



A limited toolbox: Explaining the constraints on Russia's foreign energy policy

Robert W. Orttung^{a,b,*}, Indra Overland^{c,d,1}

^a Resource Security Institute, 1514 N. Longfellow St., Arlington, VA 22205, USA

^b Center for Security Studies, Swiss Federal Institute of Technology Zurich, Haldeneggsteig 4, building IFW, Switzerland

^c Department of Russian and Eurasian Studies, Norwegian Institute for International Affairs, Pb 8159 Dep, 0033 Oslo, Norway

^d University of Tromsø, N-9037 Tromsø, Norway

ARTICLE INFO

Article history:

Received 20 June 2010

Accepted 1 September 2010

Keywords:

Russia

Foreign policy

Energy

ABSTRACT

Explanations of Russia's foreign energy policy typically focus on major events, such as the gas conflicts with Ukraine, and argue that these events represent simplistic patterns of behavior, reflecting the policy-makers' emphasis on politics, commercial gain, corruption, or ad hoc opportunism. This analysis goes beyond these explanations to argue that the Russian leadership pursues a rational set of political and economic goals in its foreign energy policy, but that it is constrained in its efforts by the set of tools available to it. To understand the resulting patterns of behavior, it is necessary to devote more analytical attention to Russia's foreign policy tools and their limits. The article draws on a new dataset of Russia's policy tools in 31 energy conflicts with 20 countries from 2000 to 2010. These conflicts are defining moments in Russia's foreign policy because they put to the test the toolkit that Russia has assembled to impose its will on a counterpart. The study finds increased use of transit pipelines, generally decreased use of subsidies and persistent use of efforts to purchase assets in foreign countries, cutoff pipeline supplies, and attempts to use energy to achieve specific political goals. By emphasizing the tools that Russian policy-makers use to conduct policies, the article provides a more nuanced analysis of the capacity and limits of Russian foreign energy policy than is currently available.

Copyright © 2010, Asia-Pacific Research Center, Hanyang University. Produced and distributed by Elsevier Limited. All rights reserved.

1. Russia's patterns of behavior over time

Big events frequently define perceptions of Russian foreign policy. In the case of Russia's energy policy, the gas conflicts with Ukraine of 2006 and 2009 fueled extensive

scholarly and media commentary attributing Russian actions alternatively to strategic considerations, a desire for profit, corruption and even a set of opportunistic actions that lacked any coherent overall strategy.

A more effective approach focuses on the insight that the Russian leadership pursues a rational set of political and economic goals, but that it is constrained by the set of tools available to it. In fact, Russia's limited toolbox in dealing with other countries structures its behavior and the nature of its relationship with the countries of the European Union and the former Soviet Union. Since other discussions of Russia's foreign policy overlook the impact of these constraints and their effect on Russia's policies, they have a difficult time making sense of Russia's actions.

* Corresponding author. Tel.: +1 703 241 1913.

E-mail addresses: rorttung@gmail.com (R.W. Orttung), indra.overland@nupi.no (I. Overland).

¹ Tel.: +47 22 99 40 51.



Produced and distributed by Elsevier Ltd.

A central issue in the discussion of Russian foreign policy is how to understand the mix of political and economic objectives in Russian policy. Some argue that Russia is seeking to re-establish some form of empire, while others focus on a “Russia, Inc.”-model that emphasizes how the country’s leadership wants to maximize profit. While Russia pursues both political and economic goals, its limited set of foreign policy tools means that it has to make tradeoffs among these goals. Thus, Russia is sometimes willing to sacrifice economic gain to assert political advantage, and vice versa.

The result is a systematic set of behavior patterns that repeat over time. Without understanding the limited nature of Russia’s foreign policy tools, its behavior can seem irrational. For example, in a seemingly paradoxical manner, after six years of trying to de-politicize its energy relations with the countries of the former Soviet Union and maximize the profits it derived from them, Russia in 2010 offered Ukraine a 30 percent discount on natural gas prices to extend the lease of the Sevastopol naval base. A systematic overview of Russia’s foreign policy tools can explain this puzzle and why Russia returned to the old practice of subsidies after making considerable progress in reducing them.

Russia’s leadership seeks to maximize a set of political and economic goals. In political terms, Russian politicians work to enhance the power of the state while taking advantage of opportunities as they appear in the international environment. Examples of such political goals include establishing union states or customs unions with willing partners, placing military bases in strategic locations, and supporting friendly governments or undermining unfriendly ones. In economic terms, Russia’s leaders seek to maximize the revenue flows from its energy sales. This means reducing exposure to transit countries that can hold Russian energy sales hostage, forcing all customers to pay a market-based price reflecting EU price levels, increasing ownership and control of energy infrastructure, and expanding access to high-profit markets.

Sometimes these economic and political goals are compatible, but sometimes they are contradictory. They were most compatible after the Orange Revolution in Ukraine, which brought to power a pro-Western government hostile to Russia. No longer wishing to support Ukraine with gas subsidies, Russia’s political leadership and Gazprom’s managers were in agreement that the time was right to raise prices. When Russia’s political and economic goals clash with each other, Russia’s policy-makers must make tradeoffs in the way that they use the tools available to them.

Since energy and other commodity exports make up a large part of Russia’s gross domestic product and exports, it has few other tools to use in influencing international politics outside of military affairs. Shutting off gas pipelines or providing price subsidies are blunt instruments in achieving Russia’s broader goals, but they are the only ones available. Therefore the structure of Russia’s energy tools shapes the patterns of its international behavior.

The article proceeds in the following way. First, it situates our argument about the constraints imposed by Russia’s limited toolbox within the existing literature to show how

a focus on tools builds on and extends our current understanding of Russian foreign policy behavior. Second, it introduces a new dataset, describing the energy conflicts Russia has engaged in and the tools it has used to achieve its goals over the past decade. The third section examines the patterns we identified in the ways that the Russian policy-makers use the tools available to them. Finally, the conclusion summarizes the findings of the study and explains what they mean for policy-makers.

2. Alternative explanations

2.1. Strategic drivers

Among the most common assertions about Russian foreign policy is that strategic considerations are the key driving force in Russia’s oil and gas sector. The main assumption for this approach is that Russia’s political leaders use energy to pursue advantages in other areas, such as protecting their political power from instability at home and expanding Russian influence abroad. On the domestic front, it is argued, Gazprom cannot be understood in “strictly conventional economic terms” since the Russian government uses the company’s vast resources to subsidize the energy needs of Russian households and factories (Van Der Meulen, 2009, 847). Even before he rose to power, Putin took an interest in how Russia’s energy resources can best serve the interests of the state (Balzer, 2007). With the appointment of Alexey Miller as the head of Gazprom shortly after Putin took office as president at the beginning of 2000, the company’s new management became so close to the president that it was difficult to see any difference in their overall strategy beyond Gazprom’s unfulfilled desire to end domestic price subsidies, which heavily undercut its profit margin (Stern, 2005, 197). As chairman of the Board of Directors in the years before he became Russia’s third president, Dmitry Medvedev was the overseer of Kremlin policy in the gas company, making the close ties between the company and Russia’s political leadership undeniable (Mukhin, 2006, 114).

