

EU-Russia Energy Relations: What Chance for Solutions?

A Focus on the Natural Gas Sector

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Potsdam University Press

Bibliographic information published by the Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche
Nationalbibliografie; detailed bibliographic data are available in the Internet
at <http://dnb.de>.

Potsdam University Press 2014
<http://verlag.ub.uni-potsdam.de/>

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The monograph series Potsdam Economic Studies is edited
by Prof. Dr. Malcolm Dunn.

Withal Dissertation Thesis, University of Potsdam, 2010

ISSN (print) 2196-8691
ISSN (online) 2196-9302

The document is protected by copyright.
Layout and typography: Thomas Graf
Print: docupoint GmbH Magdeburg

ISBN 978-3-86956-278-0

Simultaneously published online at the Institutional Repository of the
University of Potsdam:
URL <http://pub.ub.uni-potsdam.de/volltexte/2014/6302/>
URN urn:nbn:de:kobv:517-opus-63022
<http://nbn-resolving.de/urn:nbn:de:kobv:517-opus-63022>

To My Family

Abstract

Public debate about energy relations between the EU and Russia is distorted. These distortions present considerable obstacles to the development of true partnership. At the core of the conflict is a struggle for resource rents between energy producing, energy consuming and transit countries. Supposed secondary aspects, however, are also of great importance. They comprise of geopolitics, market access, economic development and state sovereignty. The European Union, having engaged in energy market liberalisation, faces a widening gap between declining domestic resources and continuously growing energy demand. Diverse interests inside the EU prevent the definition of a coherent and respected energy policy. Russia, for its part, is no longer willing to subsidise its neighbouring economies by cheap energy exports. The Russian government engages in assertive policies pursuing Russian interests. In so far, it opts for a different globalisation approach, refusing the role of mere energy exporter. In view of the intensifying struggle for global resources, Russia, with its large energy potential, appears to be a very favourable option for European energy supplies, if not the best one. However, several outcomes of the strategic game between the two partners can be imagined. Engaging in non-cooperative strategies will in the end leave all stakeholders worse-off. The European Union should therefore concentrate on securing its partnership with Russia instead of damaging it. Stable cooperation would need the acceptance that the partner may pursue his own goals, which might be different from one's own interests. The question is, how can a sustainable compromise be found? This thesis finds that a mix of continued dialogue, a tit for tat approach bolstered by an international institutional framework and increased integration efforts appears as a preferable solution.

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Abbreviations

AG	Aktiengesellschaft
BASF	Badische Alkali- und Sodaefabrik
bcm	Billion cubic metres
BGR	Bundesanstalt für Geowissenschaften und Rohstoffe
BITs	Bilateral Investment and Trade Agreement
bn	Billion
BP	British Petroleum
BTC	Baku-Tbilisi-Ceyhan Pipeline
BTE	Baku-Tbilisi-Erzurum Pipeline
BTS	Baltic Transport System
CFSP	Common Foreign and Security Policy of the EU
CIEP	Clingendael International Energy Programme
CIS	Commonwealth of Independent States
cm	Cubic metres
CNPC	China National Petroleum Company
CO ₂	Carbon dioxide
COMECON	Council for Mutual Economic Assistance
CPC	Caspian Pipeline Consortium
DENA	Deutsche Energie Agentur
DGP	Deutsche Gesellschaft für Auswärtige Politik
DIW	Deutsches Institut für Wirtschaftsforschung
EBRD	European Bank for Reconstruction and Development
ECSC	European Coal and Steel Community

ECT	Energy Charter Treaty
EIA	Energy Information Agency
EIB	European Investment Bank
ENI	Ente Nazionale Idrocarburi
ESMAP	Energy Sector Management Assistance Program
ESPO	Eastern Siberian-Pacific Ocean Pipeline
EU	European Union
EUR	Euro
EWI	Energiewirtschaftliches Institut der Universität Köln
FDI	Foreign direct investment
FOI	Swedish Defence Research Agency
FST/ФСТ	Federal Service of Tariffs/Федеральная служба по тарифам
G8	Group of eight industrialised countries (US, Italy, Germany, Canada, UK, Japan, France, Russia)
GCC	Gulf Cooperation Council
GdF	Gaz de France
GDP	Gross domestic product
GECF	Gas Exporting Countries Forum
GHG	Greenhouse gas
ICSID	International Centre for Settlement of Investment Disputes
IEA	International Energy Agency
IEPP/ИЭПП	Institute of the Transformation Period Economy/Институт экономики переходного периода
IFRI	Institut Français de Relations Internationales
IMF	International Monetary Fund
KNOC	Korean National Oil Company
KOGAS	Korea Gas Corporation

kWh	Kilowatt hours
LNG	Liquefied natural gas
m	Million
MNC	Multinational company
MOL	Magyar Olaj és Gázipari Részvénnytársaság
Mt	Megatons
NATO	North Atlantic Treaty Organisation
OAO	Open stock company [открытое акционерное общество]
OECD	Organisation for Economic Development
OMV	Österreichische Mineralölverwaltungsgesellschaft
ONGC	Oil and Natural Gas Corporation (India)
OPEC	Organisation of Petroleum Exporting Countries
PCA	Partnership and Cooperation Agreement
PGNiG	Polskie Górnictwo Naftowe i Gazownictwo SA
PPC	Permanent Partnership Council
ppm	Parts per minute
PPP	Purchasing power parity
PSA	Production sharing agreement
RAO UES	Unified Energy System Joint-Stock Company
RF/РФ	Russian Federation/Российская Федерация
RUB	Russian Rouble
RWE	Rheinisch-Westfälische Energiewerke
SOCAR	State Oil Company of Azerbaijan
SYKE	Finnish Environment Institute
TAG	Trans-Austria-Gasleitung
tcm	Trillion cubic metres

TNK-BP	Tyumen Petrol Company-BP [Тюменская нефтяная компания-BP]
toe	Tons of oil equivalent
UBS	Union de Banques Suisses
UK	United Kingdom
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
USD	US Dollar
VAT	Value added tax
VIOC	Vertically integrated oil company
WAG	West-Austria-Gasleitung
WTO	World Trade Organisation
WWII	World War II

1 Introduction and Motivation

1.1 Purpose of the Study

Modern societies cannot function without energy. Energy is necessary for life and all economic activity. It shows the characteristics of an essential good: disruptions in energy availability lead to serious and far-reaching consequences for economy and society as a whole.¹ This particular dimension of energy places it in the centre of political interests. With regards to worldwide rising energy needs and climate change, all energy-related issues, and thus energy policy, do not stop to gain in importance and attract public as well as scientific attention. This is even more so the case in Europe. The member states of the European Union are among the most industrialised areas of the planet. Their populations enjoy one of the highest living standards worldwide. The energy demand of Europe, its industry and population, is enormous and keeps growing. At the same time, Europe's own energy resources, i. e. fossil hydrocarbons, are since a long time insufficient to fulfil domestic demand and their exploitation is in continuous decline. Thus, the European Union has to import the majority of the energy it consumes. It has done so for decades, one of its main suppliers being the Soviet Union and now the Russian Federation. Energy relations between Russia and the EU are, therefore, crucial – for both partners.² This is especially the case with natural gas trade. However, the future of these relations has become the number

¹ In fact, there is a strong correlation between economic growth and energy consumption: one percentage point of economic growth thus leads to a growth of 0.5% of primary energy consumption. See e.g. Jancovici, Jean-Marc: 'La croissance économique fait-elle de l'effet de serre?' January 2006, available at: <http://www.manicore.com/documentation/serre/croissance.html>, 14-01-2014.

² The development of Russia's enormous hydrocarbon resources is a key priority for member and non-member countries of the OECD. See e.g.: 'Russia Energy Survey'. International Energy Agency (IEA), 2002, available at: http://www.iea.org/publications/freepublications/publication/russia_energy_survey.pdf, 16-01-2014.

one subject of policy agendas and public debate over the last years, not at least due to the price disputes between Russia and major transit countries. The reliability of energy supply from Russia has started to be questioned and conflicting interests have become more pronounced than before.

Public and scientific debate leave the careful observer unsatisfied, as distortions, accusations and one-sidedness dominate the discourse. This, I will argue, is the contrary of what is needed to advance in the search for mutually beneficial agreements and the resolution of conflicting interests. Consequently, the objective is twofold. Aware of the urgent need to develop mutual understanding, this thesis aims at providing a better comprehension of the interests at stake in Russian-European energy relations. In order to achieve this, the task will be to identify and analyse shared as well as conflicting interests in the first part of the study. The second objective lies in the elaboration of possible solutions. I argue that any lasting solution has to refer to a cooperative approach, resulting in an institutionalisation of energy relations. This institutionalisation needs to integrate the interests of all stakeholders. Going beyond this institutionalisation framework, I attempt to identify different individual proposals for solutions which will be analysed and evaluated.

1.2 Methodology and Course of the Investigation

This thesis will consider economic as well as political aspects of energy supply relations between the European Union and the Russian Federation, with a focus on natural gas trade. Clearly, an analysis of energy relations between these two regions needs to consider the internal situation in the energy sector of both regions. Only afterwards will it be possible to find the means to remedy the conflict situations. Our approach can be summed up in three fundamental claims:

1. Public as well as scientific debate over European-Russian energy relations is distorted and presents an obstacle to conflict solution.
2. This situation can only be overcome by careful analysis and consideration of the respective interests.

3. A lasting solution needs an institutional framework which takes into account the interests of all stakeholders.

The study basically is structured in two major parts. While the first part consists of an analysis of the conflict in its various facets, the second part develops possible solutions. To start with an illuminative example, I will, in the following, consider the public and scientific debates over EU-Russian energy relations. They have been highlighted by the repeated gas delivery disputes between Russia and its western neighbours Belarus and the Ukraine. The observation is that the highly politicised character of this debate hinders the search for solutions to the conflict situations. Public debate shows that more interests are at stake than purely commercial ones. Instead, political motivation enters the conflict. To strengthen one's own position in the conflict and in possible negotiations, pressure is built up and exerted on the adversary. This aggravates the conflicts as emotions and ideologies are allowed too much room. The conflicting parties attempt to exert power on each other by recurring to public opinion they have tried to influence before. In the end, the facts are distorted by either side and the atmosphere becomes too charged for objective talks and mutually beneficial solutions. Contributions from political research institutions are also often dominated by political convictions rather than impartial analysis. Some analysts tend to follow the intention of the organisation that commissioned their study.

Having gained insight into the public and scientific debates, Chapter 2 will set the scene for the subsequent analysis by presenting some basic conceptual framework for energy politics. The theoretical background for our discussion is centred on energy security. In addition to this, the chapter will provide some key parameters of the Russian gas industry as well as European dependency on energy supplies from Russia. I will ask what are the characteristics of the Russian gas sector and where does its specific importance lie for both consuming countries and Russia itself? Having done so, I will turn my attention to three issues, which manifest themselves the most in the current conflict situation: pricing, transit and future strategic projects. These three issues are at the centre of concerns over EU-Russian energy relations. I will, therefore, analyse price formation on the specific markets, the role and interests of transit countries and evaluate the corresponding policy actions taken by all parties in Chapter 3. This especially encompasses an analysis of the different major projects undertaken

or planned to guarantee future energy fluxes. The different economic and other interests that are involved in European-Russian energy relations will be analysed in Chapter 4, which together with the previous chapters, will allow us to identify criteria for the solution of conflicting issues in Chapter 5.

I start with the observation of an ever-growing importance of energy availability and a consequent internationalisation of energy relations hitherto unknown. Increasing competition for energy resources translates into rising dependencies and tensions between energy producing (and exporting) and energy consuming (and importing) countries. Another group of countries involved are those in which energy flows are transiting through on their way to the final customer. In order to identify and objectively analyse interests, it is necessary to provide some insight into the role of state energy policy and the evolution of this particular state instrument of influencing energy supply and markets. Therefore, I present the general aims of energy policy, which are common across all states. They comprise of economic, environmental and security aspects. This brief characterisation allows me to later discuss the particular economic and political interests that manifest themselves in the energy policy of the European Union, the Russian Federation, and also in the political interests of the transit countries.

Conflicts, as well as common interests between the three parties, i. e. producing, consuming and transit countries, occur on at least three different levels. A first level refers to the particular conflict surrounding gas delivery conditions, including prices, transit fees, debt payment, control and maintenance of infrastructure. One party is in possession of the energy sources; the other one represents the demand side. In our example, Ukraine, as a transit country, has the potential to hold the whole European Union hostage in its conflict with Russia. A second level concerns energy policy aims in all their breadth. Supply security is only one aspect, as we will see. Other issues comprise of market organisation and market access, pricing and environmental regulation, to name only a few. Finally, a third level consists of political meta-interests that concern different spheres such as development targets, socio-economic and geo-political considerations. An important fact that has to be born in mind is that the distinction of the three conflicting parties must be seen as flexible. This is because transit and producer countries' interests can join in their opposition to consumer countries. Transit countries also share certain interests with consuming countries further

west, notably because they are consuming countries themselves, but also producers and consumers have common interests that are opposed to those of transit countries. A further dimension of the conflicting interests that has to be considered is that of the commercial interests of the different private or state energy companies and their relation to the meta-level of state interests.

My investigation will first consider the interests of the European Union. This encompasses a presentation of European energy policy; its evolution, its motivation, as well as its problems in view of conflicting interests among the different member states. This section will be followed by a presentation of the macroeconomic development in Russia, the country's related interests and its energy policy. This analysis is placed in the context of Russian economic transformation and aims to provide an objectification of the debate. I will establish a context between the gas sector and economic transformation and development. In this respect, our study could also be read as a contribution to the understanding of socio-economic transformation in Russia and the particular role the natural gas sector plays in this development. The gas sector is particularly suited to serve as an example due to its central importance for the Russian economy, for state finances and the re-assertion of state power. In my analysis, I will be guided by questions such as: what measures have been implemented and are planned to be implemented by the Russian government, which objectives in energy policy does the government pursue and why, and what relationship can be made between governmental policy and the development of the gas sector, as well as its repercussions on external relations?

The analysis provides the reader with the means to understand the "opponent's" motivations and intentions, which appear as a central condition for the elaboration of sustainable conflict solutions that are mutually beneficial and acceptable. To achieve this next step, I will refer to institutional economics and develop possible solutions for the conflicting situation between the European Union, Russia and the transit countries. Is there a theoretical background which could provide an answer/solution for the conflicting situations that we observe and if so, which steps would be useful and needed in order to arrive at a solution? An institutionalisation of energy relations has been attempted already with the Energy Charter Treaty in 1994. Assessing the shortcomings of this treaty, we will evaluate conditions for a new multilateral agreement. Other solutions that relate to

institutionalised multi-stakeholder approaches comprise of joint companies or consortia that provide for some sort of cooperation rent. Clearly, these proposals show different advantages and disadvantages that will be looked at in order to arrive at a final policy advice. My argumentation is based on scientific publications in German, Russian, English and French, with a large part of the authors being of Russian origin. The data we used also comes, to a large extent, from the Central Bank of Russia or the Federal Statistical Agency Goskomstat / Rosstat and other state institutions, and also from international institutions such as the World Bank, the OECD and the International Energy Agency.

1.3 Motivation: The public debate about European-Russian energy relations

The energy issue, maybe even more than others, continues to be dominated by competing interests. Within a background of growing scarcity of energy resources, public debate about supply security in the European Union reflects rising tensions between energy consumers, producers and transit countries. Although it does not exclusively focus on oil and gas supplies from the East, energy relations to Russia are in the centre of the debate today. This debate, although not new, gained momentum after the turn of the millennium.

Since the Russian economic upswing has started in the year 2000, the debate about Russia's role in European and worldwide energy supply has consistently gained intensity in both scientific literature and public awareness. Russia's abundant natural resources of petrol, coal, natural gas, uranium and hydro-power place the country first among world energy suppliers and have helped it improve its future perspectives compared to the "Western countries" which lack resources. To the same extent that Russia in the last decade witnessed a renaissance of statehood and again became a self-confident actor in international politics, an intense debate about the country's socio-economic development has arisen. In this debate, critical views prevail, which often are not based on a discussion led with rational arguments. Rather, they call forth the impression of rivalry and opposition between Europe and Russia. We argue that unfortunately, scientific as well as public discourses over Russia's transformation contain at

least two striking deficits: First and foremost, the issue is presented and treated from the perspective of the interests of “Western” industrialised countries. A more objective and scientific approach though would necessitate a larger consideration of Russian views. Therefore, we will explain Russia’s motivations in governmental energy policy in more detail. Secondly, in the evaluation of the Russian transformation period of the 1990s it is not sufficiently made clear that the struggle for property rights has resulted in a distribution of access chances to power and resources, which hindered the economic development of the country to the benefit of a majority of the population. Insufficient attention is paid to the fact that assertiveness of state organs largely determines the course and success of transformation. Current political and economic tendencies in Russia, therefore, are directly related to (misguided) developments in the 1990s.

The intensity of the debate especially increased with the price disputes between Russia and its western neighbours Ukraine and Belarus. These, since 2005, repeatedly led to supply cut-offs in winter time which also affected European customers. Both public and scientific debates are considerably politicised, as we will see in the following. One observation that has to be made is that public debate over Europe’s supply security with oil and gas is imbalanced: arguments and views that are highly critical towards Russian policy and interests by far dominate more objective approaches.³ A second characteristic of the debate is that it is highly emotional. The “mainstream” arguments and the way they are presented establish moral categories of good and bad, of friends and enemies. They refer to a perception of the world as was common during the Cold War, a reference sometimes even made explicitly.⁴ In commentaries and

³ I will not consider the reasons for this one-sidedness in media coverage in detail. However, as German philosopher Peter Sloterdijk recently put it very clearly: “Die Wirtschaftskommentatoren sind großteils ‘eingebettete Journalisten’ – sie schreiben dem Tagesbefehl gemäß und ziehen mit ihrer Truppe ins Feld. Für sie wären Argumente gegen den Mainstream beruflicher Selbstmord.” [Economic commentators are to a large part “embedded journalists” – they write according to the order of the day and campaign with their troops. For them, arguments against the mainstream were career suicide.] (translated by the author), see Sloterdijk, Peter: ‘Unruhe im Kristallpalast’. Cicero, January 2009, pp. 119 ff.

⁴ See, for instance, ‘Sonderbeilage Energie’. Financial Times Deutschland, 22-07-2008, and also ‘Vladimir Putin’s weapon could easily backfire into a very cold war’. The Times (London), 08-01-2009. See also the article ‘Warm anziehen, Gazprom kommt’ [Fetch warm clothes, Gazprom is coming], Financial Times Deutschland, 26-11-2009, in which the sub-heading reads “Deutschland begibt sich immer mehr in die Hände eines unberechenbaren Konzerns.” [Germany puts herself ever more in the hands of an uncalculable company] translated by the author.

press conferences, today's Russia again appears as the "evil empire".⁵ The use of the term "empire" results in a perception of Russia as something not seizable, unreliable and determined to dominate. What more is, it opposes the country to the (Western) democratic system of governance.⁶ In this, another problem of the debate becomes manifest. It consists of the amalgamation of issues in journalistic argumentation and presentation. Many commentators from Europe and North America widened the scope of their analysis beyond the actual gas price dispute, relating to purely political subjects where Russian and Western views appear as being clearly opposed to each other. Consequently, Russian energy policy regularly appeared in public debate as just another aspect of a country where civil rights and liberties are in decline and un-democratic tendencies are reinforced. The 2008-armed conflict with Georgia was another issue that became melted with questions of European energy dependency and Russian dominance over export routes from the Caspian Basin. British Prime Minister Gordon Brown, following the Georgia War, stated: "No nation can be allowed to exert an energy stranglehold over Europe, and the events of August have shown the critical importance of diversifying our energy supply."⁷

The coverage of price conflicts between Russia and Ukraine, i. e. more specifically between the Russian company Gazprom and Naftogaz Ukrainy, the 100 percent state owned national gas company of Ukraine, introduced categories of guilt into public debate. Russia and Gazprom were regularly accused of deliberately causing the disputes and supply stops for political reasons. Accusations, to their major part, put the blame unilaterally on the Russian side, the consequence being the de-legitimisation of Gazprom's interests in the conflict. Notably, in the case of the 2005/06 row with Ukraine the conflict was widely interpreted as "punishment" for Ukraine's "Orange Revolution" that had brought an Anti-Russian coalition to power in Kiev. Ukraine thus, in public opinion, appeared to be a

⁵ See, for example, 'Candidates are asked if Russia is an evil empire'. Online article about the TV debate between US presidential candidates Barack Obama and John McCain in Nashville, Tennessee, NECN, 08-10-2008, available at: <http://www.necn.com/Boston/Politics/Candidates-are-asked-if-Russia-is-an-evil-empire-/1223436955.html>, 03-10-2009.

⁶ An illustration of this is the presentation of Mr. Putin in European and North American media as un-democratic and ruthless personality, who as former KGB-officer in himself incorporates the legacy of the Soviet Union. For example, US Republican senator John McCain repeatedly stated that when looking in Mr. Putin's eyes, he sees three letters – K, G and B.

⁷ 'Gordon Brown: This is how we will stand up to Russia's naked aggression'. The Observer, 31-08-2008, available at: <http://www.guardian.co.uk/commentisfree/2008/aug/31/russia.georgia>, 14-01-2014.

victim of Russian threats. Russia had repeatedly declared its goals to be purely commercial. Nevertheless it was represented as unreliable and deliberately taking the risk of European supplies being stopped.

An accusation that is repeatedly put forward in public debate is that Gazprom would act as an auxiliary of the Russian government, which uses its energy resources as a foreign policy instrument.⁸ Senator Richard Lugar, Chairman of the US Senate foreign relations committee, characterised Russia as “adversarial regime” along with Venezuela and Iran, using energy supplies as “leverage” in foreign policy.⁹ Russia’s aim would be to blackmail those of its neighbours, which do not engage in Moscow-friendly politics by threatening to raise prices or cut off supplies.¹⁰ Public opinion in Europe seemed convinced of a Russian will to demonstrate its regained power. This general picture is even more pronounced in the former Warsaw Pact countries and the Baltic States, which accuse Russia of imperialistic policies.¹¹

Debate enters a vicious circle with both sides reproaching each other of actions harming the other’s interests. The Baltic Sea pipeline controversy is a good example for political interests and their use of public debate. The Baltic countries and Poland, helped by media in other EU countries, were able to influence public opinion against the project, building up enormous political pressure on the pipeline consortium and the governments of Russia and Germany. In Germany, this caused an interior debate over national and European energy interests. The media continuously attacked former Chancellor Gerhard Schröder, who works for the project consortium.¹² The political character of the debate also becomes visible with regard to the Central Asian gas projects. Public debate in Europe complains about Russian attempts to buy up all the Central Asian gas, thereby

⁸ See, for example, ‘Gaswaffe’. Frankfurter Allgemeine Zeitung, 07-01-2009, and ‘Russia’s gas war’. The Washington Times, 13-01-2009.

⁹ Mr. Lugar did so in a speech at a conference in Indiana, 2006, see: Bhadrakumar, M. K.: ‘Russia sets the pace in energy race’. Asia Times, 23-09-2006, available at: http://www.atimes.com/atimes/Central_Asia/HI23Ag02.html.

¹⁰ For example, in a speech held in Lithuania on 04-05-2006, US vice president Dick Cheney accused Russia of using its oil and gas “to frighten and blackmail its neighbours.”, available at: <http://www.nytimes.com/2006/05/04/world/europe/04cnd-cheney-text.html?pagewanted=5>, 14-01-2014.

¹¹ Poland and the Baltic countries not only actively support the NATO enlargement by Ukraine and Georgia, but also proposed the formation of a new Energy-NATO.

¹² See, for example: ‘Schröder verrubelt seinen Ruf’. Spiegel, 12-12-2005, available at: <http://www.spiegel.de/politik/deutschland/0,1518,389956,00.html>, 14-01-2014.

hindering the realisation of a competing European project. The Russian actions are presented as illegitimate simply because they are opposed to European interests. Commercial aspects are not adequately taken into account.

Obviously, there are both real and perceived threats. Public opinion is easily influenced by the imagery employed in media coverage of Russia and issues related to it. European newspaper headlines read “EU in fear of Russia”¹³, “New fear of China and Russia”¹⁴ or “The Tsar and his power over the swamps”¹⁵ and created a sentiment of menace. Repeatedly, cover stories on Russia in widely read journals such as “The Economist” or “Der Spiegel” depicted President Putin as a gangster with a gasoline pump or as a Soviet Commissar wielding Gazprom’s export pipelines.¹⁶ Another “The Economist” cover page showed US President Obama on his visit to Moscow climbing the airplane stairs directly into the mouth of the groaning Russian bear baring his teeth.¹⁷ German weekly “Wirtschaftswoche”, in its October 2006 article “In Europe, the Fear of Gazprom Grows”¹⁸ refers to the gas company as “the Russian energy octopus Gazprom [which] stretches its tentacles ever further to the West. Only step by step Europeans become aware with whom they are dealing.”¹⁹ This hints to another controversy in public debate; that of Gazprom entering European distribution markets. Along with other Russian companies acquiring European enterprises or shares, headlines read such as “The Russians are Coming!” [Die Russen kommen!]²⁰, referring to War times, when fear was stirred up by German troops in retreat with the very same slogan. It seems hard though to establish mutual trust with a partner who most of all is described as dangerous. “The Times”, for

¹³ ‘EU ängstigt sich vor Russland’. Financial Times Deutschland, 24-10-2007, headline translated by the author.

¹⁴ ‘Neue Angst vor China und Russland’. Frankfurter Allgemeine Zeitung, 02-07-2007, headline translated by the author.

¹⁵ ‘Der Zar und seine Macht über die Sümpfe’. Handelsblatt, 26-06-2007, headline translated by the author. The headline combines the images of despotism and dark and treacherous nature.

¹⁶ Cf. Perović, Jeronim, and Robert Orttung: ‘Russia’s Energy Policy: Should Europe Worry?’ Arbeitspapiere der Forschungsstelle Osteuropa, Bremen, No. 92, February 2008. Cf. The Economist, 16-12-2006 and Spiegel, 05-03-2007.

¹⁷ The Economist, 02-07-2009.

¹⁸ ‘In Europa wächst die Angst vor Gazprom’. Wirtschaftswoche, 25-10-2006, translated by the author.

¹⁹ Ibid. Translated by the author from the German original text: “Der russische Energiekrake Gazprom streckt seine Tentakel immer weiter nach Westen aus. Nur langsam dämmert es den Europäern, mit wem sie es da zu tun bekommen.”

²⁰ ‘Die Russen kommen – ins Billiglohnland Deutschland’. Spiegel, 16-07-2007.

example, refers to the image of a gambler: "Putin has given us a wake-up call: we're vulnerable to blackmail. The game Russia is playing with its gas (...)"²¹. Russia is placed as an outsider, not complying with the generally accepted rules of the game but using blackmail tactics instead.

The general delegitimisation of competing interests exerts pressure on the adversary through public opinion. This tactic may be thought of as improving one's own negotiating position. However, I hold the view that this is a rather uncivilised approach, which seems to be not prone to lasting success in the given conflictual situation. Rather I see the danger of accusations leading to continuous irritations and mistrust. The political component of the conflict is unnecessarily increased, making mutually beneficial cooperation all the more unlikely.

As to scientific debate, one also finds much one-sidedness.²² Although the variety of studies leaves room for different views, one notices a lack of synthetic work combining the different arguments and analyses in order to arrive at useful proposals for a solution to the conflictual issue. So, one type of study is based on quantitative research on demand and supply development and predicts a growing supply gap. Others focus on pipeline negotiations and model the hold-up problem with the use of game theory.²³ These purely technical or statistical approaches in general avoid political statements. Another set of studies focuses on market theory, i. e. market organisation, investment conditions and price shaping in the Russian energy sector. Various papers from international economic organisations such as the World Bank, IMF or OECD/International Energy Agency relate to the sector reforms in economies of transition. In general, these approaches are based on classical and neoclassical theories, free market access

²¹ 'Putin has given us a wake-up call: We're vulnerable to blackmail'. The Times online (London), 15-01-2009.

²² Edward Christie for example writes: "The Russian Federation has pursued a careful strategy of divide-and-rule over the European Union", in Christie, Edward: 'European security of supply – a new way forward'. published in Liuhto, Kari (ed.): 'The EU-Russia gas connection'. Pan-European Institute, Turku, 2009, p. 5.

²³ See, for instance: Seeliger, Andreas: 'Entwicklung des weltweiten Erdgasangebots bis 2030: Eine modellgestützte Prognose der globalen Produktion, des Transports und des internationalen Handels'. EWI Cologne, 2006, and Lochner, Stefan, and David Bothe: 'From Russia with gas – An analysis of the Nord Stream pipeline's impact on the European Gas Transmission System with the TIGER-Model'. EWI Cologne, 2007. Major work also came from Christian von Hirschhausen (Dresden University).

being seen as the means of choice for generating efficient outcomes.²⁴ Other scientific approaches clearly take politics into consideration, but show a lack of consideration for economic interests and needs. They are dominated by the geopolitical component.²⁵ In these studies, scientific reading of the gas price conflicts and the definition of energy relations between Russia and the European Union depend much on personal convictions and the commissioning institutions. Foreign policy think tanks that are close to government may tend to take a view that confirms government policy. But they tend to have more balanced views in Europe than in the US.²⁶ Publications from think tanks such as the James Baker Institute, the Brookings Institution or the Carnegie Endowment mostly take a very Russia-critic point of view.²⁷ New imperialism is an often-heard reproach made to the Russian state.²⁸ Ukrainian researchers such as Gonchar, Martynyuk and Chubyk also take a very one-sided view.²⁹ They not only accuse Russia of using the energy weapon, but also of opaque information tactics and lying about the causes for dwindling production, thereby presenting the country as unreliable. New pipeline projects are described as “energy penetrators in a HC [hydrocarbon] warfare”, paving the way for a “price dictatorship varying supply volumes for different markets.”³⁰ Experts opting for a more balanced view, such as Roland Götz of German think tank SWP or Alexander Rahr, senior expert from DGAP, hardly make headlines.³¹ Debate in Germany is indeed rather ideo-

²⁴ See ‘Economic Survey – Russian Federation 2004: Reforming the domestic natural gas market’. OECD, 2004; ‘Investment Policy Reviews – Russian Federation: Enhancing policy transparency’. OECD, 2006; ‘Optimising Russian Natural Gas Reform and Climate Policy’. IEA, 2006; Kalcheva, Katerina, and Nienke Oomes: ‘Diagnosing Dutch Disease – Does Russia Have the Symptoms?’ IMF, 2007; ‘Reform of the Russian Gas Sector’. World Bank, 2004.

²⁵ See, for instance, publications by Jonathan Stern from Oxford Institute for Energy Studies, or Thomas Gomart from the French Institute of International Relations (IFRI).

²⁶ See: Van der Linde, Coby: ‘Energy in a changing world’. CIEP Energy Paper, Clingendael Institute, The Hague, 2006.

²⁷ For example, to some authors the whole energy conflict relates to the NATO enlargement by Ukraine and Georgia. See: Kotkin, Stephen: ‘The Energy Dimension in Russian Global Strategy’. James A. Baker III Institute for Public Policy, Rice University, 2004, and also: Gaddy, Clifford G.: ‘The Russia-Ukraine Natural Gas Battle’. Brookings Institution, 2009.

²⁸ See, for example, Bugajski, Janusz: ‘Cold Peace – Russia’s New Imperialism’. Praeger, 2004, or Salukvadze, Khatuna: ‘Russia’s New Doctrine of Neo-Imperialism’. Central Asia-Caucasus Analyst, Vol. 8 No. 3, 2006, pp. 9-10.

²⁹ Gonchar, Michael, Martynyuk, Vitalii, and Andriy Chubyk: ‘The impact of Nord Stream, South Stream on the gas transit via Ukraine and security of gas supplies to Ukraine and the EU’. In Liuhto, Kari (ed.): ‘The EU-Russia gas connection: Pipes, politics and problems’. Pan-European Institute, Turku School of Economics, 2009, pp. 49–69.

³⁰ Gonchar, op. cit., p. 65.

³¹ See, for example, Götz, Roland: ‘Moskau nutzt seine Energie nicht als Waffe’. Süddeutsche Zeitung, 09-01-2009.

logical and charged with accusations³²: Those who present arguments in favour of the Russian position have been criticised as “Russlandversteher” – pejorative for someone accepting Russian argumentations and positions, e.g. industry representatives from German companies E.ON, RWE or BASF/Wintershall.³³

Public debate once again became heated with the 2008/2009-winter row over gas prices, transit fees and debt payment between Ukraine and Russia. For the first time, gas cut-offs had severe consequences for European countries, among them EU member states. Industrial production and heating were disturbed in Bulgaria, Romania, the Balkans, Moldova, Turkey and Slovakia. This cut-off reinforced the European debate over diversification of imports and import routes. It led anew to reproaches towards European politicians of inactivity in changing Europe’s exposure to Russian menaces. But the 14-day-cut-off also renewed attention for the Baltic Sea pipeline, a Russian-German project.

Russian media, for their part, report European attempts to diversify energy supply and the determination to circumvent Russia with pipelines such as Nabucco. These plans are interpreted as actions guided by mistrust towards Russia, which is seen as unfounded and unjustified. Moreover, Russian public opinion as well as the political leadership complains about European-Russian relations not being guided by trust and friendship, but reservations and mistrust instead. The general perception is that of being seen in Europe as a second class partner whose interests can be more or less neglected. With regard to more than four decades of reliable energy supply from Russia to Central and Western Europe, European worries appear as either dishonest or humiliating to Russian observers.³⁴ European refusal to admit Russian price challenges as justified and in line with international trade agreements caused further bitterness let alone

³² Former German Chancellor Schröder warned of the “dangerous activities of Trans-Atlanticists” working to increase mistrust between Europe and Russia at the “Brandenburger Gespräche” meeting organised by Friedrich-Ebert-Stiftung, Potsdam, 27-01-2009.

³³ See, e.g., Leggewie, Claus: ‘Russlandversteher sehen Gefahr nicht’. Kölner Stadt-Anzeiger, 31-08-2008. For an example of a German industry representative defending the Russian project see the commentary by RWE CEO Jürgen Großmann: ‘Zwei Pipelines, ein Ziel: Die sichere Gasversorgung’. Frankfurter Allgemeine Zeitung, 06-10-2009.

³⁴ Cf. ‘Русский вопрос расколол Европу’ (Russ.) [The Russian question divided Europe]. Izvestia, 02-09-2008; ‘Труба пройдет в обход России’ (Russ.) [The pipe will circumvent Russia]. Nezavisimaya Gazeta, 29-01-2009; and also: ‘Угрозы ЕС возбудить уголовные иски против Газпрома несправедливы’ (Russ.) [Menaces by the EU to file suit against Gazprom are unjust]. Regnum, 28-01-2009.

anger.³⁵ Russian media also reflects on the European perception of Gazprom, denouncing the application of double standards for Russian and non-Russian companies willing to invest in Europe.³⁶ For Russia, transit conflicts are a cost of turning politically motivated low prices to market pricing. The Russian side is disappointed with the EU approach “seen in Moscow as siding with any other side, regardless the essence of conflict against Russia.”³⁷ Also in this respect, Gazprom’s Deputy Chairman Alexander Medvedev expresses his doubts of being seen as a real partner by the EU.³⁸ Leonid Grigoriev, Director of the Moscow-based Energy and Finance Institute, shares this view:

“Russian policy is always under scrutiny for non-commercial objectives (...) while its policy is quite similar to other big players. Russian companies and political players are trying to protect their reasonable interests of income. They were doing the same as the most observers would do with a similar set of assets, obstacles and transit disadvantages.”³⁹

In contrast to the EU, in Russian public debate Ukraine and its political situation are unanimously made out as the originator for the problems in gas delivery.⁴⁰ According to Fyodor Lukyanov, Ukraine deliberately played “va banque” in the 2008/09 gas dispute, calculating that “in Europe’s eyes, unfortunately not unfoundedly, Russia would be the one to blame.”⁴¹ Russian media reflects the country’s dependence on Ukraine as an obstacle to Russian hydrocarbon export capacity and reliability. But also Russian dependence on Europe is presented, contrary to Western public debate.⁴² This is presented as justification for the giant investments in pipeline projects that would bypass Ukraine.

³⁵ Reference is made to the gas price “war”, the “battle for markets”, and “anti-Russian projects”. See ‘Новая газовая карта мира’ (Russ.) [The new world map of gas]. Izvestia, 28-01-2009.

³⁶ This discussion became especially fierce with the introduction of the so-called “Gazprom-clause” by the European Commission in September 2007 to prevent the Russian company from larger acquisitions in Europe.

³⁷ Grigoriev, Leonid, and Maria Belova: ‘EU-Russia gas relations’. in Liuhto, Kari, loc. cit., p. 76.

³⁸ ‘Руссиен beklagen EU-Energiepolitik’. Financial Times Deutschland, 20-05-2009.

³⁹ Grigoriev, loc. cit., p. 79.

⁴⁰ Тазпром: Европа – заложница безрассудного поведения Украины’ (Russ.) [Gazprom: Europe – hostage of Ukraine’s careless behaviour]. RIA Novosti, 06-01-2009, available at: <http://www.rian.ru/economy/20090106/158686015.html>, 14-01-2014; See also: ‘Игра на раз’ (Russ.) [Game for gas]. gazeta.ru, 22-01-2009, an article, in which Ukrainian President Yushchenko is represented as gambler who caused the “gas war against Russia”.

⁴¹ Lukyanov, Fyodor: ‘Украинский Ва-банк’ (Russ.) [Ukrainian va-banque]. Россия в глобальной политике [Rossiya v globalnoi politike], 15-01-2009.

⁴² See: ‘Запад снова может разыграть газовою карту против России’ (Russ.) [The West could again play the “gas card” against Russia]. RIA Novosti, 06-01-2009.

1.4 Conclusion

To conclude, this chapter provided us with proofs of the highly politicised character of the public debate in the field of energy relations between Russia and the European Union. The described lack of objectivity represents a major obstacle to conflict settlement. Discourses are dominated by accusations and mistrust. This situation is not useful for conflict resolution, as menaces will lead to counter-menaces. We have noticed that to date scientific debate has failed to deliver an objective account of interests involved in Russian-European energy relations that is necessary for a lasting conflict solution and for building up a true energy partnership. There is an urgent need for removal of emotion and for objectification of the debate. This thesis is aimed at helping to leave the geopolitical battle-ground and to achieve a rational and objective analysis and search for solutions.

2 Setting the Scene

As we have seen, subjective perceptions, which remain theoretically unfounded, dominate the discussion of European-Russian energy relations. Essentially, they deny the partner's rights to pursue their own interests. This fact clearly demonstrates the political economic character of energy markets and energy relations. Energy is a strategic good. Consequently, the extraction of political leverage from energy policy cannot be denied. It simply is a fact. The fact that energy policy is used for political ends thus cannot honestly be criticised, but the distinct political objectives it is used for can. We will, in the following chapters, proceed to a more objective analysis of both conflicting and shared interests that the European Union and Russia are pursuing in their energy policies. I, therefore, present some conceptual foundations for this study.

2.1 Conceptual Framework: A changing global energy policy scheme

The standards that are applied to energy markets clearly show that these are different from "normal" markets as the state considers supply security, affordability and ecological consequences as crucial for generating welfare. The energy sector's unique position in a national economy can probably be compared best to that of the financial sector in the way that without it, the whole economy would not be able to function. Energy can be interpreted as a production factor itself. Consequently, political interests are very prevalent in energy markets. Our aim is to identify and analyse the possibly conflicting interests of the European Union and the Russian Federation. In order to do this, we will first turn our attention to framework conditions and objectives for energy policy. The internationalisation of energy issues represents the global context in which state energy

policies apply today. The general aims of energy policy relate to socio-economic, ecological and security questions. Especially the latter have led to new concepts in energy policy, which we will consider here.

2.1.1 Energy Policy in the 21st Century: A new degree of internationalisation

Historically, industrialisation and increased competition among modern nation states have led to an increased strive for energy resources for domestic economies. Resources become scarce, and economic development, stability and power directly derive from the supply of energy. This made state energy policy necessary. In the 21st century, energy policy gets a particular dimension from its trans-national nature and international repercussions in a globalised world where national economies are increasingly interdependent and transport fluxes multiply. About one third of world primary energy production is traded inter-regionally. And interdependences are rising, as energy trade grows faster than energy consumption.⁴³ The degree to which modern societies are dependent on energy – be it electricity or fossil fuels – has no precedents in history. What is at stake is nothing less than the prosperity of economies and nations. Thus the dimensions of energy policy also comprise geopolitical questions and sovereignty.⁴⁴ As global export and import of energy sources increase, strategic interaction has gained in importance for both trade and energy policy. Diversification is a rational behaviour of participants in a game for stronger bargaining power and political leverage.⁴⁵ Often, energy resources are located in less developed countries. For these, natural endowment with valuable resources can constitute a possibility to lance the national economy into an accelerated development process.⁴⁶ The energy resources could provide these countries with a

⁴³ Although this does not represent a general difference to earlier times, it however is a difference in scale.

⁴⁴ i.e. stabilisation both macro-economically and politically, the restoration and maintenance of state power.

⁴⁵ "Safety and certainty in oil lie in variety alone" said Winston Churchill back in 1913 already. Cf. Yergin, Daniel: 'Ensuring Energy Security'. Foreign Affairs, Vol. 85, 2006, p. 69.

⁴⁶ Or even into a catch-up process with the world's leading economies as, for example, in Russia. However, in reality, none of the large oil and gas producing countries has been able to initiate an industrialization process that would allow for leading it into the circle of the world's leading developed countries. Instead, the term "petrodollar states" has been invent-

double advantage. First, they assure sufficient domestic supply with energy for an increased economic and industrial development and second they earn the revenues necessary for accelerated investments in world markets. Richness of energy sources also is of importance in terms of economic independence and revenue diversification, especially for countries that are highly dependent on world market prices for their agricultural products. Apart from trade, the new level of international dimension in energy policy is also underlined by environmental aspects and climate change. Last but not least, the energy security issue is another revelatory for the internationalisation of energy policy. This issue does not only concern specific countries dependent on energy imports, but mankind altogether. Consequently, contemporary energy security policy goes beyond mere supply and distribution issues. It has to consider sustainability aspects, the efficient and intelligent use and transformation of energy respectively. Before alternative energy sources become widely available, competition for oil and gas supplies will increase. Energy security will become integrated in national foreign and security policies. Within a scenario of growing global energy demand and hydrocarbon production projections not keeping pace, the balance on global energy markets is menaced.⁴⁷

The mismatch between energy consuming and producing regions is striking: Whereas the largest importing countries assure 60 % of world GDP and dispose themselves over roughly 10 % of energy resources, the main energy supplying countries account for only 5 % of world GDP but own between 65 and 75 % of hydrocarbon resources.⁴⁸ The major part of oil and gas resources prone for export, as shows Figure 1, is concentrated in the instable regions of the "strategic

ed to describe these specific economies, where state revenues continuously largely depend on exports of fossil fuels and diversification cannot be observed.

⁴⁷ See, for example, 'BP Statistical Review of World Energy 2008'.

⁴⁸ Yavid-Reviron, Liubou: 'Les relations énergétiques entre l'Union Européenne et la Russie'. L'Harmattan, 2008, p. 93. In 2008, world primary energy consumption grew by 1.4%, the lowest growth since 2001. Gas consumption rose by 2.5%. Lower growth rates in 2008 though can be related to world economic crisis and thus are business cycle related but not structural. Decisive for future supply gaps are medium and long-term demand and production forecasts. While demand is projected to rise, not least due to demographic growth and increased development in emerging markets, production of oil and gas is projected to soon reach its peak, declining afterwards (Peak-oil theory). Oil reserves already are shrinking, as exploration does not keep pace with production. See again: 'BP Statistical Review of World Energy 2008'. See also 'World Energy Outlook'. IEA, 2009, and 'Projections of Fossil Energy Reserves and Supply until 2050 (2100): Implications for Longer-term Energy Supply Security'. Hexagon Series on Human and Environmental Security and Peace, Springer, 2009, and Meadows, Donella et al.: 'The Limits to Growth – A 30 Year Update'. 2004.

ellipse” between North West Siberia and the Persian Gulf, and this region’s importance will rise.

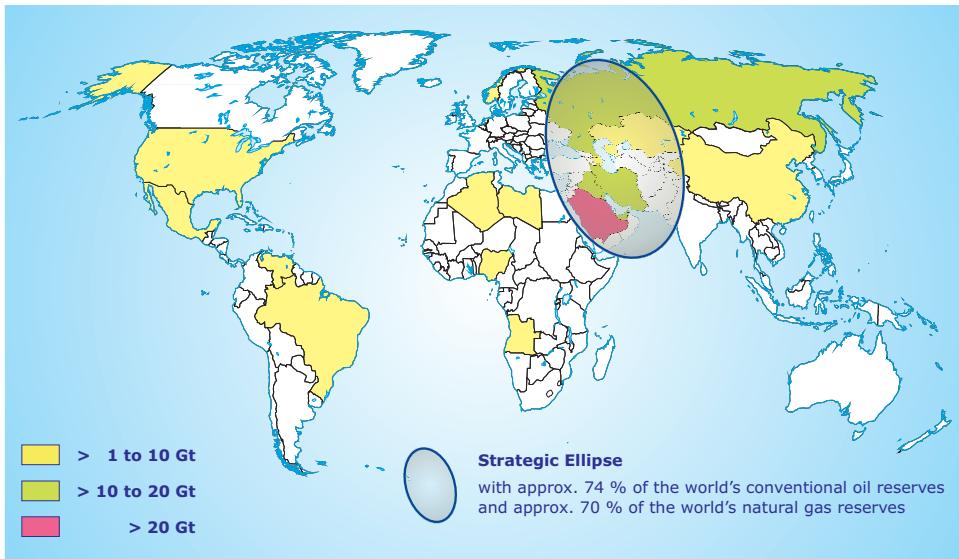


Figure 1: The “strategic ellipse” of energy resources

However, the main markets for energy resources are located far away in Europe, North America and East Asia. Consequently, one can speak of a resource/market mismatch, which defines the strategic nature of energy security as a key geopolitical issue in the 21st century.⁴⁹ Neorealist thinkers emphasise geopolitical rivalry between four blocks dominating the 21st century: the US, the EU, China and Russia, with only Russia itself being an energy rich country. According to Mearsheimer, great powers seek to prevent rival great powers from dominating the wealth-generating areas of the world and will attempt to occupy those regions themselves.⁵⁰ Controlling supply lines and transportation bottlenecks would become crucial for consuming countries.

Several developments since the 1990s have increased the risk of energy crises. Markets have become increasingly tight; in times of low world market prices for energy, short-term shareholder value orientation of the large multinational companies has led to insufficient supply increases. Instead of investing in future

⁴⁹ See, e.g., Skinner, Robert: ‘Strategies for Greater Energy Security and Resource Security’. Oxford Institute for Energy Studies, 2006.

⁵⁰ Mearsheimer, John: ‘The Tragedy of Great Power Politics’. Norton, New York, 2001.

supplies, cheap oil was produced and no refineries were built. At the same time, demand grew faster than expected. In 2030, 50 % more energy will be needed than today, according to IEA forecasts. 70 % of this demand growth will come from emerging economies. The use of energy is a precondition for development and the satisfaction of primary needs. Without access to energy, countries and whole continents remain in the poverty trap.⁵¹ Stability and prosperity depend more than ever on the distribution of resources, and first and foremost energy resources. State energy policy manages the pursuit of these aims.⁵²

2.1.2 General Energy Policy Aims

Concrete energy policies can differ widely according to the conditions a state or government or economy finds itself in.⁵³ However, three dimensions of energy policy are universal, as they concern the basic functioning of contemporary societies and their economic activity: the economic, ecological and security dimensions. Also, the energy policy of the European Union member states and the Russian Federation thus shares aims related to these three aspects. The first subset of energy policy aims relates to economic issues and strives to ensure a commercially viable domestic energy sector. Whereas some countries can rely on the use of domestic energy resources and expertise, others need to import energy sources. A major policy objective consists of a reliable supply of energy, produced at internationally competitive prices, which guarantees the satisfaction of community needs. Energy policy thus aims at limiting consumer costs of energy, as well as both cost and vulnerability from energy imports and providing a stable energy base for economic growth. Security aspects form a second subset of aims. These contain the minimisation of dangers of conflict over energy resources and for example, the reduction of vulnerability of energy systems to any kind of accidents or attacks. However, energy policy is commit-

⁵¹ For a discussion of means to escape from the poverty trap in developing countries see, e.g., Sachs, Jeffrey D.: 'The End of Poverty'. Penguin, New York, 2006. Apart from this development issue, the term of poverty trap also appears in political debates on social aid and poverty in developed countries.

⁵² Rising energy prices are seen to increase the problematic. See, for instance, 'Soaring energy prices will force six million households into the fuel poverty trap'. The Times online (London), 20-06-2008.

