC prices to keep them in line with spot prices, in order to maintain its share of the EU gas market.

The Third Energy Package and Russia's exclusion from the EU gas market

In a bid to maintain prices and demand for Russian gas in Europe, a key element of Gazprom's European strategy has been to 'go downstream' and participate in gas storage, gas transport, and gas sales to final consumers (Gazprom Export 2012a, 2012b). However, Gazprom's ability to do so is under threat from the implementation of EU regulations and directives collectively known as the EU Third Energy Package, which are designed to liberalise the EU internal energy market, on the basis that increased competitiveness leads to lower prices. In particular, Directive 2009/73/EC stipulates the unbundling of the production, transmission, and sale of gas. This refers to majority control (direct or indirect) by a single energy company over more than one section of the supply chain. Minority shareholding in more than one section, however, is still permitted. This legislation was scheduled to be transposed to the EU Member States by 3 March 2011, and should be implemented by March 2012–2014 (European Parliament and Council 2009).

As Konoplyanik notes, this legislation applies to non-EU energy companies that wish to do business in the EU, with violations punished by penalties of up to 10% of that company's global turnover (Konoplyanik 2011b). Because Gazprom is a gas producer, this legislation prohibits Gazprom from majority control over pipeline infrastructure on EU territory or majority control over subsidiaries that sell gas to final consumers. The Russian interpretation is that Gazprom is being excluded from the EU gas market (Putin 2012), and that such legislation represents a threat to Russian energy security, as it undermines guarantees of price and demand obtained through downstream participation.

As an indicator of future developments, 2011–2012 produced mixed results for Gazprom. At the end of September 2011, EU antitrust investigators raided 20 companies in 10 Central and Eastern European countries amid concerns over anticompetitive practices, especially concerning LTCs between Gazprom and European energy companies (Euractiv 2011), with a formal investigation launched 12 months later (RIA Novosti 2012b). Also in September 2011, the European Commission launched legal proceedings against member states that had not adopted national laws transposing Third Energy Package legislation related to gas by the 3 March 2011 deadline (Oettinger 2011). These developments indicate the intention of the European Commission to pursue rigorously the implementation of the Third Energy Package, and that Gazprom should be prepared for the consequences. On a positive note for Gazprom, both lines of Nord Stream became fully operational in October 2012 (Nord Stream AG 2012), and final investment agreements were signed with Bulgaria, Serbia, Hungary,

and Slovenia for the construction of South Stream's onshore sections, while final investment agreements were signed with Eni (Italy), EDF (France), and BASF Wintershall (Germany) for the construction of the offshore section (Rodova 2012). However, by November 2012, construction had yet to begin, and the question of Third Party Access (TPA) to South Stream on EU territory (as mandated by EU energy legislation) has yet to be resolved. Therefore, the project could yet face significant obstacles to its realisation.

Conclusion

Security of export is a significant component of Russian conceptions of energy security, which reflects Russia's status as a hydrocarbon exporter and the multi-faceted value of gas exports for Russia. Critical analysis suggests that EU gas import volumes will most likely be sustained despite Kyoto Protocol Second Commitment Period and EU emissions reduction targets, due to rising EU gas consumption and declining internal EU gas production (shale gas development notwithstanding). Unless China and India dramatically increase their gas consumption and imports, and Russia is able to gain a significant share of those export markets, the EU will remain the most important market for Russia's gas exports until at least 2030. Therefore, Russia's energy security in this period will depend significantly on developments in the EU gas market, rather than on EU or UNFCCC climate policy and emissions targets.

Ongoing developments in the EU internal gas market pose a challenge to the potential future levels of price and demand for Russian gas on the EU market. The future of Russia's gas exports to the EU will be determined by several key issues: First, a long-term solution to the issue of gas transit via Ukraine and Belarus must be found in order to reduce the politicisation of Russia's gas exports. Second, the legal status of Nord Stream and South Stream relative to the Third Energy Package must be resolved. Third, and most importantly, Gazprom must adapt to changing conditions on the EU market regarding spot prices, gas trading, ownership of gas storage and transport infrastructure, and sales of gas to final consumers. Here, reciprocity is the key, with the promising potential for future exchanges of minority shareholdings in gas production and gas sales ventures between Russian and European energy companies.