In the foreign policy sphere, this approach takes as a given that energy is part of Russia’s geopolitical strategy to enhance its power among countries. Accordingly, Russia uses its energy power to maintain a sphere of special interest, prolong the existence of military bases, bolster separatist entities, and support the election of sympathetic leaders in the post-Soviet area. Some scholarly works worry that the EU is dangerously dependent on Russian gas supplies (Baran, 2007; Cornell & Nilsson, 2008). Effectively stoking these fears, Prime Minister Vladimir Putin has called the East Siberian-Pacific Ocean pipeline, the first phase of which opened in December 2009, a “geo-political project,” having in mind the idea that being able to supply Asia with energy will make Russia much less dependent on its European customers than it is today (Poussenkova, 2010, 111).

The corollary of this thesis is that Gazprom “often acts as a tool of Russian foreign policy” (Kupchinsky, 2008). Its corrupt dealings through a web of intermediaries spread Russian influence into a divided Europe that lacks a coherent policy to protect itself (Lucas, 2008).

Anatoly Chubais in 2003 aired a version of this theme by suggesting that Russia should create a “liberal empire” from the remnants of the Soviet Union. He meant in particular that Russia should play a leading role in the business and commerce of its neighboring countries. His view contrasted with the ideas of Yevgeny Primakov, who sought to counter-balance the influence of the US through a more autarkic structure in the former Soviet Union that would ultimately rely heavily on continued Russian energy subsidies (Tsygankov, 2010).

The conclusions of this approach are ominous for energy security. A large role for politics implies that Russia is not focused on developing and bringing its energy resources to market as efficiently as possible, particularly in light of International Energy Agency predictions that Europe’s natural gas demand will pick up in the medium term as the effects of the global economic crisis fade. Additionally, the strong ties between Gazprom and Russia’s domestic political system suggest that there is little hope for reforms that would end Gazprom’s monopoly on gas transportation and distribution and partial monopoly on gas production; decouple the company’s management from the country’s political leadership; or diversify the economy away from its reliance on energy resources (Ahrend & Tompson, 2005).

While this approach contains many useful insights, it falls short by overestimating Russia’s actual power. Since Russia is dependent on the income it generates from energy resources, it cannot use them at will. In particular, it often has difficulty converting its vast resources into effective instruments of influence.

2.2. Economic drivers

In contrast to analyses that argue that politics are the main driver in Russia’s foreign energy policy, others see profit as the key to understanding Russian policy. According to this approach, while Russia’s actions may have political implications, they are fundamentally driven by commercial concerns and the advancement of corporate profits. Thus, for example, whereas Russia’s energy strategy adopted in 2003 claimed that “The role of the country in the global energy markets largely determines its geopolitical influence,” by the time the country adopted a revised version in 2009, it had instead begun to focus much more on economic drivers, arguing now that “The goal of Russia’s energy policy is to ensure ... strengthening of its global economic positions” (Poussenkova, 2010, 108).

Accordingly, while some see Russian efforts to buy up gas distribution companies in European markets as a Russian endeavor to gain political influence over these countries, there is a strong commercial rationale to these actions. Most importantly, in the late 1980s, Gazprom realized that selling its gas at the border of a country was not nearly as profitable as distributing it to the final customer and that many of its foreign partners were making large profits in the retail distribution sector by reselling Russian gas (Stern, 2005, p. 111–2). When Ruhrgas refused to let it into the lucrative German market, Gazprom struck a deal with Wintershall, creating Wingas, which gave it access to the German retail sector and a share of the rewards to be earned there. Since then, Gazprom has bought up a variety of distribution assets

in a wide range of European countries in order to increase profits from its gas sales.

The implications of this approach are much less pessimistic than the politics-driven model. It suggests that business interests are paramount in the Russian energy sector and that profit-driven concerns will eventually lead Russia into mutually beneficial relationships with its neighbors and trading partners. This view suggests that there can be a separation between politics and business and that large energy corporations can have some autonomous power in the Russian context. It also suggests that Russia can be incorporated into an international system in which trading partners are mutually dependent on each other and therefore less likely to display aggressive behavior toward each other.

However, this approach falls short because it does not pay enough attention to Russia’s political behavior. For example, the case mentioned above of Russia trading a hefty price discount with Ukraine for a military base cannot be explained within this model.

2.3. Corruption drives policy

A third approach emphasizes corruption and informal practices as a driving force in Russian policy. International groups like Transparency International (2009) consistently rank Russia as one of the most corrupt countries in the world. The Russian energy sector is both a cause of this corruption and suffers heavily from it.

This approach posits that a small group of individuals with close connections to Russia’s leaders gain outsized benefits from Russia’s energy sector. The extensive role of the state in the energy sector creates considerable space for corruption. Analysts worry, for example, that cronies running the state corporations may be using them as vehicles for personal enrichment (Heinrich, 2008b, 1544). Particularly important to this analysis is the fact that top-level state officials frequently sit on the boards of energy companies. Likewise, Russia’s most prominent businessmen have close personal ties to the country’s political leadership. Such analyses focus on the role of the St. Petersburg lawyers in Gazprom (Kroutikhin, 2008, 26; Panyushkin & Zygar, 2008, 238) and the siloviki in the oil sector (Panyushkin & Zygar, 2008, 236–7; Taylor, 2007, 49). The lack of secure property rights in Russia encourages companies to adopt short time horizons in their planning and corrupt the very nature of Russian politics (Gaddy & Ickes, 2005; Kryukov & Moe, 2007). The implications of this perspective for Russia’s development are naturally bleak.

While a focus on corruption highlights many features of Russian reality, it is not feasible to explain all Russian foreign energy policy moves in terms of this one factor, as some decisions are clearly politically motivated and when decisions are profit-motivated this clearly also benefits the Russian state through taxes and its ownership stakes in Gazprom, Rosneft and other companies.

2.4. No coherent policy

Robert Legvold presents the most articulate version of the idea that Russia has no strategic vision in the energy

sector. He asserts that Russia's leaders are essentially insecure and have given little thought to Russia's goals. In their world view, no one country is an enemy and none is an ally (Legvold, 2008, 10). He goes so far as to argue that Russia's leaders have no overall vision of how the world should be or Russia's place in it, noting that Russia's policy is internally contradictory and argues that the mere desire to keep control over the Russian energy system and expand the influence of Russian companies abroad does not amount to a strategy.

Former Deputy Energy Minister Vladimir Milov, now an opposition politician, and his colleagues concur that a "systematic Russian energy policy does not yet exist" (Milov, Coburn, & Danchenko, 2006, 311). They argue that Russia's policy is fragmentary and contradictory and is driven by short and medium term interests that do not take into account the capital-intensive nature of the industry.