⁵³ The different conditions relate to energy source endowment, industrial structure, geographic location, development level etc.

ted to maintaining the international competitiveness of the domestic industry. Whether market forces are the preferred basis for policy or whether state interventionism is adopted differs among the different countries. From the dominating liberal point of view, economic involvement of the government shall only occur if significant market failure can clearly be demonstrated.⁵⁴ A third subset of aims is related to the environment, which is highly used and abused by energy production and consumption. Modern state energy policy, therefore, aims at environmental protection as far as this is possible in the different national and natural contexts. It aims at improving air quality, at avoiding accidents and waste-management mishaps, at limiting the impacts on ecosystems and at limiting greenhouse-gas contribution to the climate-change risks.

In the pursuit of its aims energy policy faces a variety of potential problems or challenges. First, cumulative consumption can lead to rapid resource depletion. Constrained by needs for capital, skills and equipment, the capacity to expand supply can be outstripped by growth of demand. Second, energy supply can become too costly either economically, environmentally, politically or altogether. Third, as can easily be derived from Figure 2, unmanageable tensions could emerge among the three subsets of economic, environmental, and security goals.

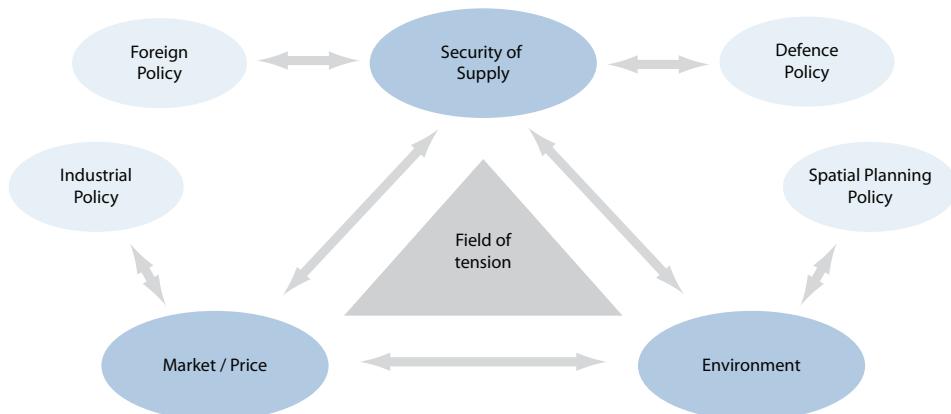


Figure 2: The context of energy policy making (Hoogeveen/Berlot, in Van der Linde (2007, p. 60)).

⁵⁴ The First Welfare Theorem does not hold as Pareto-efficiency is not reached by the markets. Neoclassical economists see market failure as the only justification for state intervention.

Generally, security policies and environmental objectives increase the cost of energy, which is against reasonable prices and short-term market efficiency. And numerous energy policy aims directly contradict each other. For example, with regard to price stability, competition policy aims could oppose price control. Technology policy objectives could interfere with environmental standards and ecological taxes, as could competition policy aspects. Technical surveillance and storage obligations could contradict trade policy objectives. The difficulty lies within the identification of a priority order for the different policy aims or an appropriate mix of aims and a degree at which these aims are targeted. Energy policy is a policy field where national interest and commercial interest interface closely. National security, sound economic management, consumer confidence about supply reliability and competitiveness in wholesale and retail energy markets are all facilitated by having greater diversity of energy supply sources and increased supply availability. Appropriate energy policy settings are essential to give a nation and its consumers the best possible guarantee of security of energy supply. Moreover, the industry needs a high degree of certainty about the context in which they are to make investment decisions. The task for governments is to formulate policy frameworks for the development of their energy resources, for improving the functioning of energy markets and energy transport, for improving energy efficiency, enhancing energy security and environmental protection. The three economical, environmental and security subsets of energy policy objectives are fundamental to every national energy policy regardless of the country. In the following chapter we will concentrate on energy security and the paradigm change in energy policy it has caused over the last years.

2.1.3 Concepts of Energy Security and Energy Sovereignty

2.1.3.1 Energy Security

A large set of questions is related to energy security. How can energy security for continued growth in both developed and developing countries be guaranteed, while at the same time protecting the environment? How can it be achieved in a tense international environment where every state pursues its own objectives? Is there a way to reconcile the globalisation of energy markets with the

reaffirmation of state sovereignty, especially in this strategic sector? The notion of energy security was introduced by the Copenhagen School of international relations, notably Barry Buzan at the beginning of the 1990s and refers not only to military but also to political, economic, societal and environmental threats.⁵⁵ Barton et al. define energy security as a condition in which “a nation and all, or most of its citizens and businesses have access to sufficient energy resources at reasonable prices for the foreseeable future free from serious risk of major disruption of service.”⁵⁶ The European Commission defines it as the “ability to ensure that future essential energy needs can be met, both by means of adequate domestic resources (...) and by calling upon accessible and stable external sources supplemented where appropriate by strategic stocks.”⁵⁷ Clearly, different aspects of supply security can be identified, although they all are related to each other:

1. Material security of supply: This encompasses natural disposability⁵⁸ (resource abundance), replacement potential, but also technological endowment and capacities as well as transport infrastructure.
2. Prices and affordability: Energy security depends on sufficient levels of investment in resource development, generation capacity and infrastructure to meet demand as it grows; and achieving a state where the risk of rapid and severe fluctuation of prices is reduced or eliminated.
3. Political security of supply: Often, producer countries show reduced political stability. Moreover, dependencies create potential blackmail.

⁵⁵ See Buzan, Barry, Waever, Ole, and Jaap de Wilde: ‘Security: A New Framework for Analysis’. Lynne Rienner Publishers, 1998.

⁵⁶ See Barton, Barry, et al.: ‘Energy Security: Managing Risk in a Dynamic Legal & Regulatory Environment’. Oxford University Press, 2004.

⁵⁷ Bahgat, Gadwat: ‘Europe’s Energy Security: Challenges and Opportunities’. p. 965, originally stated in: Skinner, Robert, and Robert Arnott: ‘EUROGULF: An EU-GCC dialogue for energy stability and sustainability’. Study, 2005, available at: http://Europa.eu.int/comm/energy/index_en.html, 12-10-2007.

⁵⁸ The influence of natural disposability of energy resource on energy security relates to the ‘Peak oil’ (and respectively ‘Peak gas’) theories, going back to M. King Hubbert who in 1956 first predicted the US oil production climax for 1965/1970. Related is a scientific dispute over when the climax of world production of oil and gas will be reached, as afterwards production will finally decline. This mainly is an issue of conviction or belief, as different exploration and production figures can be interpreted differently. However, if production declines, price rises will eliminate some demand and provide incentives for alternative energy sources. The problem would consist of managing the phase-out process for oil and gas though, if a more or less abrupt depletion of resources leaves mankind unprepared.

4. Geographical availability: Often, there are very long distances to be crossed between producing and consuming countries.

In its Green Paper of 2000, the European Commission adds the sustainability/environmental dimension to availability and affordability considerations.⁵⁹ But the issue of energy security also refers to structural questions of the energy sector. Security of supply can be thought of as a public good that has been guaranteed for decades by monopolistic energy companies. These monopolists engaged in some precautionary investment, as they were able to pass on the cost to the final consumer. In liberalised markets though, energy security becomes a real externality. The risk is for new market entrants becoming free riders on the security provided by the incumbent energy companies. Liberalisation of energy markets in the consuming countries and the resulting increase in competition could menace energy security, as cost cutting would be prioritised.⁶⁰

Apart from scarce resources and price volatility as sources of uncertainty, also transport risks influence energy security. This is especially the case with natural gas. The transport of natural gas largely relies on pipelines, creating interdependencies between producer, transit and consumer countries. Consequently, Jonathan Stern defines threats of supply and price disruptions related to "risks arising from the sources of gas supplies, the transit of gas supplies and the facilities through which gas is delivered."⁶¹ However, increasing demand presents challenges for capacity and infrastructure. Whether a country is exporter or importer of energy resources is, however, irrelevant for the energy policy task to guarantee security of supply. The difference only lies in the degree to which the fulfilment of this task poses problems or not. This situation also can change over time, as exporters may become importers when their resources are depleted and importers can become exporters with the exploration of new deposits. Different time frames have to be considered as well; it all depends on which time frame is

⁵⁹ 'Towards a European Strategy for the Security of Energy Supply'. Green Paper COM (2000) 769, European Commission, 2000, available at: http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=2000&nlu_doc=769, 18-10-2008.

⁶⁰ See Egenhofer, Christian: 'Integrating security of supply, market liberalisation and climate change'. in 'European Energy Security – What should it mean? What to do?' European Security Working Paper, No. 23, October 2006, p. 9.

⁶¹ Malygina, Katerina: 'Die Energiesicherheit der EU und die Frage des Erdgastransits. Ein analytischer Rahmen'. Ukraine-Analysen No. 58, 2009, available at: <http://www.laender-analysen.de/ukraine/pdf/UkraineAnalysen58.pdf>, 14-01-2014.

chosen. In the short run, energy security depends on measures against supply cut-offs and bottlenecks. Short-term supply security is menaced by political or economic problems (embargoes, internal problems in the export country, political blackmail or commercial disagreements), by a production fall (lack of investment, resource saving policy) and price hikes (market power, speculation, new taxation of reserves, technical or climatic events).⁶² In the medium term, rules and governance for a global energy system need to be established, and work on deeper conflicts needs to be undertaken as well. In the long run, energy security largely depends on technological developments; dealing with climate change and resource depletion. The difference thus consists of short-term supply disruptions and slowly emerging supply gaps.⁶³ Energy security will depend on the prevention of crises, conflicts and tensions, which would hinder global investment and resource fluxes. Diversification and economisation are not sufficient to resolve this issue. Consequently, no state can do without an external energy policy strategy. The latter can be essentially resource nationalistic, based on energy supply diplomacy and containing tools for exertion of pressure. This would result in stronger states dominating the interests of the weaker ones. The opposite would be a multilateral approach with the aim to create a global energy system equally beneficial for all stakeholders. Energy security, by definition of the Clingendael Institute in The Hague, is the minimisation of the risk of energy crisis with all political means, energy crises being persistent disruptions in the balance of supply and demand, which lead to price hikes and negative economic consequences.⁶⁴ Energy security policy, in this respect, also has to deal with sustainable solutions and the formation of global energy security architecture. Instruments for energy security policy can aim at external relations, as do prevention (diversification of fuels and supplier) and deterrence, but also at the domestic economy, as do containment and crisis management. Finally, response measures and even interventions can also be part of energy security strategies.

Apart from the economic component though, energy security also contains a psychological component. Consequently, signals and rhetoric of political leaders and media coverage of these can be sources of insecurity. This hints at the very

⁶² Yavid-Reviron, op. cit., p. 114.

⁶³ Correlje, Aad, and Coby van der Linde: 'Energy supply security and geopolitics'. *Energy Policy* Vol. 34, Issue 5, March 2006, pp. 532–543.

⁶⁴ See Clingendael International Energy Programme: 'Study on Energy Supply Security and Geopolitics'. Final Report, Clingendael Institute, The Hague, 2004, p. 35 ff.

subjective character of energy security. States, which largely depend on foreign energy supplies, can thus feel very safe due to tradition and experience, because they have learned to deal with this dependency. Others which depend to a much lesser extent on imports, but witness a change from energy exporter to energy importer, such as the UK, for example, may feel much more alarmed by energy security issues.

2.1.3.2 Securitisation vs. Transparency

The international energy system serves as mediator between supply and demand. It consists of three levels: large energy companies (private or state-owned), countries (whether suppliers or producers) and multilateral groups and organisations.⁶⁵ Interruption of supply can lead to severe problems for both exporting and importing countries. Exporting countries highly depend on revenues from their energy exports, which often make a major part of state budgets. Importing countries, on the other hand, often lack sufficient resources for their highly developed economies. Dependency relations though, are mutual and so the greatest concern may be about prices and conditions of energy supplies dictated by producing countries or even cartels. Paillard, for instance, points to the financial, strategic and social vulnerability of producing countries, which, more than the economic dependence of consuming countries, obliges us to question the exact notion of dependence.⁶⁶ Nevertheless, supply interruptions may become of greater concern for individual consumer countries within a background of ever increasing competition between consumer states for scarce supplies.⁶⁷

The multitude of actors, stakeholders and interests in the energy area lead to a multitude of different approaches to the concept of energy security. At the 2006 G8 summit in St. Petersburg, energy security was defined as encompassing "all links of the technological chain, from the exploration of energy resources, to energy production, to the transportation of energy products". Thus, almost every aspect of energy policy can be positioned within a security framework, which remains itself unclear, somewhere between geo-politics and market economics. The security framework is increasingly influenced by competition for energy

⁶⁵ Such as OPEC, IEA, GECF etc.

⁶⁶ Paillard, Christophe-Alexandre: 'Quelles stratégies énergétiques pour l'Europe'. Notes of the Robert Schuman Foundation, January 2006, pp. 15–17.

⁶⁷ The oil crisis 1973 was not a supply crisis, but a price crisis.

resources, environmental challenges and disputes over resource ownership and political instability in major producing areas. Opposition can be made out between a securitisation approach and a transparency approach. However, which one of these is better suited to assure the stability of energy supply is rather a matter of belief than of something that can be proved. The securitisation discourse departs from a perception of threat and sudden uncertainty, whereas the transparency discourse on the other hand, implies the application of routine and well-known (transparent) measures in order to resolve problems.⁶⁸ Securitisation implies a strong role for politics and state control. It appears better suited to energy exporting countries, which face international competition for their resources. The more parties involved the more chances for negative impacts on energy supply, with every party pursuing their own and divergent interests, resulting in less security and higher costs. Consequently, the securitisation strategy would consist of attempting to control transport and distribution grids, as well as refineries (the whole value chain) and to reduce the number of transit countries for individual pipelines. As for every commercial relation, this is in the interest of both customers and exporters of energy goods. Diversification of export routes, and also of imports would increase supply security too, but might lead to reduced price stability due to increased competition.

The transparency discourse on the other hand, relates to predictable market interactions in an ex ante accepted framework. It seems better suited to importers of energy goods, as they would gain more control due to their financial and economic dominance. Transparency in supply and transport is essential for consumer countries as it guarantees predictability. This approach is aimed at reducing barriers of access to resources and opening up new markets, and is promoted by developed countries. Insufficient transparency even threatens a country's economic and also energy security as it has negative impacts on tax collection, environmental aspects, the fight against corruption and antitrust legislation. Transparency is the best means to prevent illegal procedures of licensing, or illegal markets for oil products and illegal mining. Moreover, transparency also appears to be a necessary condition for attracting international investment that in

⁶⁸ See Makarychev, Andrey: 'Russia's Energy Policy: Between Security and Transparency'. PONARS Policy Memo No. 425, Center for Strategic and International Studies, Nizhniy Novgorod/Washington, 2006. See also: Makarychev: 'Энергетическая безопасность: От вопросов – к сомнениям' (Russ.) [Energy security: From questions to understanding]. Eurasian Home Analytical Resource, Eurasia Heritage Foundation, 2007.

most cases, however, remains necessary for the exploitation of energy resources. OECD countries, after the Cold War intensively advocated the establishment of governance rules for the international energy system. It consisted of the opening up of national energy sectors in the Third World and transformation countries to foreign direct investment with liberal investment conditions, the privatisation of oil and gas companies and an increased role for the oil majors. Fixing these rules into a binding legal framework was the aim of the Energy Charter Treaty (ECT) and the Multilateral Agreement on Investment (1995-1998). It was decided that state influence in energy sectors should be reduced and WTO rules for market access and trade applied for energy sources.

2.1.3.3 The Energy Charter Treaty (ECT)

The Energy Charter Treaty (ECT) of the beginning of the 1990s, as a key component of European energy security policy, followed the objective of integrating the energy sectors of the former Soviet Union and East European countries into European and global markets. An initial Energy Charter was signed in 1991 in The Hague, addressing international energy relations as to trade, transit and investment. The legal treaty itself was established and signed in 1994 in Lisbon and came into force in 1998. The ECT has been signed by more than 50 states, among them most of the European countries, and also the European Union and Euratom. Although originally meant to secure European energy supplies, the ECT is open to everybody, Japan, Australia and various countries from Central Asia have joined. However, five member states (Russia, Belarus, Norway, Iceland and Australia) have signed but not ratified the treaty. In addition to influencing “who gets what”, the ECT is an attempt to institutionalise multilateral cooperation in energy issues into the global economy. In particular, the treaty regulates:

- The protection of foreign investments against non-commercial risks
- Non-discrimination in the trade of energy goods, products and equipment based on WTO rules
- Guarantee for reliable cross border transit through pipelines and other transport means
- Conflict settlement between states and investors/states
- The promotion of energy efficiency and ecological concerns.⁶⁹

⁶⁹ ‘The Energy Charter Treaty and Related Documents’. Energy Charter Secretariat, 2004.

However, Russia, along with other energy producers continues to deny ECT ratification, and has recently stated that it will never ratify. Nevertheless, until August 2009, the country applied the ECT provisionally as far as it was in line with Russian constitution, laws and directives. Non-ratification has been explained with the ECT's transit protocol, of which negotiations were started in 2000, suspended and then reopened in 2004. The transit protocol contains a reinforcement of some ECT rules meant to reduce some specific transport risks, which still weigh heavily on energy transit. Notably, the Energy Charter Secretariat, EU actors and Central Asian countries began lobbying for third party access to Russia's pipeline network: primarily the gas transportation network controlled by state-owned gas holding Gazprom, threatening the company's monopoly rent. These shifts were a turning point for Russian thinking about energy policy and the international system, as well as Russia's position in the contest over the structure and character of the international energy economy. Implementation of ECT has come to the same standstill as have WTO negotiations, because energy-exporting countries refuse further liberalisation of energy markets, application of WTO rules and the respective dispute settlement measures.

2.1.3.4 Energy Sovereignty

Despite internal EU trends towards liberalisation there is a growing tendency of relinking energy supply security to traditional foreign and security policy, if not power politics. Dutch authors Correlje and van der Linde, identify two storylines for future energy politics. While the 'markets-and-institutions-approach' exemplifies an economically and politically integrated, multilateral world with effective institutions and markets, the 'regions-and-empires-approach' involves a world broken up in rival political and economic blocks, competing for resources and markets via political, economic and military power. The development of the energy market, the way in which energy supply may be secured and the effect on the applicability of the several types of instruments available would be largely influenced by these competing approaches.⁷⁰ They are close to the conflict of transparency and securitisation. The latter finds its expression in the concept of energy sovereignty. Energy producing countries, due to their economic inferiority, risk losing control and thus profits, from the exploitation of

⁷⁰ See again Correlje, op. cit.

their resources under a free market regime. Consequently, a number of countries tend to regard resources as part of their national sovereignty and “have developed their own modernisation approach, which prioritises their country’s long-term economic, political and social interests.”⁷¹ Investment options serve national interests rather than the international market. The efficiency of private management shall be combined with state control. Energy resources and infrastructure are perceived as a means to reinforce their geo-strategic position. The following quote from former Russian President Vladimir Putin provides a good illustration of the energy sovereignty concept: “The one, who sells energy supply and infrastructure of a state, sells the whole state and makes politics become a string puppet of money.”⁷²

Relations between energy suppliers and energy consuming states are dominated by a very deep conflict about the distribution of rents.⁷³ Until the 1970s, resource rich regions, especially the Persian Gulf states, received only small parts of resource rents in form of royalties and taxes, whereas the major part of profits went to Western energy majors. These so-called “Seven Sisters”⁷⁴ jointly determined resource prices and acted as a cartel. Producing countries since 1960 with the formation of OPEC, attempted to negotiate better conditions with the Western companies – in vain. This finally led to the oil shocks and nationalisation wave in the 1970s. Royalties and taxes were increased. However, the 1980s saw an intensification of relations with non-OPEC members and increased production in the North Sea as well as efficiency rises coupled with investment in regenerative energies. As a consequence, the market for fossil fuels anew became a buyers’ market.⁷⁵ Today, however, market conditions have been changing

⁷¹ Bochkarev, Danila, and Greg Austin: ‘Energy Sovereignty and Security: Restoring confidence in a cooperative international system’. EWI Policy Papers, East West Institute, 2007.

⁷² Quoted from Kneissl, Karin: ‘Der Energiepoker: Wie Erdöl und Erdgas die Weltwirtschaft beeinflussen’. Finanzbuchverlag, 2006, p. 96. “Wer die Energieversorgung und die Infrastruktur eines Staates verkauft, verkauft den gesamten Staat und macht die Politik zur Marionette des Geldes.” [English translation by the author].

⁷³ See, e.g., Mommer, Bernhard: ‘The Governance of International Oil. The Changing Rules of the Game’. Oxford Institute for Energy Studies, 2000.

⁷⁴ This term refers to the seven large oil companies which dominated the petroleum industry in the mid of the 20th century: Exxon/Esso, Shell, BP, Mobil, Chevron, Gulf Oil and Texaco. After various mergers and acquisitions they still form five of the six largest privately run energy companies: ExxonMobil, Shell, BP, Chevron and ConocoPhillips, joined by the French Total.

⁷⁵ For two decades, political uncertainty was transformed by markets into price risks, managed by market-based instruments. Today, this is no longer possible due to geopolitical restructur-

again and have become more favourable to those countries that export energy resources. The balance of forces between the main actors in the global energy scheme has altered. The Western energy majors, which dominated global energy trade since World War II and were able to appropriate most of the resource rents for themselves, no longer do so. They, nowadays, still account for half of the worldwide oil production but control only 23 % of reserves. National energy companies and governments hold control over the major part of production and reserves for both oil and gas.⁷⁶ Dubai, Venezuela, Bolivia, Ecuador have recently nationalised their hydrocarbon industries. Algeria passed a law securing its state company Sonatrach majority stakes in all joint projects, and this list could be continued. Energy supply of the OECD countries thus depends on a few national companies and their respective governments. The degree of politicisation and state control of these companies differs largely though.

2.1.4 Summary

The previous parts provided us with background knowledge about the context which determines contemporary energy policy. We have been able to identify increasing internationalisation of all energy-related issues as a main determinant for energy policy, its problems, its objectives, and its concepts. Energy issues are matters of common concern and state energy policy has to address a variety of aspects from disposability and reliability of supply over economic viability of the sector, market regulation, energy efficiency to environmental and climate protection. In view of scarce resources and increased global competition, concepts of energy security and energy sovereignty have given a new dimension to state energy politics over the last decades. Within this background, the EU-Russia energy dialogue also encounters numerous obstacles. First, there are too many different actors implied within it, which all pursue various diverting interests, from private companies over national governments to EU institutions. Second, the concept of security of energy supply, on behalf of consumer states, clearly has its equivalent in the concept of security of demand on behalf

ing. See Van der Linde, Coby: 'The art of managing energy security risks'. EIB Papers, Vol. 12, No. 1, 2007, European Investment Bank, p. 54.

⁷⁶ Van der Linde (2007), op. cit., p. 59. See also Dirmoser, Dietrich: 'Kompass 2020: Energiesicherheit'. Friedrich-Ebert-Stiftung, 2007, p. 15 ff.

of energy producing and exporting countries. The latter though is not sufficiently taken into account, although “it is about improving the first [supply security] by better guaranteeing the latter [demand security], essentially by an increased stability and visibility of hydrocarbon markets.”⁷⁷ Before the G8 summit in St. Petersburg, the Acting Secretary General of OPEC, Mohammed Barkindo, asserted that “energy security has to be seen from two sides of the coin – supply security and demand certainty.”⁷⁸

Increased state control in gas companies and the repeated gas conflicts increase tensions, as do EU measures which destabilise existing bilateral contracts. These are clearly perceived by Russia as a real threat for demand security.⁷⁹ Reform demands by the EU side and the fact that they were presented as an ultimatum only intensified this perception.⁸⁰ The decisive question would be, whether national energy companies invest sufficiently in future production and transport capacity to serve projected demand.⁸¹ The experience of the very low price levels in the 1990s, which were related to oversupply, make companies highly wary of the creation of spare capacity, which would undermine their position in contract and price negotiations. Overinvestment is more feared than foregone business. This behaviour is rational from a business point of view, as infrastructure in energy sectors is extremely costly. On the other hand, spare capacity would be highly necessary for shock absorption and would thus increase energy security. However, the market-oriented approach continuously advocated for by consumer countries was perceived by producer states and companies rather as an attempt to shift investment risk to the suppliers without providing any guarantees for the necessary security of demand.

However, market distortions such as monopoly actors, cartels, subsidies and institutional deficits are common features of energy markets worldwide. The fear of losing access to energy and markets has been followed by a resurgence of national interests in both producing and consuming countries. In these coun-

⁷⁷ Lamy, Jean: ‘D’un G8 à l’autre, sécurité énergétique et changement climatique’. *Politique étrangère*, No. 1, 2006, p. 5, quoted in Yavid-Reviron, op. cit., p. 93.

⁷⁸ Yenikeeff, Shamil: ‘The G8 and Russia. Security of supply and security of demand’. Oxford Energy Comment, 2006, available at: http://www.oxfordenergy.org/pdfs/comment_0806-1.pdf, 15-09-2008.

⁷⁹ Ibid., p. 4.

⁸⁰ Ibid., p. 2.

⁸¹ For example, this was not the case in Indonesia, a country which due to insufficient investment has become importer in spite of large domestic reserves waiting for production.

tries, “national champions” abuse of their dominant market position, whether they are state-run or not. Investment and technology flows are limited. Compromise and negotiation are not among priority approaches for achieving supply security. Many countries obviously opt for direct economic, political, diplomatic and military influence on energy rich regions, and cooperation is favoured only, when useful for generating advantages. The attempt of OECD countries to establish a liberal framework for energy trade, beneficial above all for industrialised countries, has failed. After two decades of a largely market-based international energy system, re-politicisation is taking place. National unilateral responses though are unlikely to be suited to resolve problems, which are by nature global, as is clearly shown by climate change. Rather than being opposed to each other, the security and transparency approaches could be combined in a rule-based agreement on the management of energy relations.

2.2 Natural Gas: A strategic fuel for the coming decades

The importance of natural gas as fossil fuel has already hugely increased and will continue to do so over the next decades. Not only will it replace other fossil fuels, especially and wherever possible, crude oil due to shrinking reserves, but also with regard to climate change, gas production and consumption will rise. Natural gas, unlike other energy sources, can potentially replace oil in many chemical and petrochemical processes, and can also be used as a fuel for transport and heating. Natural gas is the most preferable among all the fossil fuels and the most efficient. Its combustion is less harmful for the environment and global climate than that of oil or coal. Gas, therefore, will play an ever-increasing role in electricity production. Moreover, world reserves of natural gas are expected to last considerably longer than oil reserves. Access to natural gas, therefore, is crucial for national economies all over the world and will be even more crucial in the future. With growing oil scarcity, due to climate protection targets and simply because of the demographic and economic development, worldwide gas consumption, European consumption of natural gas especially, will increase importantly over the next decades. Distribution of gas reserves over world regions is very uneven, as show the figures below. Also, production

and consumption patterns vary much. Whereas in the global oil market Russia represents an important supplier among others, it has a dominant role in world gas production and by far the largest reserves (see Table 1 and Figure 3). This role could possibly be contested by the Middle East countries only, as, taken together, they account for comparable resources, but consume far less gas themselves than Russia.

Table 1: World reserves of natural gas by region, 2008 (BP, 2009).

Region/Country	Reserves (tcm)	%	Production (bcm)	Consumption (bcm)
Europe & FSU w/o Russia	19.59	10.8	485.6	724
Russia	43.3	23.2	601.7	420.2
Asia & Pacific	15.39	8.3	411.2	485.3
North America	8.87	4.8	812.3	824.4
South America	7.31	4	158.9	143
Middle East	75.91	41	381.1	327.1
Africa	14.65	7.9	214.8	94.9

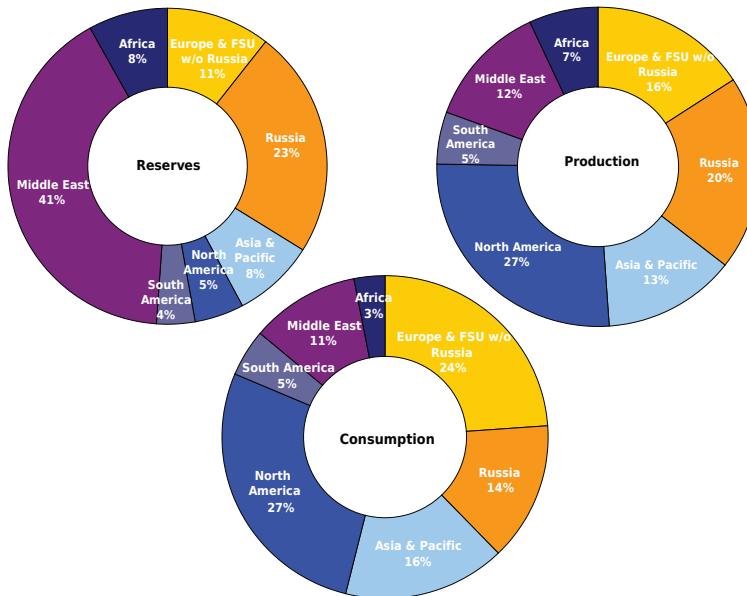


Figure 3: Gas reserves, production and consumption by region, 2008 (BP, 2009).

Global trade flows of natural gas will increase. Whereas 20 % of world gas production is traded inter-regionally today, 45 % will be by 2020; one fourth being liquefied natural gas (LNG).⁸² Clearly, this dynamic development places gas in the centre of national and international energy policy and energy security considerations and explains our focus on this specific sector. In the following, we will provide some important gas facts and review current and historic developments in the sector.

2.2.1 The European Gas Sector: A picture of growing import dependency

The European Union is one of the economically most developed regions in the world and consequently one of the biggest energy consumers. Its energy markets have come under pressure of reform with increasing European integration. The gas market is one of the latecomers in this liberalisation process and remains largely dysfunctional for the time being. Future developments in market organisation and supply thus are related to some uncertainty. Until very recently the European gas market could be presented as an oligopoly of producing companies facing an oligopoly of buyers, who are quasi-monopolists in their national markets.

Per capita consumption of energy in the EU is at 3.5 tons of oil equivalent (toe) per year, compared to an average of 0.9 toe in the developing world.⁸³ The EU, with 7.3 % of world population, thereby represents 16 % of worldwide energy consumption. Yet, it lacks sufficient domestic energy resources to serve its demand. Only 0.6 % of world oil and 1.3 % of gas reserves are located in the European Union. Nevertheless, European primary energy consumption is completely dominated by fossil fuels, with oil accounting for 41 % and natural gas for 26 % in 2008 (Figure 4). This picture cannot be changed rapidly, despite in-

⁸² Dirmoser, op. cit., p. 9. The main trade routes for gas, whether by pipeline or as liquefied natural gas (LNG), are depicted in Figure 35 in the annex.

⁸³ Calculations based on 2007 data from the BP Statistical Review, Eurostat and the United Nations Demographic Yearbook.

creased efforts in the sphere of renewable energy sources. Today, already 50 % of European primary energy consumption has to be imported.⁸⁴

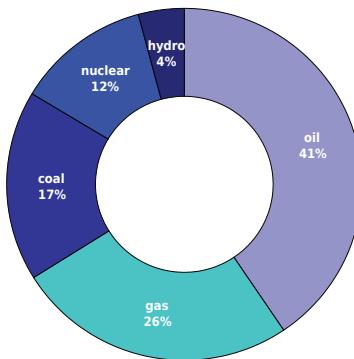


Figure 4: EU-27 primary energy consumption mix, 2008 (BP, 2009).

Moreover, domestic energy resources are declining rapidly. Discovery of new resources cannot keep pace, while demand keeps growing between 1-2 % per year.⁸⁵ Consequently, the EU has to rely ever more on external energy sources.⁸⁶ For example, the gas share in primary energy consumption is expected to rise to more than 30 % by 2030. Current slowdown in gas consumption is caused by the economic crisis and thus unlikely to prevail. On the contrary, the gap between declining own gas production and consumption of natural gas has constantly widened over the last decade, as depicts Figure 5.

⁸⁴ The 27 EU member states in 2006 had to import 53.8 % of their total consumption of fuels, e.g. 41.1 % of solid fuels, 83.6 % of oil and 60.8 % of natural gas. All data from 'Energy and transport in figures'. Statistical Pocketbook 2009, EC Directorate for Energy and Transport. The picture is slightly different with coal, though, where the EU possesses important own resources.

⁸⁵ Piebalgs, Andris: 'Herausforderungen für die europäische Energiepolitik der nächsten Jahre'. Speech given at VDEW Congress, Berlin, 09-06-2005. Cf. Figure 5 for the EU gas production gap.

⁸⁶ Currently, total gas pipeline capacity arriving in the EU is at about 310 bcm, and 14 LNG terminals with a total capacity of 115 bcm are in operation or construction.

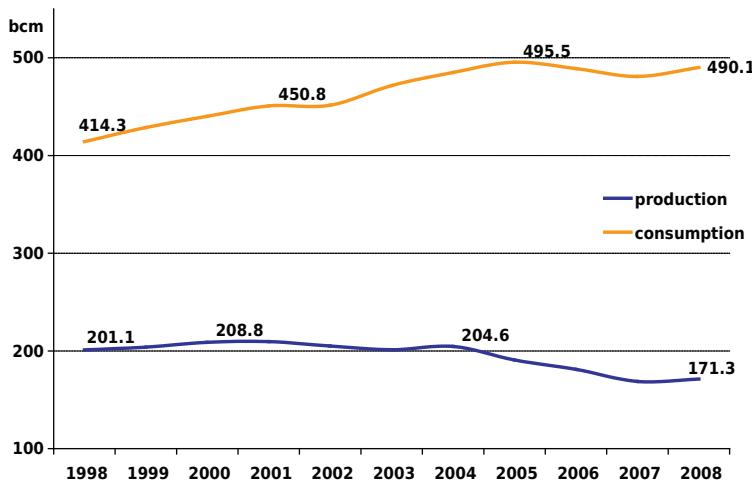


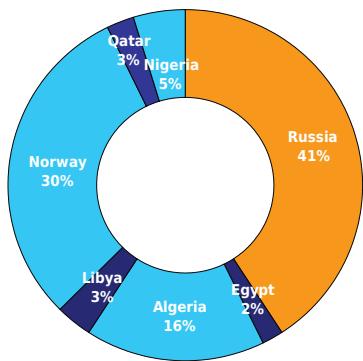
Figure 5: EU-27 gas production and consumption, 1998–2008 (BP, 2009).

Oil and gas production in the EU is centred in the North Sea. Whereas Denmark currently remains self-sufficient in oil and gas production, the UK, as well as the Netherlands, which both produce far more crude oil and gas than Denmark, have become net importers of oil and gas within the last decade.⁸⁷ However, the pattern of energy consumption as well as energy disposability and thus dependence on energy imports differs much among the member states. Per capita consumption of oil, for example, differs between an average 0.8 toe per year in Eastern Europe and 2.1 toe in the Benelux States. The average consumption of the four biggest EU members; Germany, UK, France and Italy, is at 1.44 toe per year.⁸⁸ As to natural gas, European Union countries' demand accounts for 45.5% of gas traded internationally. 40% of EU gas imports originate from Russia, 30% from Norway, and 16% from Algeria. Minor suppliers are Nigeria (5%), Libya, Qatar, Egypt and Trinidad/Tobago.

⁸⁷ Today, oil imports are coming from OPEC countries (38%), Russia (33%), Norway (16%) and Kazakhstan (5%), but it has to be noted that Norwegian oil production already is in decline. All data from 'Energy and transport in figures'. op. cit.

⁸⁸ Calculations based on data from 'Energy and transport in figures'. op. cit.

Table 2: EU-27 gas imports by origin, 2008 (BP, 2009).



Country	bcm
Russia	127.3
Algeria	50.88
Libya	10.4
Norway	94
Qatar	7.9
Trinidad	5.2
Nigeria	14.63
Egypt	6.37
Total	316.68

Figure 6: EU-27 gas imports by origin, 2008 (BP, 2009).

The Union's dependence on (overall) energy imports will increase to 65 % by the year 2030.⁸⁹ More than 90 % of its oil and 70 % of its gas consumption would then have to be imported (cf. Figure 7). However, some analysts foresee that Russia will satisfy only 29 % of the EU's gas imports, or 207 bcm by 2030.⁹⁰

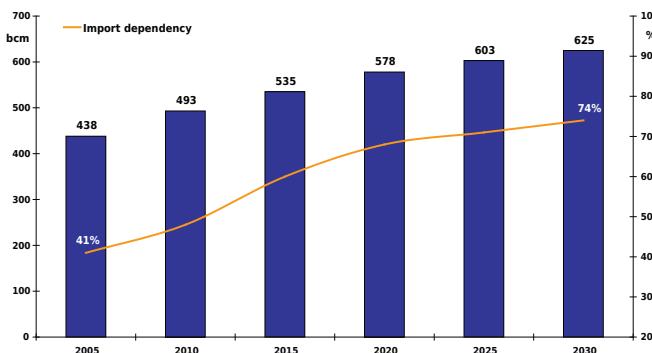


Figure 7: EU-27 gas demand and import dependency (projection) (Eurogas).

Gazprom's biggest clients Germany and Italy account for almost half of all Russian gas consumed in the EU. The separate national gas markets within the EU

⁸⁹ See 'EU-Energiepolitik: Höchste Zeit zu handeln!' EU-Monitor 44, Deutsche Bank Research, 2007, p. 3, in case of a business-as-usual strategy with 1.5 % demand growth annually. See also: 'An Energy Policy for Europe'. European Commission, 2007.

⁹⁰ See Gonchar et al., op. cit., p. 55.

differ not only in their size (and attractiveness to Gazprom), but also in their import dependence (Figure 8). Not all countries are equally dependent on gas imports. Differences in natural endowment with own resources lead to differences in the energy mix. Also, the picture of dependency on specific export countries is not uniform among the EU member states. Rather, the persistent geographic pattern of the European gas supply system (Figure 9) shows an almost 100% dependence on Russia for several Eastern European countries whereas Northern European states rely to a large part on Norway, and Southern Europe covers much of its needs with gas from Africa and the Middle East.

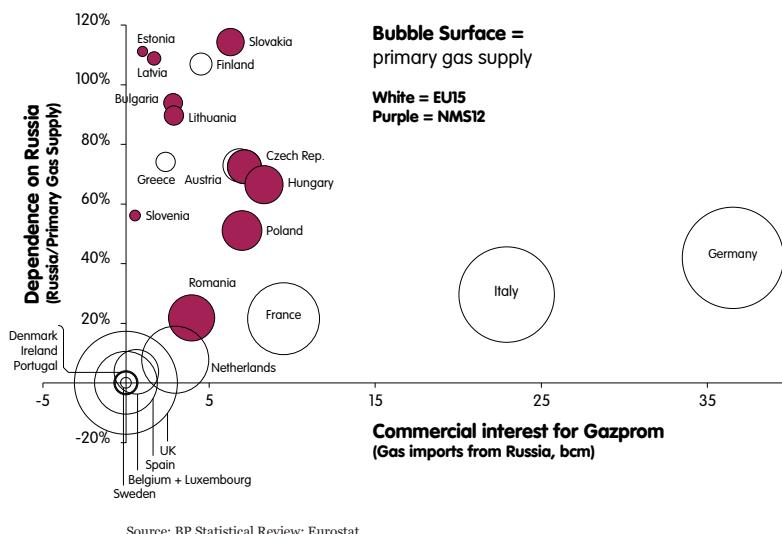


Figure 8: Size, import volumes and dependence on Russia for different EU gas markets (No 1, 2008).

European dependence on Russian supplies should not be overestimated though.⁹¹ When considering the EU's total primary energy supply, only 6.5% of it comes from Russia, and this share has remained principally the same since 1990. Moreover, Russia's share in all European gas imports has been halved since 1980, from over 80% to just over 40%.⁹² Grigoriev raises the fact that the Russian side was often surprised by EU expectations for them to fill the potential gap between

⁹¹ See, e.g., Levett, Flynt, and Hillary Mann: 'Wrong on Russia'. The National Interest, 2008.

⁹² No 1, Pierre: 'Beyond dependence: How to deal with Russian gas'. ECFR Policy Brief, European Council on Foreign Relations, November 2008, p. 1.

EU consumption and demand in 2020-2030, and that they have never actually committed themselves to this tremendous task.⁹³ The EU took this for granted and consequently exaggerated the predictions over dependency from Russia.

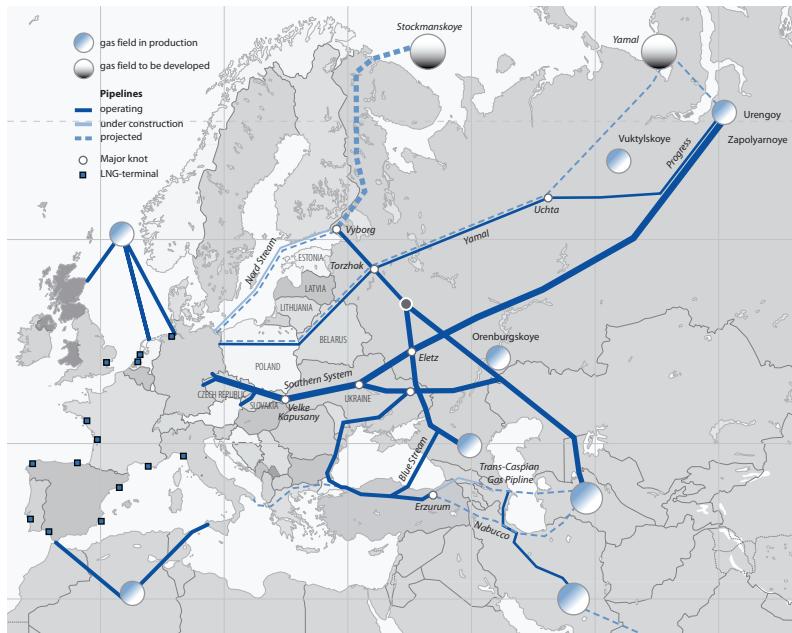


Figure 9: European gas supply system (Hubert, 2007).

Also, in the case of rising competitiveness of LNG and North African gas, the Russian market share could decline. As of summer 2009, combined capacity of LNG terminals in the European Union was at 108 bcm annually. According to figures from Gas Infrastructure Europe, terminal extensions and new sites in planning will raise European LNG import capacity to 207 bcm by 2016.⁹⁴ Moreover, in the aftermath of the world financial crisis, pipeline gas consumption for the time being remains considerably below forecasted volumes.

⁹³ Grigoriev, op. cit., p. 79.

⁹⁴ 'If another gas dispute breaks out between the Ukraine and Russia, would Europe now be equipped to deal with it?' DIW Weekly Report, No. 2, 2010.

2.2.2 The Russian Gas Industry: Vast resources, large distances and state control

To understand the controversies and conflicting interests in gas relations between Europe and Russia, an overview of the Russian gas industry, its organisation, its challenges and its constraints is highly useful. It will provide the reader with the basis knowledge necessary for evaluating the motivation of Russian policy actions in the gas sector and especially during the gas price disputes with its western neighbours which we will describe in the following parts. This is necessary for deducing authoritative proposals for conflict prevention and settlement.

2.2.2.1 Resources and Reserves

Worldwide reserves of natural gas are at about 130 trillion cubic metres (tcm) plus 30 tcm of unconventional gas. Gas resources are estimated at between 170 and 185 tcm for conventional and 1,200 tcm of unconventional gas.⁹⁵ Current world annual gas consumption roughly equals 2.6 tcm. To the end of 2005, cumulated exploitation of gas accounted for 70 tcm.⁹⁶ Proven Russian gas reserves are between 40 and 50 tcm, thereby equalling about one third of proven worldwide reserves, ahead of Qatari and Iranian natural gas reserves. These three countries, situated in the “strategic ellipse” mentioned above, together control more than 70 percent of world reserves. In Russia, all subsoil resources belong to the state. It is the state through its “State Fund of Subsoil Resources” which grants exploration and production licences.⁹⁷

Gas reserves are very unequally distributed over the Russian territory: only 10% are located in the country’s European part, 76 % in Western Siberia, 8% in

⁹⁵ The term “reserves” characterises resources that have been physically proven. A difference is made whether their physical and profitable utilisation is either certain or very likely. Profitable exploitation depends on the market price. When market prices rise, reserves can increase as former resources enter the reserve category. See Table 17 in the annex for a list of countries with largest gas reserves and their production, consumption and export figures respectively.

⁹⁶ Erdmann, Georg, and Peter Zweifel: ‘Energieökonomik’. Springer, 2008, p. 123.

⁹⁷ The Russian subsoil law from 1992 (Закон Российской Федерации „О недрах“) has last been amended in 2008. It declares all subsoil resources in Russia to belong to the state (Article 1.2).

the Eastern regions and 6 % in the continental shelf.⁹⁸ Currently, Russia's most important gas reserves are located in the Nadym-Pur-Taz region of Western Siberia. Almost 80 percent of current Russian annual gas production originates from the three super-giant fields of Urengoy, Medvezhye and Yamburg, which were developed in the Soviet era.⁹⁹ Production from all three fields has been declining for several years. The only super-giant gas field that came on stream after 1990 was the Zapolyarnoye Field located north of the three fields. The vast majority of proven but not yet developed reserves are also located in Western Siberia, on the Yamal Peninsula and around the Obskaya Gulf. Gazprom holds licences for the three biggest Yamal Fields, which together account for 5.8 trillion cubic metres of natural gas and 227 m tons of oil.¹⁰⁰ A new gas pipeline is being built to bring the first field, Bovanenkovskoye, on stream by 2011. Apart from the West Siberian super-giants, historically important reserves are located in the Orenburg Region and in the Volga Urals. These fields, for the most part, are near to depletion, although numerous smaller fields remain untouched in these regions. Other important fields, which are projected but not yet exploited, are situated in Eastern Siberia (Kovykta), in the Far East region of Sakha and off the island of Sakhalin. The giant field of Stokmanovskoye, discovered in the Barents Sea during Soviet times, is to be developed by Gazprom in the next decade. We see that most of Russia's gas reserves are located in difficult terrain and climatic conditions, or even offshore. They are thousands of kilometres away from the industrial centres of the European part of Russia as well as from customers abroad.

Since the end of the USSR in 1991, investment and efforts in exploration and geological research have dropped considerably. Thus, Russia currently is exploiting its reserves without discovering enough gas deposits to replace its an-

⁹⁸ Khristenko, Victor: 'Перспективы развития нефтегазового комплекса России' (Russ.) [Perspectives of the development of the Russian oil and gas sector]. Ministry of Energy and Industry of the Russian Federation, 2005, p. 20.

⁹⁹ About 26,600 gas fields are known worldwide. So-called giant (>80 bcm) and supergiant (>800 bcm) gas fields account for roughly 75 % of global reserves and thus are of special importance to secure gas supplies. However, only slightly more than 100 fields classify among giants and supergiants. See Bundesanstalt für Geowissenschaften und Rohstoffe (BGR): 'Energierohstoffe 2009'. p. 75.

¹⁰⁰ These are Bovanenkovskoye, Kharasaveiskoye and Novoportovskoye. See Putin, Vladimir: 'Об освоении месторождений газа полуострова Ямал' (Russ.) [On the exploration of the Yamal peninsula gas fields]. Online address, 14-09-2009, available at: <http://www.premier.gov.ru/visits/ru/6133/events/5052/>, 10-10-2009. See Figure 34 in the annex for a map of the Yamal Peninsula fields.

nual production, resulting in a constant decline of reserves. However, proven reserves are large enough to provide gas for more than five decades, with annual production remaining constant. Gazprom's reserves comprise two thirds of all Russian reserves, totalling 29.9 tcm (2007).¹⁰¹ Apart from pure gas deposits, a major reserve of natural gas consists in associated gases that are by-products of oil production. For the time being though, oil companies have to flare most of the associated gas, as they cannot get access to the gas transport grid controlled by Gazprom.

2.2.2.2 Russian Gas Production

Gas production in Russia has remained comparatively stable after the collapse of the USSR. From the peak of 643 billion cubic metres (bcm) in 1991, it fell to a low of 571 bcm in 1997. Gazprom accounts for 85 % of Russian gas production. In 2008, the company produced 550 bcm of natural gas and total Russian production anew surpassed 600 bcm, leaving roughly 180 bcm for export.

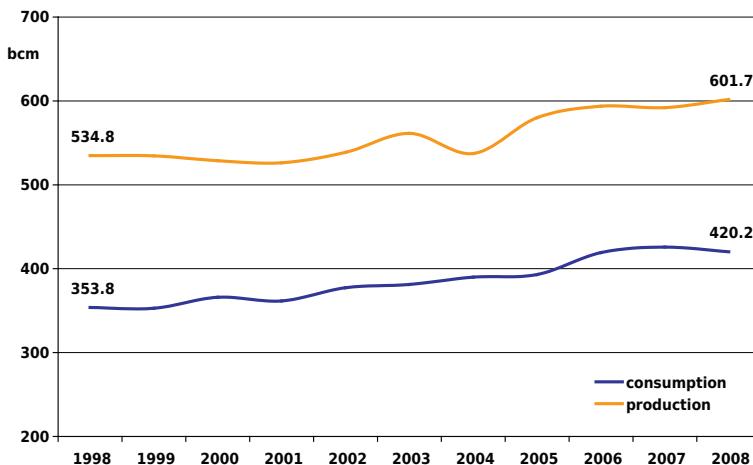


Figure 10: Russian gas production and consumption, 2008 (BP, 2009).