For Russia, energy security and climate change are not as interlinked as they are for the increasingly import-dependent EU. However, the period to 2030 represents a potential transition phase, during which current and potential importers of Russian gas could see their gas imports increasingly influenced by global climate change action. Post-2030 EU gas imports could be curtailed, whilst China and India's gas imports may be substantially higher. To the extent that energy security and climate change *are* linked from the Russian perspective, Russia's energy security in the coming decades will depend significantly on climate-change action at a global, rather than national (Russian) level, and Russia's ability to use the transition phase to adapt to these developments.

References

- Barysch, K., 2010. *Shale gas and EU energy security* [online]. London: Centre for European Reform. Available from: <http://centforeuropeanreform.blogspot.com/2010/06/shale-gas-and-eu-energy-security.html> [Accessed 28 January 2012].
- Belova, M., 2011. *Interview on Russian energy policy*. Interviewed by Jack D Sharples [in person]. Moscow: Institute for Energy Strategy, 24 June.
- BP, 2011a. *Statistical review of world energy 2011* [online]. London: BP. Available from: http://www.bp.com/assets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2011/STAGING/local_assets/pdf/statistical_review_of_world_energy_full_report_2011.pdf [Accessed 18 January 2012].
- BP, 2011b. *Energy outlook 2030* [online]. London: BP. Available from: http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2011/STAGING/local_assets/pdf/2030_energy_outlook_booklet.pdf [Accessed 28 January 2012].
- BP, 2012. *Conversion factors* [online]. London: BP. Available from: <http://www.bp.com/conversionfactors.jsp> [Accessed 28 January 2012].
- Burr, V., 2003. *Social constructionism*. 2nd ed. Hove: Routledge.
- Buzan, B. and Waever, O., 2003. *Regions and powers: the structure of international security*. Cambridge University Press.
- Buzan, B., Waever, O., and De Wilde, J., 1998. *Security: a new framework for analysis*. London: Lynne Rienner.
- Chilton, P.A., and Schäffner, C., ed., 2002. *Politics as text and talk: analytic approaches to political discourse*. Amsterdam: John Benjamins.
- Euractiv, 2011. EU raids Gazprom offices in antitrust probe. *Euractiv* [online], 30 September. Available from: <http://www.euractiv.com/energy/eu-raids-gazprom-offices-anti-trust-probe-news-508007> [Accessed 29 January 2012].
- Eurogas, 2010. *Long term outlook for gas demand and supply 2007–2030*. Brussels: Eurogas. Available from: http://www.europeanenergyreview.eu/data/docs/Viewpoints/final_eurogas_brochure_outlook_lr_060510.pdf [Accessed 28 January 2012].
- Eurogas, 2011. *Statistical report 2011* [online]. Brussels: Eurogas. Available from: http://www.eurogas.org/uploaded/Statistical%20Report%202011_091211.pdf [Accessed 28 January 2012].
- European Commission, n.d. *Citizens summary: EU energy and climate package* [online]. Brussels: European Commission. Available from: http://ec.europa.eu/clima/policies/package/docs/climate_package_en.pdf [Accessed 27 January 2012].
- European Commission, 2006. *Green paper: A European strategy for secure, sustainable and competitive energy, COM (2006) 105*. Brussels: European Commission. Available from: http://www.energy.eu/directives/2006_03_08_gp_document_en.pdf [Accessed 29 January 2012].
- European Commission, 2011a. *Energy 2020: a strategic for competitive, sustainable and secure energy* [online]. Luxembourg: Publication office of the European Union. Available from: http://ec.europa.eu/energy/publications/doc/2011_energy2020_en.pdf [Accessed 27 January 2012].
- European Commission, 2011b. *Energy roadmap 2050* [online]. Brussels: European Commission. Available from: http://ec.europa.eu/energy/energy2020/roadmap/doc/com_2011_8852_en.pdf [Accessed 27 January 2012].
- European Commission Directorate-General for Energy, 2010. *EU energy trends 2030* [online]. Brussels: European Commission DG Energy. Available from: http://ec.europa.eu/energy/observatory/trends_2030/doc/trends_to_2030_update_2009.pdf [Accessed 28 January 2012].