A key piece of evidence supporting the "no strategic plan" perspective is the major battle that took place over the subsoil law reform during most of Putin's presidency. While the overall thrust of the reform was to strengthen state control over Russia's natural resources, the process revealed that the state was far from monolithic. As the debate over the law continued, the Kremlin frequently changed its priorities regarding the desirability of foreign investments and a variety of ministerial and corporate players sought to adjust the eventual legislation according to their preferences (Adachi, 2009; Fortescue, 2009).

According to this school of thought, the changing priorities and power configurations among the players in the Russian energy industry have led to suboptimal outcomes for Russia's energy policy. Even with the apparent centralization of power and control that took place after 2000, Putin and his team still lacked a well defined set of objectives and a coherent strategy for achieving them. Nowhere is this problem more visible than in the Far East and with Russia's efforts to become a major energy supplier on the Asian market. A 2009 analysis, for example, points out that Russia's constantly changing domestic priorities significantly delayed the flows of oil and gas to China (Eder, Andrews-Speed, & Korzhubaev, 2009, 220).

While this approach also provides useful insights, it is not capable of explaining the clear trends and patterns that do appear in Russia's foreign energy policy. For example, Russia's concerted effort to eliminate energy subsidies to its foreign partners over a six-year period indicates that its foreign energy policy may be more consistent than this approach would make us believe.

3. The data

To tease out the patterns in Russia's international behavior, we collected data on the political, economic, legal, public relations, and military tools Russia used in pursuing its goals in energy conflicts with countries in the former Soviet Union and the European countries to Russia's west. These conflicts are defining moments in Russia's foreign policy because they test the capacities of the toolkit that Russia has assembled to impose its will on a counterpart. Ultimately, we identified 31 energy conflicts with 20

countries during the period 2000–July 2010. A quantitative summary of this research is presented in Tables 1–3. In the following discussion we explain how we set geographical and temporal boundaries for the dataset, explain how we collected the data, and define the terms that we use in the analysis. After presenting this methodological material, we turn to an analysis of the trends in the data.

We did not include Asian countries in this analysis because so far they play a small role in Russia's energy exports, though this role will likely increase rapidly during the coming years. Table 1 provides a list of the countries where conflicts took place. European and FSU countries not listed there were not involved in a major energy conflict with Russia.

The 2000–2010 period starts with the rise of President Vladimir Putin to the presidency and his continuing role as Russia's most prominent leader to the time of writing. This period is starkly different from the first decade of Russia's post-Soviet existence. During the 1990s, the Russian state had little control over Gazprom or the key oil companies and many of its energy deals with foreign countries were conducted partially or wholly on the conditions of barter. When Putin came to office in 2000 he reasserted state control over Gazprom and began a process of ending all barter agreements and monetizing all energy deals, meaning that business relations began to assume a more formal nature and there was potentially greater transparency.

A team of four research associates and the authors collated information about the conflicts from an extensive search of the secondary literature on Russian foreign energy policy as cited in the bibliography. Additionally, we combed Russian, West European, and US press reports in several languages and conducted several interviews with energy industry executives with knowledge of the conflicts but who typically wished to remain anonymous.

We registered an event as an "energy conflict" if it received attention in the expert literature and press, signaling that it was something different than what takes place on a day-to-day basis between two countries. For example, Ukraine and Russia have had numerous energy-related disputes since the collapse of the Soviet Union, but it is the events of January 2006, January 2009, and April 2010 that particularly stand out. In these cases, respectively, Ukraine and Russia engaged in conflicts over gas pricing, payment and flows; Russia tried to use energy to influence Ukraine's elections; and traded a gas price discount for continuing its lease of the Sevastopol naval base. If a conflict lasted longer than a year, we counted it once and placed it in the year that it was resolved or reached a peak in intensity. Within the framework of this analysis, we did not include conflicts that took place on Russian territory. Therefore there is no discussion of the disagreements over the development of Sakhalin's resources or the Stokhman and Kovykta deposits.

This analysis focuses on oil and gas and does not address other forms of energy, such as coal and nuclear. Most of the conflicts we identified focused on Russian natural gas sales. Logically, this makes sense because there is a functioning international market for oil, but so far there is not one for natural gas.

Table 1
Chronological distribution of energy conflicts by country.

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010 (to 31 July)	Total
Finland										1		1
Norway										1		1
Estonia								1				1
Latvia		1										1
Lithuania							1					1
Belarus					1		1	1			1	4
Ukraine							1			2	1	4
Moldova							1					1
Transnistria					1							1
Poland						1						1
Czech Republic									1			1
Turkey			1									1
Croatia				1								1
Germany								1				1
UK							1					1
Spain									1			1
Italy									1			1
Georgia	1					1	1					3
Azerbaijan								1				1
Turkmenistan					1					1		2
Kazakhstan			1					1				2
Total	1	2	1	1	3	2	6	5	3	5	2	31

In numerous places in this article we refer to “Russia” and its foreign energy policy without further discussion of which specific Russian actors we actually have in mind. We have chosen this formulation because it is simpler, because ultimately Russia is a country and has a foreign policy, and because both of Russia’s two main energy exporters, Rosneft and Gazprom, are government controlled. This should not, however, be taken to mean that we believe that Russia is a coherent or unitary actor.

4. Energy conflicts

Despite the broad range of countries included in the analysis, there were only a limited number of objects of contention in the conflicts (See Table 2).

4.1. Price

Conflicts over price occurred when Russia and its customers could not agree on what constituted a fair price for oil and natural gas sales. In most cases, these disputes were between Russia and former Soviet countries as Russia sought to end its policy of providing blanket subsidies to its natural gas customers. This type of dispute also occurred in sales of pipeline oil in which the sides could not agree. While Russia is typically the seller, it buys gas in Central Asia and seeks a lower price from suppliers. In 2004,

Turkmenistan cutoff gas shipments to Russia because it did not accept the price that Russia was offering.

Russia’s policy target has been to move all customers to European price levels by 2011 (Mitrova, Pirani, & Stern, 2009, 395). However, it has also shown flexibility in how its deals with pricing, making it possible for some countries to trade infrastructure assets or political goods for lower prices. As the discussion in the next section shows, this flexibility over what could be a straightforward commercial relationship often gets tangled in a variety of other issues. As a result, it is not clear what price levels and what time horizons Russia would consider a reasonable, partial success in pursuing this policy target.

4.2. Volume of sales

Russia typically sells natural gas on the basis of long-term contracts that include “take-or-pay” clauses (Gazprom, 2010a, 63). In some cases, however, countries agree to purchase much more gas than they need on the basis of faulty predictions. Efforts to undo these conditions led to tensions between buyers and sellers.

4.3. Asset ownership

The category of asset ownership refers to a dispute over the ownership of a transit pipeline or the purchase of

Table 2
Chronological display of dispute type.