This increase in gas production was mainly due to the new field of Yuzhno-Russkoye going on stream in late 2007. In order to maintain current produc-

¹⁰¹ See 'Gazprom today', available at: <http://old.gazprom.ru/eng/articles/article8511.shtml>, 01-06-2010.

tion levels, new reserves have to come on stream, although, in 2009, output was expected to decline as a consequence of reduced demand in the world economic crisis. The Russian Energy Strategy, in its optimistic scenario, nevertheless foresees an increase of total Russian gas production, mostly by independent producers, to up to 745 bcm annually by 2015.¹⁰² Gazprom itself expects a steady but slow increase of its own production (Figure 11). This partly is because lead times to bring large fields in the northern Nadym-Pur-Taz Region on stream are of five to seven years. Gas from the Stokmanovskoye¹⁰³ offshore field, which is to be developed in the coming decade shall provide for the meantime. Gazprom owns 51 % of shares in Shtokman Development, while Total has 25 % and StatoilHydro 24 % of shares.

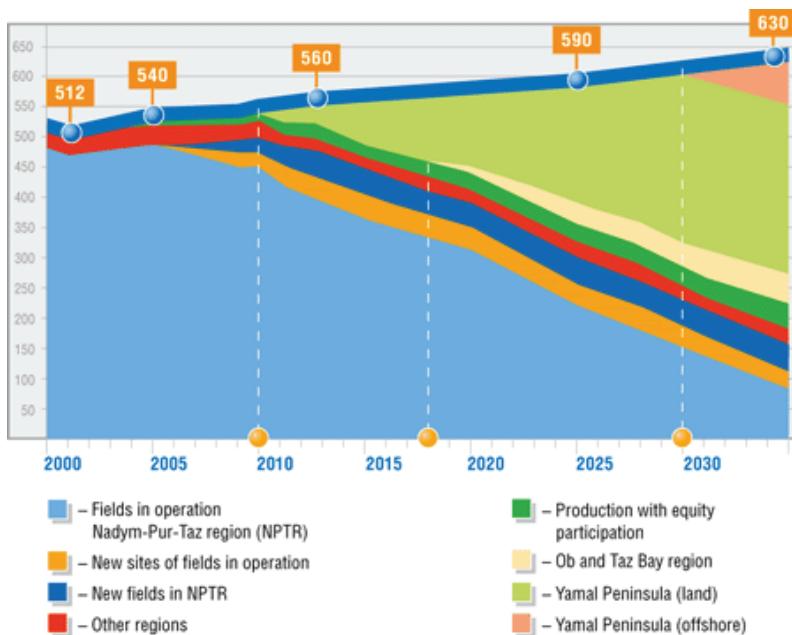


Figure 11: Production projections of Gazprom, (bcm, 2008) (OAO Gazprom).

¹⁰² 'Энергетическая стратегия России на период до 2020 года' (Russ.) [The Energy Strategy of the Russian Federation for the period to 2020]. Ministry of Industry and Energy of the Russian Federation, 2003, p. 23.

¹⁰³ The Stokmanovskoye field contains 3.8 Tcm of reserves, but needs a very long pipeline first to the shore near Murmansk, and from there to Russian and European markets. The field is located in 330 m depth in the Barents Sea, 290 km west of the Novaya Zemlya island and 650 km north of the city of Murmansk.

Total costs of gas supplied depend crucially on the proximity of fields to the existing transport grid. To get the Yamal Fields on stream, some 300 km of pipelines would have to be built entirely new. Infrastructure for both production and transport will be extremely costly due to geographically and climatically challenging conditions. Development costs of the Yamal Basin are supposed to be at USD 30/1,000cm, according to the Energy Strategy of the Russian Federation, i.e. three times that of the West Siberian fields.¹⁰⁴ For these reasons, Gazprom prefers the development of smaller fields in the Obskaya Gulf region, i.e. next to the existing giant fields, instead of the Yamal Fields in the foreseeable future.¹⁰⁵ However, Total and Shell have been put on the shortlist of probable foreign partners for the development of the "Yamal Megaproject", i.e. the Tambeyskoye Fields on Yamal Peninsula. Japanese Mitsui and Mitsubishi are expected to obtain minor shares.¹⁰⁶ Apart from Stokman, the only other large new fields in European Russia that could be developed are situated in Russia's south around Astrakhan to the north of the Caspian Sea. The extremely high sulphur content of the Astrakhan gas is problematic as it makes the processing plant that is needed very costly. Italy's ENI and Gazprom would jointly undertake development of the Astrakhan Field. This development could result in providing gas to Turkey via the Blue Stream line under the Black Sea, which currently is working below its capacity.¹⁰⁷ In addition to these large-scale projects, about 500 smaller gas fields in the European part of the Russian Federation could be developed and brought on stream. Although they mostly contain less than 20 bcm of reserves, they are advantageous in being close to domestic markets and existing grids, thereby providing for substantial cost advantages with respect to both production and transmission. Still, domestic price reform is essential to make these fields attractive to investors.¹⁰⁸ As Gazprom predicts only slight increases of its own production over the next years, the company must increasingly rely on Central Asian gas in order to meet its long-term export obligations. This has important implications for policy strategies concerning Central Asian resourc-

¹⁰⁴ Yavid-Reviron, op. cit., p. 66.

¹⁰⁵ e.g. the Kamennomyskoye field with reserves of 3–4 tcm.

¹⁰⁶ 'Определены главные претенденты на Ямал'. (Russ.) [Main pretenders for Yamal are fixed]. *Kommersant*, 29-06-2009. The licence for the North Tambey field belongs to Gazprom, whereas the licence for the South Tambey field is held by Novatek. However, Gazprom holds a 19.4 % share in Novatek.

¹⁰⁷ See Figure 23.

¹⁰⁸ See Ahrend, Rüdiger, and William Tompson: 'Russia's Gas Sector: The Endless Wait for Reform?' OECD Working Paper No. 402, 2004, pp. 12ff.

es and their transport to world markets as we will further see below. Another problem consists of growing domestic demand for natural gas in Russia, and a persistently high degree of waste.¹⁰⁹

2.2.2.3 Transport and Storage

The Russian transport system for natural gas encompasses more than 150,000 km of high pressure, large diameter transmission lines. Some 20,000 km of these are still in operation although their life span has been reached and even surpassed.¹¹⁰ The high-pressure grid, which assures export, is controlled by Gazprom. Table 3 presents the major existing export pipelines from Russia to European countries. Generally, the export grid is in a better condition than low-pressure distribution systems, for which regional and local companies are responsible.¹¹¹ However, investment is urgently needed. Information on pipeline fuel, losses and leakage is rare. Estimations by the International Gas Union state that transmission and storage account for 65 % of total losses; production and processing for 12 % and distribution and end use for 23 %. Gazprom estimated leakage from its high-pressure pipeline network at 8 bcm or 1.4 % of total throughput for 1998.¹¹²

¹⁰⁹ The biggest problem lies in residential heating, where insulation, proper radiators and thermostats are lacking. 72 bcm of gas (half of Russia's exports) could be saved annually by a modernisation of Russian residences to Western European standards, according to estimations from DENA (German Energy Agency). See 'Thermostatfreie Zone'. Die Welt, 20-02-2006. According to conservative estimations from the IEA, at least 30 bcm – a fifth of Russian exports to European OECD countries – could be saved every year by enhanced technology or energy efficiency. See 'Optimising Russian Natural Gas'. OEC/IEA, 2006, pp. 40 ff.

¹¹⁰ 70 % of the entire grid has been built before 1985, resulting in a generally poor condition of the pipelines. See 'Optimising Russian Natural Gas'. op. cit., pp. 87 ff.

¹¹¹ This is because the high-pressure grid assures exports and thus revenues whereas the regional and local grids serve domestic businesses and households which generate little income if at all.

¹¹² See Lechtenböhmer, Stefan, et al.: 'Tapping the leakages: methane losses, mitigation options and policy issues for Russian long distance gas transmission pipelines'. International Journal of Greenhouse Gas Control, No. 1, 2007, pp. 387–395. Based on 2003 figures, the authors see methane emissions from the Russian natural gas long distance network at approximately 0.6 % of the natural gas delivered annually.

Table 3: Major export pipelines for Russian natural gas to Europe (Russian Analytical Digest, 2008, No. 41, and own complementations).

Pipeline	Date	Route	Capacity
Bratstvo/Soyuz	Soviet network	Russia-Ukraine-Central Europe	130 bcm
Polar Lights	Soviet network	Russia-Belarus-Ukraine-Central Europe	25 bcm
Transbalkan	Soviet network	Russia-Ukraine-Moldova-Balkans, Turkey/Greece	20 bcm
Finland Connector	Soviet network, extended 1999	Russia-Finland	20 bcm
Yamal	since 1999	Russia-Belarus-Poland-Germany-Western Europe	28 bcm
Blue Stream	since 2002	Russia-Black Sea-Turkey	16 bcm
Nord Stream	probably from 2011/2012	Russia-Baltic Sea-Germany-Western Europe	28/55 bcm
South Stream	probably from 2014/15	Russia-Black Sea-Balkans-Central/Southern Europe	31/63 bcm

As the Russian Energy Strategy¹¹³ foresees constant gas production in Western Siberia, existing high-pressure transmission capacity would suffice. Additional capacity of about 60 bcm per year would be needed for the development of new fields on the Yamal Peninsula.¹¹⁴ The Energy Strategy foresees the construction of 23,000 km of new pipelines by 2020, including the replacement of old pipes. Thanks to its high-pressure transport grid, OAO Gazprom controls virtually all gas flows in Russia. The company also controls 514,200 km (80 %) of the national gas distribution network through various affiliates. The distribution grid is currently being extended, as the Astrakhan and Arkhangelsk Regions, as well as the Far East, are being gasified. All 25 underground storage facilities for gas in Russia are owned by Gazprom, providing for 63 bcm of storage capacity for commercial gas.¹¹⁵ Gazprom also owns storage sites in Ukraine (17.5 bcm), Latvia (1.9 bcm) and Germany (1.5 bcm) and plans the construction of new storage

¹¹³ As a fundamental policy paper adopted by the Russian government in 2003, we will focus on the Energy Strategy of the Russian Federation in Chapter 4.3.3.

¹¹⁴ For the development of Yamal, the construction of two new pipelines connecting the fields to the grid at the compressor and processing station of Utkhta would be necessary.

¹¹⁵ 'Mineral and raw material base development, gas production, gas transmission system development'. OAO Gazprom, reference to a press conference, 14-06-2007, available at: <http://www.gazprom.ru/eng/articles/article24063.shtml>, 02-07-2007.

facilities in Russia, as well as abroad, resulting in increased flexibility in face of demand imbalances.¹¹⁶

2.2.2.4 Gazprom, the State and Competition in the Gas Sector

Clearly, OAO Gazprom¹¹⁷ dominates the Russian gas industry. The company is the inheritor of the Soviet Gas Ministry, which may explain its continuing proximity to state and government, also reflected in its staff, management and board of directors.¹¹⁸ The company is privatised, but the Russian state, since 2005, owns a controlling stake of 50 % plus one share through several state entities. This was a key move for the state to reinforce its control over a company with strategic significance for the national economy.

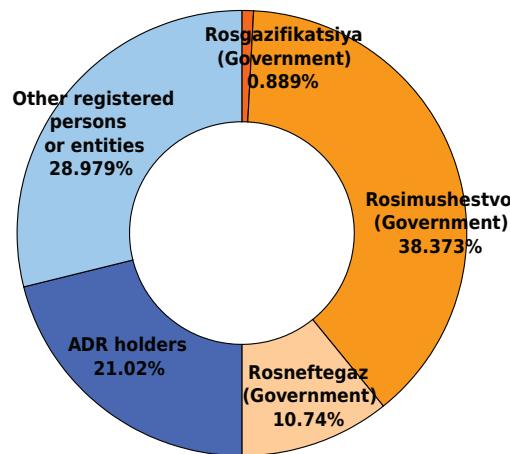


Figure 12: Shareholder structure of Gazprom (OAO Gazprom).

The relationship between Gazprom and the Russian state could be described as quasi-symbiotic from its beginning. Victor Chernomyrdin, the company's chair-

¹¹⁶ e.g. close to Greifswald and the Nord Stream pipeline in East Germany, but also in Hungary.

¹¹⁷ OAO, in Russian 'Открытое Акционерное Общество', signifies open stock company. The shareholders of Gazprom are the Russian Federation through Rosimushestvo (38%), Rosneftegaz (10.7%) and Rosgazifikatsiya (0.9%), Gazprombank as nominee holder (42%), Gerosgaz (2.9%) and Eon Ruhrgas (2.5%).

¹¹⁸ See 'History/15th Anniversary of Gazprom Joint-Stock Company'. OAO Gazprom, online article available at: <http://www.gazprom.com/about/history/events/15years/>, 14-01-2014, where the company traces its own history.

man since 1989 and Russian Prime Minister from 1992 to 1998, together with Rem Vyakhirev, who took over the company's management in 1993, prevented the gas industry from dismantling in the 1990s. Unlike the rest of the energy sector, which, much as the major part of Russia's economy, has seen a "quick and unfair" distribution of the most attractive natural resources by governmental officials and managers of energy ministers, in the gas sector, ministry officials were successful in keeping almost all gas fields in the "natural monopoly" i.e. under control of the Ministry and future Gazprom.¹¹⁹ In 2001, Alexey Miller, who had worked with Mr. Putin at the St. Petersburg Mayor's Office back in the 1990s, became chairman of Gazprom. In the following years, most of the Gazprom management was replaced by persons from St. Petersburg or by those with close links to President Putin. Dmitry Medvedev, before becoming President in 2008, was Chairman of Gazprom's Board of Directors. He was then replaced by Victor Zubkov, himself previous Prime Minister and currently First Deputy Prime Minister of the Russian Federation. The current board counts acting ministers Viktor Khristenko and Elvira Nabiullina among its ranks. This close relationship between Gazprom and the Russian state, reflected in its personnel, has to be explained by the enormous importance of the company for the Russian economy, state finances and even social stability. According to Alexander Kazakov, former head of Gazprom's supervisory board, all the way through the 1990s, Gazprom virtually kept Russia together. The company indebted itself in order to prevent the collapse of the state budget and in turn did not have to pay taxes.¹²⁰

Besides the general culture of confidentiality in the gas business, Gazprom's lack of transparency in the 1990s was exacerbated by the payments problem, which was characteristic of the whole Russian economy. Gazprom extended loans and delivered gas for non-cash receivables, which prevented correct price formation, or comparison of costs with revenues. Also, the tax settlement during the 1990s was intransparent and resulted in repeated mutual offsets. As a result of this development, Gazprom currently is total or partial owner of a variety of businesses, including a media group. 20 % of foreign exchange earnings, 20 %

¹¹⁹ See Tkachenko, Stanislav: 'Actors in Russia's energy policy towards the EU'. in Aalto, Pami (ed.): 'The EU-Russian Energy Dialogue'. Ashgate, 2007, pp. 163ff.

¹²⁰ Kazakov, Alexander, quoted in Panjuschkin, Waleri, and Michail Sygar: 'Gazprom. Das Geschäft mit der Macht'. Munich 2008, translated from German by the author. Cf. also Ivanenko, Vlad: 'Russian Energy Strategy in Natural Gas Sector'. Working Paper. 2006, available at: <http://ssrn.com/abstract=953467>, 27-04-2008.

of federal budget revenues and 8 % of GDP are contributed by Gazprom, which also explains the continuously strong government involvement.

In spite of the monopoly position of Gazprom, independent gas companies such as Itera or Novatek emerged during the 1990s.¹²¹ Gazprom still holds the export monopoly for Russian gas outside the CIS, but independent companies such as Novatek and Itera have managed to become important suppliers to CIS countries, the Baltic States and Russia herself. Actually, the domestic Russian gas market is split into a regulated and a non-regulated part (Figure 13). The government regulates the wholesale prices of Gazprom and its affiliates as well as tariffs for the transportation services Gazprom provides to independent producers. Today, several other independent producers are active in the Russian market. They sell their gas at non-regulated prices. Whereas most of them remain small local actors, together they account for roughly 15 % of Russian gas production and supply 28 % of the domestic market.¹²² At the beginning of 2006, more than 30 companies whose annual gas production exceeded 10 million cm were active on the Russian gas market, among them virtually integrated oil companies (VIOCs) and independent oil and gas companies. Eight large independent companies produce more than 80 % of total output generated by independents.¹²³ At least theoretically, a third source for competition comes from foreign companies that have been invited throughout the 1990s to invest in joint ventures or so-called PSAs (production sharing agreements). OAO Gazprom is engaged in several major joint ventures: with Shell in the deeper oil and gas horizons of Zapolyarnoye, with ENI in the Astrakhan gas fields, with German EON Ruhr-gas in Yuzhno-Russkoye, with Shell, Mitsui and Mitsubishi in Sakhalin II and with Total in Stokman.

For competition on Russia's domestic market, the regulation of access to Gazprom-controlled grids is crucial. Since 1997, the Federal Energy Commission, which has become the Federal Service for Tariffs in the meantime, as independ-

¹²¹ Although they mostly came into existence out of "shady deals struck with former Gazprom management in the early 1990s." Ivanenko, op. cit, p. 4.

¹²² 'Gazprom to give up part of Russian market by 2030'. RIA Novosti, 08-02-2010.

¹²³ These are the VIOCs Surgutneftegaz, TNK, Rosneft and Lukoil and the independent producers Novatek, Northgas, TNK-owned Rospan and the Itera share in Purgaz. Although oil companies increased their gas production, in total they account for only 6 % of the annual Russian gas production. Currently, approximately 29 bcm of associated gas are produced annually, compared to peak rates of 38 bcm in 1990.

ent regulatory body supervises third party access to transmission pipelines. It also oversees terms and tariffs of access for inter-regional transmission as well as tariffs set by Gazprom. Transmission tariffs are most important for independent producers to determine the economic radius of production, i.e. is to make sure that the gas is being produced, transported and sold with profit. However, as Gazprom's internal transport charges are not transparent, competition may be deterred. In 2008, the Russian government excluded associated gas from state price regulation with the aim of reducing gas flaring. Before, extremely low prices at which companies had to sell associated gas to processing plants prevented competition.¹²⁴ However, the availability or unavailability of spare capacity in Gazprom's transmission system remains opaque. By law, 15% of transport capacity is reserved for independent producers, but regulators have to rely on Gazprom's information and cannot judge independently, whether there is additional capacity or not – making it easy for Gazprom to discriminate. Fostering competition does not appear as a key focus of Russian gas policy, which centres on Gazprom and its role in gas exports. Nevertheless, both the authorities and Gazprom regularly put forward the beneficial consequences of competition as to efficiency increases. In the end it seems that a market split in two with a dominating Gazprom and a minor share of independent producers is being aimed at. According to Locatelli, the evolution of the Russian gas sector as foreseen by the Russian government follows three principles: 1) the coexistence of multiple ownership structures from private companies to largely state-controlled ones, 2) the creation of integrated oil and gas companies following the international model, whereas the planned economy had separated these two, and 3) the diversification into electricity production.¹²⁵

¹²⁴ See 'Russia scraps state caps on associated gas prices'. Reuters, 13-02-2008.

¹²⁵ Locatelli, Catherine: 'The Russian oil industry between public and private governance: Obstacles to international oil companies' investment strategies'. Energy Policy, Vol. 34 (9), 2006.

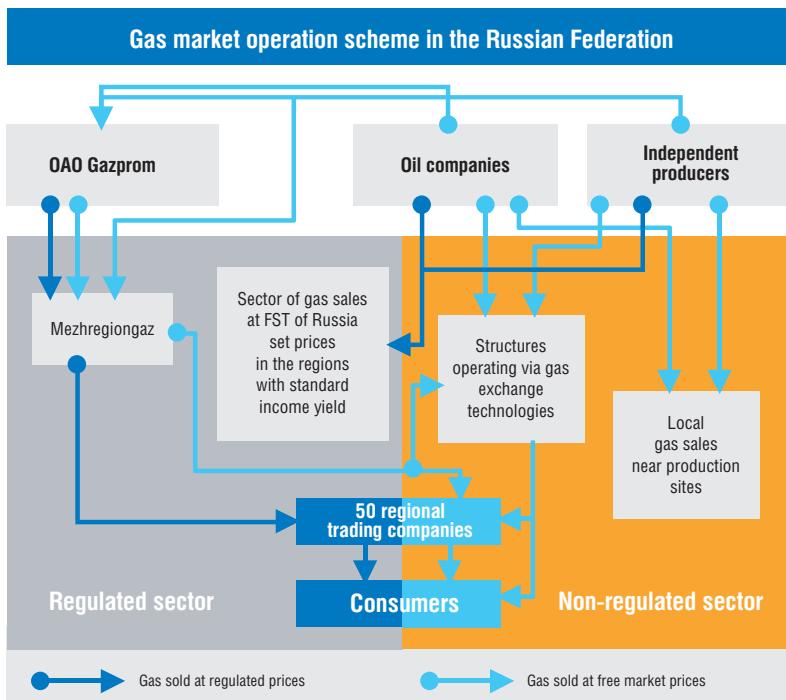


Figure 13: The Russian gas market operation scheme (OAO Gazprom).

However, the independent sector possesses the greatest potential for growth: a solid resource base, superior technology and conflict-proven management. Russian independent producers hold licences for approximately 24 % of all explored free gas reserves.¹²⁶ According to the Energy Strategy of the Russian Federation, independent producers could produce up to 25% of total Russian output by 2020, with roughly half from pure gas producers and half from VIOCs. The independent companies accounted for basically all the growth in production in recent years, as Gazprom's own production was in decline. Expansion of the independent companies will crucially depend on the dynamics within the Russian domestic market, on gas price reform, on access to transmission grids and on cooperation with Gazprom. However, a question mark may be put as to whether Gazprom will continue to seek control over the independent companies by acquiring shares.

¹²⁶ Heinrich, Andreas, and Julia Kusznir: 'Independent Gas Producers in Russia'. KICES Working Papers No. 2, Koszalin Institute of Comparative European Studies, 2005, p. 6.

2.2.2.5 Russian Natural Gas Exports

The two traditional export markets for Russian gas are Europe on one hand and the CIS and Baltic countries (i.e. the former integrated USSR) on the other. Gazexport, Gazprom's export affiliate, sells all Russian gas to countries outside the CIS and the Baltics. Sales to the latter are handled by both Gazprom directly and the independent producer Itera. Gazexport for its part sells gas to most European countries: Croatia, Slovenia, Bosnia and Herzegovina, Macedonia, Serbia, Romania, Bulgaria, Hungary, Poland, the Czech Republic, Slovakia, Greece, Turkey, Finland, Austria, Switzerland, the UK, Germany and Italy. Apart from Turkey, Germany, Italy and the UK are Gazprom's largest clients. In 2008, the company held contracts for about 200 bcm of natural gas. 80% of these contracts have been long-term, the remaining 20% being annual contracts. However, only one third of the Russian Federation's gas production currently is destined for export outside the former Soviet Union, the remainder being sold at home or to the CIS and Baltic countries.¹²⁷ In 2008, exports to Europe and Turkey accounted for 184.5 bcm of natural gas, as indicates Table 4.

The existing trans-national high-pressure pipeline system presents a strong logistical link between the export markets Europe and CIS/Baltic. In the West, the CIS countries commonly are perceived as producers of energy resources. But the former Soviet republics also are major consumers of gas. Their aggregate consumption is greater than that of the European Union and cross-border trade between CIS states runs at about 100 bcm/year. After the end of the USSR, deliveries of Russian gas to CIS and Baltic countries dropped significantly. Companies in the CIS were not able to pay for the gas consumed, resulting in several supply stops for Ukraine, Belarus and Moldova. Since 1999, exports to the CIS have been rising. In 2008, Gazprom sold 96.5 bcm of natural gas to the CIS and Baltic countries (Table 5).

¹²⁷ Cf. 'Russian gas exports up 5.6% through November, crude down 7.5%'. RIA Novosti, 30-12-2008, available at: <http://en.rian.ru/business/20081230/119234746.html>, 14-01-2014.

Table 4: Gazprom's exports to Europe and Turkey, 2008 (OAO Gazprom).

Country	bcm
Germany	38
Turkey	23.8
Italy	22.4
UK	20.9
France	10.9
Hungary	8.9
Czech Republic	8
Poland	7.9
Netherlands	6.7
Slovakia	6.2
Austria	5.8
Belgium	4.9
Finland	4.8
Romania	4.2
Bulgaria	2.9
Greece	2.8
others	5.4
total	184.5

Table 5: Gazprom's exports to CIS/Baltic countries, 2008 (OAO Gazprom).

Country	bcm
Ukraine	56.2
Belarus	21.1
Kazakhstan	9.6
Lithuania	2.8
Moldova	2.7
Armenia	2.1
Latvia	0.7
Georgia	0.7
Estonia	0.7
total	96.5

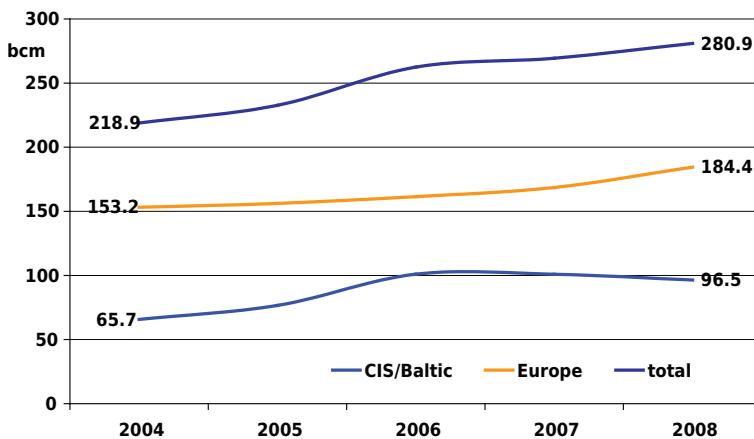


Figure 14: Development of Gazprom's exports, 2004–2008 (OAO Gazprom).

Instead of Russian gas, Central Asian gas, mainly from Turkmenistan, is now transited through Russian pipelines and sold to CIS clients. So, European security of supply with energy resources depends on the CIS countries in more than one way. First, some of the CIS countries are rich in energy resources themselves and could potentially become direct suppliers to Europe. Second, Europe is dependent on CIS members as transit countries. Third, availability of energy sources for Europe depends much on demand development in the CIS and other countries in the region. The 2006 Russia-Ukraine and 2007 Russia-Belarus gas disputes highlighted the importance of the transit countries for EU gas supplies. Political tensions in Central Asia regularly remind of the potential fragility of Central Asian gas contracts with Russia and other potential customers. Moreover, the development of a fourth transport corridor in the Caspian and Caucasus regions is related to many difficulties, as was underlined not at least by the Russia-Georgia military conflict of August 2008.

2.2.3 Summary

The previous section recalled us to the importance of natural gas for worldwide energy supply, which will only grow in the coming decades. The European Union member states are among the world's largest consumers, and given their rising demand and declining self-production, their import dependence will rise sharply by 2030. However, dependence on gas is distributed unequally among the EU member states and dependence on Russian gas sources should not be overestimated. Nevertheless, the Russian gas industry plays a crucial role in future world supply, as the country holds one third of worldwide gas resources. Although gas production remained rather stable during the economic transformation, it faces major challenges in the future. These comprise of the depletion of major gas fields, their replacement by new ones set in more remote areas and in harsh climate conditions and the maintenance and construction of extraction and transport infrastructure. The Russian gas sector is characterised by very limited competition, as the entire transport grid and roughly 80 % of gas production lies in the hands of OAO Gazprom, although independent producers have access by law to the transport system. Russian gas exports are destined to the CIS countries and to Europe. They are controlled by an export monopoly run by OAO Gazprom, but for the time being had to rely on the good will of transit countries. International gas markets are changing, with liberalisation in consumer markets and concentration of production in ever fewer countries. Excess capacities have mainly disappeared, whereas the price of LNG has fallen, rendering long supply routes via sea more attractive and for the first time allowing the interconnection of formerly strictly regional markets.

3 Manifest Conflicts and Corresponding (Re)actions

As described above, the main determinants for the security of energy supplies consist of availability and price formation. In the following chapter, we will thus return to the conflictual issues in European-Russian energy relations, which directly relate to the natural gas sector. These conflicts over pricing, transit and export diversification have been highlighted repeatedly by the threat of supply cut-offs, protectionist measures and the blocking of negotiations. Largely transported by mass media, these manifest conflicts are, nevertheless, the symptoms for an underlying contention for resources, market access and related rents.

3.1 Highly Conflictual: Gas pricing

Pricing is crucial for any business oriented organisational form of an economic branch. In the gas sector, pricing not only determines the customer's conscience over the value of the produced, consumed and traded products, and thus prevents waste, but also provides the suppliers with the financial means for infrastructure investment and extension of transport grids, as well as the modernisation of existing production plants let alone the construction of new processing facilities. As investment incentives in a market economy system depend on profitability, it is clear that pricing is a key aspect for the gas sector's development. The actual level of prices and the way prices are formed and adapted impacts directly on production and consumption quantities and thus security of supply. Prices determine the outcomes of competition, but notably the capacities for investment in exploration, in production and transport infrastructure. In the case of Russia, gas pricing also is motivated by objectives other than economy. Pricing is also crucial with regard to transit countries and related conflicts. Pric-

ing must be distinguished between domestic prices, prices to CIS countries and export prices to Europe. To date, exports to Europe account for the vast majority of Gazprom's revenues and surplus (Figure 15).

Several important observations can be made when considering price formation of natural gas. Unlike for oil, there is no unified world market for natural gas but three regional markets in North America, Europe and East Asia. This is due to the fact that the fungibility of natural gas is limited because of high storage and transport costs. LNG technology could bring about a global market, but for the time being remains too costly to arrive at sufficient volumes. Nevertheless, LNG accounts for the quasi-totality of the Asian market, whereas the European and North American markets are dominated by pipeline gas.¹²⁸ Price formation varies according to the degree of liberalisation the respective markets find themselves in and more specifically according to factors such as regulation, contracting habits, share of imports, liquidity or spot market size. In North American and UK markets, the balance of supply and demand in gas-to-gas competition determines the gas price. In Continental Europe and the Far East, long-term supply contracts dominate.

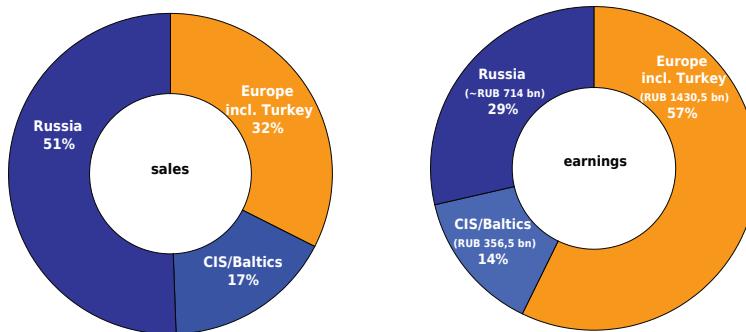


Figure 15: Gazprom's sales and earnings by region, 2008 (OAO Gazprom).

3.1.1 European Price Formation and Long-Term Contracts

In European long-term contracts, indexation clauses assure that gas prices follow closely the development of oil prices, though with a certain time lag of 4–8

¹²⁸ Asian markets are vertically integrated; most of the gas is used for electricity production.

months. This means that natural gas is priced according to its replacement value, i.e. the value of alternative fuels on final domestic markets.¹²⁹ From this price transport, distribution and other costs are subtracted to reach the net back price at the producer state's border. However, the indexation clause not only integrates oil price development, but also changes in the share of gas in power generation, or the change in the general national energy mix, for example. A review clause assures that prices can regularly be adjusted under the same long-term contract. Also a reference to gas-to-gas competition has been integrated into price formulas after the British market became linked to Europe via the Interconnector pipeline. Clearly, oil and oil derivatives account by far for the largest influence on gas prices, but there are differences in the extent to which they influence gas prices, according to the origin of the gas, and also to the purchaser's region: 80 % in Western Europe, 95 % in Eastern Europe and only 30 % in the UK.¹³⁰

In Continental Europe, price elasticity of gas demand remains limited due to the fact that gas imports often involve wholesale players (national companies) on both sides, and that natural gas use for electricity production is of less importance than in the UK and US. This makes it unfavourable to a reactive (spot) gas price based on gas-to-gas competition. Spot prices are much more volatile and display a seasonality trend due to climate conditions. However, some gas trading hubs have developed in Europe: Zeebrugge in Belgium, Bunde in Germany and Baumgarten in Austria, to name only a few. Their activity though remains reduced, as it is mainly large industrial players who interact. LNG imports to Continental Europe also are effectuated under long-term contracts. Their price formulas contain indexation to crude oil, but increasingly also integrate changes in prices and shares of other fuels and electricity.

Competition between pipeline gas and LNG is rising, and prices are converging in European markets. However, the prevailing large price differences between EU member states can only partly be explained by different national indexations in price formulas and different transport costs relating to the distance from the supplier. The main explanation lies in substantial taxing differences.¹³¹ Howev-

¹²⁹ Indexation though prevents that prices reflect actual shortages on gas markets.

¹³⁰ See Davoust, Romain: 'Gas Price Formation – Structure and Dynamics'. Institut Français de Relations Internationales (IFRI), 2008, p. 13.

¹³¹ For instance, in 2006 national tax rates for the residential sector differed from 5 % in the UK to 33 % in the Netherlands. Cf. Davoust, op. cit., p. 16.

er, the increase of prices for natural gas that has been witnessed on all regional markets over the last decade not only is a consequence to high oil prices. In a more general way, it mirrors increasingly scarce resources and continuously growing demand for fossil fuels in general and natural gas in particular. Figure 16 shows the development of average European gas prices, including taxes and transport costs.

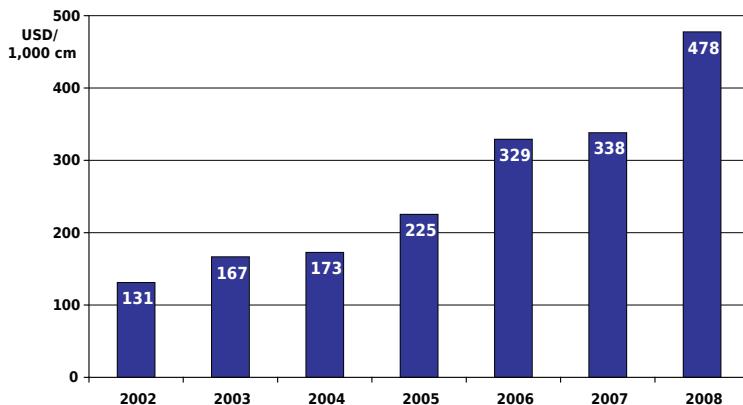


Figure 16: Development of average European gas prices, 2002–2008 (including taxes and transport costs) (BP, 2009).

In the coming decades, long-term contracting and spot prices will likely coexist in Europe. Traditional long-term contracts are essential for players to secure gas transactions and for the reservation of transport capacities. They guarantee constant supplies and predictable prices. Consumers and producers benefit from risk hedging through long-term contracts. They also may reduce market power exercise. Usually, long-term contracts contain a so-called “take-or-pay” clause: The gas supplied has to be paid whether taken or not.¹³² The seller, on the other hand, is obliged to make available defined volumes of gas. The main drawback of simplistic long-term contracting is inflexibility in the face of demand and supply fluctuations. Contracting parties, therefore, stipulate specific clauses such as

¹³² Two complementary analyses of take-or-pay provisions are given by Crocker and Masten who regard them as “a mechanism for effecting appropriate incentives for contractual performance” and Hubbard and Weiner, interpreting take-or-pay clauses as risk-sharing instruments. See, e.g., Crocker, Keith J., and Scott E. Masten: ‘Efficient Adaptation in Long-term Contracts: Take-or-Pay Provisions for Natural Gas’. *American Economic Review*, 75, 1985, pp. 1083-1093; and Hubbard, Glenn, and Robert Weiner: ‘Regulation and Long-term Contracting in US Natural Gas Markets’. *Journal of Industrial Economics*, 35, 1986, pp. 71-79.

the review clause as well as make-up provisions, which would allow receiving gas at a later time, which was well paid for before, but not actually taken. Another important provision in long-term contracts is the destination clause meant to reduce the risk of reselling from the buyer. Long-term contracts are often used to provide securities for investment projects. The specific up-front capital investment required on the part of both suppliers (for production facilities) and buyers (for transport facilities) creates an irreversible infrastructure. This calls forth the risk of hold up which explains the pricing mechanisms on gas markets as “the outcome of long-term bilateral agreements.”¹³³ Spot markets, in turn, are seen as a positive development but only as a supplement by energy majors, because they “relate to a system of short-term supplies not guaranteeing adequate infrastructure investments.”¹³⁴

“Long-term pipeline delivery contracts will remain the centrepiece of the gas business. (...). One of the unique features of gas business is as follows: no upstream – no sale, and what is more: no contracted volumes – no upstream. Thus only long-term contracts can guarantee obtaining finance for the capital intensive and time-consuming natural gas production and transportation projects. (...) There can be no security for gas consumers without security for gas producers. No formula of energy security can be viable unless it provides an incentive for gas production. Not only consumer, but gas producer as well, badly needs a stable and predictable future, in particular when making long-term E&P (exploration and production) plans.”¹³⁵

3.1.2 Gas Pricing in Russia

Domestic prices for gas, as well as transport fees inside Russia, are regulated by the state.¹³⁶ They have been so since Soviet times. Prices grew in correspondence with post-transition inflation during the 1990s, but ceased to be increased after 1996 in order to reduce non-payment.¹³⁷ Along with the economic upswing,

¹³³ Creti, Anna, and Bertrand Villeneuve: ‘Long-term contracts and take-or-pay clauses in natural gas markets’. Energy Studies Review, Vol. 13, January 2004, pp. 76ff.

¹³⁴ Czernie, Wilfried: ‘Security of Gas Supply and Long-Term Contracts’. Presentation held at the IEA Regulatory Forum ‘Competition in energy markets’, Paris, 2002.

¹³⁵ Miller, Alexey: ‘Энергия для планеты’. (Russ.) [Energy for the planet]. Report given at the 23rd World Gas Congress, Amsterdam, 06-06-2006.

¹³⁶ See Governmental Decree No. 1021 of 29-12-2000 (in the version of 22-05-2002) “About state regulation of gas prices and transport fees in the Russian Federation”.

¹³⁷ The very complex issue of non-payment, partial payment and barter, inherited from the crisis years after the transition of the economy has been a major problem for Russia’s gas industry. Also, payment offsets and the netting off of taxes with federal and regional authori-

payment moral has increased. Although the government began to raise prices in 2006 considerably, domestic gas prices in Russia remain significantly lower than prices in Western Europe.¹³⁸ The OECD and EU continuously demanded the elimination of this price differential, along with calls for liberalisation of the Russian gas market, in particular in relation with the country's WTO membership negotiations.¹³⁹ European arguments claim that unjustifiably low gas prices give Russian producers advantages over their European competitors. But given the low volume of Russian exports of finished goods we find that complaints about unjust privileges for Russian producers appear exaggerated. Russia, instead, argues that low domestic prices are a natural advantage, just as a milder climate is an advantage for Europeans.

3.1.2.1 Political Motivation for Price Subsidies

Price regulation in Russia is clearly politically motivated. Article 4 of the 1999 "Act of Natural Gas Supply of the Russian Federation" presents state promotion of gas supply in order to improve the social and economic environment for the Russian population as the overriding principle of federal energy policy. For a long time, the regulated prices have remained well below long-term marginal production costs. They were hidden subsidies to the economy as well as the population. Households pay lower tariffs than industrial consumers, although their supply is more expensive.¹⁴⁰ Moreover, gasification is an explicit social policy.

ties could be observed. RAO UES, Russia's main power generating company, is Gazprom's largest debtor. RAO UES is protected against disconnection by presidential decree. Cutting off state organisations remained a problem for Gazprom for a long time. In the meantime, the introduction of the federal treasury system of registration of contracts for the supply of fuel and energy resources, including gas, resulted in improved payment by government organisations. However, Gazprom has ongoing problems with non-payments despite low prices. For example, in 2005 the company reported unpaid bills of USD 2 billion. See Pleines, Heiko (ed.): 'Russia's Energy Sector between Politics and Business'. Working Paper No. 92, Forschungsstelle Osteuropa, Bremen, 2008, p. 29.

¹³⁸ For 2008, Gazprom published the following average sales prices for 1,000 cm of natural gas (net of VAT, excise tax and customs duties): Domestic sales 1,300 RR (i.e. 57 USD, average 2008 exchange rate 23 to 1); CIS & Baltics: 3,700 RR (160 USD); and beyond the former Soviet Union: 7,760 RR (337 USD). See 'Gazprom on Foreign markets'. OAO Gazprom, online article available at: <http://eng.gazpromquestions.ru/?id=4>, 14-01-2014.

¹³⁹ The existence of a price differential between domestic and export markets commonly is referred to as dual pricing.

¹⁴⁰ Long-term marginal costs have been estimated at USD 44–50/toe, i.e. USD 49–56/1,000 cm. In 2004, OECD estimated hidden subsidies in the Russian gas sector at USD 1.7–3.5 billion. See: 'Economic Survey – Russian Federation'. OECD, 2004, p. 151. Interestingly enough, in-

Another important reason for price regulation can be seen in the importance of gas and electricity prices for inflation.¹⁴¹ A sector-specific anti-inflation policy was considered useful for limiting the risks of decline in industrial production.¹⁴²

Charged with price regulation is the Federal Service for Tariffs (ФСТ)¹⁴³, in co-operation with the Ministry of Economic Development. Price regulation is done ex ante for wholesale prices for industrial customers and intermediaries, retail prices for households, service fees, conveyance fees in the high-pressure long distance gas grid and transport fees in the distribution grid. Gazprom negotiates annual gas consumption with the authorities. Each region, and in the region the consumers, get their gas from Gazprom according to a quota at regulated tariffs. The OECD calls the Russian domestic gas market a "rationing mechanism with market-based activity at the fringes."¹⁴⁴ Quotas and tariffs can be adjusted every quarter. Gas that is needed above the quotas can be purchased at higher prices from independent producers. Today, prices for all private households and roughly 90 % of industrial users are regulated, whereas 10 % of industrial customers are supplied by independent producers not subject to price regulation. The pricing system introduced in 1999 distinguishes between different uses for the gas consumed.¹⁴⁵ Also, different wholesale prices for different regions were introduced in order to limit cross-subsidies in the sector. The average regulated wholesale gas prices in 2008 amounted to RUB 1,690 per 1,000 cm (i.e. USD 65 net of VAT) for industrial consumers and RUB 1,290 per 1,000 cm (i.e. USD 50 net of VAT) for the population.¹⁴⁶ In total, final prices contain several components

dustry prices for natural gas in Europe are considerably lower than those for private households whereas in Russia, industry pays more than households.

¹⁴¹ As gas is relatively important for electricity generation in the Russian Federation, low gas prices lead to relatively low electricity prices. By controlling the gas prices, the government thus also controls electricity prices and has an important lever for influencing the inflation rate.

¹⁴² 'О концепции развития рынка газа в Российской Федерации' (Russ.) [On the conception of the development of the gas market of the Russian Federation]. Ministry of Economic Development and Trade of the Russian Federation, Report to the Government, Moscow, March 2003. Cf. Dronnikov, Dmitri: 'Der russische Erdgasmarkt zwischen Monopol und Liberalisierung'. Energiewirtschaftliches Institut, University of Cologne, 2005, p. 13.

¹⁴³ The ФСТ (FST: Federal Service for Tariffs), above all, has to regulate all natural monopolies in Russia.

¹⁴⁴ See: 'Economic Survey – Russian Federation'. OECD, 2004, p. 146.

¹⁴⁵ Distinguished are the use for heating and cooking. Cf. Presidential decree (Yeltsin) No. 426 about the structural reform of natural monopolies, 28-04-1997.

¹⁴⁶ All figures come from ФСТ (www.fstrf.ru) and have been converted to USD with a rate of 1 USD=24 RR which was the average exchange rate over the first six months of 2007.

and regulation occurs on more than one level, resulting in the reduced transparency of pricing. This is accentuated by the maintained possibility of company-internal offsetting for Gazprom and regional producers. Actual costs are not transparent. The government thus maintains a variety of influence possibilities to fix final customer prices.

3.1.2.2 Price Regulation as an Environmental Policy

However, the effects, as well as the motivation behind pricing policy represent a multi-vector issue. The Soviet gasification policy was designed to deal with a number of social and also environmental issues. A particular concern was dangerous air quality due to the burning of coal and heavy oils. "In pursuing a strategy of low gas prices, the Russian government – voluntarily or not, pursued the most efficient environmental policy that was available to Russia at present time, given its economic situation."¹⁴⁷ Consequently, if prices for natural gas rise, this may result in increased coal combustion and thus air pollution. Indeed, most of Russia's existing electricity generating capacity is equipped with dual use facilities that can work with either gas or coal. Considering the lack of funds for technological modernisation and investment in abatement, Golub and Dudek hold that dual pricing remains the most efficient environmental policy for Russia. Pollution would increase considerably if the switch from gas to coal would not be accompanied by a more effective environmental policy proper.¹⁴⁸ So, when not regarded solely as market distortion, dual gas pricing in Russia is economically more than justified, as it generates positive externalities in avoided health risks.¹⁴⁹ The market solution without abatement would instead lead to devastating results for the environment and thus the economy. The promotion

¹⁴⁷ Dudek, Daniel, Golub, Alexander, and Ekaterina Strukova: 'Environmental aspects of dual pricing for natural gas in Russia'. Moscow, 2004. Using a simplified analytical model of the natural gas market, the authors show that affordable natural gas prices in Russia generate positive environmental externalities in the short- and mid-run.

¹⁴⁸ Cf. Dudek et al., op. cit., p. 4. The authors show also the drastic impact on human health that would result from a switch from gas to coal. The non-existence of an environmental policy proper is owed to the reform period when environmental attention diminished and the environmental management system deteriorated. In 2000, the protection agency Goskompriroda was abandoned altogether. Over the 1990s, pollution fees were reduced in real terms or even not collected at all.

¹⁴⁹ Improvement of human health is among the priority tasks of the government, especially with a view to declining life expectancy and demographic change in Russia. Dudek et al. present an account of the social and economic costs of the alternative without and with abatement of polluting emissions. And health benefits from the use of natural gas are significant. Total

of the use of natural gas in electricity and heating is very necessary, due to the lacks in proper environmental policy. It is, in the near future, also the most cost-effective way for the country to control the emission of air pollutants, as all abatement technologies would firstly be more expensive and secondly be only incomplete solutions.

3.1.2.3 Careful Policy Steps towards Price Liberalisation

The government is aware of the need to introduce cost-covering prices not just for the development of effective competition in Russia's gas market, but also in order to finance the investments that have to be made and to reduce energy intensity and waste.¹⁵⁰ Price reform is regarded as essential for demand reduction. Furthermore, only prices that reflect costs provide opportunities and incentives for domestic and foreign companies to invest in the gas sector. The Russian gas industry suffers from artificially low prices on domestic markets. Gazprom bears the major part of these losses and consequently sees itself in considerable lack of investment means. The deficit Gazprom is running by supplying the domestic market can only be made up by profits obtained from gas exports to European countries. The company reported massive losses in the range of RUB 9–11 bn (2006: USD 378.95 m, 2007: USD 463.16 m) on the domestic market.¹⁵¹ In addition, Gazprom's production costs, which are as low as USD 14/1,000 cm in the Western Siberian super-giant fields, will considerably rise in the future. The government has engaged in a path of step by step raising of domestic gas prices.¹⁵² In 2007, the Russian government approved a programme to raise domestic wholesale natural gas prices on a par with export prices by 2010-2011, at least for industrial customers. In this respect, the government aims at bringing prices

benefits for public health in Russia in money terms are about USD 10.1 bn. See Dudek et al., op. cit., pp. 7f.

¹⁵⁰ Several studies on Russian domestic natural gas market and natural gas export policy exist that address dual pricing, hidden and cross-sector subsidies. Theoretically, the elimination of subsidies would result in better functioning markets, raised energy efficiency, and less pollution. However, one precondition to subsidy elimination is an increase in investment into new production facilities and structural changes of GDP.

¹⁵¹ 'Should Russia raise domestic gas prices?' RIA Novosti, 08-05-2008. See also: Ryazanov, Alexander: 'Our goal is a free market'. OAO Gazprom, online article, 12-01-2004.