- European Gas Advocacy Forum (EGAF), 2011. *Making the green journey work*. Available from: http://www.centrica.com/files/pdf/making_the_green_journey_work.pdf [Accessed 29 January 2012].
- European Parliament and Council, 2009. European Parliament and Council Directive 2009/73/EC of 13 July 2009 concerning common rules for the internal market in natural gas.
- Eurostat, 2011. *Natural gas consumption statistics* [online]. Brussels: Eurostat. Available from: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Natural_gas_consumption_statistics [Accessed 26 January 2010].
- Gazprom, 2011. Gazprom reports its consolidated financial results under International Financial Reporting Standards (IFRS) for the year ended 31 December 2010. *Gazprom News* [online], 28 April. Available from: <http://www.gazprom.com/press/news/2011/april/article111782/> [Accessed 21 January 2012].
- Gazprom, 2012. *Gas marketing in Europe* [online]. Moscow: Gazprom. Available from: <http://www.gazprom.com/marketing/europe/> [Accessed 29 January 2012].
- Gazprom Export, 2012a. *Development of end-consumer sales* [online]. Moscow: Gazprom Export. Available from: <http://www.gazpromexport.ru/en/strategy/consumers/> [Accessed 29 January 2012].
- Gazprom Export, 2012b. *Storage* [online]. Moscow: Gazprom Export. Available from: <http://www.gazpromexport.ru/en/projects/storage/> [Accessed 29 January 2012].
- Goldenberg, S., 2010. Cancún climate change conference: Russia will not renew Kyoto protocol. *The Guardian* [online], 10 December. Available from: <http://www.guardian.co.uk/environment/2010/dec/10/cancun-climate-change-conference-kyoto> [Accessed 12 March 2012].
- Golubyev, V., 2011. *Perspektivi Evropeiskovo rynka i rol' Rossiiskovo prirodnovo gaza (Prospects for the European gas market and the role of Russian natural gas)* [online]. Presentation at VI International Conference of the EU-Russia Energy Dialogue: Gas Aspects, Berlin, 19 May. Moscow; Gazprom. Available from: http://www.gazpromexport.ru/files/presentaciya_energdialog_russia_eu_2011_46.pdf [Accessed 28 January 2012].
- Grib, N., 2010. *Interview on Russian energy policy*. Interviewed by Jack D Sharples [in person], Moscow, Kommersant, 23 April.
- Gromov, A., 2011. *Russian gas market perspective*. Presentation at Energy Delta Institute, Groningen, The Netherlands, 14 December 2011. Available from: http://www.energy-strategy.ru/ab_ins/source/Gromov_14.12.11.ppt [Accessed 01 January 2012].
- Götz, R., 2011. Why do we need additional gas pipelines like Nord Stream? *RIA Novosti* [online], 18 January. Available from: http://en.rian.ru/valdai_op/20110418/163575219.html [Accessed 20 September 2011].
- Harvey, F., 2011. Is shale gas as green as the energy companies say? *The Guardian* [online], 20 April. Available from: <http://www.guardian.co.uk/environment/2011/apr/20/shale-gas-green-oil-companies> [Accessed 29 January 2012].
- International Energy Agency (IEA), 2011a. *World energy outlook: are we entering a golden age of gas?* [online]. Paris: IEA. Available from: http://www.iea.org/weo/docs/weo2011/WEO2011_GoldenAgeofGasReport.pdf [Accessed 28 January 2012].
- International Energy Agency (IEA), 2011b. *The IEA Model of Short Term Energy Security: Primary Energy Sources and Secondary Fuels*. Paris: IEA. Available from: http://www.iea.org/media/freepublications/2011/amos_paper.pdf [Accessed 15 May 2013].
- Jensen, L.C. and Skedsmo, P.W., 2010. Approaching the North: Norwegian and Russian foreign policy discourses on the European Arctic. *Polar Research* [online], 29 (3), December, 439–350. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/j.1751-8369.2010.00165.x/full> [Accessed 29 January 2012].