Type of dispute	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Price (of oil/gas/transit)			1	2	1	3	4	1	2	1		15
Volume of required buys		1							2			3
Allowing construction of transit pipeline								1	2			3
Asset ownership			1	1	2	4	3	2				13
Political goal (military base, influence elections, undermine other pipeline, etc.)	1					1		1	1	1		5
Total	1	0	3	1	4	1	8	8	4	7	2	

Table 3
Russia's use of the most potent tools in energy conflicts.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Subsidies (# of countries)	9	9	9	9	9	9	9	4	4	4	4	n/a
Subsidies (\$ billion)	–	–	1.8	2.7	4.3	12.8	17.3	12.9	18.8	5.2		n/a
Oil, gas pipeline shutoff/reduced flow	1		1		1		3	2	1	1	1	11
Pipeline explosion							1			1		2
Constructing pipeline bypassing conflict-prone transit country												

Note: See text for explanation of the lines and arrowheads representing pipeline planning, launch, and continuing use. Sources for calculations of subsidies: (Gazprom, 2007, 52; Gazprom, 2010a, 2010b, 55–6; Mitrova et al., 2009, 396; Pirani et al., 2010, 7, and various press reports).

a company with the ability to distribute gas on a domestic market or a refinery or other energy-related asset. Gazprom typically has sought to purchase the pipelines through which its energy supplies travel to European markets by way of transit countries. It also has sought to purchase significant energy infrastructure in foreign countries and has tried to gain as much access to foreign domestic retail markets as possible because such access enables it to derive much higher profits than selling gas wholesale at the border of consumer countries (Pirani, 2009a, 93). In some cases Gazprom has also sought to buy important refineries in foreign countries.

Typically, Gazprom would prefer to have a majority stake in the assets it buys with the ability to control the actions of the company. In practice, however, foreign countries do not want to turn over key energy assets to Gazprom or other Russian companies because they fear that it threatens their energy security and sovereignty. As a result, Gazprom will often get a fifty percent stake that does not give it control over company actions. Accordingly, purchasing an asset without full control over its use often does not resolve the issue at the heart of the conflict as the discussion of Belarus shows below.²

4.4. Allowing construction of a transit pipeline

As Russia builds new transit pipelines to circumvent transit partners with which it has difficult relations, it needs to gain permission from other countries to build a pipeline across their territory. In Estonia, Russia's plans ran into political objections, while the pipeline faced concerns about espionage and damage to the environment in Sweden and Finland (Grib, 2009, 108–22).

4.5. Political goals

In some instances, Russia seeks to use its energy to achieve political goals. Such goals include a wide range of activities: forming a union with another country (Belarus),

setting up a customs union, retaining the lease to a military base, obtaining general foreign policy support, influencing elections in another country, blocking the expansion of NATO or the stationing of US weapons and troops, and destabilizing countries like Georgia which host alternative pipelines that are beyond Russian control. Russia's pursuit of these goals is opportunistic and contingent on the current political situation.

4.6. Other disputes

This list of energy disputes is far from exhaustive. Other conflicts include, for example, disputes over non-payment for gas supplies. We did not include those as a separate category here because they are typically part and parcel of disputes over pricing. Additionally, there are other categories, such as the on-going tension over how to divide up rights to the resources located under the Caspian Sea. Since it focuses on territorial issues, that conflict is of a different nature than the conflicts discussed here and the subject of numerous separate studies.

5. The most potent tools

Russia has a variety of tools that it can use in concluding its energy disputes favorably.

5.1. Subsidies

The most powerful tool is price subsidies in which Russia offers countries natural gas at levels below the going price in Western Europe. Throughout the 1990s and in the first part of the new decade, Russia typically provided subsidies to countries in the former Soviet Union. However, in 2004–2005 it decided to end this practice and began moving the prices for most of its customers up to the European level. The official goal was to have one price for all customers by 2011.

Trying to determine the size of Russia's gas subsidies involves a number of methodological difficulties. In contrast to the oil market, there is no one set world price for gas, or even for Russian pipeline gas. Each country signs

² On ownership with and without control, see Luong, 2010.

a separate agreement with Russia and the terms of this agreement are usually secret. However, it is well known that the gas price is usually connected to the oil price with a six month lag. In the calculations used here, for the average “European” price we relied on Gazprom data for the years 2002–2004 and the numbers provided by the Gas Program of the Oxford Institute for Energy Studies (OIES) for 2005–2009. The prices for the individual countries come from the OIES Gas Program and press reports. The volumes of gas bought come from OIES for Russia, Belarus and Ukraine and from Gazprom for the other countries. The calculation of the subsidy for each country each year is simply:

$$\begin{aligned} & (\text{the European price}) - (\text{the price paid}) \\ & \times (\text{the volume imported}) \\ & = \text{subsidy} \end{aligned}$$

The overall calculation of the subsidy given here can only be considered a rough estimate for several reasons. Different sources provide different price levels and it is hard to know which is the most accurate. Additionally, since Russia uses a host of opaque intermediaries in its energy dealings, identifying the real price requires additional computations. For example, in 2006–2008 Ukraine paid 20 percent more than the nominal price because it gave the intermediary RosUkrEnerg 20 percent of the gas it received for the services that company provided (Chow & Elkind, 2009, 83). Additionally, a more-finely calibrated measurement of the subsidy for a country like Ukraine would require knowing how much its transit fees for Russia differed from market prices and how much Gazprom paid it for use of its storage facilities.

5.2. Oil, gas pipeline shutoffs

We counted these shutoffs as events when Russia substantially reduced or completely shutoff the amount of oil or gas flowing through its pipelines. In this count, we did not include mere threats of shutoffs because these are much more numerous and therefore hard to count systematically, though such data would make an excellent basis for a future study. We also did not include any minor incidents that did not attract much press attention.

5.3. Pipeline explosions

In two cases (Georgia in 2006 and Turkmenistan in 2009) we counted pipeline explosions as a form of shutoff. While there is no conclusive evidence to prove that Russia was responsible for these events, there is plenty of circumstantial evidence that points to the use of this extreme measure as a tool of foreign energy policy. In the case of Georgia, the pipeline connecting Russia to Georgia through South Ossetia mysteriously exploded at a time when Russia was seeking to put intense political pressure on its southern neighbor (Goldman, 2008, 150). In the case of Turkmenistan, the pipeline exploded in 2009 at a time when Russia had agreed to buy a large volume of Turkmen gas at a high price but the onset of the global economic

crisis meant that Russia did not need this gas. The Russians claimed that the event was an “accident” (Gazprom, 2010a, 66), but Turkmenistan’s Foreign Minister claimed that Russia caused the explosion by shutting off the pipeline without sufficient warning.

5.4. Constructing alternative transit pipelines

In cases where Russia repeated conflicts over time with a transit country on price issues, it has resorted to the practice of building new pipelines that avoid the territory of the recalcitrant partner. The lines in the graphic begin when serious discussions about constructing the pipeline started and the arrowhead marks the time when the pipeline shipped its first gas (Yamal-Europe shipped first gas in 1997). The line continues on to the right from the arrowhead to show that the pipeline is still in use and provides Russia greater capacity to avoid problems with the troublesome transit country. When the lines reach to the left border, discussions about construction began in the 1990s. When the line continues onto the right border and there is no arrowhead, construction is underway (BPS-2 and Nord Stream) or is yet to begin (South Stream).