¹⁵² 'Reuters: Russia approves plan to double domestic natural gas prices'. International Herald Tribune, 30-11-2006, available at: <http://www.iht.com/articles/2006/11/30/business/rus-gas.php>, 14-01-2014. Prices should rise by 15 % in 2007, and by 25 % in 2008 according to the government's plan approved by President Putin in 2006. In 2009, the prices are planned to increase by 26 %.

up to a level that would provide for equal yield of gas supplies to the foreign and domestic market.¹⁵³ The separation of the domestic from the export market would then be overcome. Currently, gas prices are at USD 50–70/1,000 cm against more than USD 300/1,000 cm for European customers. However, Russian gas prices have already risen considerably (see Figure 17) and are planned to continue so. In 2009, Gazprom for the first time ever, made profits in Russia itself.¹⁵⁴ After 2010, prices should be bound to export prices, i.e. world market price changes will be reflected on the Russian market.¹⁵⁵

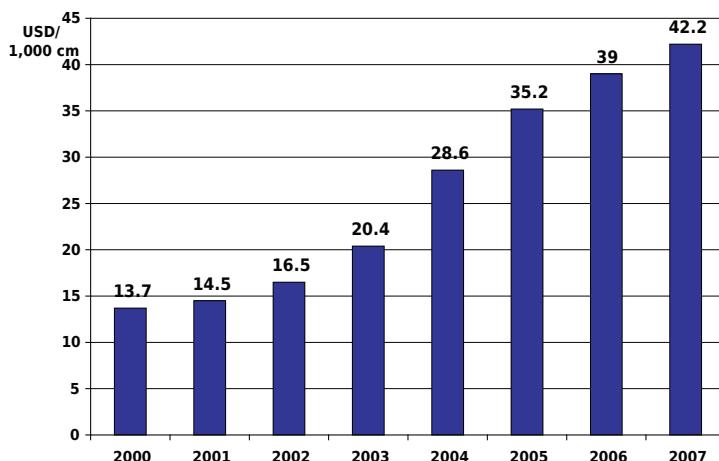


Figure 17: Development of Russian average domestic gas prices (Patrushev, 2008).

Nevertheless, domestic gas pricing remains a complicated affair, as groups of interests are opposed to each other. Companies in aluminium, steel, paper and fertilisers, private households and electricity producers are clearly against tariff increases. Gazprom would be interested in raising prices preferably to net back levels with European prices but cannot, as the government will not run the risk of social upheaval. A transition period of ten years is admitted to private households in order to avoid negative consequences for social stability.

¹⁵³ Reduced for transport costs, transit fees, export taxes that are charged for deliveries to Europe.

¹⁵⁴ 'Газпром заработал в России' (Russ.) [Gazprom earned money in Russia]. Kommersant, 08-02-2010.

¹⁵⁵ 'Как на экспорт: Цены на газ внутри России сравняют с европейскими' (Russ.) [As if for export: Domestic gas prices will be par to European ones]. Izvestia, 28-10-2009.

The common argument put forward for raising Russian domestic gas prices to export price levels is the idea of a unified gas market with which Russia should integrate. In fact, this unified natural gas market does not exist. Price differentiation does not only occur between the regionally separated markets of Asia, America and Europe, but also among the otherwise closely intertwined European markets. The efforts the European Union is taking in liberalising its natural gas markets have so far not led to a considerable levelling of customer prices. In its Natural Gas Market Reviews, the International Energy Agency regularly reports of important price differentials for natural gas among its member countries.¹⁵⁶ This large price difference makes it easy to reject the assumption of a unified market. Also the argument of higher prices as condition for investment has to be qualified in the respect that higher prices are necessary but not sufficient for better investment conditions. In the case of high interest rates and capital remaining scarce, the effectiveness of higher prices for gas as accelerator for investment may be doubted. Moreover, it is not straightforward to reject dual pricing for natural gas as this pricing policy, especially in the specific conditions the Russian economy finds itself in, has considerable advantages and justifications in the socio-economic and environmental sphere. Domestic gas prices are lower than export prices in the majority of gas producing countries. In almost all exporting countries, fuel prices are set by the state, the fuel and energy sectors are under the control of the state. "The dual pricing of natural gas by Russia needs to be viewed in the context of comprehensive national policy, including environmental and sustainable development concerns."¹⁵⁷

Unanimity reigns in the conviction that gas use must become more efficient. Clearly, price signals are essential for this. Nevertheless, price policy should not be dependent on European demands and markets. The Russian and European markets will continue as separate markets for quite a while. Consequently, Russian price policy should be driven by domestic economic and environmental priorities.¹⁵⁸ The Russian gas industry has pushed for higher prices to curb local demand and free more supply for lucrative export. As higher prices will reduce demand and increase substitution by other fuels, more revenue can be gained from increased export of natural gas at higher prices. Gazprom thus could meet

¹⁵⁶ See 'Natural Gas Market Review'. IEA, issues 2004–2009.

¹⁵⁷ Dudek et al., op. cit., p. 11.

¹⁵⁸ Ibid., p. 9.

its export obligations and increase exports. In the long run, price liberalisation should result in economic and environmental improvements if synchronised with general market reforms ensuring profound investment and modernisation in the energy sector. The authorities remain committed to the path of smoothly raising prices. As President Medvedev stated in June 2008, full gas price liberalisation in Russia is inevitable, even if business is opposed, and that liberalisation will go on as scheduled.¹⁵⁹ Russia's gas pricing policy thus can be regarded as reliable according to its objective. However, as the consequences of the world financial crisis become visible in Russia as well, one might question the maintenance of the price increase schedule.

3.1.3 Exports and Pricing for CIS Countries

Whereas European countries paid market prices for the gas they received from Russia, oil and gas prices for the former Soviet republics for a long period remained significantly below the level of prices charged to Western customers. In 2005, Russia began to persistently demand price increases, which represented nothing less than a paradigm change in its energy relations to the CIS countries. The difference of CIS and European prices before was too great, with the latter being up to four times the price charged to Russia's former allies. Prices for the Baltic States which are non-members of the CIS but maintain close economic ties to the member states have, in the meantime, been raised from USD 80/1,000 cm to prices equal to those charged to Poland.

¹⁵⁹ See 'Russia gas price liberalization on track'. Reuters, 07-06-2008.

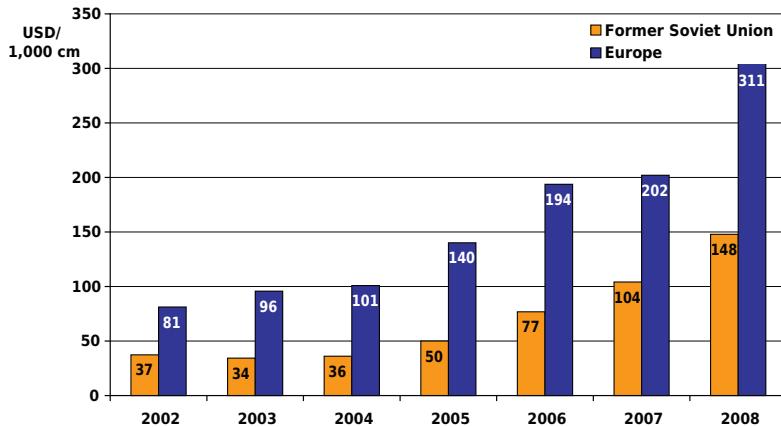


Figure 18: Gazprom's average gas prices to FSU and European countries, 2002–2008 (net of transport costs and taxes) (OAO Gazprom).

In 2005/2006, Gazprom effectively doubled its average price charged to CIS customers from 63 USD to 115 USD. This new approach applied not to Ukraine only, but to all former Soviet Republics; the schedules for price-increases and the “prices charged differed somewhat (...), but no one was spared. The ‘former’ Soviet Union ceased to exist: from Gazprom’s (or Moscow’s) perspective, everyone was now abroad.”¹⁶⁰ So, Belarus and Armenia achieved more favourable deals in terms of increase schedules for instance, but this could be linked to Gazprom being allowed to acquire shares in national transport and redistribution systems. Prices for Armenia, under a contract inked in September 2008, are to rise from 110 USD in 2008 to European prices in 2011.¹⁶¹ Prices for Georgia in 2009 are at USD 235, but Georgia receives 10% of its 1.15 bn cm supplies as a transit fee for Armenian supplies.¹⁶² Azerbaijan, which was a major customer for Russian gas, considerably increased its own production from the Shah Deniz Field in 2007 and ceased imports from Russia in response to Russian price increases. Prices for Moldova also have been continuously on the rise reaching USD 278.71 in the fourth quarter of 2008.¹⁶³

¹⁶⁰ Trenin, Dmitri: ‘Energy geopolitics in Russia-EU relations’, in Barysch, Katinka (ed.): ‘Pipelines, Politics and Power: The future of EU-Russia energy relations’. Center for European Reform, London, 2008, p. 18.

¹⁶¹ ‘Russia to hike gas price for Armenia’. Kommersant, 23-08-2008.

¹⁶² Georgia back in 2006 received all the gas it consumed from Gazprom at prices of USD 100. Due to the price increase, it partly shifted to Azeri gas in 2007. See ‘Gazprom not to hike gas price for Georgia starting from June’. Kommersant, 02-05-2008.

¹⁶³ ‘Gazprom raises gas price for Moldova by 10.2% in Q4’. Seenews, 2008.

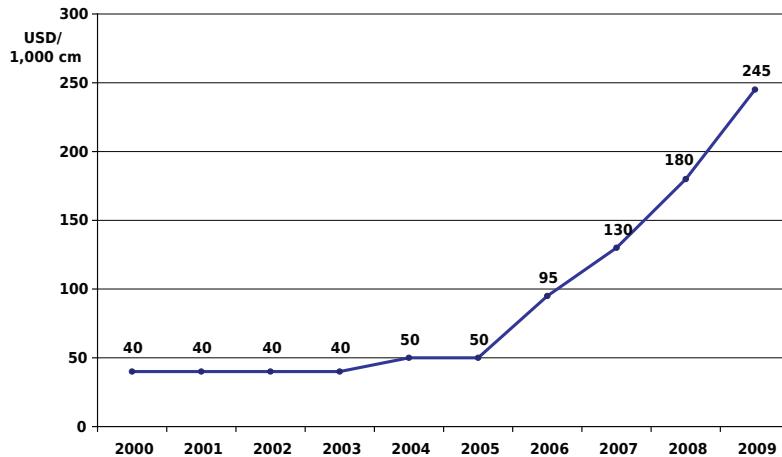


Figure 19: Import gas prices for Ukraine (Russian Analytical Digest (2008), No. 41, p. 12).

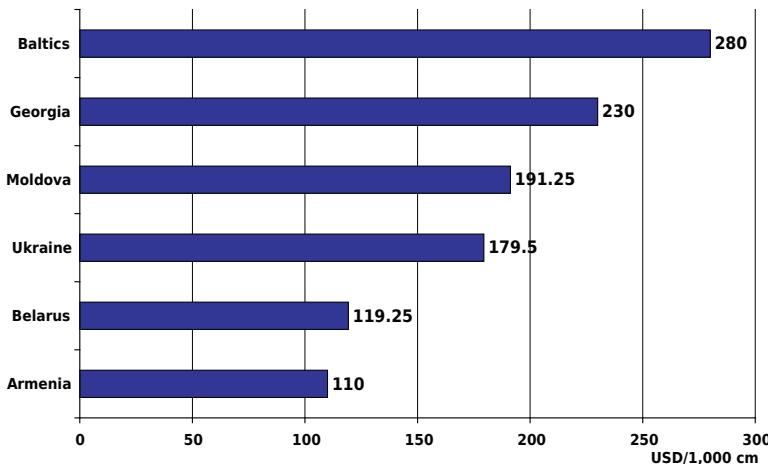


Figure 20: Gas prices for FSU countries, 2008 (Energy Information Administration/Eastern Bloc Research Ltd., 2008, p. 12).

3.1.4 Summary

Gas pricing in Europe and Russia, as well as the transit countries, is, we have seen, highly controversial. Insecurity over price development in the European

Union as Russia's main export market is a major threat to energy security. Conflicts relate to European market liberalisation and the change of market and contracting structures as well as demand patterns, which are hardly foreseeable. The ultimate question would be how to arrive at a risk-sharing procedure which suits both partners well, i. e. the supplier as well as the producer. A second controversial issue is composed of Russia's domestic gas price development which will affect domestic demand and production, profitability and thus increased investment, gas exports, and also competitiveness of the Russian economy and its integration into world economy, as well as social and environmental aspects. Insecurity over the actual price increase schedule and the consequences represents another source of uncertainty for future energy security. Gazprom, though, is highly interested in price rises in order to start making profits also on the domestic market – a necessary condition for increased investment. However, low gas prices in Russia also somehow represent an environmental or even health policy, as gas consumption is less harmful and produces less pollution than coal or petrol combustion. In the absence of any efficient regulatory environmental policy, subsidies for gas consumption derive at least partial justification from this side effect. A gradual price increase scheme is perceived as the most appropriate means to integrate scarcity into market actors' price calculations, to save resources and to maintain social order. As to the CIS countries, clearly, gas-pricing policy was a key component in Russian political considerations. But price subsidies are "as much a policy tool as prices raised to 'European' levels."¹⁶⁴ The Russian move to raise prices thus ends this particular leverage attempt over its former allies and follows a clear economic rationale – be it out of frustration over failed political outcomes or not. "Also, even if Russia's price hikes will cause more friction in the years to come, bringing the CIS prices up to world levels is a healthy development. Although moving at different speeds, Russia has been raising prices for its adversaries (i. e. Georgia) and allies (i. e. Belarus) alike."¹⁶⁵ Nevertheless, it is worth looking at the transit conflicts in more detail.

¹⁶⁴ Trenin, op. cit., p. 19.

¹⁶⁵ Perović and Ortung, op. cit., p. 7.

3.2 Gas Transit: Price disputes and the threat of supply cuts

Transportation is crucial in the oil and gas business as it constitutes a link between producers and consumer nations, which are frequently far apart from each other. Often, several countries are involved and several borders have to be crossed, importantly increasing the number of stakeholders. The problem consists in that “there is no overarching legal regime that can be used to police and regulate the activities and contracts.”¹⁶⁶ Despite the fact that the Energy Charter Treaty wants to liberalise investment and trade in energy, promote cooperation and although it requires all parties to improve transit, it cannot guarantee that transit issues will indeed be determined by legal obligations instead of political motivations. This is simply because all multinational agreements face severe problems in their enforcement. Risks related to the transport of natural gas can be separated into upstream, transit and downstream risks. But transit is not only a question of energy security, but is also commercially significant. Transit costs are the biggest single element of Gazprom’s operating expenses.¹⁶⁷ In pursuit of our objective to propose solutions to energy supply related conflicts between Russia and the EU, it is necessary to identify the long-term economic interests of all participants in transiting Russian gas to Europe. In a second step we can then assess, whether these interests are different or can be combined in one way or another. Apart from the seller (Russia) and the buyer (European Union), transit countries as a third party have crucial influence on energy supplies. We will now assess their role and interests in more detail.

¹⁶⁶ ‘Cross-Border Oil and Gas Pipelines: Problems and Prospects’. Joint UNDP/World Bank Energy Sector Management Assistance Program (ESMAP), 2003, p. 14, available at: <http://siteresources.worldbank.org/INTOGMC/Resources/crossborderoilandgaspipelines.pdf>, 14-01-2014.

¹⁶⁷ Cf. Stern, Jonathan: ‘The future of Russian gas and Gazprom’. Oxford Institute for Energy Studies, 2005, p. 139.

3.2.1 What Role for Transit Countries?

3.2.1.1 Obsolescing Bargaining and the Hold-Up Problem

First and foremost, being attributed the status of transit country somehow calls forth the idea of an auxiliary, of a serving role for the benefit of others. It also implies that the transit country itself is not able to attract the resources transited through its territory in order to use them to its own benefit. In reality though, this is rarely true, as most transit countries are not only transit countries but also energy consuming states themselves. What is true though, is that both Ukraine and Belarus are much poorer countries than the European Union and therefore less attractive as export markets for the Russian supplier (Gazprom). Nevertheless, transit countries benefit from the resource flux in several ways. Clearly, the fact that the national territory serves as transport route leads to revenues through transit fees. Transport economics show the high share of transportation costs in the market value of the goods (for both LNG and pipeline gas). Moreover, transit is a case for transaction cost theory due to the high specificity of investment, the implication of several jurisdictions and their decisions over the right of way, pipeline routing, environmental standards and considerable uncertainty over their decision-making. Costs relate predominantly to investment and financing of transit pipelines, and profitability thus will crucially depend on the high utilisation of the line. Pipeline investment ties a specific production site to a specific market which incurs the risk of obsolescing bargaining. Vernon, in 1971, first conceptualised obsolescing bargaining in extractive industries.¹⁶⁸ Initially, the host country and a multinational company reach an agreement over investment, which favours the multinational enterprise. The host country "uses the lure of generous concession agreements to secure the participation of the MNC [multinational company]."¹⁶⁹ However, once the investment in capital intensive and immobile assets has been made, bargaining power shifts from the multinational enterprise to the host country. As Vernon writes, "almost from the moment that signatures have dried on the document, powerful sources go to

¹⁶⁸ See Vernon, Raymond: 'Sovereignty at Bay'. New York, 1971.

¹⁶⁹ Onyeukwu, Humphrey: 'Obsolescence Bargaining in Transit Pipelines: What options exist for securing resource supply'. University of Dundee, 2008, p. 10, available at: http://works.bepress.com/cgi/viewcontent.cgi?article=1001&context=humphrey_onyeukwu, 14-01-2014.

work that render the agreements obsolete in the eyes of the government.”¹⁷⁰ Obsolescence would take the form of renegotiations, tax increases, expropriation or seizure of the income stream of the firm. This concept of obsolescing bargaining applies to transit pipelines as well. Transit countries through which strategic energy resources are transported become of a key political and economical importance for both the producer and consumer sides, resulting in bargaining power and political leverage. Once the pipeline is built and is in operation, the threat of cutting supplies simply exists, so post-construction behaviour of the transit country represents a serious risk.¹⁷¹

Considerable uncertainties not only relate to the rise in bargaining powers for the transit country upon construction and operation of the pipeline, but also to possible changes in the transit country’s behaviour, for example, in case of possible price changes of the transported goods. This is the cornerstone for consuming countries, as any lasting scheme guaranteeing reliable supplies would have to force the transit country to abandon its very policy of exploiting this transit role. Both Belarus and Ukraine were able to exploit this leverage over Gazprom. They regularly receive transit fees that both state budgets heavily rely on. Being “on the way” to EU customers, they disposed over guaranteed resource flows for their own economies, benefiting from their hold-up position. When a transaction entails one party committing capital that has little value for other uses, the other party has a strong incentive to appropriate the rents arising from the relationship through opportunistic behaviour. Ukraine and Belarus thus were able to obtain highly subsidised prices for considerable volumes of hydrocarbons, both gas and oil. In the case of Belarus especially, but also in Ukraine, energy resources, which were originally meant for domestic consumption but not consumed, were sold on to European customers, earning important profits for the transit countries. Russia not only “subsidised” the national economies of both countries, she also forewent revenues from exports she could have sold directly on her own. In both Belarus and Ukraine, the high-pressure gas transport grids are in national ownership.¹⁷² This translates into state responsibility of maintenance and due investment, at least once contracts are concluded and prices

¹⁷⁰ Ibid., p. 10.

¹⁷¹ Obviously, transit countries could always threaten to cut off supplies and demand better terms and conditions for granting transit, such as higher transit fees and price deductions for their own consumption.

¹⁷² Although in Belarus, Gazprom is acquiring a 50 % share by 2010.

agreed on. However, with the realisation of the Nord Stream project, western CIS transit states will lose their ability to extract preferential pricing of Russian hydrocarbons in exchange of facilitating transit of supplies by 2015.¹⁷³ This could not only result in reduced transit volumes, state revenues and underinvestment in maintenance, but even social crises and a threat to stability and legitimacy of both states".¹⁷⁴

3.2.1.2 Specificities of Pipeline Transport and Effects on Competition

Pipelines constitute a natural monopoly, which implies a difficult relation with competition on several levels. Different sorts of pipeline systems can be distinguished according to the Energy Charter Treaty:

1. Pipelines that are not linked to the gas distribution system of the transit country such as in the Central Asian countries and Moldova (i.e. pure transit lines).
2. Pipelines used for the major part for transit and also for gas distribution of the transit country, as in most of Eastern Europe, but also the TAG and WAG pipelines through Austria.
3. A pipeline system for transit which is linked and can be used for domestic needs, but transit and domestic needs can be measured independently, which is the case with the Belgian and Ukrainian systems.
4. A system where all gas for transit and domestic needs is mixed, such as in most pipes in the UK, France and Germany, for instance.

As a consequence of such differences in pipeline systems and the technical parameters of pipelines, transit countries also use different methods for calculating transit tariffs.¹⁷⁵ In some cases though, transit fees are not related to actual transport costs but rather consist of a government-imposed royalty. In general, transit does not underlie national regulation bodies but relates to intergovern-

¹⁷³ Cf. Mitrova, Tatiana, Pirani, Simon, and Jonathan Stern: 'Russia, the CIS and Europe: Gas trade and transit' in Pirani, Simon (ed.): 'Russian and CIS gas markets and their impact on Europe'. Oxford University Press, 2008, quoted in Dusseault, David: 'Europe's triple by-pass: The prognosis for Nord Stream, South Stream and Nabucco'. in Liuhto, op. cit., p. 32.

¹⁷⁴ Dusseault, op. cit., in Liuhto, op. cit., p. 32.

¹⁷⁵ The most important ones are point to point, entry-exit, postal and distance-based tariffs.

mental agreements. The competition issue in natural gas transit relates on different levels. One level refers to competition from other transit countries and pipelines. Another level would relate to the role of pipelines for competition in the upstream and downstream sectors. With regard to the first problem, providing more efficient pipeline operations and routes than the competing country does, is crucial for transit countries in order to attract the transit volumes. Belarus thus benefited from larger transit volumes and thereby increased revenues, when the Yamal Pipeline came into service. Russia, being supplier, benefits from competition among existing transport routes, as potential competition reduces transit prices. To prevent this development, transit countries would have to bind themselves to common transit prices, but even then deviation from the agreements would pay, as OPEC experience shows.¹⁷⁶

However, the competition situation only holds in cases of overcapacities, i.e. pipelines, which are not used to full extent. Currently, this is not the case, but it was when the Yamal line entered service. As transport through Belarus was less costly, the transit pattern changed rapidly and Belarus was able to attract more transport. The construction of the Nord Stream and South Stream pipelines would again considerably alter the picture. If these pipelines are used not in addition, but in replacement of the existing ones through Belarus and Ukraine, as may be the case with slower European demand increases or capacity increases in the pipes, both countries would have a serious problem as they are completely dependent on hydrocarbon supplies from Russia, but would overnight become less attractive markets due to quantities or prices.¹⁷⁷ Moreover, once the bypassing lines are completed, maintenance and extension investment in Ukraine's transport system could become even more unlikely, if supplies are shifted to the new lines. On the other hand, the alternative routes, and even the mere threat

¹⁷⁶ It has been shown that both Belarus and Russia benefit from joint cooperation in a model with two transit routes (Ukraine and Belarus) and three suppliers to the EU (Algeria, Norway, Russia). Cf. 'Belarus as a gas transit country'. Working paper, Research Centre of the Institute for Privatisation and Management Minsk, 2004. For a discussion of the influence of different pipeline projects on bargaining and pay-offs see, for example, Ikonnikova, Svetlana: 'Coalition Formation, Bargaining and Investments in Networks with Externalities: Analysis of the Eurasian Gas Supply Network'. Humboldt University of Berlin, 2005.

¹⁷⁷ In response to this problem, the "White Stream" sub-sea pipeline from Georgia across the Black Sea to Ukraine could be seen as an attempt to show Russia that alternative routes for Ukraine's supply are possible. However, the project to date appears hardly financially feasible due to Ukraine's and Georgia's financial and political situation. However, any such pipeline, which could also be linked to the existing Odessa-Brody pipe and thus even supply Poland and Central Europe, needs to cross Russian waters in the Black Sea.

of constructing them, could also sign positive consequences for Ukraine, with competition leading to stronger incentives for modernisation, energy saving and an improvement of investment conditions in the country. This also entails benefits for the environment and energy security. The bypassing lines do not have the capacity to replace transit through Ukraine completely. More than that, with European demand predicted to rise, it is even probable that the volumes transited through Ukraine and Belarus would remain at their current level, and that the Nord and South Stream Pipelines would only transport extra supplies to the EU. The opening of the Yamal Pipeline through Belarus thus did not reduce gas flows through Ukraine. A condition for the maintenance of current transit levels through Ukraine though, would be an important increase of gas production in Russia or Central Asia.¹⁷⁸ Moreover, Gazprom and Naftogas reached an agreement in January 2009 to end the gas crisis, in which both parties agreed that until at least 2019 the transit volumes through Ukraine will be at least 110 bcm annually, which is exactly the average annual transit volume of the last decade. This is a clear sign that Ukraine's transit role remains preserved in spite of the Nord or South Stream pipelines. In case that one of the parties does not meet its commitments, it has to compensate the losses of the other contractor. This contract, though, could also be interpreted as a sign of Gazprom's uncertainty over the realisation of both its Nord and South Stream projects. Ukraine could get into trouble if Russian production declines, as new fields are not developed in time and old ones decline, or if the EU refuses to increase the share of gas imports from Russia. Interestingly enough, Ukraine has, in the meantime, come up with a proposal of pooling transit state interests, i.e. to form a block of interests against consumers and producers. This concept of a Caspian-Black Sea-Baltic energy transit space would unite countries with key transit routes and high import dependencies, providing for a stronger stance in negotiations with producers and consumers alike.¹⁷⁹ This initiative gains importance in a context of relations between Russia, the EU and the US increasingly dominating multilateral energy relations in Eurasia. Such a prospect of a transit cartel could become ever more important for transit countries if the conflicts between consumers and producers sharpened, and their multilateral ambitions weakened.¹⁸⁰

¹⁷⁸ Cf. the figures in Gonchar et al., op. cit., p. 63.

¹⁷⁹ 'Joint Statement on the Caspian-Black Sea-Baltics Energy Transit Space'. President of Ukraine, available at: http://www.president.gov.ua/en/content/energosummit_3.html, 17-04-2009.

¹⁸⁰ Van Agt, Christof: 'Tabula Russia: Escape from the Energy Charter Treaty'. Clingendael International Energy Programme, 2009, p. 26.

The second aspect of competition refers to third party access to the transit pipelines and gained much importance with regard to the liberalisation of gas markets in Europe. Third party access in transit of Russian gas is, to date, generally regulated by individual arrangements. Article 7 of the ECT gives important basic regulation as to non-discrimination of access but also non-discrimination as to the rights of extension of capacities. The transit protocol was meant to clarify the definitions and methods for calculating transit fees, but negotiations have come to a standstill. In the EU, transit regulation has become the subject of the 2003 directive for the interior gas market. However, the calculation of transit tariffs varies much in the member states. Transit tariffs in the CIS countries are generally lower than in the EU and exclusively determined with help of the distance-based method. Third party access can be managed according to three major models. Under concession, the pipeline system remains in state ownership, but a private operator is granted the right and is obliged to operate the system. Concessions are long-term contracts of up to 50 years. Alternatively, the pipeline system can be fully privatised. A third alternative consists of the state retaining ownership and therefore control, but contracting the management out into private hands. In contrast to concessions, these types of management contracts relate to a shorter duration of time.

Size is the main determinant for transit pipeline economics, due to important economies of scale, large political risks and their crucial position inside a much longer value chain. Moreover, pipelines are susceptible to market failure. Without non-commercial behaviour, i. e. political influences and considerations, and without investment commitment problems, transport infrastructure capacity would simply mirror supply and demand. Although installation is highly expensive, operating costs are low once the pipelines installed. With high capacity and high gas prices, pipelines can generate positive income fluxes rather rapidly after construction. Full-capacity operation is essential for a pipeline's profitability. Any decline in the quantities transiting through the pipeline would threaten its profitability. Political volatility in transit states and the total absence of an internationally binding legal framework constitute a high political risk for any investment in pipelines. However, in the absence of international contract enforcement and with political considerations left behind, countries may distort investment in order to increase their bargaining power, resulting in underinvestment in cheap pipelines (for example Ukraine) or overinvestment in expen-

sive ones such as Yamal, Nordstream and South Stream. Suppliers thus may decide to invest in excess capacity for other than purely commercial reasons, but then also even for commercial reasons (which can contain also political risk). Repeated interaction, i. e. dynamic collusion can, however, increase efficiency, as has been shown by Hubert and Ikonnikova.¹⁸¹ So, the Nord Stream pipeline for instance has been presented only as a non-cooperative and suboptimal equilibrium by game-theoretic analysis.¹⁸² But a cooperation solution obviously has not been reached – as Ukraine's repeated non-payment and gas thefts show. Cooperation does not only mean rent sharing but also credible commitment and long-term reliability. This has obviously not been the case in the relations of Gazprom and its Ukrainian counterparts.

Most of the papers assume contracts to be incomplete due to information problems, limiting external enforcement by a third party. However, investment in transport capacity is verifiable, and so is contract breaching during operation. So this should not be seen as a major obstacle to cooperative solutions. Another concern may be raised by the long-term nature of supply deals thus increasing long-term dependence, which, as is argued, would increase fragility. This, however, as the players are sovereign nations or firms strongly connected to their governments, presses actually for a multipartite treaty solution. Clearly, an international arbitration system is still nonexistent, so legal remedies are hardly available even if the one to blame for a supply disruption has been identified. However, quantitative analysis of strategic interaction in transmission systems for gas reveals that strategy is of the utmost importance in the Eurasian transport network.¹⁸³ Dynamic cooperation could increase efficiency, with regard to the overinvestment foreseen. On the other hand, all depends on demand. As we have already seen, the planned pipelines may finally be desperately needed to match European energy needs – in addition to the existing transport system.

¹⁸¹ Hubert, Franz, and Irina Suleymanova: 'Strategic Investment in International Gas-Transport Systems: A Dynamic Analysis of the Hold-up Problem'. DIW Discussion Papers, No. 846, 2006.

¹⁸² Ibid.

¹⁸³ See, for example, Grais, Wafik, and Kanbing Zheng: 'Strategic interdependence in the East-West gas trade: A hierarchical Stackelberg game approach'. The World Bank, 1994; and Chollet, Andreas, Meinhart, Berit, von Hirschhausen, Christian, and Petra Opitz: 'Options for transporting Russian gas to Western Europe'. Discussion Paper, No. 10, Technical University, Berlin, 2001.

3.2.1.3 Summary

To sum up, transit countries are interested in having a maximum of pipes and volumes transiting through their territory. They obviously want high transit fees, cheap prices for themselves and higher gas volumes than they need in order to resell, thereby leaving the role of transit country and effectively becoming intermediary merchant. In order to fully benefit from their role, they have to retain control over the national pipeline grid. The pipelines are the most efficient lever for improving their position in negotiations over prices and supply conditions for their own consumption. In the adverse case, i.e. when losing this ownership and control, the transit country finds itself absolutely reduced to a transit corridor. Energy resources simply transiting through would mean a serious backlash for national economic development. Whereas in theory transit countries would have to prove their reliability to their partners, Belarus and Ukraine are not able to guarantee safe supply as they have serious difficulty in settling their payments for their domestically consumed quantities. Moreover, they lack the capital necessary for investment in transport infrastructure. Whereas the Yamal Pipeline is relatively new, the Ukrainian grid, after 30 years of service is in a devastating estate. And with Russia forced to diversify its gas supply to Europe in order to minimise supply costs, this leaves big question marks over the future capacity of both countries to attract important transit quantities. Russia as a supplier country is interested in high gas prices, control over the pipelines, various and more direct transport routes, diversification of clients, reliable long-term relations and contracts. The country is forced to minimise costs simply because of the structural reforms of the European market, i.e. unbundling, free choice of suppliers, free network access and national regulatory bodies, which result in growing diversification and increased competition. This has severe consequences for long-term contracts and the competitiveness of Russian gas. Spot market transactions will increase and prices and revenues will increasingly fluctuate. As supply costs are the main determinants, Russian gas is likely to lose competitiveness due to higher transport costs related to the long pipelines. However, a new element of Russian energy policy is foreseen in the revised Energy Strategy for the period up to 2030: "The role of Russia shall be determined not only through capacities of our country to produce and supply own energy products, but also through capacities for effective dispatching of transit energy flows from

third countries...”¹⁸⁴ This hints to a future interest conflict within Russia, which at the same time assures the role of producer and transit country. Today, Russia fights against third party access to its monopoly-run pipeline grid and acts as an intermediary merchant for Central Asian gas. Considerations for this actually already are the same as in Belarus, Ukraine or Turkey, which like to see themselves as energy hubs instead of mere transit corridors.

3.2.2 The Disputes between Russia and its Western CIS Partners

Repeatedly leading to supply disruptions, the gas and oil price conflicts between Russia and its Western neighbours Ukraine and Belarus have put the spotlight on energy security concerns in the EU.¹⁸⁵ In the former Soviet Union, gas was not perceived as a commercial, but as a social good. Well beyond the 1990s, persisting barter did not allow for Gazprom to maximise the value of its sales of natural gas. When the company started to push for a monetarisation of the gas trade, transit countries came under pressure economically and politically. The last crisis thus has to be seen as just another move in an ongoing and unresolved conflict of interests. In general, the price conflicts followed the same scheme each time, with Russia demanding the renegotiation of existing price agreements, which had achieved maturity – and Ukraine or Belarus refusing to pay higher prices. It is important to note that more than 90 % of Russian hydro-carbon exports transit through these two countries, and more than 80 % through Ukraine alone. Figure 21 clearly shows the crucial role the Ukrainian pipeline system plays for Russian exports.

¹⁸⁴ ‘Энергетическая стратегия России на период до 2020 года’ (Russ.) [The Energy Strategy of the Russian Federation for the period to 2020]. Ministry of Industry and Energy of the Russian Federation, 2003, p. 78.

¹⁸⁵ Price confrontations have been registered with Ukraine and Belarus, but also with other CIS member states, e.g. Moldova, Azerbaijan and Georgia. In all cases, prices finally have been raised. With Azerbaijan, Moldova and Georgia not being transit countries for EU-destined gas, these conflicts have not raised the same concern in Europe. Price disputes between Ukraine, Belarus and Russia represent a major threat to European energy supply security though and are certain to make headlines in Western media.



Figure 21: Ukraine's gas pipeline grid (National Gas Union of Ukraine).

Ukraine also remains the main single market for Russia inside the CIS, importing some 50–55 bcm of gas annually. The role of storage is also important, especially in Ukraine, where storage capacity is 32.5 bcm. It provides stability of EU supply in winter. In addition to this, the Ukrainian transport grid provides more supply security thanks to the parallel tubes of Soyuz and Bratstvo. In case of disruptions the second line starts to work. Transit fees collected by Ukraine for allowing gas transit to Europe were used to pay part of its gas bill to Russia. However, for an appropriate analysis of the disputes, the history of the confrontation has to be considered.

3.2.2.1 Disputes with Ukraine

The conflicts between Ukraine and Gazprom in fact date back to the early 1990s, when Ukraine refused to pay for Russian deliveries of natural gas and oil. It was the Ukrainian state who held control over the local distribution grids once the gas and oil had reached Ukraine. Ukrainian final consumers paid for the gas and oil they received, but they paid the Ukrainian government and Ukr-Gazprom¹⁸⁶, not the Russian company. Russia did not receive any payment but

¹⁸⁶ Then the Ukrainian state-run gas company, the predecessor of today's Naftogaz Ukrainy.

effectively subsidised the Ukrainian state and economy.¹⁸⁷ Deliveries were cut off several times by Gazprom but were soon restored as the company could not afford to curtail its contracts with European customers. The situation then stabilised in 1994, when both countries engaged in a cashless trade. Russia supplied gas to Ukraine as a transit fee for its exports to Europe.¹⁸⁸ Over time, several more or less non-transparent intermediary companies were introduced into the gas trade between the two countries. Ukrainian customers then purchased their gas from independent producers that had been given access to Gazprom's grid at cheaper prices than UkrGazprom/Naftogaz had to offer.¹⁸⁹ Thus they could collect money from Ukrainian customers without giving pretext for Kiev to block Gazprom's deliveries to Europe that passed through the country. This business did not benefit Gazprom directly; rather it created a number of private interests on both sides. It diminished the role of UkrGazprom/Naftogaz and thus reduced the rents the Ukrainian state could receive from selling Russian gas on to its citizens and businesses. Tensions rose with the political meddling of Russia into Ukrainian political conflicts. Gazprom decided to bring prices into line with European ones in 2005. Ukraine's refusal, in turn, led to an ultimatum and, finally, to supply cuts by Gazprom. The Ukrainians responded by withholding gas destined for export to Europe. Finally, a five-year agreement was reached and gas prices for Ukraine have been increased.

"The 2006 crisis ended the practice of barter deals (...) and introduced larger transparency and market mechanisms (...). However, Gazprom and Russia failed to introduce European market prices to trade with Ukraine at this point, as they would have put an unbearable economic burden on Ukraine and probably resulted in repeated supply disruptions (...)."¹⁹⁰

So Russia forgave revenue for a greater reliability of supply. In 2007, Gazprom explained a new disruption of gas supplies to Ukraine with the non-payment

¹⁸⁷ These "subsidies" amounted to up to USD 1 bn per year. At the same time, domestic natural gas prices in Ukraine were (and still are) lower than in Russia.

¹⁸⁸ This agreement was also promoted by the fact that Russia was relying on Ukraine-made small and large diameter pipelines whereas Russia itself had control over the only Soviet factories that produced pipes of midsized diameters. Moreover, Soviet gas industry had been born in Ukraine in the mid 1920s and a large part of Russian gas workers are Ukrainians. Ukraine's gas network also still is a vital part of the Russian pipeline network. Cf. Guillet, Jérôme: 'Gazprom as a predictable partner'. Russie/NEI/Visions, No. 18, IFRI, March 2007.

¹⁸⁹ In fact, Gazprom created the illusion of Turkmen gas being purchased by Ukrainians from intermediary companies such as Itera or later RosUkrEnergo.

¹⁹⁰ Vahtra, Peter: 'Energy security in Europe in the aftermath of 2009 Russia-Ukraine gas crisis'. in Liuhto, op. cit., p. 160.

of a USD 1.3 billion bill. The conflict was settled soon after, though. As a result, the Russian-Ukrainian company RosUkrEnergo sold a mix of Central Asian and Russian gas at prices of USD 180/1,000cm to Ukraine.¹⁹¹ At the same time, transit fees had been increased to USD 1.60/1,000cm. However, the struggle continued, and in October 2008, Naftogaz and Gazprom signed a long-term cooperation deal and agreed to abandon all intermediary companies in the gas trade between the two countries. Nevertheless, the turn of 2008 saw another gas supply crisis, the most severe so far. Ukraine again was not able or simply refused to comply with the agreed payment deadlines, and both parties were unable to advance in their negotiations about a new price for 2009.¹⁹² The crisis resulted in a severe supply disruption, which lasted several weeks during January and February 2009.¹⁹³ Both sides accused each other of cutting off the deliveries of European gas. A European mediation initiative finally reached a settlement of the conflict, including the presence of European observers at compressor stations. At the time of writing, Ukraine plans to import very little gas at the expensive prices in spring 2009 but to instead purchase the majority during the rest of the year, when prices have fallen, therefore arriving at USD 235 as an average price for 2009. The complete gas cut-off though had let to disruptions of heating and industrial activity in several EU member states, notably in Slovakia, Romania and Bulgaria. During the crisis, gas prices were especially high due to the 6–9 months delay over oil prices – Gazprom thus lost almost 100 million USD/per day. The company filed several suits against Naftogaz in Ukraine, but if at all, it will take years for the company to see any compensation.¹⁹⁴ This most recent dispute, although it certainly took place in a context of growing Russian assertiveness, was reflected in Western media not unanimously as the expression of a newfound Russian imperialism. This time, Ukraine was blamed of bearing considerable guilt in the conflict. However, it is necessary to assess the interests of the different actors involved in more detail.

In view of the history of the conflict, and especially with regard to the agreement reached between the two sides in October 2008 about the settlement of

¹⁹¹ These are prices for 2008.

¹⁹² For a detailed discussion of the January/February 2009 gas crisis see Pleines, Heiko (ed.): 'Der russisch-ukrainische Erdgaskonflikt vom Januar 2009'. Arbeitspapiere und Materialien der Forschungsstelle Osteuropa, No. 101, Bremen, February 2009.

¹⁹³ Russian exports to Ukraine were cut off on January 1st, 2009. On January 7th, supplies to 16 EU member states were interrupted. Deliveries resumed two weeks later.

¹⁹⁴ Pirani, Simon: 'Der russisch-ukrainische Gaskonflikt 2009'. in Pleines (2008), op. cit., p. 17.

earlier Ukrainian debt now broken by Naftogaz Ukrainy, the Russian move to reduce deliveries by the volume destined for Ukraine's domestic consumption appears legitimate. Russia's problem though is its dependency on Ukraine as a transit country for its gas. Repeated contact breaching is, nevertheless, intolerable for any commercial company. Even more so as Russia and Gazprom itself are struggling with the financial crisis and in need of capital.¹⁹⁵ Russia effectively subsidised the Ukrainian economy – a competitor to its own industry – since the collapse of the USSR. At the same time, the Ukrainians are not capable, or not willing, to invest in the maintenance of the transport system, let alone its necessary modernisation. This presents a serious threat to European supply security, but more to Russian exports and thus revenues. Gazprom has long since acclaimed its interest in acquiring a stake in Ukraine's pipeline grids as form of debt payment. This would allow for better control of transport ways, save transit fees and eventually increase Russian political leverage, but Ukrainian politicians across all political parties appear determined to prevent giving up even part of the control over its pipeline grid for reasons of national security.

Ukraine, for her part, was in a situation of quasi-state bankruptcy and had pleaded for IMF and World Bank loans. Therefore, the country was hardly able to pay, neither for the gas it had consumed, nor for the outstanding debt to Gazprom, the payment scheme of which had just recently been sealed with the Russian company. It is very likely that the Ukrainian motivation was guided by the disbelief that Russia would really cut-off deliveries for several weeks during winter time – leaving European clients without heating. So Ukraine once again, relying on its transit function, attempted to achieve a better price deal than before by closing the transit pipeline. In this, the interior struggle for power in Ukraine between President Yushchenko and Prime Minister Timoshenko obviously played an important role.¹⁹⁶ Showing the deep disorganisation of the Ukrainian political class, the President accused his own head of government of betraying national interests in price negotiations with Gazprom.

¹⁹⁵ It can also be argued though that other countries have been provided with loans by Russia even during the crisis, e.g. Armenia and Belarus.

¹⁹⁶ See for example 'Yushchenko aide Bezsmertny: Tymoshenko using gas crisis to advance her political goals'. Kiev Post, 10-01-2009, available at: <http://www.kyivpost.com/nation/32977>; and also Korduban, Pavel: 'Yushchenko Criticizes Tymoshenko for Gas Accords and Plea for Loan from Moscow'. Eurasian Daily Monitor, Volume 6, Issue 33, 19-02-2009, available at: http://www.jamestown.org/single/?no_cache=1&tx_ttnews%5Btt_news%5D=34526,14-01-2014.

The European Union, although conscious of the fact that Ukraine did not comply with the previously concluded contracts with Russia, refused to take sides with Russia and called on both parties to settle the conflict. However, Ukraine was accused of deliberately holding the EU and European customers hostage in its conflict with Russia. Together with the internal political chaos, this presented a serious blow for Ukraine's wish to enter the EU and NATO. Nevertheless, the helpless European calls on Russia that it would lose its reputation as reliable supplier if deliveries were not immediately restored, showed the European Union's lack of preparation for any such incident. The necessity for emergency plans and the corresponding infrastructure, for solidarity among member states and sufficient storage capacity became obvious. Another effect of the crisis consisted of renewed European interest in alternative transport routes and especially the Nabucco, and also the Nord Stream project. The crisis, whether motivated by economic or political considerations, mirrored Russia's changed condition and determination to use its economic and political force to advance its positions. From a European viewpoint, Russia deliberately opted to draw European customers into the conflict when it cut supplies completely, so that European pressure was applied on Ukraine to help advance its own objective: ending the Ukrainian abuse. However, by allowing this escalation, Gazprom lost approximately USD 1.5-2 bn of revenue. The two parties on January 19th, 2009, finally signed two separate new contracts for deliveries to Ukraine and gas transit respectively: All intermediaries will be left out in the future. Gas prices and transit fees will adopt the European price formula, though for 2009, Ukraine will receive a 20% discount and transit fees remain unchanged. The contracts are to last until 2019, but given the notorious financial problems of Ukraine, combined with political tensions between the two countries, the chances are great that new escalations will occur.¹⁹⁷ Moreover, the principle of *pacta sunt servanda* does not play a prominent role in the judicial and contracting culture of both countries.¹⁹⁸ The contracts of January 2009 contain a payment rule stating that Gazprom can demand advance payment of gas deliveries if Ukraine fails to pay its bills before the 7th of the following month.

Naftogaz Ukrainy's financial problems result from two factors. First, price rises are only partly put through to final customers. Second, the Ukrainian company

¹⁹⁷ See Pleines (2008), op. cit., p. 6.

¹⁹⁸ Westphal, Kirsten: 'Europas Handlungsspielraum'. in Pleines (2008), op. cit., p. 25.

currently does not receive transit fees from Gazprom as the Russian company has already paid in advance for the whole of 2009. These USD 1.7 bn have been used by Naftogaz to repay the debt of intermediary company RosUkrEnergo vis-à-vis Gazprom. Naftogaz, in return, obtained 11 bcm of gas in Ukrainian storage facilities. Moreover, the world economic crisis makes Ukraine's economy expect a shrinking GDP of 10% for 2009 and the national currency is in continuous fall. This is especially harmful to Naftogaz, as gas bills have to be paid in USD. In the first half of 2009, the company was helped out by the state budget, and money was printed. Also, Naftogaz imported far less gas than usually in the first half of 2009 but used gas from storage instead. With these storage facilities emptied, they must be refilled in order to guarantee stable supplies to Europe in winter time as well as Ukrainian demand. Russia so far has been generous in not insisting on the application of the take-or-pay clauses in its contracts with Ukraine. Instead, it demanded for a joint credit to Ukraine given by Russia and the EU so that Naftogaz can replenish gas storage caverns. In order to solve these problems, an agreement was reached with the EU and the IMF.

3.2.2.2 Disputes with Belarus

Russia's demand for higher prices to be paid for oil and gas deliveries also was the cause of several disputes with Belarus. The solution found for the gas dispute with Belarus in 2006/2007 consisted of the purchase by Gazprom of a 50% share in BelTransGas, the national gas transport company.¹⁹⁹ Gazprom is engaged in a strategy to achieve control over the gas transport system in the "near abroad". In pursuit of this strategy, it offered both Belarus and Ukraine to take over shares of the respective state gas transport companies as a form of debt repayment from them. Gazprom already operates the Russian and Belarusian sections of the Yamal Pipeline, whereas the Polish section is operated by a Polish-Russian joint venture company. Gas prices for Belarus were raised to USD 100 from USD 46 the year before, instead of the demanded USD 200.²⁰⁰ In the second half of 2008, gas prices for Belarus reached USD 128/1,000 cm.²⁰¹ A similar dispute related to oil prices and tariffs. As an agreement could not be reached, Belarus

¹⁹⁹ In fact, Gazprom acquired a 12.5% share in 2007 for USD 625 million, and will continue every year to purchase more shares in order to arrive at 50% by 2010.

²⁰⁰ 'Gazprom to buy into Belarus pipelines on Friday'. Reuters, 17-05-2007.

²⁰¹ 'Russia to raise gas prices for Belarus to USD 128'. RIA Novosti, 21-03-2008.

illegally siphoned oil off the pipelines and Russian Transneft stopped oil flows altogether in January 2007 before both sides finally agreed on new terms.

Russia's price disputes with Belarus represent some similarities, but also striking differences to the Ukrainian case. They have, though, raised the same accusations of Russia using its "energy weapon" in Western media. The authoritarian regime of President Lukashenko is considered an ally to Moscow, so the argument that Russia uses its "energy weapon" to prevent Belarus from moving away from Russia does not hold. Russia's claim to pursue commercial rather than political aims thus gains in weight. Moreover, the fact that Belarus was stealing oil from Russia in breach of its contracts has been ignored in the West. Since 2001, Belarus did not pay the contractual 85 % split of its oil export profits anymore, generating high profits at Russia's expense. Russia effectively subsidised the Belarusian economy by several billions of USD annually.²⁰² The export duty Russia imposed in 2006 was meant to correct this breach of contract.