- Kokorin, A., 2012. Natural gas can serve as bridge fuel. *Voice of Russia* [online], 17 January. Available from: <http://english.ruvr.ru/2012/01/17/64014122.html> [Accessed 28 January 2012].
- Komlev, S., 2012. *EU carbon-reduction goals: in search of a realistic way forward* [online]. Vienna, Second Meeting of the GAC Russia-EU Energy Dialogue, 24 January. Moscow, Gazprom Export. Available from: http://www.gazpromexport.ru/files/EU_Roadmap_2050_-_Discussion_Slides_01-23-2012_final_edited92.pdf [Accessed 28 January 2012].
- Konoplyanik, A., 2011a. Russian gas strategy in a global perspective. *Energy and Geopolitical Risk* [online], 2 (10), October, 39–48. Available from: http://www.mees.com/system/assets/000/001/314/original_Geopolitical_Risk_OCT_2011-2.pdf [Accessed 28 January 2012].
- Konoplyanik, A., 2011b. The 3rd Energy Package and the concerns of non-EU gas producers: an interview with Dr. Andrey Konoplyanik. *Eurasia Energy Observer* [online], 8 March 2011. Available from: <http://www.eurasia-energy-observer.com/news/new/interview-with-andrey-konoplyanik> [Accessed 29 January 2012].
- Medvedev, A., 2009. A stable, low-emissions future with gas. *The Guardian* [online], 7 December. Available from: <http://www.guardian.co.uk/commentisfree/cif-green/2009/dec/07/gas-sector-stable-low-emissions> [Accessed 24 September 2011].
- Medvedev, A., 2010. *Natural gas leads the way to a sustainable energy future*. Presentation at 2nd EIF-IGU Ministerial Gas Forum, Doha, Qatar, 30 November. Available from: <http://www.igu.org/ministerial-gas-forums/2nd-min-gas-forum-20-nov-doha/pdfs-doha/pdf%20Gazprom.pdf> [Accessed 28 January 2012].
- Melling, A.J., 2010. *Natural gas pricing and its future: Europe as the battleground* [online]. Washington: Carnegie Endowment for International Peace. Available from: http://carnegieendowment.org/files/gas_pricing_europe.pdf [Accessed 29 January 2012].
- Ministry of Energy of the Russian Federation (MinEnergO), 2009. *Energy Strategy of Russia to 2030* [online], Moscow: MinEnergO. Available from: [http://www.energystategy.ru/projects/docs/ES-2030_\(Eng\).pdf](http://www.energystategy.ru/projects/docs/ES-2030_(Eng).pdf) [Accessed 14 March 2012].
- Ministry of Foreign Affairs (MFA), 2008. *Foreign Policy Concept of the Russian Federation* [online], Moscow: MFA. Available from: <http://www.mid.ru/ns-osndoc.nsf/0e9272befa34209743256c630042d1aa/cef95560654d4ca5c32574960036cddb?OpenDocument> [Accessed 14 March 2012].
- Ministry of Foreign Affairs (MFA), 2011. *Briefing by Russian MFA Spokesman Alexander Lukashevich on 16 December 2011: Outcome of the 17th Session of the Conference of the Parties to the UN Framework Convention on Climate Change and the 7th Session of the Meeting of the Parties to the Kyoto Protocol* [online]. Moscow: MFA. Available from: http://www.mid.ru/brp_4.nsf/0/4A0937CB36D331D64425796A00474A4F [Accessed 17 March 2012].
- Morozov, V.E., 2010. *Interview on Russian energy and foreign policy*. Interviewed by Jack D Sharples [in person], St Petersburg, 22 March.
- Neumann, I.B., 2009. Returning practice to the linguistic turn: the case of diplomacy. In: B. Bauer and E. Brighi, eds. *Pragmatism in international relations*. Abingdon: Routledge.
- Nord Stream AG, 2011. *Our contribution* [online]. Zug: Nord Stream AG. Available from: <http://www.nord-stream.com/about-us/our-contribution/> [Accessed 29 January 2012].
- Nord Stream AG, 2012. *We deliver – twin gas pipelines on-stream* [online]. Zug: Nord Stream AG. Available from: <http://www.nord-stream.com/press-info/we-deliver/> [Accessed 20 November 2012].
- Oettinger, G., 2011. *The completion of the EU internal energy market “Getting to 2014”* [online]. Brussels: DG Energy Internal Market Conference, 29 September 2011.