The addition of Nord Stream and South Stream would give Russia significant leverage over Ukraine and Belarus. In 2008, Russia sent 116.9 bcm of gas through Ukraine to European customers, using most but not all of Ukraine’s 145 bcm capacity (Pirani, 2009b). Belarus has capacity of 48 bcm (Yafimava, 2010, 3). The addition of 55 bcm from Nord Stream (set to be completed in 2012) and possibly 30 bcm from South Stream, would give Russia the ability to significantly curtail flows through Ukraine and/or Belarus. Additionally, the added capacity would allow Russia to play the two countries off against each other and extract better deals.

As part of its effort to monopolize pipelines, Russia employs a variety of tools to block the construction of alternative pipelines, such as Nabucco, which would serve the same market as South Stream. We did not have space to include those negative efforts into this study.

5.5. Other tools

Russia employs a variety of additional tools in resolving its energy conflicts. These include heated rhetoric, import bans on non-energy goods (mineral water, wine, meat), cyber attacks, personal relationships, sophisticated PR campaigns, court cases, and military saber rattling. Within Russia, the authorities have turned to such techniques as environmental regulations and denying visas to foreign citizens. While important, these tools do not have the powerful impact of the ones listed above. For that reason we did not include a discussion of them in this study, but they are all candidates for further study.

6. Patterns in the data

6.1. General observations

The data we collected on Russia’s energy conflicts make clear a number of patterns. Russia had the most energy conflicts – four each – with Ukraine and Belarus. These

former Soviet states transit nearly all of Russia's natural gas and oil to the lucrative European markets upon which it depends. Next on the list is Georgia, with three conflicts. Georgia has suffered poor relations with Russia since the collapse of the Soviet Union, culminating in the 2008 war. There were two major disputes with Turkmenistan. Russia has in the past depended on Turkmenistan for natural gas supplies so that it can fulfill its domestic and foreign obligations. Until 2009 Russia did not pay market prices for Turkmenistan's gas, leading to conflict as Turkmenistan sought a higher price. Once the global financial crisis hit, Russia wanted to get out of its obligation to buy Turkmen gas, leading to additional conflict.

With most other countries Russia has had no more than one energy conflict in the last decade. Russia has not had more than one energy conflict with any European Union country. This track record suggests that Russia has not sought to use the energy weapon against these countries in a consistent manner over time. While the various bilateral relations may be better or worse, major energy conflicts have not been a central feature of them.

Looking at the material chronologically, 2006 and 2007 were peak years for disputes, with 6 and 5 respectively, and a second wave in 2009, with 5 (See Table 1). These numbers reflect Russia's efforts to impose European prices for its gas sales. Concomitantly, Russia made a greater effort to take control of energy assets in foreign countries during this period.

Looking at the type of dispute, prices were the most contested topic, with 15 conflicts overall. In second place was asset ownership, with 13. By contrast, there were only 5 conflicts that involved political objectives (See Table 2).

6.2. Decreased use of subsidies, with one exception

Until the beginning of 2006, Russia automatically provided energy subsidies in its gas sales to the countries of the former Soviet Union. These subsidies were a holdover from the Soviet era, when the Soviet Union provided cheap energy to the Eastern European countries in the Council for Mutual Economic Assistance (CMEA) in order to tie them closer to the Soviet bloc and prevent potential defections to the West (Closson, 2010). In the period 2004–2005, Gazprom and Russia's political leaders decided that they would essentially charge one price to all customers for its natural gas, thereby ending subsidies to many of the countries of the former Soviet Union (Mitrova et al., 2009, 395). Russia declared that the one gas price for all CIS countries would be based on the German price minus the cost of transportation (Grib, 2009, 56). Some countries, generally ones that had poor overall relations with Russia, would have subsidies cut by the end of 2006 (the Baltic states, Georgia, and Azerbaijan). The others (Armenia, Moldova, Ukraine, Belarus) would transition to the new system gradually and begin to pay market prices in 2011. In addition, Russia also cracked down on implicit subsidies to Belarus through oil sales (Grib, 2009, 60–5).

The data presented in Table 3 and Fig. 1 show that Russia has been effective in implementing this policy. The number of countries receiving subsidies dropped from 9 to 4 in 2007. The amount of subsidy has also dropped dramatically.

Subsidies provided to former Soviet countries reached a peak of \$17.3 billion in 2006, declined to \$12.9 billion in 2007, rose to \$18.8 billion in 2008 (mainly because the price of natural gas went up much faster on the market than for Russia's subsidized customers) and then fell dramatically in 2009 to \$5.2 billion. While the subsidies in 2009 were still much larger in dollar terms than they had been at the beginning of the decade, they were indeed much smaller than in previous years.

The decision to get all customers to pay West European prices is the most important change in Russia's use of energy tools. It marks a transition from a policy that sought to win political support among former Soviet countries through subsidies to a focus on depoliticizing gas sales in favor of trying to extract maximum profits out of them. This move seemed to start the process of putting the Russian gas sector on a firmer footing that would allow it to meet future demand. Importantly, bringing prices up to the West European level will make it possible to finance infrastructure investments inside Russia (Pirani, 2009a, 3). These investments will help the country replace its rapidly depleting existing fields with new production sources.

However, while Russia has made significant progress in doing away with these subsidies, it carried out the transition process in a political manner. Rather than charging each country the same higher price, it seemed to play favorites. Thus, for example, in 2009 Belarus paid \$151 per thousand cubic meters while Ukraine paid \$232.54. Belarus received this discount because it had generally better relations with Russia and agreed to sell a 50 percent stake in its BelTransGaz pipeline network to Russia (Pirani, Stern, & Yafimava, 2010, 6).

The policy of insuring a uniform price seemed to end in April 2010 when Russia and Ukraine signed a deal that gave Ukraine a 30 percent discount on gas prices through 2019 in exchange for a 25-year extension of the lease on the Russian military base at Sevastopol. The overall discount comes off a price then Ukrainian Prime Minister Yulia Tymoshenko and Putin negotiated in 2009 that is higher than the price that European countries pay (Pirani et al., 2010, 12). The agreement is expected to cost Russia about \$3 billion a year, and the Russian state has agreed to pick up the bill rather than forcing it on Gazprom, further underlining the political nature of the agreement (Pirani et al., 2010, 22).

Russia's decision to resort to subsidy pricing for Ukraine in 2010 demonstrates the limited nature of its foreign policy toolbox. After Ukraine's 2004 Orange Revolution, it was relatively easy for Gazprom and Russia's political

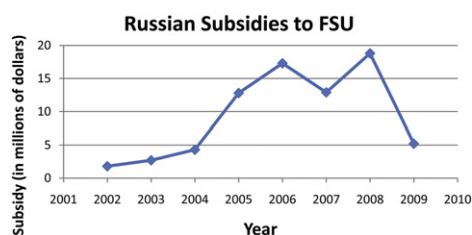


Fig. 1. Estimated Russian energy subsidies to the FSU.

leaders to agree on a policy of raising prices because Russia's political and commercial interests were in alignment. Politically, Russia no longer wanted to support the Ukrainian government, which had adopted a pro-Western policy. Russia's leaders declared that "subsidizing hostile-minded quasi-democratic regimes in these countries did not make sense" (Tsentr politicheskoi informatsii, 2008, p. 22). Commercially, it wanted to make bigger profits.