In the meantime, frictions have increased over Russian import restrictions for Belarusian milk, but also fears for new gas disputes have made headlines with Belarus delaying payments for its gas imports and putting the existing gas contracts into question, which foresee market prices from 2011.²⁰³

3.2.3 The Background of the Conflicts and Lessons to Draw

In order to read the conflicts correctly, it is necessary to identify several trends, which converged to the environment the respective disputes took place in. Treating the energy crises as an expression of Russia's new found imperialism and as an unacceptable use of the energy weapon misses the point. Clearly, economic boom, growing energy demand and a restrained resource base have led to extraordinary price increases for hydrocarbons on world energy markets. The balance of power between buyers and seller changed in favour of the latter. All oil and gas exporters that accept foreign investment are renegotiating more favourable terms. Gazprom's request that Ukraine pays market prices for gas imports (based on a motion ratified by the Duma in July 2005) is legitimate. The

²⁰² See, e.g., 'Russen wollen Alternative zu Druschba-Pipeline'. Tagesschau, 16-01-2007.

²⁰³ 'Газпром не поверил на слово президентам' (Russ.) [Gazprom did not believe the Presidents' words]. Kommersant, 29-06-2009.

2006/07 gas dispute was widely interpreted as some sort of political punishment for Ukraine “moving west” after the Orange Revolution. Yet, in fact, the price increase “eliminated the political element from [Gazprom’s] energy relations with Ukraine and put the relationship on a firm business footing.”²⁰⁴ It is Ukraine’s political elite, which is unable to reach agreement over the necessary priorities in the country’s development, let alone in energy sector development. It is not able to assume its obligations as a trade link between Russia and the EU. On the contrary, the political elite has repeatedly shown that it does not hesitate to exert pressure on both upstream and downstream actors in the pursuit of its own short-term political interests.

In Europe, the energy security debate is, in fact, led with much contradiction. For instance, market liberalisation in Europe’s energy sector led to a construction boom of gas-fired electricity stations that are cheaper to finance and thus preferred by the private sector. Complaints about growing dependency on Russian gas deliveries seem inappropriate, at least when, at the same time, policy choices are promoted, which encourage gas consumption.²⁰⁵ An important fact, which is rarely discussed, consists of the UK becoming a gas importer for the first time in over twenty years. Security of supply thus is a new problem for the UK rather than for other European countries, which already import most of the gas they consume. They have dealt with it through diversification and long-term contracts. In the gas sector though, the UK as an importer is a newcomer and lacks a large gas company that could be a partner for long-term supply contracts. What more is, pressure on Russia to open up its pipelines is also in the interest of UK companies Shell and BP, which have large investments in Russia and the CIS (Kazakhstan) but are not granted direct access to export infrastructure. The latter, for the time being, remains a state controlled monopoly in Russia.

Russia, for its part, has every incentive to continue reliable deliveries, as Europe is its most profitable market. The restrictions against Belarus and Ukraine, which in the end had a massive effect on EU countries, were not directed towards Europe, but a by-product of a conflict between Russia and its CIS neighbours. However, it must be noted that at least in the 2009 crisis, Russia did not cede to Ukrainian demands although its reputation as reliable supplier to Europe could

²⁰⁴ Mitrova, Tatiana: ‘Gazprom’s Perspective on International Markets’. Russian Analytical Digest No. 41, 20-05-2008, p. 4.

²⁰⁵ See Guillet, Jérôme: ‘Liberal markets create an addiction to gas’. Financial Times, 02-02-2007.

have been, and finally was, harmed. However, Russia seems more dependent on Europe than vice versa, and contracts with East Asia are still years away, require huge investments and construction of pipelines and will use gas from other fields. Gazprom's export revenues have guaranteed the provision of cheap electricity and heating for the Russian population over the last 18 years and thereby ensured that basic services are provided to all.

3.2.4 Summary

As we have seen, transit countries are at a crucial position in energy trade. They can tear benefits from this position unless they show limits to their reliability. However, in order to maintain this strong position, transit countries need to retain control over their transport grids. Clearly, the Russian government and its energy majors have pursued a strategy of monetarisation of CIS energy trade. In Europe, market penetration and expansion has been done with the aim of maximising revenues. The Kremlin has made clear that it is no longer willing to subsidise foreign economies. This strategy put transit countries under economic as well as political pressure. Repeatedly, oil and gas flows have been cut off to force beneficial outcomes of negotiations. In view of the continued disputes threatening its revenues and reputation, Gazprom has engaged in the construction of new, direct pipelines, which bypass the current transit pipelines. Indeed new gas sources would be accessed through new pipes, which avoid transit states or replace unreliable by reliable ones. This would reduce the leverage of transit countries over Russia and increase the reliability of supply. But these new pipelines also contain the potential to widen the gaps between EU member states: those who have access and those who have not, therefore engaging in own solutions – increased coal combustion, nuclear energy amongst others. But the argument of increased vulnerability of the bypassed states to Russian supply cuts does not hold. Even if Russia cut supplies to these Eastern European countries, for which it has no reason if they pay for their consumption with due diligence, these countries could easily be provided with gas from the direct pipes that reach the EU. It is up to the EU to create and establish a common market for gas with interconnectors and solidarity. So despite all the negative media coverage of the Nord and South Stream projects, their realisation, in a context of continu-

ing gas rows, is foreboding. Both Russia and the EU, as a whole, would become more independent from transit states and their deliberate cut-offs.

For the time being, despite the gas crisis resolution agreement in February 2009, trouble continues. Ukraine already is offering reconsideration of the agreement. Moreover, as *Kommersant* writes in May 2009, Russia refuses to grant a billion dollar credit to Ukraine, which cannot pay its gas consumption and thus cannot fill the storage facilities, which would be necessary for the winter season. Some analysts argue that the EU, as a large external actor, could bring a solution to this conflictual situation. The March 2009 agreement between Ukraine and the European Commission, signed in Brussels, could be interpreted in this way. The objective would be for the EU to purchase Russian gas directly at the Russian border, integrating Ukraine fully into the European gas market while upgrading transit capacity and investment in Ukraine.²⁰⁶ However, the agreement does not consider Russian interests and has called forth fierce opposition in Moscow.²⁰⁷

3.3 Strategic Projects: The political game of export routes and joint ventures

Conscious of the previously described conflict situations, Russia's strategic objectives and options for the development of its energy exports, i.e. access to international markets, seem obvious. In order to secure gas production and exports in the future, within a background of rising demand on world markets and the development of LNG technology, Russia and Gazprom, together with their respective partners have engaged in plans for a variety of projects concerning new extraction fields, diversification of transport routes as well as the technologies being used. The following chapter will present an overview on these projects and their implications for energy policy strategies of the parties concerned. Conclusions will be drawn as to the different motivations and whether these appear economically and politically justified or arbitrary.

²⁰⁶ According to Christie, this agreement is in line with the theoretic results of Hubert and Suleymanova (2008). Cf. Christie, Edward: 'European security of gas supply: A new way forward'. in Liuhto, op. cit., pp. 3–22.

²⁰⁷ See [A pipeline without gas – what's it good for Ukraine?] (Russ.) 'Зачем Украине труба без газа?'. *Izvestia*, 30-03-2009.

3.3.1 Strategic Objectives of Russia and Gazprom

The strategic objectives for development of Russian gas export routes are at least twofold. First, a crucial question is about Russia's ability to reroute European exports in order to a) circumvent transit countries, b) to develop its own export infrastructure and c) to preserve and increase control over transport grids. Second, the development and production of resources in production regions other than the traditional ones will result in export diversification. New markets in Eastern Asia can be provided by new pipelines thereby reducing Russia's sole dependence on European customers for export revenues. For its exports to Western countries, alternative transport ways are considered necessary, omitting transit countries and enabling direct links between Russia and its traditional export markets in the European Union. The planned direct pipelines from Russia to its European customers would reduce the negotiating position of the transit countries for prices for Russian gas.²⁰⁸ We will, in the following, have a look at the specific projects. Whereas existing transport capacities to Europe are supposed to remain stable at about 200 bcm/year direct pipelines to the West could reach an equal capacity by 2020. European demand is surely rising, but Europe also is attempting to diversify its imports. Moreover, the number or capacity of existing pipelines might decline due to their age. In that case, fear of overcapacities would not be well founded. In addition to the three export options via traditional pipelines, direct pipelines and new pipelines to new markets, the construction of LNG terminals for the export of liquefied natural gas mainly destined for markets outside Europe would represent a fourth transport system for gas exports.

However, it may be difficult to assess to what extent individual projects are guided by economical or political reasoning. The following part of this thesis will address the political and strategic thoughts that encouraged the emergence of these projects. It will assess whether they can be explained economically or indeed present other objectives than publicly announced.

Gazprom, in 2006, was guaranteed to remain the sole exporter of Russian natural gas to markets outside the CIS. The company is regularly accused of be-

²⁰⁸ See, e.g., Hubert, Franz, and Svetlana Ikonnikova: 'Investment options and bargaining power in the Eurasian supply chain for natural gas'. Paper prepared for the 2003 conference at the British Institute for Energy Economics, Humboldt University, Berlin, 2003.

ing the Kremlin's instrument used for external policy aims. Although the state owns slightly more than 50 % of its shares, Gazprom acts as an independent commercial entity which does not necessarily have to follow state foreign policy. It does have to justify its activities to all its shareholders: the state and private ones. In fact, some steps taken by Gazprom do not at all fit into Russian foreign policy, said by some, to be destined to reintegrate the Soviet space.²⁰⁹ Due to its history and its role in the well-being of the population, however, until now the company follows political will on the domestic market by subsidising retail prices. Furthermore, it can be supposed that the company uses its excellent links to politics in order to promote its commercial interests. If business prevails over politics, it must be stated though that behind Gazprom's strategy is a political will to create a global champion, which means the company has to be profitable, to comply with international standards and rules, to be commercially oriented and efficient. The very close personal linkage of Gazprom management and the Russian government²¹⁰ makes it clear that the company's business policy would at last be subordinated to political considerations. The process of transforming a Soviet ministry into the quasi-ministry of the 1990s and now to an international player is, however, "necessarily evolutionary and takes time."²¹¹ We will find that geopolitics plays a key role in pipeline contract decisions, but it has always done so. In particular, we will have a look at what is at stake in the so-called "Central Asian game".

3.3.2 Transport Route Diversification: Alternatives to the traditional transit system through Ukraine and Belarus

The oil and gas pipeline system transiting Eastern European countries originates from Soviet times, with its main branches passing through Ukraine, Slovakia and the Czech Republic to Germany. Sub-branches pass over to Hungary, through Moldova to Romania and Bulgaria and on to Turkey. The Ukrainian branches "Soyuz", "Bratstvo" and "Progress", working at full capacity, currently transport some 125 bcm per year (i.e. 80 % of Russian gas exports) to Eu-

²⁰⁹ Cf. Götz, Roland: 'Gasproms Diversifizierungstrategie der Exportpipelines und Exportrichtungen'. Discussion Paper, Stiftung Wissenschaft und Politik, 2007.

²¹⁰ Cf. Chapter 2.

²¹¹ Cf. Mitrova, op. cit.

ropean markets. Originally though, their projected capacity was at 175 bcm, which could now only be attained through costly overhaul. The Yamal Pipeline through Belarus and Poland, which has been in operation since 1999 and was finally completed with all compressor stations in 2005, has a capacity of 33 bcm annually. Contrary to the original plans, it does not transport gas from the (not yet) developed fields on the Yamal Peninsula but from Western Siberian gas fields. In 2007, Russian gas exports to Europe (without the Baltic States) totalled 168 bcm. All these gas pipelines are on-land pipelines and relate to a distinct problem as they are technically linked to the transit countries' pipeline distribution networks. Illegal takeouts in the CIS-countries, therefore, directly cause reduced deliveries to final customers in Western Europe. This was regularly the case during the 1990s and notoriously with Ukraine, and provided the background for Russia's gas dispute with transit countries over gas prices, debt payment and transit fees.²¹² Gazprom, therefore, engaged in a strategy not to pass more than 40 % of its gas through one single country. In 1999, 95 % of its exports still transited through Ukraine. Clearly, Gazprom's focus on bypassing Ukraine has commercial reasons, as there is little confidence that lasting arrangements can be concluded as long as the economic (and political) situation in Ukraine remains unstable. However, there are also technological reasons, as the throughput capacity of Ukraine could fall steeply if substantial investments are not undertaken.

3.3.2.1 The Northern Alternative

In the Baltic Sea area, gas exports to date are effectuated via pipeline to Finland and the Baltic countries for their respective domestic needs. LNG infrastructure is nonexistent. A project to build an LNG terminal in Primorsk, Leningrad region, was dropped by Gazprom in 2007 due to considerations regarding the Nord Stream pipeline to Germany and more lucrative LNG terminal projects for the Shtokman field in the Barents Sea. In Latvia, an important storage facility exists east of Riga, which during winter time provides Latvia, Estonia and the St. Petersburg region with gas. Although we will not consider oil exports in detail, a deeper view might be helpful here in order to clarify the background of the geo-strategic debates. After the collapse of the Soviet Union, Russian exports

²¹² Cf. Götz, Roland: 'Energietransit von Russland durch die Ukraine und Belarus'. Stiftung Wissenschaft und Politik, 2006, p. 38.

suddenly had to be effected via foreign ports and sea terminals, especially in the Baltic Sea, where the major ice-free harbour facilities were now located abroad and in countries that did not join the CIS, but NATO and EU instead. In contrast to natural gas, Russian crude oil was, and is still, exported through the Baltic Sea ports of Ventspils and Liepaja in Latvia, Klaipeda and Butinge in Lithuania and some five ports in Estonia, including Tallinn. Whereas the Latvian and Lithuanian ports are connected via pipeline to the Russian oil (and also gas) transport system, the Estonian sea terminals are not. Ventspils, the largest now foreign oil port in the Baltic, was the second largest maritime outlet for Russian oil after Novorossiysk before the Primorsk terminal was developed. Soon after, Transneft closed its crude-oil pipeline to Ventspils in 2002. The refined-oil pipeline is still open, but Russian supplies of crude oil now reach Ventspils by train, a more expensive option. Since 2006, Lithuanian refinery Mazeikias and the country's export terminals have also been supplied with Russian oil and oil products by rail only, as Transneft completely closed the ramifications of the Druzhba oil pipeline that stretch into the Baltic countries.²¹³ Activity is not planned to resume, as the Russian transport monopoly Transneft is instead redirecting crude oil flows to the Russian sea terminal at Primorsk. These developments in the oil sector are also a clear signal for gas exports and transit. The Nord Stream pipeline project thus has to be assessed in relation to policies that reduce Russia's dependence on foreign export facilities.

Nord Stream: The Baltic Sea Pipeline

The debate about the Nord Stream pipeline is highly telling about the political interests implied in this project. Originally, the North European Gas Link was proposed as a land pipeline link from Russia through Finland and Sweden to Germany with two Baltic Sea crossings, one in the Bothnian Bay and the other between Sweden and Germany. Sweden rejected this proposal. A second alternative for a land pipeline to Latvian Ventspils that would continue offshore to

²¹³ Many commentators regard this as a political decision after Lithuania sold the former Yukos-owned refinery Mazeikias to Polish PKN Orlen and not to Russian Lukoil. The official Russian explanation referred to pipeline damages. Repair offered by Lithuania was refused by Russia as this would not make sense as the Druzhba system was to be phased out to the benefit of the new Baltic Sea Pipeline system and crude oil flows redirected towards the Russian terminal at Primorsk. Together with Dmitri Trenin, Carnegie Institute Moscow, I interpret the event as a "use of strong-arm tactics in economic disputes". Cf. Trenin, op. cit., p. 23.

Germany had been dropped soon after. The Nord Stream offshore gas pipeline in the Baltic Sea thus finally was planned to assure the direct link between Vyborg (Russia) and Greifswald in North-Eastern Germany. Planned and projected to transport gas from the Northern European part of Russia²¹⁴ to Western Europe, it could also be used for gas transport from the offshore field Shtokman in the Barents Sea or even for Yamal gas. The offshore pipeline is much costlier than overland pipelines and has encountered fierce opposition from the countries that would be bypassed. Poland, the Baltic countries, and also Sweden and Finland have expressed their disapproval over what they regard as a German-Russian bilateral agreement that would threaten to cut them off from Russian supplies. The Polish proposal for an “Amber pipeline” passing through all three Baltic countries and Poland has been, in return, rejected by Russia. The pipeline gave room for extensive political debates with its opponents presenting it as a threat to European interests and its defendants as a further diversification of export routes that enhances energy security. For Germany, Nord Stream is a key priority project to assure its future energy needs that was not altered after the government changed in 2005.²¹⁵ Fears are that Russia increases its leverage over the Baltic and transit countries by constructing bypassing lines. The opposite reading though asserts that Russia has, to date, reduced the leverage these states have over it. However, it should be kept in mind that Russia crucially depends on both Latvia and Lithuania as transit countries. In Latvia, a very large underground storage facility provides gas for St. Petersburg and the Leningrad region in winter. Lithuania transports gas from Russia to its exclave of Kaliningrad. The Nord Stream pipeline would, indeed, bypass several countries and thus deprive them of possible transit fees. However, Gazprom, which is responsible for the construction of the pipeline together with its German and Dutch partners, can interpret this as an economical rather than political reasoning. What generally is not evoked in the discussion is that the pipeline would not replace existing gas pipelines crossing the territory of Belarus and Poland, but would provide additional capacity that is needed because of rising demand in the European Union.²¹⁶ Thus, dependency on transit countries would be reduced but not abolished.

²¹⁴ i. e. the Timan-Petshora region.

²¹⁵ Polish objections have been shown by their refusal to accept being delivered with Gas via the pipeline once the gas reaches Germany – only some 50 km from the Polish border.

²¹⁶ Piebalgs, Andris, EU Commissioner for Energy: “The war in Georgia increases the necessity to realise Nord Stream. From a political point of view, the project becomes more urgent, and

The pipeline is planned to pass through the economic zones of Russia, Finland, Sweden, Denmark and Germany. The consortium is eager to avoid implication of EU institutions into the process, as opposition of some EU members is well known and would threaten the realisation of the project altogether. In general, environmental concerns related also to ammunition that has been sunk in the Baltic Sea during and after WWII are being put forward as arguments against the pipeline.²¹⁷ More an issue, but less talked about is the fact that the pipeline, representing Russian property, would provide justification for regular controlling measures which means an increase in the Russian Federation's Baltic Fleet's presence all the way through the Baltic Sea. Construction of the land pipeline in Russia began in 2005; currently the construction of the offshore stretch is being prepared both in Russia and Germany. The German government again stated in November 2008 that it regards Nord Stream as crucial for Germany's future supply security. As the continent's greatest economic power, supply stability cannot be underestimated for this country, having opted against nuclear, and with renewables unable to compensate, gas stands out as an alternative for Berlin. The EU has also given the pipeline project priority status. In the meantime, Dutch GasUnie has joined the project acquiring a 9 % stake (20 % are held by EON Ruhrgas, 20 % by BASF Wintershall and 51 % by Gazprom). The first pipe shall become active in 2011, the second in 2014. Capacity would then be at 55 bcm annually. Apart from Germany, the pipeline is planned to also provide gas for the Netherlands and the United Kingdom. More recently, French GDF Suez declared its interest to participate in the project and to acquire a 9 % stake.

not less urgent. In this project, Russia's Gazprom and EU companies are working together to their mutual benefit, because we need more of this type of cooperation, also in the upstream sector in Russia." Reuters, 24-09-2008, quotation translated by the author from German. See also Mitrova, op. cit., p. 4.

²¹⁷ Criticism comes from regional authorities (Åland, Bornholm), research organisations (FOI, SYKE) and public organisations (Gotland fishing, Coalition Clean Baltic) considerable risk, mainly ecological – the stakeholders deny any essential risks.

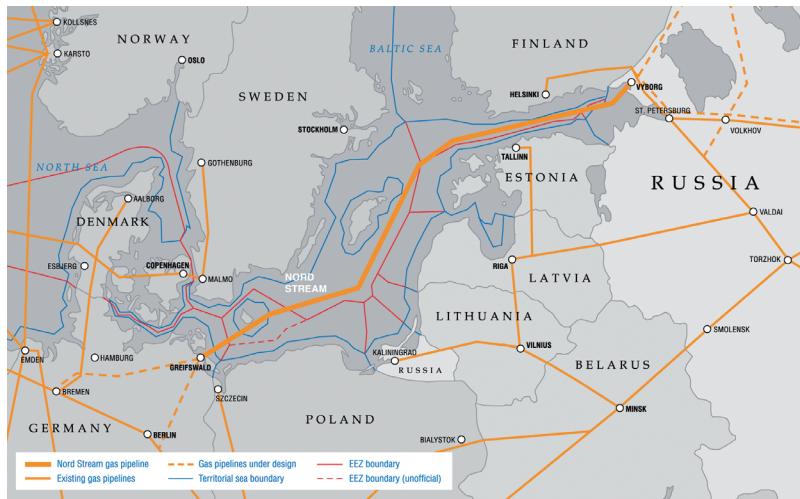


Figure 22: The Nord Stream pipeline project (OAO Gazprom).

3.3.2.2 The Southern Alternative

As the dependence of Russia on Ukraine as a transit country was obviously harming Russia's (vital) interests, the government and Gazprom have considered the diversification of export routes also in the southern border regions of Russia. In this area, gas pipelines from Baku in Azerbaijan and from Kazakhstan, as well as from the West Siberian fields, reach the Russian Black Sea shore at the ports of Tuapse, and soon at Novorossiysk as well. Development of new export routes is of major concern as parallel American and EU initiated projects in the Caspian and Southern Caucasus regions are destined to circumvent Russia.

Blue Stream

Already in the 1990s, Gazprom started to consider the Turkish market as a possible growth market for its gas exports. Russian gas exports to Turkey by then had to transit by pipeline through Ukraine, Moldova, Romania and Bulgaria. Transit through Ukraine led to serious shortages of gas in Turkey, therefore, a priority project for Gazprom became creating a direct link to Turkey. The Blue Stream pipeline, built in 2001/2002, crosses the Black Sea from the Russian port of Tuapse to Samsun in Turkey (Figure 23). The pipeline then continues overland

to Ankara. Blue Stream not only is Russia's first offshore pipeline but also the world's first deep-sea pipeline, as it has to cross sea-depths of up to 2,200 m. The pipeline is a joint venture between Gazprom, Italian ENI and the Turkish gas company Botas. Deliveries to Turkey through Blue Stream started in the beginning of 2003. The Blue Stream pipeline is running below its capacity of 16 bcm/year, and in 2006 and 2007 supplied 7.5 bcm and 9.5 bcm of gas respectively. Turkey is trying to diversify its gas imports from the Russian monopoly and is buying gas from Algeria, Libya, Iran and Azerbaijan. In 2006, deliveries from Baku started through the Baku-Tbilisi-Erzurum (BTE) gas pipeline with an annual capacity of currently 8.8 bcm. However, Blue Stream not only allowed Russia to acquire valuable experience with offshore pipelines, but also a major share of the strategic Turkish market. Considerations for enlarging the Blue Stream pipeline by a third pipe, and for extending it on to other markets such as Israel or Greece and Italy, have been made (Blue Stream 3). This, however, would place Turkey in a powerful negotiation position as dominant transit country.

South Stream

The South Stream project represents a parallel to the Nord Stream pipeline and together with the latter has been given priority by Gazprom. Partnering in this project are Gazprom and, again, Italian ENI. The pipeline is destined to cross the Black Sea from Russian compressor station Beregovaya to the Bulgarian coast at Varna and then onwards in two branches: one of them leads south to Greece and then through the Ionian Sea to Italy, and the second one heads north to Austria or Northern Italy (Figure 23). Capacity of the pipeline was planned to be at 30 bcm annually. The project includes the construction of important underground storage facilities in Bulgaria (offshore), Serbia and Hungary. The EU Commission has approved the South Stream project, which originally was planned to come into operation in 2012. As Bulgaria, Serbia, Greece and Hungary have already agreed to the project, construction of the pipeline can likely be started much faster than Nabucco.²¹⁸ In March 2009, Gazprom and Hungary signed a contract over the establishment of a joint company for the construction of the Hungarian part of the pipeline, as well as a storage facility.

²¹⁸ Currently, capacity extension of South Stream is negotiated between Russia/Gazprom and Italy/ENI.

South Stream raised a controversial debate in Europe due to its potential to reduce the chances for the realisation of the EU's Nabucco project (see below). However, with regard to the increasing demand for natural gas in Europe, both Nabucco and South Stream may become necessary for the satisfaction of European needs. South Stream would then represent a new export route for Russian gas from its Siberian fields whereas Nabucco would link new gas resources to Europe. The fact that both projects do not hinder each other has been put forward repeatedly by both Russian and Western politicians and experts.²¹⁹ Apart from this, South Stream could lead to conflicts with Ukraine and Romania.²²⁰ The offshore section of the pipeline was planned to cross the Ukrainian and Romanian sea shelves, which would require these countries' permission. In the Black Sea, the exclusive economic zones of the riverain countries directly border each other. Although international maritime law does not give Ukraine and Romania the right to veto South Stream outright, they would have leverage over the project, as they could demand extensive studies of the project's impact on environment, shipping and maritime safety, and if they considered it necessary, they could demand modifications. In order to avoid these problems, and also in order to please Turkey, the most recent plans foresee a rerouting over the Turkish seabed instead.²²¹ In August 2009, Prime Ministers Putin and Erdogan signed an agreement over project works for South Stream in Turkish waters, the possible Blue Stream 2 pipeline to Turkey and beyond, as well as the construction of an oil pipeline crossing Turkey from Samsun to Ceyhan.²²²

²¹⁹ For example by Hungarian Prime Minister Gyurcsany and then Gazprom chairman Dmitri Medvedev. However, with Russia securing the purchase of most of the Central Asian resources (for South Stream), both projects nevertheless become direct concurrents. See 'Nabucco-Pipeline droht endgültig zu scheitern'. Handelsblatt, 12-11-2008; and also 'South-Stream-Projekt hat keine Konkurrenten'. RIA Novosti, 11-03-2009.

²²⁰ Romania initially had declined the Russian offer to participate in the overland pipeline project and thus could be willing to impede its realisation as well as Ukraine, which simply would be bypassed. However, permission for South Stream could be exchanged for an equal permission by Russia for the White Stream gas pipeline to cross its economic zone in the Black Sea, a project linking Georgia and Ukraine with a possible extension to Poland and the Baltics. More recently, it was the Bulgarian side which, after change of government, engaged in retarding tactics over South Stream. The Russian side therefore renewed talks with Romania, which might withdraw its refusal and participate in the project instead of Bulgaria.

²²¹ Turkey previously had declared its approval for the Nabucco project in July 2009.

²²² 'Россия и Турция договорились о сотрудничестве в энергетике' (Russ.) [Russia and Turkey agreed on energy cooperation]. Kommersant, 06-08-2009, available at: <http://www.kommersant.ru/doc.aspx?DocsID=1216808&ThemesID=185>, 14-01-2014.



Figure 23: The South Stream and Blue Stream projects (OAO Gazprom).

3.3.3 Central Asia

The abundance of natural resources, mainly hydrocarbons, in Central Asia and the Caspian Sea Region, immediately after the collapse of the Soviet Union has come to the attention not only of neighbouring Turkey, China, India and Pakistan, but also of Europe and the US. In the following, Central Asia has been identified as the arena for the “new great game about resources in the 21st century”.²²³

3.3.3.1 Competition over Resources and Export Routes

Being entirely landlocked, the crucial question for Central Asian energy resources is about control over export routes. The US-backed construction of pipelines from Azerbaijan over Georgia to Erzurum (BTE) and Ceyhan (BTC) in Turkey, and also the concurrence between South Stream and Nabucco have to be interpreted within this background. Another major pipeline project, the 30 bcm Central Asia-China gas pipeline linking Turkmenistan, Kazakhstan and Xinjiang was completed in 2009. Kazakhstan, Uzbekistan and Turkmenistan account for

²²³ See Brzezinski, Zbigniew: ‘The Grand Chessboard: American Primacy and its Geostrategic imperatives’. Basic Books, New York, 1998.

3 Manifest Conflicts and Corresponding (Re)actions

1.7%, 1% and 1.6 % of world gas resources respectively.²²⁴ In recent years, both Russia and the West have courted Central Asian regimes for their energy resources. Russia, for its part, has successfully led negotiations with its Central Asian CIS partners Kazakhstan, Uzbekistan and Turkmenistan about the modernisation of the CPC (Central Asia to Centre pipeline) as well as the construction of a new pipeline from the port city of Turkmenbashi on the eastern shore of the Caspian Sea (Pre-Caspian Pipeline). These pipelines would transport gas to the Russian Transneft grid for exports further on to Ukraine and Europe.²²⁵



Figure 24: The Pre-Caspian gas pipeline project (OAO Gazprom).

The CPC, inherited from Soviet times consists of two branches from Uzbekistan and one from Turkmenistan to Kazakhstan and Russia. The CPC and Pre-Caspian

²²⁴ Campanier, Nadia: 'Géopolitique gazière de la Russie et de l'Asie centrale'. CGEMP Paris-Dauphine, 2007, p. 15.

²²⁵ Russia has signed an important number of contracts with its Central Asian CIS partners in the energy domain: in 2001 with Kazakhstan and Turkmenistan about the creation of joint capital companies, a long-term agreement with Turkmenistan in 2003 which foresees a tremendous increase of Russian gas imports from Turkmenistan from 5–6 bcm in 2004 to more than 60 bcm by 2007/2008, a production-sharing agreement with Uzbekistan in 2004, an agreement guaranteeing exclusivity for Gazprom for 30 years with Turkmenistan in 2005, a 25 year contract for Russian exploitation of Uzbek gas fields in 2006 and a contract with Kazakhstan and Turkmenistan in 2007, to name only a few. However, whether all these contracts will be honoured, amended or forgotten remains to be seen. See Yavid-Reviron, op. cit., p. 61.

an pipelines will provide the possibility of up to 80 bcm of Turkmen gas exports per year.²²⁶ This gas would assure Russia's status as a transit country for exports to other CIS countries and Europe, but especially strengthen its role in being the sole supplier for natural gas to Ukraine. Apart from this, Central Asian gas could also become crucial for the satisfaction of Russia's own domestic demand in case Russian production declines and investment choices are not taken in time. The Russian Energy Strategy up to 2020 actually mentions this case: "Under condition of absence of compensation of investments for the coming period the risk of insufficient development of the gas industry will be increased, and that may require an increase of gas imports from Central Asian states or limit gas exports."²²⁷ Gazprom has obtained the Central Asian agreement by offering to switch to European price formulas only. In European media, the successful negotiations between Russia and the Central Asian countries have mainly been interpreted as a major Russian victory in the geopolitical Central Asian game. It has been seen as the end of the concurrent project of a Trans-Caspian pipeline transporting Turkmen gas to Azerbaijan across the Caspian Sea in order to fill the BTE or Nabucco pipelines. Officially though, Turkmenistan has not abandoned the plans for a Trans-Caspian-Pipeline. The crucial question is: can Turkmenistan meet its export obligations and fill all the pipelines to China, Russia, plus the Trans-Caspian Pipeline and continue its growing gas exports to Iran?²²⁸ Turkmenistan produced 65 bcm of natural gas in 2006, 42 bcm of which was sold to Gazprom and then further on to RosUkrEnergo. Table 6 shows Gazprom's purchases of Central Asian gas over the last years as well as the countries' proved reserves.

Table 6: *Gazprom's purchases of gas from Central Asia (OAO Gazprom)*.

Country	Proved reserves (tcm)	Production (bcm)	Gazprom purchases (bcm)				
			2008	2005	2006	2007	2008
Turkmenistan	7.94	59.5	3.8	41	42.6	42.3	
Uzbekistan	1.58	65	8.2	9.3	9.6	14.2	
Kazakhstan	1.82	27.2	6	7.2	8.5	9.6	

²²⁶ Götz, Roland: 'Die russisch-zentralasiatische Energiegemeinschaft – Eine Bedrohung für die europäische Energiesicherheit?'. Stiftung Wissenschaft und Politik, 2007, p. 4.

²²⁷ 'Энергетическая стратегия 2020' (Russ.) [Energy Strategy 2020]. op. cit., p. 70.

²²⁸ Iran's small gas production does not suffice to satisfy the country's demand.

Turkmenistan's contracts with Gazprom foresee the delivery of 50 bcm annually from 2003 to 2028. Deliveries to China started in 2009. Together with domestic demand being stable at around 20 bcm, these export obligations account for at least 80 bcm altogether. The capability of Turkmenistan to increase its natural gas production depends very much on exploration and investment activities. Reserve estimations differ widely between conservative 8.8 tcm in resources and reserves (BGR) and figures put forward by President Berdymukhamedov (22.5 tcm). Compared to Turkmenistan, Kazakh and Uzbek reserves are of minor importance, with Kazakhstan having only become net exporter to Russia in 2004.²²⁹ Uzbek gas production could still be increased from the current 65 bcm, although domestic consumption is considerable (50 bcm). Uzbek gas could, beyond exports to the Central Asian CIS republics, also be exported to Russia and China. The question is, whether the Russian-Central Asian energy community still in place from Soviet times presents a danger for energy security of the EU. In the meantime, with gas prices falling due to the world financial crisis which reduced demand, Gazprom sees itself bound to the contracts with Central Asian producers such as Turkmenistan, in which it agreed on European prices, which now leave no margin and even losses for Gazprom. Incidentally or not, an explosion in the gas pipeline between Turkmenistan and Russia halted gas exports on April 9th, 2009. The Russian side refused to take up transport again until September, leaving Turkmenistan with several billions of dollars of lost revenues. With view to the future importance of Turkmen reserves though, Russia will accept new supplies even at uncompetitive costs.²³⁰

3.3.3.2 Nabucco

Nabucco is a priority pipeline project of the European Union that shall reduce its dependency on Russian gas imports by creating an export corridor for Central Asian gas resources that bypasses the Russian Federation. The 3,300 km long pipeline shall link the Caspian region, i.e. Azerbaijan and Iran with Central Europe and more specifically Austria, by passing over land through Turkey and the Balkan countries.

²²⁹ Gas from Kazakhstan currently is processed at Russia's Orenburg processing plant. Kazakh gas exports are fully managed by Russia.

²³⁰ 'Их газ, наш КамАЗ' (Russ.) [Their gas, our Kamaz]. gazeta.ru, 24-08-2009, available at www.gazeta.ru/politics/2009/08/24_a_3239869.shtml.



Figure 25: The Nabucco project (Wikimedia Commons).

The Nabucco consortium so far unites Austrian OMV, Hungarian MOL, German RWE, Turkish Botas, Romanian Transgaza and Bulgarian Bulgargaz. The project until now lacks studies about its economic feasibility and thus remains a merely political issue.²³¹ Russia has been repeatedly blamed for impeding the Nabucco project by buying Central Asian gas that would be needed to fill the Nabucco pipes.²³² Nabucco encounters several difficulties, the main obstacle being its questionable resource base. After the Caucasus war in August 2008, Azerbaijan engaged in negotiations with Gazprom to sell gas to Russia for prices of up to USD 350/1,000cm. A memorandum of understanding was signed in Moscow in March 2009, foreseeing the technical inspection of the existing pipeline Baku-Dagestan, which has been idle since 2007 but can handle up to 8 bcm annually.²³³ Russia has been eager to demonstrate that she alone can guarantee the security of the regional Caucasus pipelines. The Azeri field of Shah Deniz is predicted to produce 12 bcm annually from 2015, but the country refuses to provide any guarantees that this gas will be available for Nabucco.²³⁴ Gazprom was now able to enter the list of priority clients for the second phase

²³¹ See 'Nabucco-Pipeline droht endgültig zu scheitern'. Handelsblatt, 12-11-2008.

²³² Ibid.

²³³ However, what has actually 'been signed in March 2009 between SOCAR and Gazprom contains only insignificant quantities.

²³⁴ See 'Gazprom Ready to Buy All Gas From Azeri Nabucco Base'. Bloomberg, 15-05-2009, available at: http://www.bloomberg.com/apps/news?pid=20601072&sid=aFDux_hYIA3Y, 14-01-2014.

of the Shah Deniz field.²³⁵ Apart from the existing BTC and BTE pipelines, Azerbaijan cannot, therefore, export gas and oil bypassing Russia. Projects in Azerbaijani fields are already divided among a number of consumers from Turkey, Iran and Azerbaijan itself. As to other possible gas sources, neither Kazakhstan nor Turkmenistan seems willing to participate in the project. "Turkmenistan's consistent approach in dealing with potential purchasers – which is to avoid taking transit, marketing and other risks and simply to negotiate the highest possible price at its own border – does not improve the prospects for Europe."²³⁶ Russia's offer of paying netback prices (250-300 USD/1,000 cm) to Turkmenistan is much more attractive than the 175 USD/1,000 cm offered by western companies.²³⁷ Another possible source for the pipeline would be Iranian gas. Several EU-experts also state that without gas from Iran pressed into the pipeline, Nabucco would not be viable. For political reasons however, the purchase of Iranian gas remains unlikely for at least some time.²³⁸ Moreover, it has to be kept in mind that despite its large reserves, Iran to date remains a net importer of natural gas. Furthermore, the pipeline, which links North Iran to Turkey, is working below its capacity.²³⁹ Internal conflicts present another obstacle difficult to overcome. The Turkish consortium member Botas demands 15% of the gas transported through its territory at preferential prices, i.e. 4.5 bcm annually, which it plans to partly resell afterwards. Ankara refuses to alter its demand and currently blocks negotiations. "Turkey intends to take over the role of a hub, which means that it would buy gas arriving within its borders, consume what it needs and sell on the balance at a profit to the consumer. This is incompatible with the role of a transit country as defined in the Energy Charter Treaty ECT, which was ratified by Turkey [...]."²⁴⁰ However, the Turkish demand would jeopardise the economic profitability of the whole project as the other consortium members would have

²³⁵ 'Широко качает Азербайджан' (Russ.) [Azerbaijan imposes its will]. *Kommersant*, 30-06-2009.

²³⁶ Quoted from Pirani, Simon: 'Turkmenistan – an exporter in transition'. in Pirani, Simon (ed.): 'Russian and CIS gas markets and their impact on Europe'. Oxford University Press, 2009, p. 299.

²³⁷ See Dusseault, op. cit., p. 34.

²³⁸ Even Egyptian and Iraqi gas was considered as possible supply sources for Nabucco.

²³⁹ See Liuhto, op. cit., p. 117 and Norling, Nicklas: 'The Nabucco Pipeline: Reemerging momentum in Europe's front yard'. in Cornell, Svante E., and Niklas Nilsson (ed.): 'Europe's Energy Security: Gazprom's Dominance and Caspian Supply Alternatives'. Central Asia-Caucasus Institute, Washington, pp. 127–140.

²⁴⁰ Losoncz, Miklós: 'Some institutional factors of the EU's logistics in EU-Russia natural gas relations'. in Liuhto, op. cit., p. 147.

to come up for the “subsidy” to Botas. Russian media and political statements reflect concern over the concurrent project, although, as, for example, German expert Götz argues, even Nabucco, in fact, would remain a modest project with 30 bcm annually, i.e. serve only 10% of the EU’s import demand, while Russia will continue to deliver 180 bcm. So Nabucco would not much alter the picture of gas import dependence.

Table 7: Technical specificities of Nord Stream, South Stream and Nabucco (Dusseault, 2009, own complementations).

Project	Nord Stream	South Stream	Nabucco
Partners	Gazprom (51 %), E.ON/Ruhrgas (20 %), Wintershall (20 %), Gasunie (9 %)	Gazprom, ENI (Memorandum of Understanding)	Botas, BEH EAD (Bulgaria), MOL, OMV, RWE, Transgaz (16.67 % each)
Technical characteristics	Length: 1,220 km, capacity: 55 bcm, on stream: 2011, cost: € 7.4 bn	Length: 3,700 km, capacity: 31/63 bcm, cost: € 15 bn	Length: 3,300 km, capacity: 31 bcm, on stream: 2014, cost: € 7.9 bn
Supplies	Yuzhno-Russkoye, Yamal Peninsula, Ob-Taz Bay, Shtokman	Shah Deniz (AZE), Turkmen/Kazakh gas through CLP, Russian sources?	Azerbaijan?, Iran? Turkmenistan?, Kazakhstan?, Egypt?, Russia?
Potential markets	Germany, UK, Denmark, Netherlands, France	North: Serbia, Hungary, Romania, Austria, Slovenia, South: Greece, Italy	Central and Western Europe
Operating environment	Baltic Sea rim, opposition from Poland/Baltics, questions of safety and profitability	Bypass to Ukraine and Turkey, supplies unclear, costs undetermined	Land route from the Middle East, most connectors non-existing, supplies unclear

3.3.4 Export Market Diversification: Projects in the Far East and Eastern Siberia

Several projects for the development of gas production and distribution in Russia’s eastern and far eastern provinces have been launched in recent years. Among them figure most prominently the Sakhalin projects and the Eastern Si-

berian Pipeline. Gazprom has been given the status of coordinator of the state's Eastern Gas Development Programme. Investment to 2030 would be at USD 60 billion, with gas production being envisaged at 27 bcm by 2010 and 162 bcm by 2030. Although today the share of natural gas in the energy balance of the Asian Pacific countries remains at only 10%, this market is developing very dynamically and demand is predicted to be twice that of the European Union in 15 years.²⁴¹

3.3.4.1 The Sakhalin Projects

The Sakhalin oil and gas deposits, split into separate exploration and production blocks, are all located offshore.²⁴² They are of special significance for Russian strategic planning in the energy sector, as Russia pursues at least three objectives with their development. First of all, their exploitation will serve local demand and allow the development of Russia's Far East region. Second, the country will become less dependent on its main customer – the European Union. And third, Russia will set itself up as a serious energy provider for the Pacific region and will enter LNG technology. As to the first objective, gasification of the region shall be accelerated. Revenue from the project will at least partly be spent in the region and the investment will create jobs. Development of the Sakhalin projects will be undertaken jointly with foreign companies. The first of the Sakhalin projects that was developed, Sakhalin-1, is jointly run by Exxon Mobil which acts as the operator (30%), two Rosneft subsidiaries holding 20%, the Japanese consortium Sakhalin Oil and Gas Development Co. Ltd. (30%) and Indian ONGC Videsh Ltd. (20%). Commercial production started in 2005. The natural gas serves local demand in the Khabarovsky Kray, oil is exported to international markets by ships. The Russian state is expected to earn more than USD 50 bn during the lifetime of the project in taxes, royalties and by its share in hydrocarbons that are produced. Total capital expenditure for the project, approved back in 2003, was set at USD 12.8 billion.

The Sakhalin-2 Project, formerly exclusively run by foreign companies, changed its shareholding structure in 2007 and now includes Gazprom holding 50% plus

²⁴¹ Miller, Alexey: 'Энергия для планеты' (Russ.) [Energy for the planet]. Report given at the 23rd World Gas Congress, Amsterdam, 06-06-2006, p. 6.

²⁴² See Figure 26, as well as Figures 37 and 38 in the annex.

one share, Shell (27.5 %), Mitsui (12.5 %) and Mitsubishi (10 %). The consortium members have estimated that the project's cost will total more than USD 20 billion, making the project the largest single foreign investment in Russia. In July 2005, Shell estimated recoverable reserves at 500 bcm of natural gas and 1 billion barrels of liquids. Full-year oil production was reached in early 2009 and the LNG terminal, Russia's first one, came into service in March 2009. LNG will be supplied to the United States, Japan and South Korea. Shell, in the meantime, has started the construction of a third LNG plant in Sakhalin and concluded a major contract with Russian Sovcomfleet shipping company for the construction of LNG tankships. The company is hoping to participate in the remaining Sakhalin projects as well, by establishing good terms with the Russian government after serious disagreements about the restructuring of Sakhalin-2 ownership.²⁴³ The initial exploration licence for the even larger Sakhalin-3 oil and gas project, which had been granted to Exxon in 1993, has been annulled²⁴⁴ and after a re-tender, attributed to Rosneft in 2003. Currently, Rosneft is holding 49.8 % in the exploration consortium for one of the Sakhalin-3 blocks. It is joined by Chinese Sinopec (25.1 %) and the local Sakhalin Oil Company (25.1 %). The entering of Indian ONGC was in discussion throughout 2008. In 2008, Russia's environmental agency, Rosprirodnadzor, threatened to withdraw the licence as it had discovered licence violations. In 2007, Gazprom received the exploration licence for another block of Sakhalin-3 and predicts to start production of natural gas in 2014.²⁴⁵ In the Sakhalin-4 and -5 projects, exploration is carried out jointly by Rosneft and BP, with Rosneft holding 51 %, and BP 49 % of the projects. Together with Korea National Oil Corporation (KNOC, 40 %), Rosneft (60 %) also carries out exploration activities at the West-Kamchatka shelf licenced block. When looking at the shares in the exploring consortia, it becomes very obvious that Russian companies are, apart from Sakhalin-1, holding the controlling shares, which is in line with the geo-political reasoning expressed by the concept of energy sovereignty presented in Chapter 2.

²⁴³ 'Shell освоилась в компании Владимира Путина' (Russ.) [Shell gets familiar with Vladimir Putin's company]. *Kommersant*, 29-06-2009.

²⁴⁴ Changes in tax laws concerning PSAs were put forward as justification. The licences were given to Exxon under PSAs in the 1990s.

²⁴⁵ 'Gazprom announces Sakhalin-3 forecast'. *RusBusinessConsulting*, 24-06-2008.

3.3.4.2 The Eastern Gas Programme and the Altai Gas Pipeline Project

The Sakhalin projects form part of a larger development programme for energy infrastructure in Russia's Eastern Siberia and Far East regions, where an integrated gas production, transportation and supply system is to be developed.²⁴⁶ It will take into account potential gas exports to China and other Asia-Pacific countries and is managed by Gazprom, who acts as execution coordinator. Within the programme, four centres of gas production located in Sakhalin, Yakutia (Chayanda field), and the Irkutsk (Kovykta) and Krasnoyarsk territories are to be developed, each of them having its own gas processing facilities. A major project within the Eastern Gas Programme is the construction of the Sakhalin–Khabarovsk–Vladivostok gas transmission system by 2011²⁴⁷. It shall be connected with a gas pipeline from the Republic of Sakha (Yakutia). This new pipeline system is to share much of the route alongside the ESPO (Eastern Siberia – Pacific Ocean) oil pipeline system that already is under construction²⁴⁸. The system will enable to supply gas from Sakhalin-1 to most consumers of the Khabarovsk and Primorsky Krays, the Jewish Autonomous Oblast and the Sakhalin Oblast. While priority is given to domestic needs, possible exports will depend on commercial negotiations between Gazprom and Chinese CNPC, Korean COGAS or even Japanese companies. The Russian side demands European gas prices, which China so far has refused. Concerns over commercial attractiveness also impede the Altai gas pipeline project. It is destined to transport 30 billion cubic meters of natural gas annually from the Western Siberian fields to China's north-western Xinjiang province. Additionally, the eastern Siberian field of Kovykta could possibly provide 20 bcm annually to China and 10 bcm

²⁴⁶ See the respective order No. 340 by the Ministry of Industry and Energy of the Russian Federation, 03-09-2007, retrieved from www.minprom.gov.ru/docs/order/87, 13-07-2008. Also see: 'Восточную газовую программу утвердит Китай' (Russ.) [China approves the Eastern Gas Programme]. *Kommersant*, 10-09-2007.

²⁴⁷ The Komsomolsk-Khabarovsk stretch already existing, capacity of the pipeline shall reach 7–7.5 bcm by 2020.

²⁴⁸ The East Siberia-Pacific Ocean (ESPO) pipeline shall deliver crude oil from Siberia to Russia's Far East and then on to China and the Asia-Pacific region. The project's first phase (2,757 km) will link Taishet in Irkutsk region to Skovorodino in the Amur region. A 1,100 km stretch has been opened in October 2008 in Yakutsk region. The second stretch will link Skovorodino to the port area of Vladivostok and Nakhodka (2,100 km). A branch from Skovorodino will be built to the Chinese border and further to the Chinese oil processing centre Daqing in Manchuria. See, e.g., 'Moscow-Beijing sign ESPO pipeline deal'. *Oil and Gas Eurasia*, 28-10-2008, available at: <http://www.oilandgaseurasia.com/news/p/0/news/3086>, 14-01-2014.

annually to South Korea.²⁴⁹ China and Russia had signed a memorandum on Russian gas shipments to China in 2006, but they have been unable to reach an agreement on pricing and other matters since then. The pipeline was planned to pass through the ecologically sensible Altai province, although Russia also proposed a routing through Mongolia. Initially it was planned to resume deliveries in 2011. However, as China is pushing ahead the construction of a gas pipeline from Turkmenistan, Gazprom fears that its own deliveries would be less competitive on the Chinese market. The Chinese market, in addition to this, represents demand uncertainties due to the uncertainty of China's gasification progress. Turkmenistan, in the meantime, has agreed to supply China with 30 bcm of gas per year. Due to lower exploration costs and shorter pipeline distance, Turkmen gas would be cheaper than that from Siberia. The recently published "general plan" for the development of the Russian gas industry, prepared by Gazprom, does not consider the Altai project anymore. The project's future at presence thus seems uncertain. This example demonstrates that Russia is not striving for export route diversification at all cost. Instead, the Russian companies follow a clear strategy of commercial evaluation of possible projects.