- Available from: <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/11/614&type=HTML> [Accessed 29 January 2012].
- Paillard, C.A., 2010. Russia and Europe's mutual energy dependence. *Journal of International Affairs*, 63 (2), 65–84.
- Pipeline and Gas Journal, 2009. CERA: Europe's energy-reduction goals may decrease gas demand 16 percent by 2020. *Pipeline and Gas Journal* [online], 236 (4). Available from: <http://pipelineandgasjournal.com/cera-europe%E2%80%99s-energy-reduction-goals-may-decrease-gas-demand-16-2020> [Accessed 28 January 2012].
- President of the Russian Federation, 2010a. Security Council meeting on preventing national security threats arising from global climate change. *President of Russian Federation* [online], 17 March. Available from: <http://eng.news.kremlin.ru/news/140> [Accessed 23 September 2011].
- President of Russian Federation, 2010b. Security Council meeting on the current state of and measures to guarantee Russia's energy security. *President of Russian Federation* [online] 13 December. Available from: <http://eng.news.kremlin.ru/news/1468> [Accessed 20 September 2011].
- Protasov, V., 2011. EU-Russia gas relations: a view from both sides. *Energy Forum* [online], Fourth Quarter, 27–30. Available from: <http://www.iaee.org/documents/2010FallEnergyForum.pdf> [Accessed 28 January 2012].
- Putin, V., 2012. Russia and the changing world. *Russia Today* [online], 27 February. Available from: <http://rt.com/politics/official-word/putin-russia-changing-world-263/> [Accessed 12 March 2012].
- Reuters, 2012. Global CO2 market totals 96 billion Euros in 2011. *Reuters* [online], 10 January. Available from: <http://www.reuters.com/article/2012/01/10/us-carbon-value-pointcarbon-idUSTRE8091N720120110> [Accessed 17 March 2012].
- RIA Novosti, 2011. Russia says Kyoto protocol no longer effective. *RIA Novosti* [online], 16 December. Available from: <http://en.rian.ru/Environment/20111216/170302678.html> [Accessed 12 March 2012].
- RIA Novosti, 2012a. Gazprom cuts prices for European consumers. *RIA Novosti* [online], 17 January. Available from: <http://en.rian.ru/business/20120117/170802951.html> [Accessed 29 January 2012].
- RIA Novosti, 2012b. EU opens antitrust probe against Gazprom. *RIA Novosti* [online], 4 September. Available from: <http://en.rian.ru/world/20120904/175769697.html> [Accessed 20 November 2012].
- Rodova, N., 2012. Russia, Bulgaria sign final investment decision on South Stream gas pipeline. *Platts* [online], 15 November. Available from: <http://www.platts.com/RSSFeedDetailedNews/RSSFeed/NaturalGas/8916177> [Accessed 20 November 2012].
- Romanova, T., 2010. *Interview on Russian energy policy*. Interviewed by Jack D Sharples [in person], St Petersburg, State University, 1 April.
- Sharples, J.D., In press. *A critical analysis of Russian state and Gazprom conceptions of natural gas as a strategic resource and Russia's gas exports to the European Union during the Medvedev presidency (2008–2012)*. Thesis (PhD). University of Glasgow.
- Shepherd, E., 2012. Shale gas – a happy new year? *Natural Gas Europe* [online], 9 January. Available from: <http://www.naturalgaseurope.com/shale-gas-a-happy-new-year> [Accessed 31 January 2012].
- Stern, J., 2006. *The Russian-Ukrainian gas crisis of January 2006* [online]. Oxford Institute of Energy Studies. Available from: <http://www.oxfordenergy.org/2006/01/the-russian-ukrainian-gas-crisis-of-january-2006/> [Accessed 19 January 2012].
- Stockholm Chamber of Commerce (SCC) Arbitration Institute, 2012. *About the SCC* [online]. Stockholm: SCC. Available from: <http://www.sccinstitute.com/hem-3/om-oss-3.aspx> [Accessed 12 March 2012].