With the election of Victor Yanukovich in January 2010 and Ukraine's adoption of a much more Russia-friendly policy, the situation changed. Now Russia had a political interest in cooperating with Ukraine. While Gazprom still sought to make a profit, the Russian state wanted to take advantage of the opportunity Yanukovich's election offered and signed the deal to extend its lease on the Sevastopol naval base. Beyond cheap energy, Russia had little else to offer Ukraine which would be of sufficient value. With its energy-intensive chemical and metallurgy industries and its inefficient domestic energy system, Ukraine is highly dependent on Russian gas.

Russia's decision to revise its policy of charging one price to all gas customers will repoliticize its energy relations. Rather than maintaining energy sales as a purely commercial proposition, this deal has opened the door to a variety of other negotiations. The consequence is to muddle Russia's foreign energy policy again, and to create conditions that may facilitate the outbreak of more energy conflicts in the future.

6.3. Persistent efforts to purchase assets in foreign countries

Gazprom efforts to purchase transit pipelines have generally been ineffective. In some countries, the company has not been able to purchase the assets it wanted. Ukraine's leadership has never been willing to sell its pipeline infrastructure and that position seems unlikely to change in the future. Local opponents of such sales generally argue that selling off important energy assets would be a violation of the country's sovereignty. Georgia has also been traditionally unwilling to sell its main North-South pipeline to Russia, but the Georgian parliament was considering a plan to privatize the link in July 2010. The pipeline allows Russian gas access to Armenia.

In other countries, Gazprom has been able to purchase assets, but not always with the desired effect. Within the former Soviet Union, Gazprom has bought distribution assets in Armenia, Belarus, Kazakhstan, and Moldova (See Table 4). While there have been few problems in Armenia and Kazakhstan, Gazprom has had difficulties with Belarus and Moldova, even though it owned 50 percent of the pipeline in each case (Aslund, 2010, 159). The situation with Belarus has been particularly troublesome. After the 2007 gas dispute with Russia, Belarusian leader Alexander Lukashenko agreed to sell Gazprom 50 percent of Beltransgaz in quarters over the four years from 2007 to 2010. But later it became clear that this did not give Gazprom the right to operational management of the company or the ability to make strategic decisions without Lukashenko's permission. Gazprom tried to buy one more share that would give it control of the company, but failed (Grib, 2009, 59).

Table 4

Gazprom ownership of gas assets in CIS countries.

Country	Name of company	% Gazprom ownership
Armenia	Armrosgazprom	80
Kazakhstan	KazRosGaz	50
Moldova	Moldovagaz	50
Belarus	Beltransgaz	50

Source: (Gazprom, 2010a, 2010b, 43; Mitrova et al., 2009, 411).

Without control of the pipeline, Gazprom has run into the same kind of transit problems with Belarus that have plagued its relationship with Ukraine. Gazprom again shut off gas supplies to that country in June 2010 (Yafimava, 2010). Gazprom's inability to buy and control the pipelines meant that it had to resort to a different tool to ensure the passage of its energy supplies to the lucrative European market.

Within the former Soviet Union, Gazprom has gained access to domestic markets in Armenia and Ukraine, supplying relatively small amounts of gas to local customers. In 2009, it supplied 1.85 bcm to Ukrainian enterprises and 1.7 bcm to customers in Armenia (Gazprom, 2010a). Gazprom may be able to increase gas supplies to Ukraine in the future (Grib, 2009, 82; Pirani et al., 2010, 29).

In addition to selling gas to EU countries at their borders, Gazprom has sought to purchase distribution assets inside these countries. The EU countries have often blocked the sales, citing concerns about handing over such strategic assets to a Russian company that is closely connected to the Russian state (Grib, 2009, 27–9; Heinrich, 2008a). In some countries, Gazprom has run into considerable resistance. The most notable problems came when Gazprom tried to purchase Centrica, the largest gas distributor in the UK market, in 2006 and when it sought to buy 20 percent of the Spanish oil company Repsol in 2007–2008. In both cases, the respective governments took actions to discourage the sale. Additionally, an agreement with ENI that would have allowed for direct sales in Italy of 3 bcm beginning in 2010 ultimately fell through in 2008 when the sides could not agree on the price. However, Gazprom did go ahead with plans to send 1 bcm of gas to supply Italian power stations (Grib, 2009, 139).

Despite these problems, Gazprom has made some progress in entering foreign markets. It set up Wingas in Germany with partner BASF-Wintershall in 1993 and it supplies 13 percent of the German wholesale market. It also has acquired assets allowing it to sell gas in the Baltic countries as well as Poland, Hungary, Czech Republic, and Slovakia. In 2009, Gazprom reported sales of 1.8 bcm in the UK and France, nearly doubling the previous year's sales (Gazprom, 2010a, 64).

Target countries often fear that Gazprom will gain control of their markets and force prices up, but the actual impact of Gazprom's arrival depends on its position in the market. If it were to form a deal with a local monopolist, the result is likely to be higher prices. Gazprom's arrival in Germany, however, actually had the opposite effect by making gas cheaper for consumers. Since its partner in Germany was not the dominant seller in the market, the

addition of Gazprom gas actually created more competition on the domestic market (Finon & Locatelli, 2008, 435–6; Stern, 2005, 111–2). While the price dropped, Gazprom ultimately made considerable profits through increased sales and because prices are anyway higher the closer one gets to the consumers.

6.4. Increased use of transit diversification pipelines

Russia has built alternative pipelines to support a transit diversification policy since the mid-1990s, as Table 3 shows. Early efforts to use this strategy were not always successful, because Russia's new transit partners were often not more cooperative than the previous ones. Nevertheless, Russia has stuck with this instrument, eliminating the previous source of problems in some cases, but not all.

Pipelines are among the most sensitive aspects of the energy sector because they directly link seller and buyer in long-term price and supply arrangements that can effectively reduce the role of the market in setting energy prices. Where pipelines are built determines who makes money and who wields political power. Russia's main problem is that it is geographically separated from its wealthiest customers by such transit countries as Ukraine, Belarus, and Poland. During the Soviet era, Moscow controlled these territories, so they did not cause problems in delivering energy to western Europe. Since the collapse of the Soviet Union, however, there have been numerous disputes over transiting energy.

The Yamal-Europe gas pipeline through Belarus was constructed to avoid transit through Ukraine, where Russia had been involved in several quarrels. However, Belarus often proved to be no more cooperative than Ukraine did, leading to major conflicts in 2004, 2007, and 2010, so Russia did not gain the benefits it hoped for from the new pipeline. Additionally, the threat of sending gas through Belarus did not convince Ukrainian actors to change their behavior (Mitrova et al., 2009, 426).