²⁴⁹ Yavid-Reviron, op. cit., p. 57.



Figure 26: Russia's Eastern Gas Programme (detail of Figure 37) (OAO Gazprom).

3.3.4.3 Entering LNG Markets

Conscious of the global trends in gas markets, Gazprom has the intention of becoming a major supplier of liquefied natural gas (LNG). Although a more costly transport mode than pipelines, LNG represents advantages as it allows for a more flexible supply. The supplier maintains all the possibilities of switching its deliveries between clients and to reroute them there where prices are the most interesting.²⁵⁰ Moreover, LNG opens up new markets for Gazprom that were not accessible by pipelines before.²⁵¹ LNG is thus crucial for Gazprom's activities

²⁵⁰ As Gazprom has learnt from its Blue Stream project with Turkey, a single buyer provided by pipeline is in a strong bargaining position to demand lower prices once the pipeline is built.

²⁵¹ For example, the Russian company eyes North American markets. See: 'GdF доведет "Газпром" до канадской границы' (Russ.) [GdF takes Gazprom to Canada's borders],

overseas, and also with regard to its projects in Russia. Currently, Sakhalin-2 involves the only LNG terminal of all Gazprom projects. Other LNG terminals though have been planned for the Stokman offshore field in the Barents Sea, on the Yamal Peninsula and even in the Baltic Sea at the port of Ust-Luga (Table 8). The LNG terminals in the Far East will allow for exports to Asian countries. With regard to the difficulties of the Altai pipeline project, the LNG alternative gains in attractiveness. LNG terminals in the Barents and Kara Seas would provide the shortest route for gas exports to North American markets.

Table 8: LNG projects in Russia (Yavid-Reviron, 2008, p. 59).

Project	Capacity (million tons/year)	Operator
Sakhalin-2	9.6	Gazprom
Stokman	12	Gazprom
Kharasevye Yamal	23	Gazprom
Yuzhno-Tambeyskoye	10	Tambeyneftegaz
Bolshekhstkaya Vpadina	7-18	Lukoil

3.3.5 Business Diversification: Gazprom's downstream activities in Europe

Following its strategic objectives in becoming an internationally active integrated energy company, Gazprom attempts to expand its activities into European markets, e.g. through the acquisition of downstream assets. Diversifying into Europe's gas transportation and distribution, but also venturing into new market segments such as power generation would allow the company to gain added value by supplying final customers. An important element of this strategy is to associate access to its own resources with the opening of the European gas avai. The 2006 contract between Gazprom and BASF thus has to be seen as a new level in bilateral partnership between Russia and the producing countries.²⁵² The company's export share has increased from roughly one third to almost one half since 2005. In Germany, the company had eyed several local distribution compa-

Kommersant, 13-10-2008.

²⁵² Yavid-Reviron, op. cit., p. 55.

nies for take over or at least participation, for example, the Stadtwerke Leipzig.²⁵³ Meanwhile, the Russian gas company has founded a large number of subsidiaries and joint ventures in the European Union and other European countries. They are engaged in several gas related businesses from pipeline operation to gas trading and marketing. Through asset switches with German E.ON, Gazprom obtained assets of Hungarian gas companies.²⁵⁴ It also was successful in acquiring a minor share in British distribution company Interconnector. Gazprom acquired part ownership of distribution grids in the Baltic States, Poland and Finland, and also in CIS countries such as Armenia, Belarus and Moldova. In addition to this, the company has joint ventures with gas companies in almost every country where it sells gas. Table 9 shows a selection of subsidiaries and joint ventures in Europe.

²⁵³ But eventually, a public debate started and Gazprom finally abandoned the plan.

²⁵⁴ 'EON steigt in die sibirische Erdgasförderung ein'. Frankfurter Allgemeine Zeitung, 13-7-2007.

Table 9: Selected Gazprom subsidiaries and joint ventures in Europe (Vahtra, 2009, OAO Gazprom).

Company	Country	Gazprom share in %
Armrossgazprom	Armenia	45
Beltransgaz	Belarus	50
CEA Centrex	Austria	50
Eesti Gas	Estonia	37
Europolgaz	Poland	48
Fragaz	France	50
Gasum	Finland	25
Interconnector	UK	10
Latvijas Gaze	Latvia	34
Lietuvos Dujos	Lithuania	37
Moldovagaz	Moldova	50
NIS	Serbia	51
Overgas	Bulgaria	50
Panrusgaz	Hungary	40
Prometheus Gas	Greece	50
Promgaz	Italy	50
Stella Vitae	Lithuania	50
Tagdem	Slovenia	7.6
Topenergo	Bulgaria	51
Turusgaz	Turkey	45
Vemex	Czech Republic	51
VNG	Germany	11
WIEE	Switzerland	50
Wingas	Germany	49
Wirom	Romania	51
YugoRosgaz	Serbia	75

Gazprom's first joint venture with German Wintershall, a subsidiary of BASF, dates back to 1990. WinGas today has become a substantial transport, storage and marketing company in Germany. Gazprom holds 50 % plus one of the shares in WinGas. Other joint ventures have been created for specific pipeline projects, as, for example, Europolgaz for the Polish sector of the Yamal Pipeline. The company plans also to enter electricity markets and to construct a gas driven power plant in Germany next to the Polish border.²⁵⁵ Gazprom Germania, its largest

²⁵⁵ 'Putins Weltkonzern in Eisenhüttenstadt'. Süddeutsche Zeitung, 16-4-2007.

subsidiary in Western Europe, is active in gas trade in Germany. Cooperation with Austrian OMV is taking place in order to extend the capacity at Baumgarten trading and interconnecting point in Austria. In 2008, Gazprom acquired a 50 % share in this trading platform, which will be jointly developed as the Central European gas hub.²⁵⁶

However, Gazprom's investment plans regularly raise suspicion and large media discussion in Europe. Plans to acquire British distributor Centrica in 2006 were thus finally abandoned as the British government signalled discontent. Not only national governments but also the EU Commission has reacted to what they perceive as a threatening growth in influence on European markets by imposing a so-called "Gazprom clause" for foreign acquisitions in strategic areas.²⁵⁷ The Gazprom clause was finally adopted by the European Parliament and Council on the 13th of July 2009 in a watered down version, allowing "for discriminatory treatment of investments to be made by third country parties when these parties fail to adhere to EU energy market rules and don't offer similar access terms (reciprocity) in respect of gas transmission systems and operations."²⁵⁸ Hostile media articles against Russian investors and protectionist measures by the Russian side were started in several EU member states.²⁵⁹ In view of the background of a European debate on supply security and the European wish to diversify from a single source of gas, as well as uncertainties regarding the future pricing mechanisms, this does not provide the Russian side with sufficient security for major investments.²⁶⁰ So Gazprom faces important challenges on European markets. First, serious regulatory barriers are imposed. Second, the liberalisation of European markets leads to increased market risks due to growing competition and unpredictable price and volume movements. Gazprom must fear that the practice of long-term deals will over time be altered, which presents a serious threat to the company's investment capacities. With market liberalisation, gas-to-gas competition is increasing, and spot prices will become more important relative to long-term contracts with take-or-pay clauses.²⁶¹ Price formulas will

²⁵⁶ 'Gazprom an Gas-Hub beteiligt'. Frankfurter Allgemeine Zeitung, 28-1-2008.

²⁵⁷ 'Barroso rechtfertigt Gazprom-Klausel'. Financial Times Deutschland, 20-09-2007.

²⁵⁸ Van Agt, op. cit., p. 9.

²⁵⁹ The debate also centred on government wealth funds of emerging countries being "on shopping trips" in the developed countries.

²⁶⁰ As we have seen before, major (and extremely capital intense) investment would need to be undertaken in the Yamal region.

²⁶¹ In other words: the less long-term the contracts, the more uncertainty for suppliers.

be revisited and are more likely to change than ever before. Gazprom anticipated these changes by various measures: It has in the meantime established a number of joint venture marketing affiliates in Europe. Its participation in the British-Belgian Interconnector Pipeline gives Gazprom the opportunity to trade gas both on its own account and as a part of a tripartite trading agreement with Wingas and Centrica, the British marketing company. Moreover, Gazprom concluded a flexible export contract with Dutch Gasunie in order to provide up to 4 bcm annually to its European customers under a swap agreement. A newer strategy is targeted at joint ventures for storage facilities across Europe, which would cope with demand highs in cold waves for instance, and would ensure supplies in eventual new transit conflicts.

3.3.6 Production in Other Countries

Gazprom's development as a global energy company, targets at developing the entire gas chain from hydrocarbon production to marketing in new markets. It, therefore, is increasingly based on production capacities located outside of Russia. Gazprom is currently developing hydrocarbon reserves offshore in Venezuela, Vietnam, India and the Caspian Sea. In Iran, the company is taking part in the development of the South Pars gas field. Joint projects have also been started in Bolivia. Since 2007, Gazprom has also expanded its presence to North Africa, the Middle East and the British North Sea shelf. It develops gas fields in Egypt, Algeria and India.²⁶² Already active in gas exploration and production in North Africa, Gazprom recently proposed to increase its activities in Libya on the occasion of a visit of Colonel Gaddafi to Moscow.²⁶³ Joint exploration contracts have also been signed with Equatorial Guinea.²⁶⁴ In Nigeria, Gazprom has concluded contracts for the construction of a gas pipeline grid and joint development of gas fields.²⁶⁵ Another key aim is to enter the US market. Gazprom also proposed to Conoco-Philips to contribute its know-how to the construction of a new gas pipeline in Alaska.

²⁶² Available at: <http://www.gazprom.com/production/projects/deposits>, 01-06-2010.

²⁶³ 'Gaddafi in Moscow for arms talks'. Al Jazeera, 31-10-2008.

²⁶⁴ 'Equatorial Guinea: Gazprom is coming!' Les Afriques, 24-11-2008.

²⁶⁵ 'Gazprom baut Gaspipeline-Netz in Nigeria'. Ria Novosti, 06-06-2008.

3.3.7 Summary

Russia and Gazprom are pursuing a clear strategy of increasing energy security. Their strategy is destined to reduce dependencies by diversifying export routes and export markets as well as by striving for control of energy fluxes and entering new market segments, which generate higher profits. Certainly, investment in additional pipelines presents the danger of building up overcapacities, as the Blue Stream example has shown. However, as long as their economic viability is given, these investments appear justified by the fact that they reduce the dependency on the major transit countries of Ukraine and Belarus, which has proven harmful to Russia over the last two decades. Russia was completely dependent on Ukraine for its reputation as a reliable supplier and thus had no means to force the country to stick to its payment obligations. Offshore pipelines, although installation and running are twice as expensive as onshore pipelines, do not require the payment of transit fees, although these were not the main problem. Ukraine simply did not pay for the gas at all. To be clear, until the construction of the Yamal Pipeline, 95% of Russian gas exports transited through Ukraine. This figure has diminished to about 80%. The realisation of both the Nord and South Stream projects will not at all mean that no gas will be transported through Ukraine anymore, but they will diversify export routes and reduce Ukraine's leverage over Russian gas transit. The switch from Blue Stream 2 to South Stream can also be interpreted as a broader strategy to switch from overland to seabed gas transit pipelines wherever possible, although these alternatives are more expensive. In this case, Russia prefers contending with the limited jurisdictions of Ukraine and Romania in their maritime economic zones, rather than the fully sovereign jurisdiction of Turkey on land. In line with this, initial plans for the Northern pipeline over land to Finland and Sweden had been dumped.

Reducing dependency on Ukraine obviously is in the interests of Western European countries as it increases their supply security. Russia has made clear that it is no longer willing to subsidise the economies of its neighbours with billions of US dollars annually. This will force the transit countries' industries to modernise and increase energy efficiency. Technical security of energy flows would then be improved. The laying of offshore pipelines will also pay well for Gazprom. A set of theoretic works using game theory have shown that the existence

of export alternatives prevents transit countries from raising transit fees or from renegotiating them.²⁶⁶ In the case of existing transport alternatives, the share of the supplier in profits would exceed the 50/50 rule. The existence of the Yamal Pipeline thus increased Gazprom's profit share from transit through Ukraine to 55%. North Stream would thus raise Gazprom's profit share to 80%, whereas transit countries would retain no more than 20%.²⁶⁷ This outcome, however, changes when more players are integrated into the game and coalitions can be formed. The Trans-Caspian Pipeline, for example, promoted by the EU, would circumvent Russia with Turkmen gas being exported via Azerbaijan and Turkey.

As to the Caspian, Caucasus and Central Asian regions, any serious analyst has to consider what is at stake for Russia and Gazprom. These resources represent, first, a guarantee for Gazprom to be able to satisfy domestic demand in case of a decline in its own production, for whatever reason. Second, they represent a guarantee for the company to be able to meet its export obligations to Europe, if domestic production would not suffice. Third, Gazprom's engagement in Central Asia strengthens Russia's economic ties with the Central Asian CIS countries, which is likely to be in line with the Kremlin's policy objectives. Fourth, controlling the flow of Central Asian gas ensures Gazprom's continuous control over all flows of Eurasian gas to Europe. This ensures that Gazprom is able to maintain its share in the lucrative European market. European and American efforts for "direct access" to Central Asian resources bypassing Russia would adversely affect Gazprom's market position. The notion of "direct access", repeatedly put forward in argumentation, clearly demonstrates the core of the strategy. Contrary to discourse, "direct access" to Central Asian resources is not possible, as Central Asian countries are all landlocked. Even if Russia would be bypassed, the pipelines would pass several (i.e. even more) transit countries. However, these countries are smaller and poorer than Russia, with the exception of Turkey. In this respect, they might be more receptive to European influence.²⁶⁸ In Central Asia and the Caucasus, the conflict situation with Ukraine is repeated, as both Russia and the EU see themselves in a hold-up situation from transit countries. Possible transit countries such as Turkey, Georgia and Azerbaijan bargain hard for their interests.

²⁶⁶ See Hubert and Suleymanova, op. cit.

²⁶⁷ See Hubert and Ikonnikova, op. cit.

²⁶⁸ Gazprom's success in curbing Western efforts to bypass Russia also is crucial for the Russian state budget.

Gazprom's approach to Asian and world LNG markets must be seen with regard to its strategic aim to increase security of gas demand. Demand security on European markets in the past was guaranteed by long-term supply contracts. Market insecurities grow in Europe with liberalisation progressing. Not only the EU explicitly wants to diversify and reduce the share of Russian imports. European climate policies and programmes for increased energy efficiency as well as energy saving make gas use in the future uncertain. Moreover, gas production in North Africa increasingly becoming a competitor. On the other hand, demand growth in Asia is certain, though. Finally, we arrive at the conclusion that Gazprom's strategy is guided above all by an economic rationale. It searches for market dominance, demand security and higher negotiating power with transit countries.²⁶⁹ Clearly, until now, the energy game remains a game for influence zones. There is too much competition instead of a spirit of cooperation, which can only be understood with regard to the enormous rents that are to be gained and the well-being of entire economies being at stake. With non-cooperation and mistrust, clashes will continue and probably aggravate. Russia fears its revenues and influence diminishing; thus a threat to its global and regional role.

²⁶⁹ See Hubert and Ikonnikova, op. cit.

4 The Background: Interest Guidelines and Policy Priorities

The very manifest conflicts in energy relations between the European Union, Russia and transit countries that have been analysed in the previous chapter are the consequences of specific policy interests, which sometimes go beyond the gas and even the energy sector as a whole. The following part is meant to enlighten the background of disputes over pricing, transit and strategic investment projects by an analysis of the energy policies of the European Union and the Russian Federation. Naturally, the specific energy policies also follow general economic and (geo)-political objectives. Consideration of the respective interests and backgrounds is a precondition for mutually beneficial solutions.

4.1 European Energy Policy

With regard to European energy policy, some basic questions arise. Energy security clearly is essential for the EU due to its important consumption and lack of own resources. However, what are the obstacles against and what are the chances for a common EU approach towards internal and external energy policy? Which external factors influence the attitude of the member states towards a common policy in energy issues? What does the common energy strategy consist of? What are the key elements to assure security of supply? In the following, we will discuss these questions in order to identify the motivation and objectives of European energy policy.

4.1.1 E Pluribus Unum?

As seen in Chapter 2, security of energy supply is a common problem to all EU member states, as even the largest gas producers have become net importers. Within the context of growing international competition for scarce resources it thus seems rational to expect a common energy policy approach, as collective action would result in increased negotiating power. Yet the member states remain hostile to any initiative in the energy policy sphere aimed at transferring part of their sovereignty to EU institutions. EU energy policy is only weakly institutionalised in primary community law. It is part of the Common Foreign and Security Policy pillar (CFSP), and some competencies concerning the interior market and environmental policy are exerted by the Commission²⁷⁰, but there are no direct competencies for supply security. Consequently, European energy policy focuses on the demand side, and external issues are left neglected.

4.1.1.1 Evolution of Consciousness: Towards a common energy strategy?

Although the origins of EU energy policy may be found in the 1957/58 treaties on the ECCS and Euratom, it was mainly the oil shocks of 1973 and 1979, which gave the impulse for common policy action that resulted in diversification measures for oil supplies, and of energy sources, as well as the development of domestic resources. Nuclear energy and regenerative energy sources moved into the centre of attention, with the growth of environmental awareness, and the risks of radioactive pollution becoming dramatically visible with the Tchernobyl catastrophe in 1986. In 1986, the Council presented restructuring, rationalisation of consumption, stabilisation of gas proportions in the total energy consumption and increase in security of nuclear power plants as common energy policy goals. In 1991, the Energy Charter Treaty was meant to provide for the integration of the energy sectors of the former Soviet Union and Eastern Europe into the broader European and world markets.²⁷¹

²⁷⁰ See Articles 28, 95 and 174 of the European Communities Treaty, respectively.

²⁷¹ See Chapter 4.1.3. for a discussion of the Energy Charter Treaty.

In accordance with the internal market agreements, the 1990s saw liberalisation of grid-bound energies; climate protection and sustainable energy supply arrive on top of the energy policy agendas. Changes in international conditions and growing resource scarcity as well as subsequent price increases have led to an increased awareness of crucial issues such as energy dependency and efficiency. Financial and agenda setting controls are now much more in the hands of upstream producers than before. However, the common European energy market still does not exist. In 2001, the EU's Lisbon Strategy was enlarged by the third pillar, which deals with energy, moreover, mainly alternative sources of energy and environmental protection in connection to energy consumption. The repeated price disputes between Russia and its Western neighbours in 2002, 2003 and 2006 that related to supply cut-offs have again shifted attention to supply security. Pressure for a true common energy policy increased. As a consequence to these developments, the Finnish presidency in 2006 focused on renewing the energy dialogue with Russia as well as the OPEC countries and extending the common energy market to the Balkans and Mediterranean countries. Specific member states, as well as the European Commission, have analysed and formulated energy strategies. The necessity for more competencies on the community level was confirmed in the Commission's green paper 'A European Strategy for Sustainable, Competitive and Secure Energy', published on 8 March 2006.

4.1.1.2 Common EU Energy Policy Objectives

According to the Green Paper, the EU energy policy pursues three objectives: supply security, a functioning competitive internal energy market as well as sustainable environmental protection and CO₂ emission reduction.²⁷² These six priorities have been put forward:

1. Reduction of demand by increasing energy efficiency
2. The regular functioning of interior gas and electricity markets
3. Promotion of renewable energy sources and technologies
4. Improved linkage between energy, environmental and research policy
5. Improved nuclear security and security control
6. External energy relations

²⁷² 'A European Strategy for Sustainable, Competitive and Secure Energy'. Green Paper COM (2006) 105 final, European Commission, 2006, available at: http://ec.europa.eu/energy/green-paper-energy/doc/2006_03_08_gp_document_en.pdf, 14-01-2014.

In view of increasing import dependence, the necessity for common positions and actions becomes more and more obvious. However, apart from general statements about reducing energy dependence and protecting climate and the environment, there is not much acknowledgement of this. The lack of transfer of competencies to the Union level results in ambiguities and incongruence between national policies and the common energy policy. The member states thus retain the right to determine their external energy relations as well as the national energy mix. These margins for pursuing national interests are used by companies to exert pressure on Brussels via their respective governments.²⁷³ European energy policy that would lead to strategic decisions is nonexistent. The greatest achievement of the German presidency was in 2007 with an action plan for the reduction of greenhouse gas emissions by 20% until 2020.²⁷⁴ Moreover, renewable energy sources shall reach a 20% share in energy production by 2020 and energy efficiency should improve by at least 20%.

The European Commission presented guidelines for a common energy policy in January 2007.²⁷⁵ Climate change, increasing dependency on imports of supplies and rising energy prices were identified as the biggest threats that the unified Energy Policy has to face. Strategic goals for a new Energy Policy thus lie in combating climate change, reducing vulnerabilities due to import dependencies and promoting growth and employment – and thus provide secure and affordable energy for consumers.²⁷⁶ A new-high level group, the EU Network of Energy Security Correspondents, was established in May 2007 to monitor energy security. In November 2008, the Commission published its Second Strategic Energy Review focusing on supply security, interconnectors and external energy policy. The Green Paper advocates a common external energy policy as being more efficient in reaching sustainable and ecologic energy security. To solve the problem of energy security, it proposes a mixture of demand side policies targeting energy efficiency and saving, solidarity, technological development and market interconnection, and also supply side policies such as diversification of imports, transport routes and fuels. It proposes an energy dialogue with producers, con-

²⁷³ One example can be seen in the German subsidy policy for the coal sector.

²⁷⁴ Document of the EU Council of March 8/9th, 2007, p. 13, available at: <http://register.consilium.europa.eu/pdf/en/07/st07/st07224-re01.en07.pdf>, 12-04-2009.

²⁷⁵ The Energy and Climate Package of the European Commission of 2007-01-10 contained a Strategic Energy Review focusing on both external and internal aspects of EU energy policy.

²⁷⁶ The EC paper 'An Energy Policy for Europe' was adopted in March 2007 by the European Council.

sumers and transit countries. Besides the EU-OPEC and EU-Russia dialogues, the strategy suggested using the G8 summit as a forum to secure rapid ratification of the Energy Charter Treaty by Russia and conclusion of the negotiations on Transit Protocol. In supply crises, an effective and joint reaction should be possible. More concretely, the following measures were proposed:

1. The development of an improved energy partnership with Russia
2. The development of a new supply infrastructure
3. The foundation of a Europe-wide energy community
4. Community aid in supply emergencies (solidarity)
5. Consolidation of energy relations
6. An international agreement on energy efficiency.

4.1.1.3 Dissent and National Industrial Policy

However, whereas EU institutions are pushing for a common energy strategy on a community level, member states remain reluctant.²⁷⁷ 27 foreign policies, sometimes contradicting each other, leave little chances and make it hard to realise the elaborated EC strategy papers. To date, there is no legal basis for a common European energy policy. Competence for energy policy exclusively remains with the nation states.²⁷⁷ But a common energy policy will need binding guidelines, for example, for the energy mix. The Commission's attempts to coordinate national policies and to promote common strategic objectives are repeatedly challenged by national resource strategies. The level of dependency on energy imports among the member states varies significantly. But also the structures of energy sectors, i.e. the energy mix, differ widely across member states. Countries like the United Kingdom, Denmark or the Netherlands dispose over domestic resources in hydrocarbons, which in the past allowed or, in the case of Denmark, still allow for self-sufficiency for at least some time. They have to import only a minor share of the energy they need and are reluctant to provide others with their own resources in emergency cases – which contradicts any common energy strategy based on solidarity. Furthermore, these countries have passed their production climax and will become energy importers in the medium term. Countries like Sweden or Austria hold a large share of hydro-en-

²⁷⁷ Although the European Commission can start initiatives in trade, climate and environment issues, it lacks competency over general energy policy issues.

ergy and thus are less dependent on imports than others. Poland uses its coal deposits to a large extent. Smaller countries like the Baltic countries, Ireland and Luxembourg though are highly dependent on energy imports. Another group of countries consists of transit states with contradictory interests within the EU. Being dependent themselves on energy imports, they benefit to a major extent from pipelines crossing their territories, i. e. from the dependence of other member states located further west. The EU is deeply divided as to nuclear energy.²⁷⁸

Export dependency is one problem in itself, and dependency on different suppliers forms another source of dissent among the EU members. Southern and Western European countries thus mainly receive their oil and gas from the Middle East and Northern Africa, but also from the North Sea (i. e. Norway). Central and East European countries, including Germany, rely on imports from Russia. The percentage of oil imports from Russia thus varies distinctly based on the energy mix of the countries and their geographical location. While it is more than 80% in Hungary, Poland and Slovakia, Germany receives 26%, Italy 18% and France 11% of its oil imports from Russia. Gas imports are relatively close to these figures. Quantity-wise, Germany (34.4 bcm), Italy (22 bcm), Great Britain (15.2 bcm) and France (10 bcm) are by far the biggest consumers. However, the share of Russian gas in total gas imports does not exceed 42% in these countries.²⁷⁹ Eastern European states certainly import smaller quantities, but are much more dependent: The Czech Republic, Hungary and Bulgaria receive more than two thirds, Finland and the Baltic countries receive almost 100% of their natural gas from Russia (Cf. Figure 9 and Table 18).

These differences in dependencies are the reason for varying approaches towards a common energy policy of the EU. Countries of higher dependency push for its establishment, while more self-sufficient countries are reluctant to engage. Countries that dispose over possibilities to diversify their supplies are less willing to transfer part of their sovereignty to European institutions. Moreover, the energy sectors of the member states have a history of monopolisation and state protection. They are still perceived as a matter of state security. In

²⁷⁸ Ten countries out of the EU-27 have never built nuclear plants, Austria and Italy have phased out theirs. Belgium, Germany, the Netherlands and Spain are planning to do so. This leaves eight member states – France, the United Kingdom, Finland, Lithuania, the Czech Republic, Slovakia, Hungary and Slovenia – as nuclear supporting countries.

²⁷⁹ BP Statistical Reviews, 2006–2009.

fact, every member state disposes over its own gas sector organised around one or several companies, which share a national monopoly. These companies are free to negotiate import contracts, to diversify their suppliers and to organise storage.²⁸⁰ They are far from leaving their own national standpoint. National industrial policies attempt to counter intra-European takeovers in order to preserve national companies.²⁸¹ Traditionally, states prefer to secure their energy supplies on a bilateral basis, and in view of the absence of common positions on the community level, they will continue to do so. In doing so, they compete for the scarce resources other countries – like Russia – have to offer. It is easier for a rich state to secure its energy supplies through bilateral negotiations, as it does not have to give up its sovereignty, and also does not have to make compromises to appease other contractors. Solidarity appears to be limited, as long as control is in the hand of the national states. Bilateral projects of some EU member states though, as has been the case with the German-Russian Baltic Sea gas pipeline, may become perceived as directed against the interests of smaller and more dependent member states such as Slovakia, Hungary or the Czech Republic, which have very limited diversification possibilities. These countries would need a united European stand when negotiating with Russia. These considerations also provide the background for pipeline projects, which diversify import routes, such as the Nabucco project. In 2006, representatives of Eastern European countries agreed on working out a joint plan to reduce dependence on Russian natural gas.²⁸²

4.1.2 More Competition: Natural monopolies, unbundling and regulation

Traditionally, EU gas markets were national markets dominated by a national energy company, which owned the pipeline system and distributed the gas

²⁸⁰ Cf. Yavid-Reviron, p. 89.

²⁸¹ See, e.g., the take-over attempts of EON/Endesa in Spain, or the GDF/Suez merger.

²⁸² Following the gas crisis with Ukraine, in January 2006, representatives of Poland, the Czech Republic, Slovakia, Austria, Hungary, Slovenia, Croatia and Romania agreed to consider working out a joint plan to reduce dependence on Russian natural gas. Elements of the plan were to include building gas storage facilities, constructing a smaller intra-regional pipeline network, building terminals in Croatia and in Poland for storing liquefied gas, and accelerating work on the Nabucco pipeline. However, not much has been heard of the plan since.

to final customers. Even if several retailers were in existence, the national incumbent dominated the wholesale market and had exclusive relations with the supplier. This system of long-term contracts provided for predictability; it minimised competition and provided the means for large investment, e.g. in the Yamal Pipeline in the 1990s. The European Commission made a first sector-specific liberalisation effort in the gas sector with its first gas directive in 1998, which required the unbundling of accounting for pipeline and retail business. The commitment to liberalisation in the gas sector was made explicit at the Lisbon Summit in 2000, and resulted in the second gas directive from 2003, which required legal unbundling and the establishment of national regulating bodies. The market has remained dysfunctional though, and a third Gas Directive is in elaboration. In line with its founding treaties, the EU aims at having as much competition and decentralised market forces as possible; this being the best means to guarantee security of supply. Market economy features in energy sectors did first appear in the 1980s. Before, energy was treated as a special sector in which market incentives did not apply, or at least could not guarantee for sufficient welfare, i.e. socially optimal supply, investment, distribution infrastructure etc. Beginning in the 1970s, a background of studies related to state inefficiencies, and also new theories such as the principal-agent-theorem contributed to a change of conscience, at least in the West. Beginning the liberalisation of energy markets in Western countries made it necessary for the states to redefine their tasks in the sphere of energy policy. Since then, energy markets in industrialised countries and thus the EU have witnessed a wave of privatisation with the states giving up their dominant positions in the production and distribution of energy. However, despite some progress, the abolishment of monopoly structures in energy markets was not achieved. Cartels and price agreements were forbidden in the 1990s.

Economic theory generally derives the necessity of state interference in markets from observations of market failure, represented by natural monopolies. These are a general characteristic feature in energy sectors.²⁸³ Gas, electricity

²⁸³ In order to heal market failure and to increase welfare, coordination of energy demand and supply shall be promoted by the state. Throughout the world, LNG-terminals, plants, pipelines are planned and built with the help of state finances. The whole nuclear sector has been developed as a state project and would not have developed otherwise. Without state involvement and state risk-bearing, the nuclear energy sector would not be economically viable. The origin of the term "natural monopolies" is attributed to John Stuart Mill. For state interference in energy markets see, e.g., Erdmann, op. cit., pp. 9ff.

and also the upstream oil sectors are bound to transport grids. They represent natural monopolies because it would be much too costly and inefficient to establish parallel grids, which would enable competition or at least a duopoly. Normally, pipeline and electricity grids are owned and operated by horizontally and vertically integrated energy companies active in exploration, production, distribution and retail.²⁸⁴ The conditions for decentralised coordination ensuing in Pareto-efficient market results on energy markets are thus highly limited. As a consequence, competition is reduced and oligopoly structures dominate the market. Monopolistic market structures though, according to general economic theory, lead to suboptimal allocation results with demand remaining unfulfilled and prices too high. Integrated energy companies do not have any interest in enabling competitors to threaten their market position. New competitors who consequently do not possess transportation capacities, have a serious disadvantage in entering the market. Integrated companies allow for cross-subsidising in the competition sectors (up- and downstream) by the monopoly sector (the grid). Newcomers to the markets would then face high access fees for grids and low prices on the distribution sector. They would lose in competitiveness and be pushed out of the market. With state regulation absent, vertical integration, therefore, must be regarded as negative for competition to take place. Another particularity of energy markets consists of the specific investments in exploration, production and distribution infrastructure that are irreversible in most cases. They also represent high entry barriers to new producers.

In the course of gas and electricity market liberalisation, the EU Commission, therefore, demands for the unbundling of distribution nets and production, which is perceived as a major instrument for enabling competition.²⁸⁵ Giving transport nets into the control of the state, or at least independent companies, seems the only way to guarantee access to the nets for all producers on equal terms. However, as profits in running the grids are essentially lower than in other business fields²⁸⁶, they may be too low to attract private ownership and

²⁸⁴ This often is justified by the larger need for cooperation in energy sectors and also by the difficulties of storage.

²⁸⁵ Back in the 1970s already, economists had started research on the institutional organisation of energy markets, on regulation and rules, market power and competition especially on markets with pipeline-bound energy sources. Deregulation concepts became politically realised in the UK and the US under Prime Minister Thatcher and President Reagan.

²⁸⁶ This is mainly due to exceptionally high fix costs. What more is, average costs are sinking with rising throughput, and cost functions are sub-additive, i.e. one producer can serve the market at lower costs than more producers.

the state finally may be forced to take over the grids. The Commission had to file suits against ten member states for not implementing the Gas and Electricity Directive. However, the mere unbundling of property rights does not guarantee competition. And even after a successful unbundling, the grid managing company would control all energy flows. It would still be the state's task to prevent the abuse of market power. Nevertheless, separating nets from producers means a loss of market power to the latter. It was often put forward by European governments that this would adversely affect the global expansion possibilities of large European companies, arguing that increased competition at home reduces their global competitiveness.²⁸⁷ The political preference for competition thus appears to be justified only when the benefits of competition dominate the advantages of vertical integration.²⁸⁸ However, natural monopolies and vertical integration in the energy sectors make regulation, i. e. state control of economic activities of profit-seeking enterprises, necessary. Regulation shall render the exertion of market power over competitors and customers impossible. Net access and net access fees are crucial.²⁸⁹

Nevertheless, liberalisation and competition on energy markets remain highly controversial among the EU member states.²⁹⁰ Some economists argue that deregulation discourages physical investments because of higher uncertainty. "Historically, disjoint small operators (who are model price takers) have been unable to build and maintain such capital-intensive infrastructure."²⁹¹ Back in the 1980s, it was the condition of supply surplus, which made liberalisation policies politically saleable, as surplus capacity in gas, oil and electricity supply virtually assured governments that prices would not increase in the short-term. The disruption of vertically integrated supply relations would reduce the likelihood that irreversible investment can be efficiently utilised because the incentives to the separate parties have changed due to changed regulation and contracting habits. Thus, any overall benefits that could be reaped from competition

²⁸⁷ The determination to foster national champions is in this aspect very similar in many EU member states and Russia. See Röller et al. (2007), p. 33.

²⁸⁸ But unbundling is opposed by electricity and gas companies and even by scientific literature, considering it as interference in the freedom of profession and property rights.

²⁸⁹ These cannot be equal to marginal costs, as average costs are higher. Tariff regulation also means a compromise between fees that are low enough to guarantee competition and rents for the net managing companies high enough for them to be able to invest. This, however, would mean to open up possibilities for cross-subsidies which in turn hinder competition.

²⁹⁰ Oligopolies are a common feature on European energy markets.

²⁹¹ Ivanenko, op. cit, p. 9.

would be annihilated by the forfeiture of economies of scale. Deregulation, thus, could result in higher risk, higher prices and less security of supply.

The wished for phasing out of take-or-pay contracts especially poses problems, as the existing pipelines have not been designed to grant access to third suppliers in competitive markets with continuous changes in demand quantity. They were built, on the contrary, to transport at full capacity in order to return a maximum of the investment taken. Reacting to demands from Brussels, member states and the national companies have engaged in effective circumvention practices, such as legacy contracts binding upstream and wholesale markets for the foreseeable future. Moreover, confidentiality clauses have been introduced into contracts, which deny information on capacity and storage to market entrants. As very little cross border trade has been witnessed, there might also be collusion among incumbents not to interfere in the respective markets. Consequently, any new market entrants are completely dependent on the incumbent companies.²⁹²

The European Commission, however, continues to push for the realisation of the internal market and puts forward the benefits of competition such as reduced prices and increased efficiency. In awareness of the investment problems though, and in order to promote investments in new import infrastructure, Article 22 of the Second Gas Directive envisions exemptions from third party access over a limited period of time under certain conditions.²⁹³ Nevertheless, state investment and ownership in energy sectors is common throughout the world, reflecting the public interest side to energy goods. As gas is predominantly transported via pipelines, it is not a very fungible good and unlike oil, a world market for it does not exist in the proper sense of the term. Consequently, the EU gas market is highly fragmented. National markets are insulated from each other and dominated by vertically integrated (national) companies. The lack of infrastructure interconnections is limiting free gas supply flows, which

²⁹² See Riley, Alan: 'Energy Security, Gas Market Liberalisation and our Energy Relationship with Russia'. ESF Working Paper, No. 23, European Security Forum, 2006.

²⁹³ These conditions are: 1) a considerable financing risk caused by unbundling, 2) the separation of pipeline ownership from pipeline operations, 3) the improvement of EU energy security by the project. Also, the project shall not harm competition. Cf. 'Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC', available at: http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexdoc!prod!CELEXnumdoc&lg=EN&numdoc=32003L0055&model=guicheti, 05-11-2009.

could balance demand and supply. With minor exceptions, Western European states are not able to provide the Eastern European states with emergency supplies. This fragmentation also poses problems for the development of common energy interests.

4.1.3 Material Supply Security for Europe: Demand side policies

Given the high dependence of the European Union on fossil fuels and most importantly crude oil, which at least partly cannot be replaced by other energy sources, depletion of both its own resources and growing competition for energy imports will have severe impacts on its national economies.²⁹⁴ Material supply of energy resources thus represents a key interest in European energy policy, but it goes beyond the depletion of natural resources. Material supply security also relates to very diverse problems of technical availability, maturity of technologies, cost-efficiency, production and transport infrastructure. Here, a conflict emerges between market liberalisation and security of supply. Usually, the large energy infrastructure projects have very long-term planning horizons and cost billions of USD. Private companies take investments only when the potential to generate profits is quantifiable. The risk of undersupply caused by insufficient investment would be less prevalent in monopolistically organised markets, as investment costs plus an interest rate superior to the market rate can be passed through to customers. In liberalised markets, however, investment has to generate profits under conditions of competition. In general, there is no disagreement about state tasks to guarantee material supply security and a stable provision with energy. Under most constitutions, the state is thus responsible for the maintenance of services of public interest, foremost being energy supply. It is obvious that for guaranteeing material supply security, the quality and maintenance of grids, stations and emergency supplies has to be assured in order to avoid power outages or other disruptions. Regulation is thus crucial in liberalised energy markets. In addition to this, other demand side policies are meant to accompany energy security policies of the European Union and its member states.

²⁹⁴ Possible depletion of fossil fuels was first presented to a greater public by Dennis Meadows et al. in their 1972 study 'The Limits to Growth'. Current estimations for the temporal availability vary from 15 to 70 years for oil and are more optimistic for natural gas according to the assumptions made.

4.1.3.1 Reduction of Energy Dependency

The reduction of energy dependency is one key priority in the European Union's strategy for increased security of energy supply. This can be achieved by increased energy efficiency, which reduces demand. Other possibilities are simply less consumption, i.e. energy saving, and also increased reliance on domestic resources where possible. Energy dependency can also be reduced by a strategy of risk spreading, i.e. diversification of energy sources used, but also diversification of imports as to their geographic origin. It may appear necessary to adopt measures for political stabilisation in transit and exporting countries for maintaining material supply security.²⁹⁵ All these proposals have been formulated as strategic goals in the energy policy sphere by the European Union and its member states. Efficiency potentials are found not only in production (as to the technical efficiency ratio of plants and installations), but also in transport (grids, transformation and interconnectors), and in almost all industrial processes relying on the use of electricity for their machines. The outmoded production and transport infrastructure especially, as well as industrial complexes, in Eastern and Southern Europe would certainly provide for huge energy saving and efficiency increase potential. Although rising energy efficiency in energy importing countries could be perceived as a potential problem for exporting countries, demand reductions are very unlikely to occur due to continuing growth and development. Moreover, resource scarcity is likely to keep prices rising. Increased energy efficiency in the exporting countries themselves, frees resources for export and results in increased revenues.

4.1.3.2 Precautionary Measures and Solidarity

Precautionary measures represent an instrument for bridging short-term gaps in energy supply. Solidarity among the member states in case of disruptions requires investment in interconnections between the national electricity and pipeline grids. The oil and gas pipelines would need to be enabled for the reversal of flows. Finally, storage capacity, which currently is at 15 % of annual consumption or 80 bcm, compared to 20 % in the US, needs to be enlarged. The capacity in place theoretically would cover any supply disruptions from Russia for up

²⁹⁵ This is what the European Commission considers necessary as a common European energy policy.

to eight months. However, as interconnectors are missing and as the reversal of gas flows remains impossible in many pipelines, this figure is of statistical interest only. In practice, storage capacities differ from 6 days in Greece to 40 days in Germany and 180 days in Slovakia. Nine member states do not dispose over storage capacities at all. The EU is discussing these issues, but again the member states differ in their views. Germany, for instance, follows the perspective of holding first private businesses (i.e. the energy companies), then nation states and then the EU (only on a third level) responsible for assuring security of supply. The Italian government, as another striking example, in the 2009 crisis, issued a decree saying that any operator supplying gas in Italy has to divert all its imports in order to supply Italy.²⁹⁶ Solidarity is a controversial issue because of the fact that the different member states are unlikely to benefit equally from it. There would be the danger of free lunch: "Most of the Central and Eastern European countries did very little to lessen their energy dependence on Russia. They have had plenty of time since the collapse of communism in 1989–1991."²⁹⁷ Only the Czech Republic engaged, despite being costly, in diversification of its oil and gas supply. Clearly, conflicts among member states emerge about who should bear the cost. Nevertheless, the repeated gas crises increased awareness of the problem. The EU Commission in July 2009 issued a draft directive obliging member states to emergency plans as well as concrete measures to reduce their risk of supply disruptions. Most member states thus plan to increase their gas storage capacities. The overall increase is foreseen at 53 bcm, with major projects in Italy, Germany, the UK, Spain and Hungary.

4.1.4 European Policy Objectives in the Environmental Sphere

Energy and environment are very closely related policy fields. Energy production and consumption often lead to negative effects on the environment. Pollution and climate change can cause welfare losses, either directly by reducing health or indirectly by their negative effects on our capacity to use the environment for economic purposes or for recreation. Of all the environmental problems linked to the use and production of energy, the consequences of greenhouse gas emis-

²⁹⁶ 'Mandil: Energy solidarity "still just words"'. Euractiv, 09-02-2009, available at: <http://www.euractiv.com/en/energy/mandil-energy-solidarity-just-words/article-179254>, 14-01-2014.

²⁹⁷ Bartuška, Vaclav: 'First responsibility, then solidarity'. in Liuhto, op. cit., p. 57 ff.

sions and climate change are the most difficult to assess. As gases are equally distributed in the planet's atmosphere, the geographic origin is irrelevant for their negative effects. Carbon dioxide concentrations in the atmosphere that rise above certain levels lead to global warming and climate change.²⁹⁸ The motivation for a proactive European environmental policy in the energy sphere is fruit to considerations that environmental consequences as well as the scarcity of resources represent issues of sustainability and intergenerational justice. Environmental policy guidelines of the European Union will, therefore, very likely influence energy and thus gas demand in the future. There is deep scientific and public concern over the consequences of climate change. Many disastrous natural phenomena in recent decades such as floods and thunderstorms have been attributed to man-made climate change, the cost of which are continuously increasing. Environmental protection and reduction of emissions thus not only follows an ecological, but an economic rationale. However, markets obviously do not prevent from the negative external effects²⁹⁹ of energy production and consumption, as energy prices do not integrate these negative effects on the environment. Without state interference, energy prices are distorted, becoming too low, as they transmit false information about the scarcity of the resources and the negative aspects of energy production and use. Without correct price signals, markets cannot allocate goods efficiently. Externalities with regard to climate change are regarded as severe enough to justify state interference. The European Union has fixed ambitious aims in climate and environment protection as well as the reduction of energy intensity of its economy.³⁰⁰ A combination of institutional and financial instruments, of voluntary and obligatory measures is designed to achieve these aims. The respect of some basic principles such as the precautionary principle and the polluter-pays-principle are conditions for achieving environmental policy goals. Derived from the precautionary principle, long-term standards need to be fixed in order to avoid irreversible effects of

²⁹⁸ In order to reduce the effects of carbon dioxide emission, a stabilisation of the CO₂ concentration in the atmosphere at 400–450 ppm shall be reached. Today, the threshold of 350 ppm is already surpassed and forecasts of rising energy demand and consumption increase the urgency of the emission issue.

²⁹⁹ The concept of externalities was introduced by welfare economics, see e.g. the respective works by Marshall and Pigou.

³⁰⁰ Under the Kyoto protocol, the EU committed to an 8% reduction of its greenhouse gas emissions compared to 1990. In 2007, the EU set up unilateral climate protection objectives which include a 20% reduction of GHG emissions by 2020.

environmental damage. The polluter-pays-principle is of equal importance for incentives for environmentally sound energy production to become effective.

The European Union, together with particular member states, regard the development of new technologies, which aid emission reduction, higher efficiency and sequestration of CO₂, not only as a necessity for achieving the internationally agreed on climate protection objectives, but also as a key business field for the future. Europe shall become the technological leader – and provide the rest of the planet with the technological means for climate and environment protection. Renewable energy technologies for various reasons are not competitive today. The state may interfere with subsidies and various promotion measures in the pursuit of political aims such as a larger energy mix, reduced dependence, less pollution or research policy. Relying on market forces only, the development of backstop technologies may come too late. Awareness needs to be raised through information campaigns. Taxes and the trade of emission certificates provide monetary incentives in order to overcome the public good problem. To increase efficiency on the demand side, energy saving and the use of efficient products and technologies are necessary. However, efficiency increases on the demand side are short-lived, as energy consumption to a large extent also depends on factors such as climate and economic growth. Simultaneous growth in demand often compensates rises in efficiency.

Another rationale for European efforts in the climate protection field is provided by some argumentations from southern countries and notably the emerging economies which blame the industrialised countries for being the main initiator of climate change with regard to their 150 years of industrialisation and to the fact that still today, slightly less than half of global greenhouse gas emissions are caused by industrialised countries. Due to the international character of problems concerning the environment, climate and resource scarcity and also in considering global competition level playing fields, the EU is interested in the promotion of its own strict environmental rules abroad and notably in Russia. For instance, due to the global nature of man-caused climate change, emission trade systems would only work efficiently on a global scale, otherwise, leakage

effects and delocalisation of industries would occur.³⁰¹ Global climate targets would then not be reached.

4.1.5 The Energy Partnership with Russia

Russia continues to be one of the major suppliers of energy resources to the European Union. Energy relations to Russia are consequently of the highest importance to the EU. The nature of the producer-consumer relationship has a strong impact on countries' concerns about security of supply. The EU's overall dependence on energy imports from other areas of the world is expected to reach more than 70 % by 2030.³⁰² A list of concerns has led the European Commission to promote a strengthening of EU-Russian energy relations. However, this promotion was regularly bound by conditions.³⁰³ In particular, the EU identified uncertainty about future reforms and development in Russia's energy sector as a problem for its supply security:

1. The high level of business and state secrecy over disposable reserves adds to the problem of uncertainty, though not only with respect to Russia. Analysts from the private sector as well as independent researchers and international organisations have raised serious concerns about Russia's supply potential, i.e. whether Russia will be able to meet its supply obligations.³⁰⁴
2. Russia's low energy prices deter domestic demand and are feared to threaten European supply. Russian domestic consumption amounted to approximately 420 bcm in 2008. Total production was at 602 bcm. Export volume of roughly 280 bcm could only be achieved by the help of Russian gas imports from Central Asia, clearly showing the tightness of Gazprom's own supplies.

³⁰¹ Consequently, a global emissions trade scheme remains unlikely. So far, only the European Union has introduced emission rights trade for carbon dioxide.

³⁰² See again Figure 7. Cf. also: 'Natural Gas Market Review 2006 – Towards a Global Gas Market'. OECD/IEA, 2006.

³⁰³ See, e.g.: Mandil, Claude: 'Securing the Russian-European energy partnership'. Working Paper, IEA, 2005.

³⁰⁴ See, e.g., 'Gas, gas everywhere...but enough to burn?' UBS Investment Research, 2006; and also Riley, Alan: 'The coming of the Russian gas deficit'. CEPs Policy Brief, No. 116, Centre for European Policy Studies, 2006.

3. Changes in Russian consumption patterns, e.g. with ongoing gasification and increased economic development will add to the danger of insufficient supplies.
4. The absence of competition in energy markets and the persistence of state monopolies are presented as a threat to European energy security. State ownership of energy companies called forth the fear of politics, using the energy sector as a tool for pursuing geopolitical interests, especially in the so-called near abroad, i.e. former Soviet republics. However, this political risk may be considered even higher with other suppliers, notably in the Middle East.

Consequently, the European Union in its partnership with Russia is interested in securing access to Russian resources, control over the resource flows, stable energy flows and costs, in increasing efficiency and competition in Russian energy markets, and in opening up a market for European state of the art technologies. The EU, therefore, continuously, but in vain, demanded the ratification of the Energy Charter Treaty by Russia. Nevertheless, the ECT remains, for the time being, a cornerstone of European energy politics. As a consequence to the Commission's green paper on energy security, the EU-Russia Energy Dialogue was launched in 2000. The Dialogue is based on the recognition of a natural partnership and mutual interest in securing energy supply for the continent, but essentially it is aimed at securing access to Russian hydrocarbon resources. With the Energy Dialogue the EU also wants to address issues such as opening up the Russian domestic energy market to competition, improving the business environment with the aim of increasing European investment, and also improving cooperation on climate change under the Kyoto protocol, as well as nuclear safety. The Energy Dialogue provides a forum for discussion. It shall foster co-operation, for example, in energy saving measures, and also help to rationalise production and transport, and to improve electricity grid connections and investment conditions. Senior officials, i.e. the Commissioner and the Russian Minister, oversee the Dialogue and the work of four working groups uniting hundreds of private and public sector experts from Russia and the EU. Annual progress reports are published and in 2002, a technology centre opened in Moscow. A study for the linkage of both electricity markets has been set up in 2007. Among the Energy Dialogue issues, count the conversion of the regulatory framework, the increase of Russian oil production and increased processing

depth and quality of Russian mineral oil products, transport access and liberalisation of the gas market.