- Terterov, M., 2010. *Interview on Russian energy and foreign policy*. Interviewed by Jack D Sharples [in person], Brussels, 21 October.
- Trombetta, M.J., 2008. Environmental security and climate change: analysing the discourse. *Cambridge Review of International Affairs* [online], 21 (4), 585–602. Available from: <http://www.tandfonline.com/doi/abs/10.1080/09557570802452920> [Accessed 29 January 2012].
- UNFCCC, 1998. *Kyoto Protocol* [online]. Bonn: UNFCCC. Available from: <http://unfccc.int/resource/docs/convkp/kpeng.pdf> [Accessed 26 September 2011].
- UNFCCC, 2011a. *Parties and observer states: Russian Federation* [online]. Bonn: UNFCCC. Available from: <http://maindb.unfccc.int/public/country.pl?country=RU> [Accessed 26 September 2011].
- UNFCCC, 2011b. *Greenhouse gas inventory data – detailed data by party* [online]. Bonn: UNFCCC. Available from: <http://unfccc.int/di/DetailedByParty.do> [Accessed 26 September 2011].
- UNFCCC, 2011c. *Establishment of an ad hoc working group on the Durban Platform for Enhanced Action*. Bonn: UNFCCC. Available from: http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_durbanplatform.pdf [Accessed 31 January 2012].
- United Nations Environment Programme (UNEP), 2011. *The emissions gas report. Appendix 2: Detailed information about countries' pledges* [online]. Nairobi: UNEP. Available from: http://www.europeanclimate.org/documents/UNEP_Emissions_Gap_Appendix%202_Country_annex.pdf [Accessed 27 January 2012].
- Van der Meulen, E., 2009. Gas supply and EU-Russia relations. *Europe-Asia Studies*, 61 (5), 833–856. Available from: <http://www.tandfonline.com/doi/pdf/10.1080/09668130902905040> [Accessed 31 January 2012].
- Wendt, A., 1999. *Social theory of international politics*. Cambridge University Press.
- Wingas, 2010. Security of supply requires a reliable framework. *Wingas* [online], 3 March. Available from: <http://www.wingas-uk.com/162.html> [Accessed 29 January 2012].
- Wood, L.A. and Kroger, R.O., 2000. *Doing discourse analysis: methods for studying action in talk and text*. London: Sage.
- Yastrzhembsky, S., 2008. Trust, not double standards: what Russia expects from the EU. In: K. Barysch, ed. *Pipelines, politics and power: the future of EU-Russia energy relations*. London: Centre for European Reform. Available from: <http://www.cer.org.uk/publications/archive/report/2008/pipelines-politics-and-power-future-eu-russia-energy-relations> [Accessed 28 January 2012].
- Zagashvilli, V.S., 2010. *Interview on Russian energy policy*. Interviewed by Jack D Sharples [in person]. Moscow: IMEMO, 21 June.
- Zehfuss, M., 2006. Constructivism and identity: a dangerous liaison. In: S. Guzzini and A. Leander, eds. *Constructivism in international relations: Alexander Wendt and his critics*. Abingdon: Routledge.
- Zolotukhin, A.B., 2011. *Interview on Russian energy and foreign policy*. Interviewed by Jack D Sharples [in person], Moscow: Russian State Oil and Gas University I.M. Gubkin, 21 October.