In order to avoid problems with both Belarus and Ukraine, Russia set on the strategy of building pipelines to the north and south of these troublesome countries. Construction began on the Nord Stream pipeline in 2010 and is set to be complete in 2012, while discussions are still underway for South Stream. With a plethora of pipelines to choose from, Russia expects to be able to arbitrage among countries to get better terms.

Nevertheless, the effectiveness of these tools is hotly debated. Nord Stream connects Russia to Germany through the Baltic Sea, so it avoids non-marine transit partners entirely allowing Russia to avoid a repeat of the Yamal-Europe experience. South Stream, however, transits a number of countries (Turkish territorial waters, Bulgaria, Greece, Serbia, Hungary, Slovenia) before reaching the last customers (Italy, Austria), so may repeat Russia's earlier experiences with Belarus. The cost of building the under-water Nord stream is about \$15 billion, which is much more expensive than the overland EU-Ukraine deal of March 23, 2009, which could improve the capacity of Ukraine's existing infrastructure for just \$3.5 billion (Aslund, 2010, 163). However, simply improving Ukraine's transit capacity will not solve the numerous problems that Russia has had

with the country in the past. Although the new pipeline is relatively expensive, it may ultimately prove to be commercially viable.

Building both Nord Stream and South Stream will not allow Russia to eliminate completely the need to transit gas through Ukraine and Belarus. But the new pipelines will give Russia the kind of leverage over the countries that it has not had previously. In this sense, while the use of transit pipelines has not been particularly effective in the past, it could prove more useful in the future.

6.5. Persistent use of pipeline cutoffs

Russia has used pipeline shutoffs consistently over the decade (Table 3), with 11 major episodes. The peak number of cutoffs came in 2006 and 2007, with the 2006 and 2009 New Years shutoffs to Ukraine gaining extensive international attention. While the use of shutoffs has been most prominent in relations with Ukraine and Belarus, Russia has applied this technique against a wide variety of countries since the collapse of the Soviet Union. Among the targets have been Moldova (Grib, 2009), Latvia (Ciziunas, 2008, 301), Lithuania (Ciziunas, 2008, 299), and China (Barnes, 2009). Although Russia has never directly targeted West European countries with a gas cutoff since 1968, when energy deliveries started, its 2006 and 2009 disputes with Ukraine had a powerful impact on the South-Eastern and Central Europeans who receive Russian gas via Ukraine (Larsson, 2006, 265). While the West has been immune from gas cutoffs, it has been a Russian target in the oil sector: in 2007 and 2008, Lukoil cut oil supplies to the PCK German refinery at Schwedt in a dispute over prices and ownership. Russia's use of cutoffs is relatively unusual in the international energy trade since "contract renegotiations normally do not involve cutting off supplies" (Closson, 2009, p. 97).

Russia's use of this tool caused it significant reputational damage internationally. After January 2006, for the first time, European consumers had reason to question whether Russia was a reliable energy supplier. The 2009 cutoff to Ukraine and south-eastern Europe did even more damage. However, the Russian actors may have seen it as necessary to put heavy pressure on Ukraine sooner or later in order to get the Ukrainians to accept higher prices, and that Gazprom's reputation was an unfortunate sacrifice in this context – or possibly, the Russian leaders underestimated the reputational damage that the cutoffs would cause. Ultimately, the damage was not sufficient to prevent Germany and other partners from going ahead with Nord Stream.

6.6. Limited efforts to use energy to achieve political goals

In a handful of cases during the last decade, Russia has used its energy resources to achieve explicit political goals. In 2000 and 2006 it applied heavy pressure on Georgia in efforts to influence elections there and to demonstrate anger against the government's pro-Western policies. Energy, however, did not play a central part in the 2008 war, where the action focused on the separatist regions. Russia also sought to influence Ukrainian elections in

September 2009 when President Dmitry Medvedev ordered Gazprom to halt advance payment of transit fees for the second quarter of 2010 until Russia knew who would win the January 2010 presidential elections (Reuters, 2009). Additionally, the day after the Czech Republic signed an agreement with Washington to place a missile defense system on its territory in July 2008, Transneft cut oil deliveries to the country by 40 percent, citing commercial and technical reasons (Larrabee, 2010, 44).

With the exception of the incident in the Czech Republic, the explicit use of energy instruments for political purposes focused on Ukraine and Georgia, the two countries in the former Soviet area that have had the worst relations with Russia. Russia typically does not use energy instruments in EU countries to achieve explicitly political goals. In this light, the decision to trade a 30 percent gas discount for a 25-year lease for Russia's naval base in Ukraine stands out as unusual because it is so explicit in its political nature.

7. Conclusion

The tools available to the Russian leaders shape the way they pursue their goals. In general terms, Russia seeks to expand its political influence abroad and maximize profits from its energy sales. In seeking to achieve these objectives, Russia has a limited toolbox available to it, putting tight constraints on what it can do.

Over the decade 2000–2010, Russia's foreign energy policy has changed in significant ways. The construction of new pipelines around Ukraine and Belarus will give it much greater leverage over these countries than it has had in the past and should fundamentally transform the nature of their relations. On the other hand, Russia has effectively reduced the size of its toolbox by largely giving up the use of subsidies to neighboring countries between 2006 and 2010.

Ultimately, Russia's power is tightly constrained by the tools available to it. This predicament became most clear in April 2010 when Russia returned to the practice of providing price subsidies to Ukraine in order to secure an extension of its military base. Beside cheap gas, Russia has little to offer Ukraine of any value. In providing subsidies for purely political reasons, Russia has opened the door to a variety of further political negotiations involving energy costs and flows. The result is that we are seeing a return to the pre-2006 pattern in Russia's energy relations in which subsidies played a political role. In order to maintain its political influence in Ukraine, Russia must sacrifice some of its commercial energy interests.

These findings are significant for scholars of Russian foreign policy because they demonstrate the limits that the tools Russia uses impose on what policy-makers can do. By focusing on strategic, economic, and corrupt objectives, other analyses of Russian foreign policy have failed to highlight this crucial insight.

The results are also important for policy-makers. They can better anticipate Russia's future moves by having a clear understanding of the tools that Russia employs in its energy policy and the limits that these tools impose. While the toolbox is changing over time – more transit routes,

fewer subsidies – the limits of the tools available will provide clear constraints on Russia's ability to achieve political objectives in the former Soviet Union and the EU.

Acknowledgements

Matthias Dornfeldt, Hilde Kutschera, Lars-Christian Talseth and Victor Jensen assisted the authors gather information for the new dataset. Kimberly Marten, Henry Hale, Katharina Hoffman, Jakub Godzimirski, and Konstantin Anchin provided useful comments on earlier drafts. This article is a product of research that was partially paid for by the RussCasp research project. Some of the data were derived from other projects. RussCasp is financed by the Research Council of Norway.