While it is true that the inflexibility of pipelines restricts the EU's supply options and the potential for supply diversity, it also restricts Russian options to diversify exports. Russia is currently more dependent on the EU than vice versa – to cut off oil and gas exports to the EU would cut off a major source of income. However, the dependency picture needs to be refined. With regard to the vast differences among EU member states according to energy mix, consumption and imports, and also in trade with Russia and thus technological and income importance, it quickly becomes clear that at the member state level, interdependence looks much different. Russia is neither for revenues nor technologies dependent on the Eastern European countries, which consume little gas. These countries, however, depend completely on Russia for their energy imports. Nevertheless, it is the task of European authorities to integrate all member state interests into a common position and enhance solidarity. Thus, further European market integration will foster a common energy policy and improve European positions in a partnership with Russia. The Permanent Partnership Council (PPC) of Russia and the EU was established in 2005 but first met in 2008 – clearly showing the divergent views of European policy towards Russia. The Energy Dialogue remains highly dependent on broader EU-Russia negotiations such as the Four Common Spaces (economic, legal, security and research) where progress is low.³⁰⁵ But the member states are divided, rather than sharing a common position in their policy towards the Russian Federation. Germany, for instance, pursues a strategy characterised by the key words "Annäherung durch Verflechtung" [Rapprochement by integration] and is guided by an economic view with the aim to engage Russia.³⁰⁶

Interdependence, though, does not necessarily mean cooperation, but can also result in conflict, when there is not a completely balanced interdependence but an asymmetric dependency relation. Solum Whist discusses the pros and cons of this argumentation and quotes Hirdman:

³⁰⁵ The "four common spaces" relate to an agreement concluded at the 2003 St. Petersburg EU-Russia summit. They cover the issues of economic space, space of freedom, security and justice, space of external security and space of research and education in which cooperation shall be increased.

³⁰⁶ 'Außenpolitik im Zeichen von Energiesicherung'. Interview with Frank-Walter Steinmeier, German Foreign Minister, 14-10-2006.

"It depends on how one sees Russia [so it's all about perception]. If one believes that Russia is an aggressive actor that wants to turn off the gas supply to Europe, then, of course this is dangerous. But if one has another image of Russia, namely that it is a European state that is aiming at its economic and political development; and that is being globalised and modernised, then it is not dangerous. We are always getting back to the 'images' of Russia."³⁰⁷

However, these images are often based on historical experience. Consequently, especially the Eastern European countries such as Poland and the Baltic countries are highly critical and guided by mistrust vis-à-vis Russian intentions. They plead for a firm stance from the EU. The pending renegotiation of a renewed Partnership and Cooperation Agreement with Russia is just another signal for discord.³⁰⁸ So meanwhile, bilateral deals of member states and national companies with Russia prevail over a specific EU approach. A common foreign policy in energy affairs is far from reality. Clearly, the lack of consensus among EU member states gives Russia more room for manoeuvre in energy supply negotiations. But it is up to the European Union to change this situation.

4.1.6 Summary

In the previous section, we have seen that the European institutions have become more and more aware of energy security concerns. They have made considerable steps towards the realisation of common energy markets and also towards a common energy policy by formulating ambitious strategic goals and programmes. Diversification of energy supplies and a common external energy policy are key issues on the political agenda. In accordance with its founding treaties and internal market agreements, the EU assumes a limited role for the state; as setting useful and beneficial general business conditions, as liberalised markets generate the most efficient outcomes. Enabling competition in the Union's domestic markets, i. e. unbundling and regulation of natural monopolies is thus a major aspect in European energy policy. Supply security not only depends on material disposability and technical preconditions, but to a large part also on investment and pricing conditions. The natural monopolies on energy markets

³⁰⁷ Solum Whist, Bendik: 'Nord Stream: A solution or challenge for the EU?' in Liuhto, op. cit., p. 180.

³⁰⁸ The old agreement dating from 1997 has run out in 2007. Currently, it is extended annually. The EU member states intend to include a chapter on energy.

resulting from pipeline and grid-bound energy transport present an obstacle to competition. Energy companies, therefore, tend to integrate the whole value chain. Unbundling of these companies is widely advocated by economists as a precondition for increased competition in energy markets. However, as the sole operation of transport grids is hardly profitable, unbundling encounters fierce opposition from the energy sector. The state role in regulating natural monopolies and vertically integrated companies has been discussed and found to be necessary for competition to work. However, both the completion of the common market and a common energy strategy remain controversial among the member states. They have embraced policies promoting globally active national champions able to promote national interests worldwide. Moreover, the European market liberalisation approach represents a conflict with Russian positions, as we will see again further below.

Another key policy field related to the energy issue, consists of environmental and climate aspects. In this area, the European Union has adopted a firm position by setting standards and providing incentives that are meant to heal market failure by internalising external effects. Moreover, it engaged in a process of reducing energy intensity, increasing efficiency, fostering renewable energy sources and considerably reducing emissions of CO₂. State innovation and research policy in the energy sector contributes to technological progress, which is necessary for increased supply security, and which would not be achieved by imperfect markets, or less fast. Notwithstanding all the diversification and solidarity policies, Europe will remain highly dependent to hydrocarbon imports. Russia for a variety of reasons, i. e. its vast resources, its proximity to Europe, its comparable political stability, as well as its long history of reliable supplies, constitutes a major partner for Europe. Both sides have engaged in an energy dialogue, which for the time being made clear the high potentials for a beneficial energy partnership.

So, five main policy fields, which are interconnected, have been identified, in which Europe could engage to enhance its energy supply security: 1) energy efficiency and saving must be increased, 2) own production could be increased, though the mix of renewables, nuclear and domestic fossil resources such as coal would be in question, 3) external suppliers would have to be diversified, 4) storage and interconnection capacities would need to be increased for an improved

emergency aid and solidarity among member states and 5) sustainable relations with supplier countries would need to be developed.

4.2 The Economic Situation and Interests of the Russian Federation

After having thus considered European motivations and objectives, we will in the following part turn our attention to the Russian Federation. In order to identify the interests Russia pursues with its energy policy and the motivations, which guide its actions in energy relations with the European Union, we will firstly evaluate the macroeconomic situation of the Russian Federation, followed by an assessment of the energy policy.

4.2.1 The First Transformation Phase

Russia's transition from a state-regulated planned economy towards a free market system has been related to deep political and economic crises. The country witnessed a deterioration of almost all social standards as well as the loss of its status as a political super power and as an economic powerhouse (which it was, if not on a global scale, at least for the former Soviet block). Poverty that has not been witnessed during Soviet rule left 40 percent of the population without sufficient means to cover their living expenses.³⁰⁹ The immediate transition period under the presidency of Boris Yeltsin, often referred to as the "chaos years", was characterised by ad-hoc privatisation and law-free spaces. Starting in February 1992, the shock therapy led to economic freedom without any state intervention. The lack of state guidance resulted in economic and social anarchy, replenished by criminal groups. This did not allow for the emergence of efficient commercial activities. Basic framework conditions such as the rule of law and the violence monopoly of the state were not implemented. Ad hoc privatisation, first with the voucher privatisation phase, and later the loans-for-shares programme, did not result in the emergence of a dynamic market economy. Both privatisation

³⁰⁹ The figure of 40% relates to the crisis year 1998.

phases resulted in the transfer of Russia's industrial wealth to a small minority of people, against small revenues.³¹⁰ The companies' management, sector and regional elites became owners of former state property.³¹¹ The Russian state lost its capacity for sovereign policy during the 1990s and became an instrument of the "business elite", which had attributed themselves benefits through shares, subsidies, tax fraud and credits. Important rents disappeared in private hands and in foreign countries.³¹² The resulting liquidity problems posed a threat to the industry's existence. Investment in exploration between 1988 and 1994 was decreased by 60%. Short-term profit maximisation and the extension of own companies became the sole business strategy: "The former state companies became mushrooms in the baskets of 'entrepreneurs' acting in the way mushroom collectors do. The only domain in which the new companies reached impressive results was the expense minimisation through a perfection of tax fraud."³¹³ Tax fraud was a general phenomenon. Yukos, for example, purchased oil at subsidiaries and re-declared it as "drilling fluid", thereby reducing its tax base by 45 %.³¹⁴ Shock therapy meant price liberalisation. There were no goods balancing the huge money base, resulting in hyperinflation with all its negative social and economic consequences. Wages and savings were devalued. Domestic demand fell, as did industrial production; and unemployment increased. The government printed new money, accelerating inflation. Western products inundated the markets and domestic good fluxes broke down.

With the population impoverished and economy sinking into chaos, institutional norms collapsed and corruption and criminality filled the space.³¹⁵ The state, deprived of financial means, was not able to assert its role as guardian of stability and law and order. Joseph Stiglitz summarises these developments as follows:

³¹⁰ Klebnikow, Paul: 'Der Pate des Kreml. Boris Beresowski und die Macht der Oligarchen'. Econ, München, 2001, p. 180.

³¹¹ Siehl, Elke: 'Privatisierung in Russland'. University of Mannheim, 1997, p. 23.

³¹² Cf. Marangos, John: 'A Post Keynesian Critique of Privatization Policies in Transition Economies'. Journal of International Development, Vol. 14 No.5, 2002, p. 581.

³¹³ Setyaev, Vassili: 'От союзного нефтяного комплекса к вертикально интегрированным компаниям' (Russ.) [From the unified oil sector to vertically integrated companies]. Нефтегазовая вертикаль [Neftegazovaya vertikalj], No. 12, 2001, p. 2, translated by the author, available at: <http://naftowed.narod.ru/oil.htm>, 14-01-2014.

³¹⁴ Kryukov, Valery: 'Interrelations between the state and large businesses in Russia'. Oil & Gas Law & Taxation Review No. 12, 1999, p. 349.

³¹⁵ Marangos, op. cit., p. 573.

"A key weakness of the Washington consensus had severe negative effects, i.e. the fundamental underpricing on the role of the state. (...) an ill-conceived privatisation policy in the field of the energy sector was particularly devastating: in practice it contributed to fiscal destabilisation because the state actually lost control of the only hard-currency revenues that could support its own reform. Premature financial liberalisation, in conjunction with chaotic privatisation, accompanied by many other internal (...) factors seems to have damaged the ability of Russian government to steer the transition process."³¹⁶

Oligarchs and oil companies were able to exert considerable influence over politics mainly via its influence over the Yeltsin administration.³¹⁷ Macroeconomic indicators (Table 10) visualise the steep economic downturn. More than anything else, the dramatic decline in living standards contributed to reform pessimism and opposition to privatisations:

"Russia achieved a huge increase in inequality, at the same time that it managed to shrink the economy, (...). Living standards collapsed with GDP statistics, as life spans were shortened and health worsened. All too late, it was recognised that without the right institutional infrastructure, the profit motive combined with full capital market liberalisation could fail to provide incentives for wealth creation and could instead spark a drive to strip assets and ship wealth abroad."³¹⁸

Stiglitz also writes:

"Everybody who has an even superficial experience of countries where the energy sector (...) plays a key role in the economy knows how blurred the boundaries are between private and public interests, and may understand to what extent (...) privatisation may just be a legalisation of rent positions controlled by small groups."³¹⁹

Consequently, due to their own painful experience, "large parts of the population are opposed to further privatisation especially of large strategic companies."³²⁰

³¹⁶ Stiglitz, Joseph E., quoted in Florio, Massimo: 'Economic Theory, Russia and the Fading "Washington Consensus"'. Departmental Working Papers, No. 8, Department of Economics University of Milan, 1998, p. 4f.

³¹⁷ See Zaostrovtsiev, Andrey: 'Rent extraction in a rent-seeking society'. SPIDER Working Paper Series, St. Petersburg, 2000, p. 9; and also: Pleines, Heiko: 'Der politische Einfluß von Wirtschaftseliten in Russland. Die Öl- und Gasindustrie in der Ära Jelzin'. Arbeitspapiere und Materialien der Forschungsstelle Osteuropa, Bremen, 2002, p. 27.

³¹⁸ Stiglitz, Joseph E., quoted in Florio, op. cit., p. 18.

³¹⁹ Ibid., p. 23.

³²⁰ Klyamkin, Igor, et al.: 'Политический курс Ельцина' (Russ.) [The political direction of Yeltsin]. Полис [Polis] No. 3, 1994, p. 150f.

*Table 10: Selected macroeconomic indicators of the Russian Federation, 1992–1999
(Goskomstat/Welfens, 2002, p. 30f.).*

Indicator (1-4: yoy change, %)	1992	1993	1994	1995	1996	1997	1998	1999
GDP (real)	-14.5	-8.7	-12.7	-4.2	-4.9	0.8	-4.9	3.2
Industrial production (real)	-18	-14.1	-20.9	-3.3	-4	-2	-5.2	8.1
Gross fixed assets investment	-40	-12	-24	-10	-18.1	-5	-6.7	4.5
Real wages	-33	0.4	-0.8	-28	6.4	4.7	-13.4	-23
Unemployment (%)	5.2	6	7.7	9	9.9	11.2	11.9	11.7
Poverty (%)	33.5	31.5	22.4	24.7	22	20.7	23.3	28.3

4.2.2 The Boom Phase: Net improvement of social and economic indicators

Political stabilisation only started in 2000, with President Putin taking office. The reforms of the Putin administration, underpinned by the price hikes on resource markets, resulted in better living conditions, reduced poverty and continued growth rates.³²¹ Since then, Russia's economy has witnessed continued growth for ten years in a row.

4.2.2.1 GDP, Trade and Investment

Since the crisis year of 1998, Russian real GDP continuously grew at around 6–7% annually, reaching more than USD 1.3 trillion in 2008³²² and placing the country 11th among the world's largest economies.³²³ Per capita figures though show a different reality: that the Russian Federation ranks only 70th (2007).³²⁴

³²¹ Media often refer to a "contract" between government and population which remains quiet over more authoritarian governance as long as living conditions improve. Cf. 'Generation Putin'. Financial Times Deutschland, 16-02-2009. See also: Sutela, Pekka: 'Did Putin's Reforms Catapult Russia to Durable Growth?' Bank of Finland, 2005, p. 8 ff. for a discussion of the Putin reforms; and also Åslund, Anders: 'Russia's Economic Transformation under Putin'. Eurasian Geography and Economics, Vol. 54, No. 6, 2004. Furthermore: 'Модернизация Путина' (Russ.) [Putin's modernisation]. gazeta.ru, 18-03-2008.

³²² The average growth rate over the period from 2000 to 2008 was at 6.9 % according to Rosstat.

³²³ Russia ranks behind the US, Japan, Germany, China, UK, France, Italy, Canada, Spain and Brazil. For comparison, back in 1999, the country occupied the 22nd rank only, see 'Wirtschaftsmacht Russland'. Frankfurter Allgemeine Zeitung, 28-01-2008.

³²⁴ UN Statistics Division, available at: <http://unstats.un.org/unsd/demographic/products/socind/inc-eco.htm>, 14-01-2014.

The distance from Western industrialised countries, with a per capita GDP of around 30,000 USD, remains huge.³²⁵ Consequently, a major aim of Russian policy consists of closing this GDP gap.

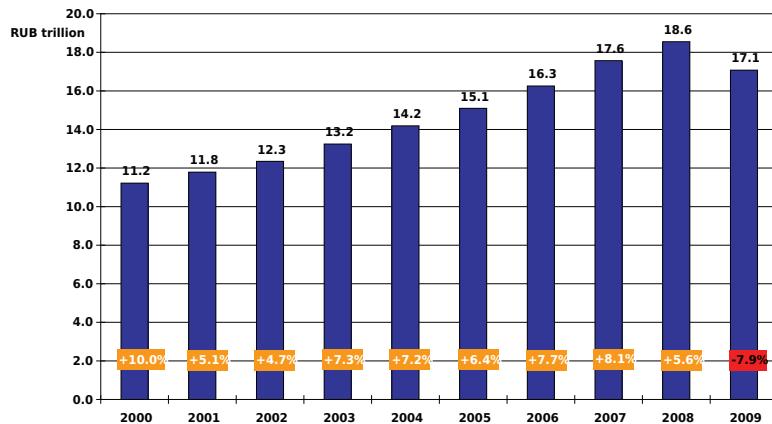


Figure 27: Russian GDP and GDP growth rates (real), 2000–2009 (Goskomstat).

The Russian trade volume has more than tripled since 2001, due to the price hike in world market prices for natural resources, increased interior demand and economic growth. Calculated on the basis of the balance-of-payments methodology, Russia's foreign trade turnover, compared with 2006, rose by 19% and was equal to USD 524 bn in 2007.³²⁶ Exports in 2008 totalled USD 468 billion and continued to be mainly petroleum and petroleum products, natural gas, wood, metals, chemicals, and civilian and military manufactures. Imports accounted for USD 267 billion and consisted of manufactured investment and consumer goods as well as food.³²⁷ Energy and other raw materials still dominate Russian exports, as is represented by Figure 29.

³²⁵ For comparison: US 44,155 Japan 32,385 Germany 31,744 France 33,408 Sweden 35,161 (GDP per capita in PPP for 2006, USD, World Bank data).

³²⁶ Центральный Банк России (Central Bank of Russia statistics).

³²⁷ Ibid.

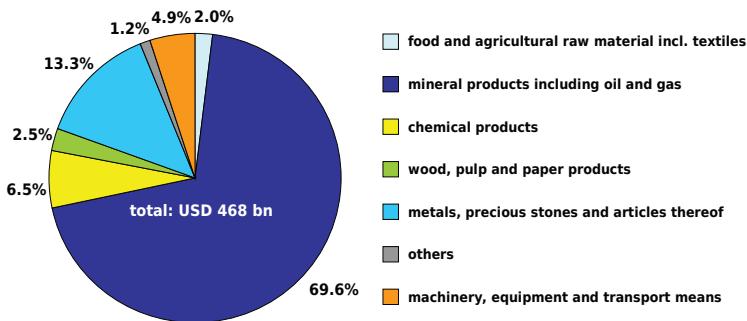


Figure 28: Commodity structure of Russian exports, 2008 (Goskomstat).

Since 2003, the Russian trade balance surplus has been soaring as a consequence of the high world market prices for oil, gas and minerals (Figure 30). Lately, however, the surplus has been shrinking due to an accelerated increase of imports following increased interior demand.³²⁸ The structure of imports in 2007 changed remarkably compared to the preceding years with more emphasis on investment goods and intermediate goods. The trade balance became negative with a number of countries, especially Germany, China and the USA.³²⁹ The EU altogether is Russia's main trade partner. Russia, on the other hand, is already the third largest trade partner of the EU.³³⁰ The country's dependence on a small number of trade partners in both exports and imports is an expression of its need for technology and investment goods in order to modernise its economy and shows a certain vulnerability to demand changes for its export goods, i.e. energy and raw materials. The sudden fall of exports by one third (in value) in 2009 thus was not much surprising, although all the more brutal. It reflects less demand for Russian hydrocarbons due to the world economic crisis as well as falling world market prices for these goods.

³²⁸ All figures from 'Мёд и дёготь' (Russ.) [Honey and tar]. gazeta.ru, 18-03-2008.

³²⁹ So, imports from Germany increased by 44 %, mainly consisting of industrial plants, equipment and means of transport and were not paralleled by an adequate rise in exports.

³³⁰ According to total trade turnover the largest Russian trade partners are Germany with a 9.8 % share, the Netherlands (8.8 %), Italy (7 %), China (6,5 %), Ukraine, Belarus, Turkey and the US. Russia remains or has regained the status of main trade partner for all CIS-countries apart from Georgia and Azerbaijan. Also the Baltic countries keep strong economical ties with the Russian Federation. See: Federal State Statistics Service (www.gks.ru).

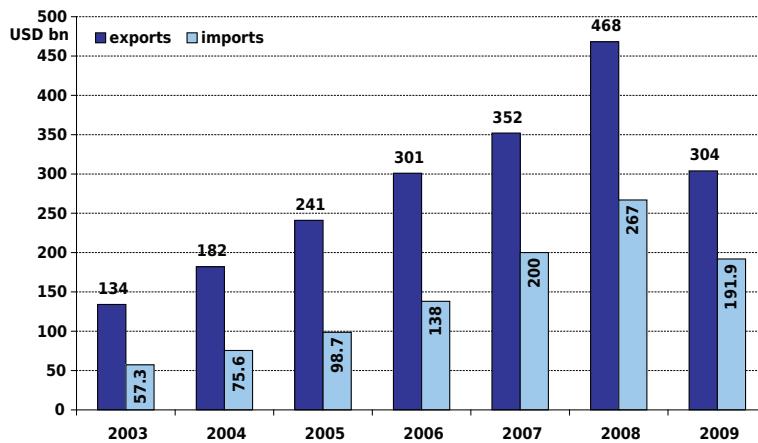


Figure 29: Russian exports and imports, 2003–2009 (Goskomstat, Central Bank of Russia).

Since 2003, Russian investment figures have also shown a two-digit growth. Foreign investment in Russia in 2007, for example, was at USD 120.9 billion, 2.2 fold of the 2006 value.³³¹ Accrued foreign capital in the Russian economy in September 2009 reached USD 262.4 bn.³³² However, investment rates remain in the range of 17% of GDP, being some way lower than in most other countries that show fast economic growth.³³³ Most of the investment is not foreign but domestic, with the state playing a growing role. In addition to this, Russian capital, which was taken out of the country during the 1990s, has been continuously flowing back into the domestic economy from offshore. Foreign investment tends to concentrate on the raw material sectors such as mining and quarrying, and the oil industry, such as manufacturing of oil and refined petroleum products, as these are the high-yield branches of Russian economy.³³⁴ In 2007, however, investments

³³¹ Figures from Federal State Statistics Service (table ‘Foreign investments in the economy of Russia’ available at: http://www.gks.ru/free_doc/2007/b07_11/23-11n.htm, 14-01-2014) The principal investors in 2007 were Cyprus, Great Britain, the Netherlands, Luxembourg, Germany, France, the British Virgin Islands, Switzerland and the United States. Together, these countries account for 84.5 % of accrued foreign investment.

³³² Figures from Federal State Statistics Service, see also ‘Foreign investment in Russia shrinks by third’. RosBusinessConsulting, 20-11-2009, available at: http://top.rbc.ru/english/index.shtml?/news/english/2009/11/20/20175509_bod.shtml, 25-11-2009.

³³³ Also most of the developed countries show investment rates of close to or over 20 %.

³³⁴ And this is contrary to the government’s aim to modernise all the branches of the economy in order to diversify industrial output and thus revenue. See table ‘Foreign investments in the

into the trade sector grew by a factor of 3.6 to USD 47.3 bn, accounting for almost 40 % of all foreign investment in that year. Investment into the industrial sector doubled in 2007.

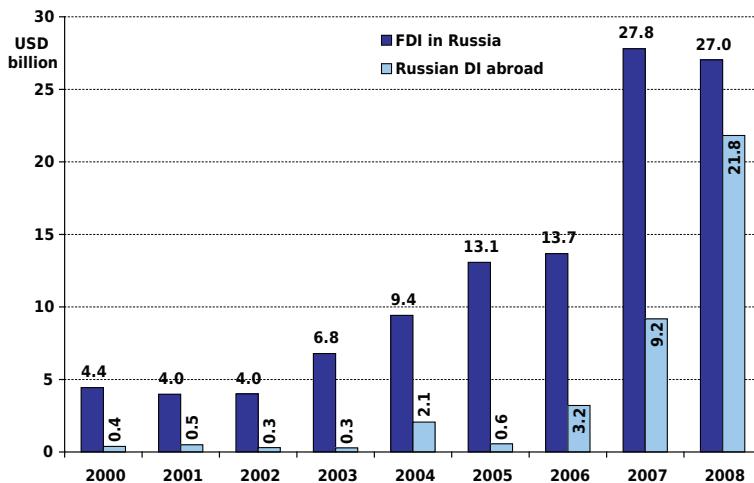


Figure 30: FDI in Russia and Russian direct investment abroad, 2000–2008 (GKS).

The increased investment activity of Russian companies and capital abroad is another clear sign of an economy in resurgence.³³⁵ The top 25 Russian companies own a total of USD 59 billion in foreign assets, making Russia the third-largest direct foreign investor among emerging markets, after Hong Kong and Brazil.³³⁶ Skolkovo research director Valery Sorkin said in a statement: “Russian companies started to establish foreign affiliates much later than their competitors. However, the top multinationals are quickly expanding their role – with all the accompanying risks, opportunities and new requirements both for their business and economic policy.”³³⁷ From 2005 to 2007, the top 25 Russian companies’ aggregate foreign assets more than doubled, growing at a faster rate than the world’s 25 leading multinational companies. Russian investment abroad is concentrated in Europe, but companies also started eyeing up possible investment

Economy of Russia’. Federal State Statistics Service.

³³⁵ Cf. Ehrstedt, Stefan, and Peeter Vahtra: ‘Russian energy investments in Europe’. Electronic Publications of Pan-European Institute, No.4, 2008.

³³⁶ See ‘Emerging Russian Multinationals: Achievements and Challenges’. Skolkovo Moscow School of Management, November 2008.

³³⁷ See, e.g., ‘Foreign companies invest billions of dollars in Russia’. Pravda, 12-10-2007.

activities in Asia, Africa and the Americas before the international financial crisis. The majority of these investments are made in the traditional industries where Russian business groups work: oil and gas, ferrous and non-ferrous metals, and telecommunications.³³⁸ Russian investment in the economies of the CIS countries has also sharply increased from a mere USD 620 m in 2005 to USD 4.13 bn in 2006 and more than USD 10 bn in 2008.³³⁹ However, the one-sided structure of the Russian economy is also reflected in the investment sphere, as more than half of all Russian-owned foreign assets belong to companies from the oil, gas and metals sector. Only 8 % belong to manufacturing companies, for instance.

4.2.2.2 State Revenues and Budget Policy

The continued growth of Russian GDP translated into accrued state revenues. Among the first projects undertaken by the Putin administration was a tax reform in 2000 allowing for the state to overcome the situation of continuous fraud and barter that paralysed the economy during the 1990s.³⁴⁰ Overall Russian tax revenues in 1997 accounted for only 23 % of GDP.³⁴¹ In 2007, this share reached 36.6 % of GDP.³⁴² In 2006, state revenues were at RUB 10,642.8 billion.³⁴³ Since 2000, the consolidated state revenues and expenditures have generated surpluses every year. The government saved these surpluses in two sovereign wealth funds, together valued at over USD 200 billion. This wealth is firstly a national stabilisation fund to support budgetary expenditures in case of a fall in the price of oil and secondly a national welfare fund to help fund pensions and infrastructure development. Gold and foreign exchange reserves amounted to roughly USD 485 billion in November 2008, placing Russia third in the world af-

³³⁸ For example, Norilsk Nickel bought LionOre Mining for more than USD 5 bn with assets in Canada, Australia and South Africa. Lukoil acquired a chain of US gasoline stations, etc.

³³⁹ The main attractors are Ukraine (USD 3 bn) and Belarus (USD 572 m). Source: Federal State Statistics Service (Goskomstat).

³⁴⁰ On January 1, 2001, a 13 % flat tax on personal income took effect in Russia. Apart from the income tax rate and a moderate corporate tax rate (the top corporate tax rate is at 24 %), other taxes include a value-added tax, a property tax, and a transport tax.

³⁴¹ See Fruchtmann, Jakob, and Heiko Pleines: 'Das russische Steuersystem'. Working papers of the Research Centre for East European Studies, Bremen, 2001, p. 5.

³⁴² See the chapter on Russia in the 'Index of Economic Freedom 2008'. The Heritage Foundation.

³⁴³ Federal State Statistics Service.

ter China and Japan.³⁴⁴ Thanks to the increased revenues and surpluses generated, the Russian government has regained an important organisational hold that it had lost for the most part during the 1990s. The Russian Federation was able to early repay much of its foreign debt taken up during the 1990s and the 1998 crisis at high-interest conditions. However, the state budget's dependence on the raw material sector remains very high. "Around 20 % of the federal budget revenue comes from Gazprom", President Medvedev stated in May 2008.³⁴⁵

In 2007, the Russian government changed its conservative budget policy, which had dominated the preceding years. The state budget, apart from its importance for redistributing tax revenues and maintaining financial stability, also became an instrument for reaching the key goal of Russia's economic policy: to reduce the economy's dependence on the export of raw materials. Whereas from 2004 to 2006, government spending was in the range of 16 % of GDP, in 2007 it increased to 18.4 % of GDP and totalled RUB 5.9 billion.³⁴⁶ Before this policy change in 2007, negative repercussions on price stability were feared as a consequence of increased government spending. Russia has shown high inflation rates ever since the end of the USSR, resulting in price rises being perceived as a major problem by the population. Consequently, the savings rate of private households in Russia equalled an extremely low 8.9 % in 2007. The state's proclaimed objective for the budget period 2008–2010 was to engage in a strategic policy to foster accelerated sustainable growth. Energy policy is a key element in this strategic policy, and it will also be in the management of the global economic crisis.

4.2.2.3 Employment, Wages and Living Standards

Over the last six years, personal income growth has averaged above 10 %, but grew at a slower rate in 2008 due to the financial crisis that also affected Russia. The unemployment rate, which showed a clear downward trend over the last years, is, therefore, expected to rise significantly in 2009.³⁴⁷ In August 2007, the average salary was USD 540 (about USD 920 in terms of purchasing power par-

³⁴⁴ Central Bank of Russia statistics, available at: <http://www.cbr.ru>, 14-01-2014.

³⁴⁵ Gazprom's market capitalization then stood at USD 362 billion. See 'Energy giant Gazprom generates 20% of budget revenue'. RIA Novosti, 27-05-2008.

³⁴⁶ See [Honey and Tar] (Russ.) 'Мёд и дёготь'. op. cit., with figures from IEPP [Институт Экономики Переходного Периода/Institute of Transition Period Economy, Moscow], March 2008.

³⁴⁷ 5.9 % in 2007, source: Federal State Statistics Service.

ty) per month, up from USD 65 per month in August 1999.³⁴⁸ Still, Russian wages do not compare to those paid in Western Europe or even those in Eastern European transition economies.³⁴⁹ Interior demand thus is increasingly important for growth impulses, which is a new phenomenon for Russia. But domestic industry seems increasingly unable to serve demand, which increases imports and points to the threat of Dutch disease. The Russian consumer market grew by 13% in 2007 reaching 460 billion USD.³⁵⁰ Since recovering from the 1998 economic crisis, the standard of living has been on the rise. Poverty, which had peaked in the aftermath of the destructive financial crisis in 1999 at 41.5% of the population, has since declined steadily and a middle class has emerged in the large cities. By 2002, poverty was cut in half to 19.6%. This means that about 30 million Russians have improved their financial standing.³⁵¹ However, the results of the Russian Federation in the UN published Human Development Index remain poor.³⁵² Due above all to the sharp decline in life expectancy, Russia dropped 15 ranks compared to the end of the Soviet Union. In 2007, life expectancy at birth for Russian men was at 59.2 years, whereas women could expect to live 73.03 years. This persisting dramatic situation in the social sector again leads to the government's main objectives for economic and social development.

Table 11: Selected economic indicators of the Russian Federation, 2003–2008 (Goskomstat, presented in analogy to Welfens, 2002, p. 30f.).

Indicator (1-4: yoy change, %)	2000	2003	2004	2005	2006	2007	2008
GDP (real)	n.a.	7.3	7.2	6.4	7.7	8.1	5.6
Industrial production (real)	8.6	8.9	8	5.1	6.3	6.3	2.1
Gross investment in fixed assets	17.4	12.5	13.7	10.9	16.7	22.7	9.8
Real wages	21	11	11	13	13	17	10
Unemployment rate (%)	9.76	7.8	7.92	7.06	6.7	5.77	6.97
Poverty (%)	29	20.3	17.6	17.7	15.2	13.3	13.5

³⁴⁸ 'Putin's Economy – Eight Years On'. russiaprofile.org, 15-08-2007.

³⁴⁹ This fact remains a comparative advantage of the Russian economy. Among CIS states, however, Russian personal incomes are the highest.

³⁵⁰ [Honey and Tar] (Russ.) 'Мёд и дёготь'. op. cit.

³⁵¹ According to the World Bank's 'Poverty Assessment Report' on Russia. As of 2007, about 15% of the population was still living below the national poverty line. See 'The specifics of Russian poverty'. RIA Novosti, 27-09-2004.

³⁵² For 2007/2008 the country ranks 67th. Although still among the highly developed countries, Russia finds itself positioned at an equal level with countries like Albania, Panama or Libya.

4.2.3 Persisting Problems of a One-Sided Economy

4.2.3.1 Under-Diversification and Productivity Gap in Industrial Production

Industrial production plays an important role in the Russian economy.³⁵³ The structure of the Russian economy as reflected in GDP is characterised by a comparatively large share of industry and a smaller share of trade and services than usually registered in industrialised countries.³⁵⁴ The high share of industry, and especially heavy industry, is a legacy of the priorities of Soviet industry development. Russia's work force consists of roughly 75 million people; 39.1 % of which are working in industrial branches.³⁵⁵ Unlike the major energy exporters in the Middle East or the Third World, Russia has a long industrial history. However, Russian industrial production is backward in both its structure and technologies, dominated by the two sectors of oil producing and processing and machine building and metalwork industry, which account for almost 40% of total industrial production.³⁵⁶ In order to compete on global markets, the Russian industrial sector needs to shift its focus from heavy industries to high added-value goods.³⁵⁷ Russia's industrial sector shows an urgent need for modernisation and replacement of infrastructure, as it lived off its substance during the first decade after the transition to a market economy and no investment took place. Along with the economic upswing, Russian industrial production began to grow again. The overall growth rate of industrial production in 2007 was 6.3%.³⁵⁸ However, in general, it could be noted that the domestic industry is not able to satisfy rising demand in Russia. Consequently, imports grew more than domestic output. Although in most industry branches, efficiency and competitiveness have im-

³⁵³ Industry shares in GDP (2006) in Germany: 29.4 %, France: 22 %, Russia: 38.8 %, Japan: 25.3 %, USA: 22 %, available at: <http://www.welt-in-zahlen.de/laendervergleich.phtml?indikator=67>, 14-01-2014.

³⁵⁴ In most Western industrialised countries, the services share equals 70 or more % of GDP (France: 76.9 %, Germany 69.4 %, Japan 65.8 % (2000), Russia 56 %, 2005 figures from the World Bank). However, Russia seems to have converged to the industrialised countries in this respect in the new millennium.

³⁵⁵ Federal State Statistics Service (www.gks.ru).

³⁵⁶ Federal State Statistics Service (www.gks.ru).

³⁵⁷ See Dmitriev, Mikhail: 'Russia's "Energy Key" Strategy'. *Russia in Global Affairs* No. 4, 2006.

³⁵⁸ Output growth could mainly be observed in the processing production, engineering, car manufacturing, in furniture and food production as well as in the production of construction material.

proved³⁵⁹, the gap towards international competitiveness remains high in most sectors. As a consequence, only a few branches are able to extend their exports to a considerable scale. Russia's revealed comparative advantages remain concentrated in the raw material sectors, such as the hydrocarbon producing and processing industry, wood, pulp and paper industries as well as in energy-intensive products such as non-ferrous metals, steel, or fertiliser. The one-sidedness of exports clearly shows insufficient diversification of Russian industrial production and makes clear the government's motivation for strategic industrial and energy policy.

4.2.3.2 The Resource Curse and Dutch Disease

The high reliance of the Russian economy on the export of resources and raw materials calls forth the danger of the "resource curse".³⁶⁰ This danger relates to observations of slower economic growth rates in resource rich countries than in countries with less important resource endowment. "The export of raw materials [...] leads to increasing terms of trade in the short run and structural change at the expense of other economic sectors."³⁶¹ Different explanations for the resource curse are put forward by economic analysis. So, abundance of resources would give rise to rent-seeking conflicts, resulting in poorer institutional quality, corruption and reduced growth.³⁶² The extreme consequences of this development

³⁵⁹ Industrial competitiveness, measured in terms of labour productivity, has been increasing since 1997 (with the exception of the crisis year 1998) at an average annual rate of around 8%, partly as a result of labour-force reductions. Moreover, wage differentiation was increased.

³⁶⁰ Literature in this respect also employs the term of 'Paradox of Plenty'. The term describes a phenomenon that is generally linked to a one-sided direction of national economies in resource rich countries. Originally applied to 'petrol economies', i.e. the riverains of the Persian Gulf only, the theoretical concept has been extended both to countries situated elsewhere as well as to other raw materials. Its basic assumption says that the resource sector dominates all other economic sectors in terms of revenues, contribution to GDP, export volume, labour force etc. See, e.g., Gandolfo, Giancarlo: 'International Trade Theory and Policy'. Springer, Berlin, 1998, p. 116ff.

³⁶¹ Corden, W. Max, and Peter J. Neary: 'Booming Sector and De-Industrialisation in a Small Open Economy'. Economic Journal Vol. 92, 1982, pp. 825–848.

³⁶² Cf. Hausmann, Ricardo, and Roberto Rigobon: 'An Alternative Interpretation of the "Resource Curse": Theory and Policy Implications'. NBER Working Papers No. 9424, 2003. The authors argue that common-pool problems or uncertainty related to property rights over the resource income leads to inefficient fights over existing resources, which can cause lower growth. Cf. also Sala-I-Martin, Xavier, and Arvind Subramanian: 'Addressing the Natural Resource Curse: An Illustration from Nigeria'. Economics Working Papers No. 685, 2003. The authors speak of an "institutional impact of natural resources" and report a robust negative impact of in particular oil and mineral resources on growth as a consequence of their nega-

would either be authoritarian regimes or a severely undermined state authority, as was the case notably in Russia in the 1990s, where oligarchs controlled for the most part the country's rich resources. A second explanation puts emphasis on the volatility of resource rents. Due to the imperfections of financial markets, this volatility results in higher cost of capital, having negative effects on investment and growth.

The Dutch disease phenomenon also results in slower long-term growth. It explains real exchange rate appreciation and a decline in the manufacturing sector as caused by an exogenous increase in world market resource prices or in domestic resource output.³⁶³ The effect is twofold. Direct de-industrialisation is caused by capital and labour moving from manufacturing and services sectors to the resource extracting sector. The second effect is indirect. While prices of manufacturing goods are determined abroad and remain constant, the decline in services output leads to an excess demand for services. Higher income generated by the resources exported will be partly spent domestically. Therefore, services become more expensive³⁶⁴, resulting in the appreciation of the real exchange rate. Demand increases in the service sector subsequently lead to increased labour demand and rising wages. The overall wage level will rise, as the other sectors have to respond in order to keep their workers. Since these sectors cannot compensate by raising their prices, they will see their profits fall and be forced to downsize. The result will be a drop in output and employment in the manufacturing sector, described by Corden and Neary as "indirect de-industrialisation". The Dutch disease case thus points to an increase in the relative price of services. This, in turn, leads to an increase in the real exchange rate, a decline in manufacturing output, and employment and an increased wage level if labour is mobile. All of these symptoms have been observed in Russia. However, diagnosing Dutch disease in the country is not straightforward, as a variety of other determinants such as government consumption, net international reserves, the productivity differential and corruption could also be responsible for

tive influence on institutional quality. Steve Fish dismisses rentier, repression and modernisation effects in the Russian case, but finds that high levels of corruption do correlate with the oil and mineral wealth.

³⁶³ Cf. Corden and Neary, op. cit.

³⁶⁴ This holds as the price of non-tradable relative to tradable goods rises, with tradable goods' prices set abroad.

the different symptoms, such as the real exchange rate appreciation.³⁶⁵ Authors such as Oyefusi though refuse to see rich resources as a curse. Instead, he argues that growth is much more likely in economies with natural resources than without if the appropriate set of institutions and political instruments has been developed.³⁶⁶ As resources constitute the basis for high value added products, their abundance could become a potential competitive advantage for Russia in the future. Numerous examples from Australia to Canada, California to Finland, all of whose wealth is based on technologies and production means in relation to the resource sector, show that technological progress of resource rich economies does not necessarily have to be slower.

Moreover, it cannot be excluded that the reasons for the symptoms of the resource curse lie in other processes instead, for example in the transition from one economic system to another. Gaddy and Ickes, hold the view that Russia would suffer the “Russian disease”, only partly showing the symptoms of Dutch disease, because part of the manufacturing sector benefits from resource extraction related orders. However, commercially traded goods for export would suffer in their competitiveness through the appreciation of the Rouble.³⁶⁷ If nevertheless it was possible to maintain and increase the manufacturing of exportable goods, the resource industry could become an advantage for the manufacturing sector.³⁶⁸ This would be in line with resource led growth theory. Nevertheless, a number of macroeconomic indicators show that deindustrialisation represents a major threat for the stability of the Russian economy. The country faces structural problems, which cannot simply be overcome by increasing revenues from the energy sector. The manufacturing sector has a crucial role in stabilising the economy due to its ability to absorb shocks, for instance, via labour mobility. The reasons for this can be found in the highly competitive character of the sector. Manufacturing companies are usually less concentrated and thus need to be more efficient, competitive and innovative than in other sectors. Due to

³⁶⁵ Oomes, Nienke, and Katerina Kalcheva: ‘Diagnosing Dutch disease: Does Russia have the symptoms?’ BOFIT Discussion Papers No. 7, 2007, p. 26.

³⁶⁶ Oyefusi, Aderoju: ‘Natural Resource Abundance and Development: Is there a paradigm shift?’ Journal of Business and Public Policy Vol. 1, No. 3, 2007.

³⁶⁷ Gaddy, Clifford, and Barry Ickes: ‘Resource rents and the Russian economy’. Eurasian Geography and Economics, Vol. 46, No. 8: pp. 559–583, 2005, p. 567.

³⁶⁸ Nakamura, Yasushi: ‘Economy-Wide Influences of the Russian Oil Boom: A National Accounting Matrix Approach’. in Tabata, Shinichiro (ed.): ‘Dependent on Oil and Gas: Russia’s Integration into the World Economy’. University of Hokkaido, Sapporo, 2006, p. 42.

the nature of the manufacturing process, there is more scope for technological progress in manufacturing than in resource extraction or in services, and both horizontal and vertical spillovers accelerate development.³⁶⁹ The Russian government, aware of the severe social impacts of the resource curse and Dutch disease, regards state involvement in energy sector issues as crucial to manage these risks that threaten long-term growth and economic development in resource rich countries. In this, it also looks to the Norwegian example. The Scandinavian country, as one of the world's major hydrocarbon producers, largely depends on the resource sector, but does not show the related difficulties. In Norway, all petroleum deposits by law belong to the state, and all rent from oil and gas benefits the Norwegian people through the government. Taxes and fees, and not auctions or sales are employed to assure the expropriation of rents. The state thus has managed to absorb about 80 % of the rents since 1980. Rents are deposited in the Norwegian Pension Fund. Large scale rent seeking has been avoided and government expenditures were kept within reasonable extents. However, Norway also shows some weak signs of Dutch disease. Despite a high level of education, exports are sluggish, foreign investment is low and there is no large vibrant high tech industry as it can be seen next door in Sweden or Finland.

4.2.3.3 Affected by the World Financial Crisis

After a decade of growth, Russia in the second half of 2008, witnessed an abrupt economic slowdown as a consequence of the world financial crisis, which, at the time of writing, still continues in 2009.³⁷⁰ The crisis became a "trigger for all the problems of the Russian economy: some left from the planned economy, some from the transitional crisis of the 1990s, and some from unresolved issues of upturn of the 2000s"³⁷¹, and poses a new challenge for macroeconomic policy. It unveiled the persisting problems of the Russian economy, mostly with regard to the dependence of the well-being of the economy on natural resources. World market prices for oil, after having reached historical highs in 2007, fell to less than USD 40/barrel in 2008.

³⁶⁹ See Oomes and Kalcheva, op. cit, p. 14.

³⁷⁰ The crisis affected Russia with a certain delay, thanks to a prudent fiscal policy, limited exposure to the US subprime crisis and strong macroeconomic fundamentals.

³⁷¹ See Grigoriev, Leonid, and Maria Belova: 'EU-Russia gas relations'. in Liuhto, op. cit., p. 70 ff.

As a consequence, Russia witnessed a state budget deficit of 6.3 % in 2009. The Russian stock market was closed several times in autumn 2008 as stock prices fell by roughly 70 %. Russia's fragmented banking sector has come under pressure as rollover risks rose rapidly and liquidity became scarce. The construction sector shrunk by 9 % in 2008 and capital left the country in a rush, mirroring the loss of confidence.³⁷² The decrease in investment was followed by a slowdown in demand and consumption. The crisis also decelerated the expansion of Russian investment abroad. Many banks and companies struggled to serve their external debt. The government thus set up a USD 200 bn rescue plan to increase liquidity in the financial sector, to help firms refinance foreign debt, and to support the stock market. Another USD 20 bn package has been earmarked for tax cutting and other fiscal measures. Moreover, the state granted guarantees for banks, as well as companies in strategic sectors. Inflation, which has accompanied the Russian economy ever since the collapse of the Soviet Union, is constantly high, reaching 14.1 % in 2008 and 11.7 % in 2009.³⁷³ The record inflow of capital into the Russian economy has made foreign liabilities grow and has led to a continuous appreciation of the real effective exchange rate of the Rouble. In order to prevent an even more rapid appreciation, the Central Bank had to buy foreign currency that arrived in Russia, thereby enlarging the Rouble money base. However, since summer 2008, the Russian currency has lost almost 40 % of its value compared to the Euro and US Dollar. The Central Bank gradually began to change its policy from exchange rate to inflation targeting. All throughout 2009, interventions to support the Rouble and liquidity in the system have reduced foreign currency reserves considerably. GDP fell by 7.9 % in 2009. Industrial production fell by 10.8 %.³⁷⁴ The social impact of the crisis might cause problems for the political stability of the country. Unemployment reached 8.2 % in December 2009 as labour-intense branches were delaying projects and adjusting to higher borrowing costs, wages are falling and the due modernisation of the economy risks being delayed.

³⁷² See for a detailed analysis of the crisis effects: 'Russian Economic Report No. 17'. The World Bank, November 2008. The decline in FDI in 2008 reflected the worsening investment sentiment, only USD 2.5 bn arrived in Russia in the first half of 2008, but USD 13.9 bn in all 2007. Consequently, FDI was replaced with debt financing that led to the important private short term repayment obligations.

³⁷³ All figures from Central Bank of Russia, Key Economic Indicators, www.cbr.ru.

³⁷⁴ Ibid.

However, whereas the Russian state aid package for the banking sector and the economy clearly shows the effect of the international crisis, it can be interpreted in different ways. First, it shows Russia's growing internationalisation of the economy. Second, compared to the big industrialised countries, Russian state aid appears to be humble. More importantly, compared to other countries, the Russian state for the time being did not have to take up new debts for launching its economic recovery plan. Instead, it resorted to the stabilisation fund that has been built up beforehand for exactly this emergency. "Russia today is a much larger economy with much stronger macroeconomic fundamentals than in 1998, it is thus better positioned to withstand the situation than other emerging economies and its policy response so far has been swift, massive and broadly appropriate," judges the World Bank.³⁷⁵ Noteworthy is the absence of panic among the Russian population compared to the 1998 crisis. Nevertheless, the government will run deficits in the coming years and financial reserves will be emptied in 2010. Although recent oil price increases will support the foreign trade balance and the state budget, the crisis has shown that Russia's economy remains far too dependent on resource prices and that industrial diversification has not yet been achieved. In this respect, the crisis and the "precipitous drop in the price of crude is exactly what Russia needed [...] and could finally compel Russia's ruling elites to enact the many additional structural reforms they have long promised but failed to deliver".³⁷⁶

4.2.4 Summary

The first transformation phase was characterised by a failure of the planned reforms, falling GDP and production figures, sinking tax revenues and living standards, combined with conflicts over power and property. Shock therapy resulted in material non-well-being, which led to systematic corruption. The state lost its capacity to act, which prevented the emergence of institutions to guide the transformation. Few actors gained control over large parts of state wealth. This long-lasting crisis, amplified by the 1998 financial crisis, was followed by

³⁷⁵ 'Russian Economic Report No. 17'. November 2008, The World Bank.