References

- Adachi, Y. (October 2009). Subsoil law reform in Russia under the Putin administration. *Europe-Asia Studies*, 61(8), 1393–1414.
- Ahrend, R., & Tompson, W. (September 2005). Unnatural monopoly: the endless wait for gas sector reform in Russia. *Europe-Asia Studies*, 57(6), 801–821.
- Aslund, A. (June 2010). Gazprom: challenged giant in need of reform. In A. Aslund, S. Guriev, & A. C. Kuchins (Eds.), *Russia after the global economic crisis*. Washington, DC: Peterson Institute for International Economics, Center for Strategic and International Studies, and New Economic School.
- Balzer, H. (2007). The Putin thesis and Russian energy policy. *Post-Soviet Affairs*, 21(3), 210–225.
- Baran, Z. (2007). EU energy security: time to end Russian leverage. *The Washington Quarterly*, 30(4), 131–144.
- Barnes, A. (September 2009). Can Russia use its energy endowment and the world oil system to its advantage? *PONARS Eurasia Policy Memo*, 82.
- Chow, E., & Elkind, J. (2009). Where east meets west: European gas and Ukrainian reality. *The Washington Quarterly*, 32(1), 77–92.
- Ciziunas, P. (2008). Russia and the Baltic States: is Russian imperialism dead? *Comparative Strategy*, 27.
- Closson, S. (2009). Russia's key consumer: Europe. In J. Perovic, R. W. Orttung, & A. Wenger (Eds.), *Russian energy power and foreign relations: Implications for conflict and cooperation*. London: Routledge.
- Closson, S. (2010). Russian Energy Empire? Legacies of the Soviet Union. Paper presented at the Association for the Study of Nationalities 2010 World Convention, Columbia University, New York.
- Cornell, S., & Nilsson, N. (2008). *Europe's energy security: Gazprom's dominance and Caspian supply alternatives*. Washington and Stockholm: Central Asia-Caucasus Institute and Silk Road Studies.
- Eder, L., Andrews-Speed, P., & Korzhubaev, A. (2009). Russia's evolving energy policy for its eastern regions, and implications for oil and gas cooperation between Russia and China. *Journal of World Energy Law & Business*, 2(3), 219–242.
- Finon, D., & Locatelli, C. (2008). Russian and European gas interdependence: could contractual trade channel geopolitics? *Energy Policy*, 36, 423–442.
- Fortescue, S. (2009). The Russian law on subsurface resources: a policy marathon. *Post-Soviet Affairs*, 25(2), 160–184.
- Gaddy, C. G., & Ickes, B. W. (2005). Resource rents and the Russian economy. *Eurasian Geography and Economics*, 46(8), 559–583.
- Gazprom. (2007). *Gazprom in facts and figures 2002–2006*.
- Gazprom. (2010a). *OAQ Gazprom annual report*.
- Gazprom. (2010b). *Gazprom in facts and figures 2005–2009*.
- Goldman, M. I. (2008). *Petrostate: Putin, power and the new Russia*. Oxford: Oxford University Press.
- Grib, N. (2009). *Gazovoi imperator*. Moscow: Eskmo.
- Heinrich, A. (2008a). Gazprom's expansion strategy in Europe and the liberalization of EU energy markets. *Russian Analytical Digest*, 34.
- Heinrich, A. (November 2008b). Under the Kremlin's thumb: does increased state control in the Russian gas sector endanger European energy security? *Europe-Asia Studies*, 60(9), 1539–1574.
- Kroutikhin, M. (July 2008). Energy policymaking in Russia: from Putin to Medvedev. *NBR Analysis*, 19(2), 10–22.

- Kryukov, V., & Moe, A. (2007). Russia's oil industry: risk-aversion in a risk-prone environment. *Eurasian Geography and Economics*, 48(3), 341–357.
- Kupchinsky, R. (June 12, 2008). Russian Energy Sector Opaqueness. Testimony before the Senate Foreign Relations Committee hearing Oil, Oligarchs, and Opportunity: Energy from Central Asia to Europe.
- Larrabee, F. S. (Spring/Summer 2010). Russia, Ukraine, and Central Europe: the return of geopolitics. *Journal of International Affairs*, 63(2), 33–52.
- Larsson, R. (March 2006). *Russia's energy policy: Security dilemma and Russia's reliability as an energy supplier*. Stockholm: Swedish Defense Research Agency.
- Legvold, R. (July 2008). Russia's strategic vision and the role of energy. *NBR Analysis*, 19(2), 10–22.
- Lucas, E. (2008). *The new cold war: Putin's Russia and the threat to the west*. New York: Palgrave Macmillan.
- Luong, P. J. (April 2010). Beyond 'resource nationalism': implications of state ownership in Kazakhstan's petroleum sector. *PONARS Eurasia Policy Memo*, 98.
- Milov, V., Coburn, L. L., & Danchenko, I. (2006). Russia's energy policy, 1992–2005. *Eurasian Geography and Economics*, 47(3), 285–313.
- Mitrova, T., Pirani, S., & Stern, J. (2009). Russia, the CIS, and Europe: gas trade and transit. In S. Pirani (Ed.), *Russian and CIS gas markets and their impact on Europe*. Oxford: Oxford University Press.
- Mukhin, A. A. (2006). *Kremlevskie vertikali: Neftegazovyi kontrol'*. Moscow: Tsentr politicheskoi informatsii.
- Panyushkin, V., & Zygar', M. (2008). *Gazprom: Novoe Russkoe oruzhie*. Moscow: Zakharov.
- Pirani, S. (Ed.). (2009a). *Russian and CIS gas markets and their impact on Europe*. Oxford: Oxford University Press.
- Pirani, S. (2009b). *The impact of the economic crisis on Russian and CIS gas markets*. Oxford: Oxford Institute for Energy Studies.
- Pirani, S., Stern, J., & Yafimava, K. (June 2010). The April 2010 Russo-Ukrainian gas agreement and its implications for Europe. *The Oxford Institute for Energy Studies*.
- Poussenkova, N. (Spring/Summer 2010). The global expansion of Russia's energy giants. *Journal of International Affairs*, 63(2).
- Reuters. (September 12, 2009). *Gazprom sees political risk to Ukraine gas payments*.
- Stern, J. P. (2005). *The future of Russian Gas and Gazprom*. Oxford: Oxford University Press.
- Taylor, B. (2007). *Russia's power ministries: coercion and commerce*. Syracuse: Institute for National Security and Counterterrorism, Syracuse University.
- Transparency International. (2009). Corruption perceptions index 2009. http://www.transparency.org/policy_research/surveys_indices/cpi/2009 (accessed 05.08.10).
- Tsentr politicheskoi informatsii. (2008). Evropeiskaya strategiya OAO Gazprom. *Informatsionno-analiticheskii byulleten'*, 1.
- Tsygankov, A. P. (2010). *Russia's foreign policy: Change and continuity in national identity* (2nd ed.). Lanham, MD: Rowman & Littlefield.
- Van Der Meulen, E. F. (July 2009). Gas supply and EU–Russia relations. *Europe-Asia Studies*, 61(5), 833–856.
- Yafimava, K. (July 2010). *The June 2010 Russian–Belarusian gas transit dispute: A surprise that was to be expected*. Oxford: Oxford Institute for Energy Studies.