³⁷⁶ Kotkin, Stephen: 'How Did Russia Rebuild Itself? Sorry, But You're Wrong'. Online article, 28-01-2009, available at: <http://www.russiaotherpointsofview.com/2009/01/how-did-russia-rebuild-itself-sorry-but-youre-wrong.html>, 14-01-2014.

a second phase of transformation, which saw consolidation of state power and economic boom.³⁷⁷ The specific objectives of Russian policy can be summarised as follows:

1. Continued economic growth in order to reduce the GDP gap to the West
2. Sustainable state finances and budget surpluses
3. Social objectives (employment, living standards, health, wages, infrastructure)
4. Industry diversification and modernisation, productivity increase
5. Control over macroeconomic developments (Dutch disease)
6. Development of the banking sector

The development since 1998, nevertheless, shows that all attempts to multiply the sectors, in which Russia has comparative advantages for international trade, have not borne fruit. The high qualification of Russian personnel and the relative undervaluation of the Rouble being advantageous for export, these are still corrupted by slow innovation and the low quality of Russian goods. Investment, though rising, was for the most part directed to sectors that yield high profits. It thus does not coincide with the diversification and modernisation targets of the government. The government on several occasions stated its commitment to a diversification of the economy in order to overcome one-sidedness and the resulting economic instability, but this is not a straightforward task to solve. As we have seen, Russia is largely dependent on European investment and European manufactured goods as well as European demand for its own products. The country so far is vulnerable to highly correlated multiple shocks of hydrocarbon price declines, capital flow reversal and drops in confidence and stock prices. For the time being, the future of Russian economy remains dependent on the energy sector, as this is the only sphere of the economy where Russia is guaranteed steady future income.³⁷⁸

This at least partly explains why the state is reluctant in abandoning control over economic sectors that are crucial for the economic development of the country as well as the state's own finances. The challenge is how to further manage the

³⁷⁷ Robinson, Neil: 'Politics and economic development under Yeltsin and Putin'. Political Studies Association Annual Conference, Manchester, 2009, p. 1.

³⁷⁸ Grigoriev, Leonid: 'Russia's place in the global economy'. *Russia in Global Affairs*, No. 2, 2005.

economic crisis by not losing control of public finances and inflation while assuring liquidity in the system. We have shown that a resurgent economy is the base for current Russian positions and state policy, also in the energy sphere. Compared to the 1990s, the Russian state operates from a position of relative strength, despite the current global crisis. The European Union has to deal with a resurgent Russia, which, no longer a partner at zero cost,³⁷⁹ assumes its interests and presents itself as a tougher player than before. This also is the background for an altered approach towards energy policy. However, the economic and social development level of Russia still largely differs from Western countries. Russian economic upswing has been over-interpreted. It has to be recalled that the Russian economy was coming from a crisis of the magnitude of the American Great Depression of the 1930s, with 43 % of GDP reduction, a 25 % decline of real personal consumption and a 75 % fall of investment. This is utterly important for an analysis of Russia and its relations with the EU and gas transit countries. Russia is emerging from a deep crisis and has to deal with huge domestic problems. The country, therefore, is "concentrating on issues of development: roads, health care, housing, education etc. – but European media does not give adequate coverage for this part."³⁸⁰ This explains the policy priorities of the Russian government as presented by President Medvedev, namely improving infrastructure, innovation, investment, and institutions; reducing the state's role in the economy; reforming the tax system and banking sector; combating corruption, and improving judiciary. In all these fields, the country continuously shows severe shortcomings. The modernisation of Russia's infrastructure requires large investments and is absolutely essential for broad-based economic growth. The Russian government is aware of the country's weaknesses and policy failures: "Twenty years of drastic reforms have not made our country less dependent on commodity exports. Our current economy has preserved the Soviet economic system's worst flaw – a severe disregard for people's needs."³⁸¹ Some authors interpret the measures of the government as pointing in the right direction, but clearly say that results cannot be obtained in the short term. They also put forward historical and geographical explanations for Russia's difficul-

³⁷⁹ 'Russland gibt Gas: Aufstieg vom Partner zum Nulltarif zur Weltmacht'. RIA Novosti, 28-03-2008; also: Rahr, Alexander: 'Russland gibt Gas. Die Rückkehr einer Weltmacht'. Hanser, 2008.

³⁸⁰ Grigoriev and Belova in Liuhto, op. cit., p. 71.

³⁸¹ Russian President Dmitry Medvedev in an online article for gazeta.ru, quoted from 'Medvedev highlights key problems facing Russia in article'. RIA Novosti, 10-09-2009.

ties. The formation of an efficient market economy thus still suffers largely from the inherited Soviet misallocation under non-market conditions.³⁸² The economic development of Russia thus could not be compared to those of the Asian Tiger states for instance.³⁸³ Moreover, the differences between the capital region and the countryside are enormous.

Nevertheless, the stabilisation fund allowed, despite tremendous losses, for a relatively smooth management of the world economic crisis and thus fulfilled its objective of preventing state bankruptcy, of taking out liquidity and limiting Dutch disease. It thereby prevented the further decline of the manufacturing sector. But GDP growth is only partly based on a renewal of economic mechanisms. For the most part, it is only the consequence of foreign factors. The improvement of the Russian economy since 2000, according to the IMF, can be traced back to three factors. Firstly, it is due to economic rebound, rising world market prices and increased profitability, and the fact that the tax basis has been enlarged. Secondly, there have been subtle increases of levies and taxes, and especially the shift of value added tax, profit tax and income tax revenues from the regions to the federal government and thirdly, because of the firm imposition of tax payment with large oil companies and Gazprom.³⁸⁴

4.3 Russian Energy Policy Objectives

Naturally, Russian energy policy is directly linked to the country's macroeconomic condition. It aims at developing the domestic energy sector, at investment and modernisation. One could argue, as Tkachenko does, that Russia's energy policy is structured around three criteria.³⁸⁵ While the first refers to a geopolit-

³⁸² Robinson, op. cit., p. 1.

³⁸³ Rutland, Peter: 'Comparative Economics and the Study of the Russian Transition'. in Bönker, Frank, Müller, Klaus, and Andreas Pickel: 'Postcommunist Transformation and the Social Sciences. Cross-Disciplinary Approaches'. Oxford, 2002, pp. 111-129 (p. 126). Even Jeffrey Sachs in the meantime agrees with geographers who already at the beginning of the transformation had pointed to the fact, that in Russia, transformation would last longer, simply because of the geographical extension of the country.

³⁸⁴ Cf. Owen, David, and David Robinson: 'Russia rebounds'. IMF, Washington, 2003.

³⁸⁵ See Tkachenko, Stanislav: 'Political economy of energy policy of Russian Federation towards USA and European Union'. Paper presented at the ISA panel Russia Energy and Eurasia, San Francisco, 28-03-2008, p. 2. See also Isakova, Irina: 'Russian Governance in the Twenty-First Century: Geo-Strategy, Geopolitics and Governance'. London, Frank Cass, 2005, p. 28.

ical vision of Russia as a developed energy supplier, a second criterion clearly refers to the commoditisation of energy relations. The country lost billions of USD every year due to underdeveloped oil transport systems and dependence on foreign terminals, not to mention gas exports.³⁸⁶ A third criterion refers to energy relations as a political lever, as Russia's most effective and 'civilised' political instrument in the international arena, and as a bargaining tool in negotiations for a new security architecture aimed at preventing a new containment at its borders. As with the European energy policy before, the following analysis of Russian policy objectives will allow us to draw highly useful conclusions for the evaluation of possible solutions to conflict situations, which we will undertake in the next sections.

4.3.1 A Sector of Unrivalled Importance

Being an open economy where foreign trade represents more than 56 % of GDP, Russia, however, remains structurally highly dependent on hydrocarbons which account for more than 25 % of GDP, more than 40 % of public revenues and more than 60 % of exports.³⁸⁷

Russia not only holds the world's largest natural gas reserves, it also is the world's second largest producer and exporter of oil and disposes of abundant deposits of coal and uranium.³⁸⁸ The country's hydro-energy potential as well as renewable energy sources are vast and, at least for the latter, clearly underdeveloped. As a result, the energy sector plays a crucial role for Russian economy as a whole and energy policy is an important tool for governmental policy. The energy sector provides for half of the federal budget income and due to high world market prices, the sector's share in gross domestic product is increasing. Together with the other raw material sectors, it contributes about a quarter to

³⁸⁶ Vinkov, A., et al.: 'Цена бездействия' (Russ.) [The price of non-action]. Expert, No. 38, October 2004, pp. 39 ff.

³⁸⁷ Yavid-Reviron, op. cit., p. 98. See also Figure 29.

³⁸⁸ Russia possesses about 27 % of world gas and 6 % of oil resources, together with 20 % of world coal and 14 % of world uranium resources. Figures from Pozzo di Borgo, Yves: 'Union Européenne – Russie: quelles relations?' Information report for the French Senate, No. 307, 2007, p. 41, available at: <http://www.senat.fr/rap/r06-307/r06-307.html>, 14-01-2014.

overall production of the Russian economy.³⁸⁹ In contrast to other economic sectors, the energy sector has overcome the transition period to a market economy rather well. Apart from the oil sector, production decreases remained limited.³⁹⁰ Since 2000, Russian primary energy production has been rising, particularly in the oil sector. The high oil prices provided the basis for this development, resulting in increased investment and the use of modern technologies by privatised oil companies.³⁹¹ As only part of the increased primary energy production is sold in Russia itself, most of the increased output can be exported. The European Union constitutes the key market for Russian energy exports. More than 70% of Russian crude exports, one third of mineral oil product exports and 70% of gas exports are sold to the EU every year. As it provides a large part of European energy needs, some authors thus see the Russian energy sector as an attribute of power. In view of its failing demographics and industry in decline, it may even be considered the only attribute of power Russia currently possesses, apart from nuclear weapons.³⁹²

But the importance of Russia's energy sector and its companies extends much further in the social sphere. Firstly, roughly 5% of the population directly depend on the energy sector for work.³⁹³ Secondly, it is energy subsidies that have allowed a large part of the population to survive the hardest times of the economic transition. Today, wages paid in the extractive industries are a multiple of those paid in other sectors of the economy. The Russian economy rests on a vast quantity of so-called "monogorods", i. e. industrial towns created by Soviet

³⁸⁹ According to Valery Yazev (Duma Vice President and President of the Russian Gas Society): 'Wie kann die Energiepartnerschaft zwischen Russland und dem Westen vertieft werden?' Speech at the Adlon Hotel, 20-01-2008, Berlin.

This also means a high dependence of Russia on the energy sector, especially on the development of oil prices as we have already seen above. The development of state revenues largely depends on the energy sector, its duties and taxes. Budget surpluses are largely due to the high oil price. According to figures from the Federal State's Statistical Service, companies producing raw materials including oil and gas contributed only roughly 8% to GDP, whereas 60% were coming from the service and trade sectors. This needs to be rectified in the way that Russian companies active in the raw material sector regularly use internal transfer prices and thereby shift value added from the raw material sector into the trade sector, especially in order to save taxes. The contribution of the sector to GDP therefore is considerably higher. World Bank estimations even accord up to 25% of Russian GDP to the raw material sector.

³⁹⁰ Oil production fell sharply from 575 m tons at the end of the 1980s to almost half of this in the mid 1990s.

³⁹¹ World oil prices have increased more than sevenfold from 1998 to 2008.

³⁹² Pozzo di Borgo, op. cit., pp. 41–42.

³⁹³ This comprises all energy sub-sectors such as oil, gas, electricity, hydropower etc. See Federal State Statistics Service, available at: <http://www.gks.ru>, 14-01-2014.

planning which are dependent on one specific industrial activity, and often one particular company. The total of the local population depends on this single company. Company objectives are consequently beyond mere entrepreneurial objectives. Often, an informal rent distribution scheme has been established, tolerated or even fostered by the central government. Exemption from regional taxes can be granted for “informal taxes”, i.e. investment by companies in social aims and projects such as hospitals, infrastructures etc. This system of informal rent distribution also makes it hard for foreign companies to judge the profitability of investments in Russia. It is an expression of the structural shortcomings of the Russian economy.

4.3.2 Russian Energy Policy as Part of an Assertive State Economic Policy

The mechanisms of Russia's energy policy largely are the results of competition between several ministries and the presidential administration, between inter-regional relationships within the Federation and competing companies, but also within fractions in the presidential administration itself. Apart from the Ministry of Energy, the Ministry of Industry and Trade and the Ministry of Economic Development, also the Ministry of Natural Resources, the Finance and Foreign Ministry are implied. The variety of actors and relationships already points to the necessity for the presidential administration to establish a system of checks and balances in the sector in order to consolidate state power.

4.3.2.1 Consolidation of State Power

Considering its geographical, demographical, and historical preconditions Russia has the potential to belong to the world's leading economies. One of Russia's main objectives is to catch up with the leading economies in all social and economic aspects. This governmental policy aimed at welfare convergence centres at promoting economic development and attracting major investments whilst assuring the survival of the country's industrial production. In this, the efficient use of Russia's resource potential is crucial. Rising living standards and the reduction of poverty will stabilise the political and social situation of the country.

The government sees the development of the national economy as a central issue for Russian statehood and thus national security. Consequently it identified the following menaces:

- “Loss of economic substance and potential, decline in production and investment, stagnation in agriculture, imbalances in the banking sector
- Loss of national scientific technical potential caused by the decline in research and development, the loss of specialists and highly educated people as well as insufficient control over export of know-how and intellectual property rights
- Loss of national economic independence. Threatening structural loss of the capacity to produce armament in sufficient quality and quantity, indebtedness, structural orientation towards resource export while imports of high added value industrial goods increase
- Loss of territory and population. Danger of separatist movements following economic decline, social separation of the population, risk of civil unrest and social peace, demographic decline.”³⁹⁴

The main objective of the Putin administration was to restore Russian statehood after the chaotic period of transition.³⁹⁵ Within a successful transformation towards an efficient market economy, the implementation of appropriate institutions has to precede privatisation in order to prevent theft, asset stripping and other phenomena harmful to social welfare. For this, however, it needs political, economic and social stability in the first place, in the creation of which the state plays a key role. As Bates says: “No state – no development”.³⁹⁶ These preconditions though were not given in the Russia of the 1990s. President Putin’s merits thus must be seen in the creation of stability and in ending the struggle for

³⁹⁴ The Russian Concept of National Security [Концепция национальной безопасности Российской Федерации] announced in 1997 has been amended in 2000. In May 2009, President Medvedev approved an intensified version of the National Security Strategy until 2020. See, e.g., ‘Dmitry Medvedev approves Russian National Security Strategy to 2020’. Carnegie Moscow Center, 15-05-2009. See also: ‘Стратегия национальной безопасности Российской Федерации до 2020 года’ (Russ.) [The Russian Strategy for National Security until 2020]. President of Russia, 2009, available at: <http://www.scrf.gov.ru/documents/99.html>, 20-08-2009.

³⁹⁵ See Sutela, Pekka: ‘Did Putin’s Reforms Catapult Russia to Durable Growth?’ Bank of Finland 2005, p. 8 ff. for a discussion of the Putin reforms; see also Åslund, op. cit.

³⁹⁶ Bates, Robert H.: ‘The Role of the State in Development’ in Weingast, Barry, and Donald A. Wiltman: ‘The Oxford Handbook of Political Economy’. Oxford University Press, p. 708.

property distribution that paralysed the state.³⁹⁷ The market economy system does not appear as a policy objective in itself. Rather, it is seen as most useful to the improvement of the country's economic condition. The (legitimate) aim is to enable Russia to pursue its interests, more than it was able to in the 1990s.³⁹⁸ To Putin, the state certainly depends on the economy, but only the state can assure the stability and guidance that are necessary for sustainable economic development. Pure market interests, so Vladimir Putin believes, will not serve Russia's interests best, as markets tend to have other interests than the well-being of a country.³⁹⁹ This view may not be in line with liberal ideas of globalisation, but with regard to the actual Russian policy, it simply has to be taken into account as a matter of fact. Several economic policy programmes have been developed mainly during Putin's first term as president, sometimes contradicting each other and reflecting antagonistic currents of the driving political forces, e.g. the Maslyukov-Programme⁴⁰⁰ or the Ishayev-Programme⁴⁰¹. According to the latter, state guidance shall activate the potential of shut down or unused industrial resources in a first phase, based on state investment, foreign currency reserves management and strict capital transfer controls. Putin himself said that state regulation and development of the resource sector guarantees the most effective exploitation of Russia's mineral wealth.⁴⁰² The state shall foster large firms that can compete on equal terms with Western trans-national corporations. Putin calls for a blend of market mechanisms with state interference and control that guarantees the protection of the interests of the Russian state and people: "In Russia, as a consequence, it is necessary to implement this principle of rational

³⁹⁷ Tikhomirov, Vladimir: 'The Future of Russia's Economic Growth: De-Coupling from Oil'. 2004.

³⁹⁸ Obviously, this also translates into a changed quality in external relations.

³⁹⁹ This relates to the not-so-new question whether Adam Smith's "invisible hand" leading to overall welfare exists or not. Capital in itself has no other interest than dividends and returns. Investments, profits of which are leaving Russia thus are not in the interest of the Russian state.

⁴⁰⁰ The Maslyukov programme was published in August 2000. See Douglas, Rachel: 'Maslyukov's Program: A Strategy for National Industrial Development'. Executive Intelligence Review Vol. 27 No. 36, 15-09-2000.

⁴⁰¹ Cf. Tennenbaum, Jonathan: 'The Ishayev Report. An Economic Mobilization Plan for Russia'. Executive Intelligence Review, No. 9, 2001.

⁴⁰² According to Putin, the resource sector is too important to be left entirely to market forces: "Regardless of whose property the natural resources (...) might be, the state has the right to regulate the process of their development and use. (...) A contemporary strategy for rational use of resources cannot be based exclusively on the possibilities of the market." Vladimir Putin, cited in Balzer, Harley: 'Vladimir Putin on Russian energy policy'. The National Interest, 12-01-2005.

resource use by an organic combination of market mechanisms of self-regulation and support for rational resource use and conservation.”⁴⁰³

Under President Putin, the central government retook control over the granting of exploration and production licences for oil. Previously, these had been granted by both the regions and the central government and by the ministries of energy and natural resources.⁴⁰⁴ The new “Law over the Exploitation of Subsoil Resources” gave licensing to the Federal Agency for the Use of Subsoil Resources (Rosnedra) under the Ministry of Natural Resources. The regions concerned participate in the licensing process. The resources are administered by the Federal Service of Surveillance of Natural Resources, also positioned under the responsibility of the Ministry of Natural Resources. Altogether, the influence of the regions has been weakened and the role of the central government strengthened.

A major contribution to the consolidation of state power came from the reformation of taxation. Whereas export duties on oil and gas, like all other customs duties in the Russian Federation, accrue exclusively to the federal government, until 2002, 60 percent of taxes levied on mining operations accrued to the budgets of mineral-producing regions, and only 40 percent accrued to the federal budget. As a result, even with the relatively low oil and gas prices prevailing at the time, the per-capita tax revenue of the three principal oil-producing regions in 2001 exceeded by almost five times the average tax revenue of the other Russian regions. Living expenses though were only one and a half times those of other regions. Putin increased the state’s tax revenues. Tax volumes increased tenfold for oil companies from 1999 to 2004. Tax shares in companies’ profits rose from 10–15 % to 30–35 %.⁴⁰⁵ The federal government now obtains 95 % of the taxes from oil companies. Tax revenues from natural gas production even accrue exclusively to the federal budget.

⁴⁰³ See Putin, Vladimir: ‘Минеральные природные ресурсы в развитии Российской экономики’ (Russ.) [Mineral Natural Resources in the Strategy for Development of the Russian Economy]. Записки Горного Института [Zapiski Gornogo Instituta], Vol. 144, 1999, pp. 3-9. The first Western scholar to write about this article was Martha Brill Olcott in ‘The Energy Dimension in Russian Global Strategy: Vladimir Putin and the Geopolitics of Oil’. Baker Institute, Rice University, October 2004. See also: Balzer, Harley: ‘The Putin Thesis and Russian Energy Policy’. Post-Soviet Affairs, Vol. 21, No. 3, 2005.

⁴⁰⁴ Locatelli (2006), op. cit., p. 1081.

⁴⁰⁵ Gaddy and Ickes, op. cit., p. 564.

The centralisation of tax revenues from oil and gas production at the federal level was necessary to curb the growth of budgetary expenditures caused by the increase in windfall revenues from higher world market prices for hydrocarbons and the resulting inflationary pressure. Second, it was increasingly necessary for the central government to equalise the growing income disparities between regions by means of vertical transfers to the regions from the federal government. Nevertheless, resource rich regions dispose over more important revenues than others. In 2006, the tax on oil production generated RUB 630 billion (approximately USD 23 billion), which equalled 12.5% of federal revenues while the tax on gas production produced RUB 92 billion (USD 3.5 billion) or 1.9% of federal revenues. Export customs duties on oil made up another 16.2% of federal revenues, generating RUB 820 billion (USD 30 billion), while those on gas accounted for 5.3% of federal revenues or RUB 270 billion (USD 10 billion).⁴⁰⁶

4.3.2.2 Industrial Policy, “Resource Nationalism” and “Re-Nationalisation”

The task for the Russian government is to find ways to reinvest revenues from export of raw materials and energy in diversification and modernisation of the industry, and also to increase attractiveness to foreign investment and to reorient the economy towards high-yielding high-technology fields. The narrow export base shall be overcome in order to counter the “pathologies of the ‘resource curse’.” The Russian government has repeatedly declared its aim to regain influence leverage possibilities in the energy sector, which it had previously lost.

“It is well known among the Russian leadership that only a minor part of the world’s oil is produced by private companies and the major part by state-owned companies occupying monopolistic positions in their own countries. (...) On this basis, the Russian leadership most likely ponders over why the model of huge state-owned oil companies could not work properly in Russia, just as it works in Norway, Algeria, Saudi Arabia, Brazil, Malaysia and many other countries.”⁴⁰⁷

Back in the early 1990s, the Yeltsin administration implemented mass privatisation with swift ownership changes in many industries, but not in the energy sector. Only beginning in 1995 did the Russian government, in urgent need of

⁴⁰⁶ Kurlyandskaya, Galina: ‘Moscow and regions share Russia’s oil and gas revenues’. Federations, Vol. 6, No.1, 2007.

⁴⁰⁷ Tkachenko (2008), op. cit., p. 4.

money, mortgage its shares in oil companies. It subsequently lost them upon not being able to repay the loans. Most companies were transferred to the ownership of a few oligarchs.⁴⁰⁸ Western energy majors such as BP, Royal Dutch Shell, ExxonMobil, ConocoPhillips, Chevron, Total, Ruhrgas, BASF, but also Japanese, Chinese, Indian and other companies acquired licences and stakes in Russian companies or hydrocarbon deposits and engaged in joint ventures and production sharing agreements (PSAs) with Russian partners. During President Putin's first presidential term the federal government regained its regulating and control function over the resource extracting industry. Exploration and production licences had previously been distributed by regional as well as federal authorities, leading to continuous conflicts. Since 2003, the state attempted to regain a strong position for state companies in the oil sector. Consequently the market position of firms that remained under state influence or even in state ownership, such as Gazprom and Rosneft, has been actively strengthened. A prominent example of this change in policy was the dismantling of Russian oil company Yukos in 2004/2005. A lawsuit on tax fraud was opened and in the end, large parts of the company were auctioned off by the Ministry of Justice and acquired by state-controlled Rosneft.⁴⁰⁹ The dismantlement of Yukos, as it became known afterwards, prevented US-American oil companies Exxon and Chevron from taking a 25 % stake in Yukos, then Russia's largest oil company. OAO Gazprom acted as a second lever for increasing state influence in the oil sector. In October 2005, the company purchased three quarters of Russia's fourth largest oil producer Sibneft for USD 13 billion and thereby increased its activities in the oil sector considerably. Together with companies controlled by regional entities, the state share in oil production reached 40 % in 2007, three times its value in 2003.

Another example of the state's strategy to regain control over the country's resources and their exploitation was given by the gas sector. The PSAs (Production Sharing Agreements) concluded in the 1990s, resulted in serious disadvantag-

⁴⁰⁸ The term given to this procedure was "loans-for-shares". The most prominent oligarchs were Mikhail Khodorkovsky (Yukos), Roman Abramovitch (Sibneft), Vagit Alekperov (Lukoil), and Victor Vekselberg (TNK-BP).

⁴⁰⁹ In May 2005, Yukos CEO Khodorkovsky was sentenced to nine years of prison because of fraud, tax fraud and formation of a criminal organization. For details on the Yukos affair and the struggles involving Gazprom and Rosneft see West, Robinson J.: 'The Future of Russian Energy'. *The National Interest*, No. 80, 2005, pp. 125-127; and Tompson, William: 'Putting Yukos in Perspective'. *Post-Soviet Affairs*, Vol. 21, No. 2, April-June 2005, pp. 159-181.

es for the Russian government.⁴¹⁰ "The particular terms of the Sakhalin-2 PSA are not typical of those incorporated in most PSAs throughout the world. The Sakhalin-2 PSA is particularly disadvantageous to the Russian Party, and it is surprising that the Russian Party agreed to these terms."⁴¹¹ The state would have obtained profits only after the amortisation of investment costs and the realisation of 17.5% of overall planned profits from the project by Western members of the consortium. Moreover, during the first two years, the government would receive only 10% of the profits, and only, if the guaranteed profits for Western companies had already left the country.⁴¹² It was thus effectively the Russian government, which bore the entire risks of costs and price changes. Shell's announcement about a doubling of the Sakhalin-2 costs would have meant a long-term revenue shortfall for the state budget. The 2003 amendment of the PSA-law specifies that PSAs can only be concluded if no investor can be found under the normal licencing regime, which is likely only for minor fields.⁴¹³ Several PSAs of the 1990s have been revisited, such as the Sakhalin projects and the major East-Siberian gas field of Kovykta.⁴¹⁴ In either case, OAO Gazprom, backed by the state, purchased the controlling majority in consortia where beforehand no Russian company was involved. This clearly is in line with the government's position to retain the controlling majority in all resource extraction projects in Russia. New laws for licencing, for fee-based exploitation of resources and conservation of reserves as well as the establishment of state reserves were among the priority tasks of the Russian government. Since 2005, Russia has introduced several regulations for investments in so-called strategic branches, including the energy sector.⁴¹⁵ To be clear, as long as the Russian side retains the majority of shares, foreign investment remains highly welcome. "The new 'rules of the game' are now a lot clearer. International energy companies understand that

⁴¹⁰ President Putin criticised the former PSAs in 2007 as "colonial style contracts" [Verträge im Kolonialherrenstil] in the German original. See: 'Russland will strategische Industrien schützen'. Frankfurter Allgemeine Zeitung, 29-06-2007.

⁴¹¹ Rutledge, Ian: 'The Sakhalin II PSA – a Production "Non-Sharing" Agreement. Analysis of Revenue Distribution'. Sheffield Energy & Resources Information Services (SERIS), 2004, p. 3.

⁴¹² Ibid., p. 15.

⁴¹³ Kalyuzhnova, Yelena, and Christian Nygaard: 'State governance evolution in resource-rich transition economies: An application to Russia and Kazakhstan'. Energy Policy, Vol. 36, No. 6, 2008, p. 1836.

⁴¹⁴ See Rutledge, op. cit.

⁴¹⁵ See Putin, Vladimir: 'Address of the President to the Federal Assembly'. 25-04-2005.

Putin calls for pre-emptive control "by national, including state capital" over defence industry production, strategic natural resource deposits, and infrastructure monopolies.

– Total, StatoilHydro, ENI, BASF and E.ON have been amongst those making deals since – but politicians in many Western consumer countries still do not, or choose not to.”⁴¹⁶ Despite re-nationalisation efforts the government repeatedly declares its interest in foreign investment. However, foreign companies continue to face risky investment conditions in the way that the impression of state arbitrariness persists. This reflects the fact that negotiations with Russian companies, administrations and regional entities represent a complicated network of relations. Legitimacy of current property rights may have increased, but insecurities remain, especially in the oil sector. The state’s quest for control over the oil sector’s operational sphere in order to pursue macroeconomic objectives contains a third risk momentum.⁴¹⁷ The Yukos affair thus had negative effects on investment climate.⁴¹⁸ Western interest in an engagement in Russia thus currently seems best suited to joint ventures.

The Russian government sees the most promising way to raise efficiency in the energy sector in the creation of large financial industrial groups, which integrate the processing industry with the extractive industry.⁴¹⁹ This policy can be interpreted as the equivalent of Western “national champion policies”, justified by the argument that large companies are necessary to be able to compete on international markets. These companies shall take a lead in building up the economy, providing revenue and jobs, and promoting economic integration within Russia, with the CIS and with the world economy. Retaining control though does not mean complete nationalisation of either the oil or the gas business. “The only fully correct observation at this point is that the state institutions established control over the making of strategic decisions in the field of transportation of energy.”⁴²⁰ The Russian government is aware of the benefits of liberalised markets and repeatedly states this aim, as well as in its Energy Strategy. The oil market remains a liberalised market with large private players. For instance, the state sold its remaining shares in Lukoil (7.59%) to US-American ConocoPhilips in 2004. Both Rosneft and Gazprom are open stock companies whose shares are on the market. The Russian government recently sold 15% of Rosneft shares

⁴¹⁶ Weafer, op. cit.

⁴¹⁷ Locatelli (2006), op. cit., p. 1076.

⁴¹⁸ Ibid., p. 1084.

⁴¹⁹ Gazprom CEO Alexey Miller: “(Gazprom wants) to become one of the largest integrated energy companies in the world, spanning oil, gas and electricity.” See ‘Majors must go to Gazprom to get access to Russia’s vast natural oil and gas store’. Financial Times, 12-07-2005.

⁴²⁰ Tkachenko (2008), op. cit., p. 5.

to foreign companies such as Malaysian Petronas, Chinese CNPC and BP. Partial re-nationalisation of the oil and gas sector around Rosneft and Gazprom must be interpreted not as directed against market economy but as an attempt to control production and export in order to purposefully utilise the hydrocarbon rents for national economic development. Having witnessed that the companies led by oligarchs invested but a very small part of export revenues in the national economy, the Russian government established a new compromise for a partially private sector along four guiding lines:

1. Part of hydrocarbon rents benefits the population through subsidised prices.
2. Taxes from hydrocarbon exports shall serve economic modernisation.
3. Companies have to invest further in exploration.
4. Companies have to take over their social responsibility in the regions.

The result is a heterogeneous oil sector largely in private hands but with strong links to institutions of state power. This situation though allows for actors with competing interests: public and private, national and foreign, federal and regional, large and small.⁴²¹ However, the gas sector differs from the oil sector in its special signification for Russia and thus is unlikely to become restructured to the oil sector model. Vladimir Putin explicitly declared: "We are not going to divide Gazprom. The EU Commission should not have any illusions: in the case of gas, it has to deal with the state."⁴²² Oil markets are world markets, whereas gas remains regionally traded and is more grid-bound. Gas much more than oil, has importance for the local economy, for the heating and electricity generation; it thereby also contains a social aspect. Lastly, gas more than oil is Russia's advantage over other energy suppliers and the consuming countries.

4.3.2.3 What Role for Russia in the International Division of Labour?

Integration of ever more countries into the world economic system and the changes in the patterns of world production caused by trade liberalisation, technological change and economic reforms have given rise to the question of the development of a new economic world order. Which roles should countries be

⁴²¹ Tkachenko (2008), op. cit., p. 7.

⁴²² Ibid., p. 6.

attributed to in the global competitive economic system? Will a country attract labour-intensive or capital-intensive production? Will it be a mere supplier of raw materials or will it produce high value added goods and be adequately compensated? Which countries will benefit most? “According to the Washington Consensus agenda, foreign and domestic goods and companies must compete on equal terms. But to do so, you should have at least a part of the domestic sector able to compete: if you have virtually nothing, where is it the market?”⁴²³ The ongoing process of a new international division of labour⁴²⁴ with outsourcing and delocalisation of distinct steps of the value chain needs to be managed and followed closely.⁴²⁵ It thus represents a strong call for the state to play an important role in the development process. Which position a country occupies in world economy thus depends on its specific characteristics but also on its ability to pursue national policy objectives.

In its attempts to secure influence in the strategically important energy sector, the Russian government follows this approach. Considering the world economy as a competitive game with limited resources and rents, it is not surprising that the dominant players, i. e. the industrialised Western countries are reluctant to accept Russia in their midst as an equal player in world economy. Russia, conscious of its own economic potential, refuses to become a mere resource exporting country or to accept a peripheral role in world economy. As Russian president Dmitry Medvedev stated recently, the struggle is for those who determine the rules of the game. He claimed that Russia itself wants to have influence on the rules, to make the country a financial centre and the Rouble a reserve

⁴²³ Florio, op. cit., p. 12.

⁴²⁴ Sinking communication and transport costs increase trade fluxes and allow the fragmentation of production processes. We observe functional instead of sectoral specialisation with countries focusing on different stages of production. The new pattern of international division of labour has been welcomed by part of the scientific and political world as a chance for accelerated development of larger parts of the world than ever before. Cf. Schaeffer, Peter, and Richard Mack: ‘The Conceptual Foundations of the New International Division of Labor’. Journal of Planning Literature, Vol. 12, No. 1, 1997, pp. 3–15.

⁴²⁵ There are no proofs though that the delocalisation of very distinct steps in the value chain has the potential to incite sustainable development. Capital and investments are futile and constantly in search for locations which offer higher returns. Some “first generation regions” such as Shenzhen/China already saw the closure of factories because of rising wage levels. Capital simply left to places with even lower wages, such as Vietnam, although development levels, living standards and manufacturing costs in China are still far away from those in developed countries.

currency, at least on a regional scale.⁴²⁶ Former President Putin claimed: “the current and future welfare of Russia directly depends on which place we will occupy in global energy cooperation.”⁴²⁷ In this respect, Russian economic policy is opposed to the Washington Consensus⁴²⁸, which advocates development and growth through complete integration into a liberalised world economy and is generally applied to all economies characterised by a lower level of development, and therefore also to the economies in transition.⁴²⁹ Their integration into the world trading system and admittance to WTO depends on their degree of liberalisation, achieved through the reforms undertaken. (Neo)-classical theory predicts rising living standards and increased welfare for everybody as a result of liberalisation and increased free trade. The role for the state is to foster competition and to provide the necessary framework conditions.

Despite the obvious benefits of competition, the question remains whether a difference has to be made between domestic and international competition, notably in situations of differently developed countries and unequally distributed wealth and resources. Protectionist theories derive their justification from these specific economic conditions observed in reality. International dependency theory, for example, puts emphasis on the structural dependency of less developed or peripheral countries on the developed or “core” economies. To overcome this, countries should in a first phase retreat from the world economic system. Only in the second phase, should the economy be opened up for trade and foreign investment.⁴³⁰ The economic success of the Asian Tiger states is, at least partly,

⁴²⁶ This idea gets momentum, at least theoretically, from the current international financial crisis of the unilateral New York/London-focused world financial system.

⁴²⁷ Putin, Vladimir: “От того какое место мы займём в глобальном энергетическом сотрудничестве, прямо зависит благополучие России и в настоящем и в будущем.” (Russ.) [The well-being of Russia in present and future times directly depends on which place we will occupy in global energy co-operation]. 22-12-2005, President Putin at the Session of the Security Council of the Russian Federation, translated by the author.

⁴²⁸ Developing countries should adopt a set of “good policies” and “good institutions” (stable macroeconomic policies as a precondition for investment and savings, a liberal trade and investment regime, privatisation, deregulation, democracy, protection of property rights, transparent institutions). These policies have been widely fostered by the World Bank, the International Monetary Fund, and many mainstream economists.

⁴²⁹ We refer to transition economies as those of the former COMECON having adopted market economy systems after ending the planned economy system. Authors such as Coby van der Linde refer to a conflict of Western conceptions of globalisation and alternative concepts developed by emerging economies etc. Cf. Van der Linde, Coby: ‘Energy in a changing world’. op. cit.

⁴³⁰ The Asian Tiger states (Hong Kong, Taiwan, South Korea and Singapore, later Thailand, Malaysia and to a lesser extent Indonesia) in the beginning pursued an autarky strategy and

related to measures referring to concepts of protectionism and economic patriotism. Demand is shaped in a way to favour domestically produced goods and services over imported ones and the supply side is protected from foreign competition through tariffs or quotas.⁴³¹ Furthermore, the principles of strategic trade policy theory provide the background for active industrial policy that can be observed in Russia as well as in the European Union.⁴³² Behind state involvement in industrial sectors, be it state aid and subsidy programmes, protectionist measures or else, is the aim to help domestic producers gain an advantageous position on world markets, increase their competitiveness in respect to foreign competitors, as well as the objective of realising domestic welfare gains that are achieved through the means of oligopolistic market structures at the expense of foreign countries. Strategic trade policy arrives at two major statements:

1. The welfare of a country under imperfect competition can be raised through the protection of domestic producers (tariffs, subsidies, quotas etc.)
2. Overall welfare can be raised if time-restricted protection in “catch-up economies” creates additional industries with increasing economies of scale.⁴³³

A recently emerging form of economic patriotism is “financial protectionism”; the hostility against acquisitions by foreign groups by companies considered of “strategic value” for the economy of the country.

The Russian government, aware of the domestic industry’s lack of competitiveness, pursues a protective strategy of gradually increasing productivity and adapting to world market prices, for example, for energy. However, the government also is aware of the drawback of protectionism in distorting the free and

opened up for foreign investment and world markets in the 1980s only, while at the same time keeping autocratic politics. Thanks to the export led growth, it took only a few decades for these countries to reach an important level of industrialisation. China and India often are presented as another example where the change from past autarky policies to integration have rendered fast economic development possible. Both countries have allowed for market forces and opened up to world trade and investment, they have not abandoned state steering of this process.

⁴³¹ Although many authors point to the fact that geo-strategic motivations were behind the massive investment of both Japanese and US companies allowing for development of the Tiger states.

⁴³² Strategic Trade Policy Theory was developed by US American economists James Brander, and Barbara Spencer also in the mid 1980s.

⁴³³ Cf. Brander, James, and Barbara Spencer: ‘International R&D Rivalry and Industrial Strategy’. NBER Working Papers, No. 1192, 1983; and also Brander, James, and Barbara Spencer: ‘Export subsidies and international market share rivalry’. Journal of International Economics, Vol. 18, 1985, pp. 83–100.

most efficient allocation of resources, thereby slowing transition and adaptation to competition. This would result in persisting inefficiencies that reduce welfare. On the other hand, transition economies, in which the adaptation of industry was not assisted, have shown a complete economic breakdown as far as deindustrialisation processes in the aftermath of economic shock therapies in the 1990s.⁴³⁴ Critics of the shock therapy such as Joseph Stiglitz have put forward that it is not possible to instantaneously create a framework of law, regulation or establish practice in countries that lack this tradition. "While still for some economists, the ultimate reason for the Russian crisis was the unwillingness of Russian government to fully implement the Washington agenda, many others now think that the Russian government was given wrong advice by the IMF and other international bodies."⁴³⁵ Parting from the widely shared conviction that resource extraction constitutes an inferior economic activity characterising underdevelopment, resource-led-growth-theory demands for using resource rents for overall economic development and especially for the manufacturing sector. Consequently it is the task of governments to direct policies towards long-term maximisation of profits from resource exports, while at the same time reducing resource export dependency as fast as possible. The need is for the economy to diversify. Highly taxing resource extraction is thus logical, as long as the taxes are used for investment in the manufacturing sector.⁴³⁶

4.3.3 The Energy Strategy of the Russian Federation for the Period until 2020/2030

In its "Energy Strategy for the Period until 2020", followed by a revised "Energy Strategy for the Period until 2030" the Russian Ministry of Energy determined

⁴³⁴ A sudden release of price and currency controls, withdrawal of state subsidies, and immediate trade liberalisation within a country, usually also including large scale privatisation of previously public owned assets not only in Russia led to an economic breakdown, but also in the former COMECON countries.

⁴³⁵ Stiglitz, Joseph, quoted in Florio, op. cit., p. 4. Cf. Stiglitz, Joseph E.: 'More Instruments and Broader Goals: Moving Toward the Post-Washington Consensus'. WIDER Annual Lectures 2, United Nations University /WIDER 1998; also: Stiglitz, Joseph E.: 'Towards a New Paradigm for Development: Strategies, Policies, and Processes'. Prebisch Lecture, UNCTAD, Geneva, 1998. See also: 'Shock Therapy in Russia: Was There an Alternative?' Interview with Joseph E. Stiglitz, date not known, available at: http://www.pbs.org/wgbh/commandingheights/shared/minitext/int_josephstiglitz.html#1, 17-04-2009.

⁴³⁶ Gaddy and Ickes, op. cit., p. 578.

the path which should lead Russia to a renewed and internationally competitive fuel and energy complex able to serve domestic as well as external demand.⁴³⁷ Energy policy shall guarantee the “most effective use of the natural fuel and energy resources and of the potential of energy sector for economic growth and improvement of life quality.”⁴³⁸ Energy safety and efficiency, budget efficiency and ecological energy security are presented as the strategic guiding lines of long-term state energy policy in Russia. Its aim is the formation of a “civilised energy market” and non-discriminatory relations between its members. The state, though limiting its function as an active market subject, strengthens its role in forming market infrastructure as a regulator of market relationships. However, “the state will completely use its rights as owner of the resources and other assets in the fuel/energy complex.”⁴³⁹ Continued centralised control over revenues and decision-making in the gas sector will be the base for continued socio-economic development.

The consistency of the normative and legal bases is presented as a key determinant for providing stability needed for the development not only of the energy sector, but the whole Russian economy. The creation of a consistent and flexible system of economic regulation and an effective antimonopoly regime is one of the main tasks for rendering the sector economically efficient.⁴⁴⁰ Price increases are recognised as necessary to raise efficiency as well as technical improvement. In order to ease the negative effects of higher prices for the poorer parts of the Russian population, an active social policy is considered in the document.⁴⁴¹ Further tasks in the social policy sphere comprise the coordination of communal reforms, the ending of cross subsidies, and increased transparency in the state budget relations. The priority issues also comprise of:

⁴³⁷ All following quotations on this page from ‘Энергетическая стратегия России на период до 2020 года’ (Russ.) [Energy Strategy of the Russian Federation for the Period until 2020]. Ministry of Industry and Energy of the Russian Federation, 2003, p. 4ff. Decreed by the Government in 2003, the Energy Strategy enlists exhaustively the problems and obstacles the Russian energy industry has to tackle. It expresses the state’s determination to engage in an energy policy that serves best the interests of the Russian people. In the meantime, the paper has been overworked to become the now valid ‘Energy Strategy 2030’ [Энергетическая стратегия Российской Федерации на период до 2030 года].

⁴³⁸ Ibid., p. 4, translation by the author.

⁴³⁹ Ibid., p. 14., translation by the author.

⁴⁴⁰ ‘Энергетическая стратегия 2020’ (Russ.) [Energy Strategy 2020]. op. cit., p. 16f.

⁴⁴¹ Ibid., p. 39.

1. The subsoil use and management of the state subsoil fund.
2. The development of internal fuel energy markets.
3. The formation of a rational fuel energy balance.
4. Regional and external energy policy combined with measures in the social and scientific policy fields.

In order for the state to timely and adequately respond to energy safety threats and to analyse safety conditions in the regions, a system of measures for prevention shall be implemented. This comes along with the definition of energy safety indicators and a safety monitoring system.⁴⁴² Clearly, the state seeks to reinforce control over the efficient supply of resources and their rational production and use. The efficiency in the management of the resource base reproduction shall be increased.⁴⁴³ Consequently, the legislative foundations for concession contracting, financial evaluation and the regulation of subsoil resources have to be improved, as transparent and stable legal conditions are necessary for long-term investment. In order to optimise the country's fuel and energy balance with regard to its structure and the regional energy balances, production and export growth are perceived as decisive, with implicit compliance of domestic needs.⁴⁴⁴ The share of consumed energy resources in GDP is supposed to decrease from 22% (2000) to 13–15% (2020). Due to the growth of the scientific and low energy manufacturing sectors, the share of the fuel and energy complex in industrial production shall be reduced from 30% to 18% in 2030. Export of energy resources could grow by 45–64% by 2020, corresponding to the demands of the balance of payments, thereby strengthening Russia's economic situation, its geopolitical influence and taking into account the interests of future generations. Gas exports are predicted to increase to 275–280 bcm by 2020.⁴⁴⁵ The share of gas in serving domestic demand shall be reduced from 50% (2000) to 45–46% in 2020. State regulated prices deter competition between energy sources. Both

⁴⁴² Ibid., p. 20.

⁴⁴³ Ibid., p. 28ff.

⁴⁴⁴ Electricity output is expected to grow from 878 bn kWh (2000) to 1215–1365 bn kWh (2020). Oil production shall increase from 324 Mt (2000) to up to 520 Mt (2020). Gas production is planned to grow from 258 cm (2000) to 680–730 bn cm (2020). Coal production shall reach 375–430 Mt in 2020 from 258 Mt in 2000.

⁴⁴⁵ 'Энергетическая стратегия 2020' (Russ.) [Energy Strategy 2020]. op. cit., p. 54.

businesses and private households thus in the past excessively oriented themselves towards natural gas.⁴⁴⁶

The change of consumption and distribution patterns figures as a second large array of objectives. The Energy Strategy predicts rising consumption of atomic and hydro power, and of coal and renewable energy sources.⁴⁴⁷ Another priority for Russian energy policy concerns the balancing of regional differences, especially with regard to regional supply security and the balancing of revenues from energy production among Russian regions.⁴⁴⁸ The priority for development shall be given to the regions with the highest cost of energy sources and low energy security, i.e. the Far East, the Baikal region, the North Caucasus, Kaliningrad and the Altai region. Competence and responsibility between the different regional and federal organs of the government, between consumers and companies must be defined for better regulation of the energy sector, taking into account the geographical asymmetry in provision with resources as well as the differing pattern of energy consumption. In the regions, local energy sources shall be used as much as possible and in an economically efficient way. The use of renewable energy sources is a key component for supplying population and industry in peripheral regions of the country.

4.3.3.1 Major Investment Needs in the Energy Sector

The International Energy Agency projects the expansion of world energy demand by more than 50% from 2004 to 2030⁴⁴⁹, driven by accelerated growth in emerging economies, but mainly by demographic development. Russia disposes of abundant energy reserves, an existing infrastructure, competitiveness and reliability in its energy exports. The major part of its hydrocarbon production increases is destined for export. Domestic potential for energy saving is so important that the net level of energy demand should remain constant, although the economy is growing and consumption patterns will change. However, hydrocarbon production growth is supposed to lose speed and Russia's share in global oil exports is supposed to fall in the future. If current production remained sta-

⁴⁴⁶ This however related to positive environmental effects as gas is the less environmentally harmful of fossil fuels.

⁴⁴⁷ 'Энергетическая стратегия 2020' (Russ.) [Energy Strategy 2020]. op. cit., p. 19.

⁴⁴⁸ Ibid., p. 36 ff.

⁴⁴⁹ 'World Energy Outlook'. IEA, 2006.

ble, reserves would be emptied in 22 years. Ever-smaller fields located in more remote regions must be developed to go on stream. The government's ambitious investment targets have not been met in recent years, resulting in continued underinvestment. The high degree of wear on Russian energy installations and the shortage and misallocation of investment resources threaten the country's energy safety. Foreign investment is highly concentrated in the oil sector. The technological lag over the international scientific and technological level represents a further obstacle for development in the energy sector. Key priority for modernisation and reconstruction of the oil processing industry lies in building up capacities for improved oil reproduction, better oil quality and catalyster production. Russia's refineries and gas processing plants are outdated and not fully run because of the short-term strategies of Russian oil companies, selling crude instead of refined products. Processing depth for crude oil needs to be considerably increased along with sulphur content reduction and the establishment of iso-cracking facilities.⁴⁵⁰ The government is planning a tax system integrating incentives for an enhanced value added depth in resource processing.⁴⁵¹ In the gas sector, development of new fields is envisaged in geographical regions where no gas production exists today.⁴⁵² In the European part of the country, so-called "small" gas fields will gain in importance not for export but for local supply.⁴⁵³ New infrastructure for production, transport, processing and storage is needed in the Far East and Eastern Siberia. Russia's oil and gas pipeline grid is the largest in the world, linking Siberia with Central Europe. The maintenance of the original pipeline capacity needs large investments, not only in Russia but also in Eastern European transit countries. Total investments needed in the gas industry are predicted to be in the range of USD 150–155 billion until 2015, a further USD 131–136 bn until 2020 and even USD 284–299 bn for the period from 2020 until 2030.⁴⁵⁴ As for oil, the capacity of the grid is even insufficient for Russia's current annual production. As a result, exports by rail and tanker have increased considerably. Investment needs thus can be identified in capacity en-

⁴⁵⁰ 'Энергетическая стратегия 2020' (Russ.) [Energy Strategy 2020]. op. cit., p. 67.

⁴⁵¹ 'Russia's oil taxation to be reformed'. Russia Today, 23-02-2008, available at: http://www.rusiatoday.ru/Business/2008-02-23/Russias_oil_taxation_to_be_reformed.html, 01-06-2010.

⁴⁵² These regions are the Far East and notably on- and offshore the island of Sakhalin, offshore in the Barents Sea, but also Eastern Siberia and on the Yamal peninsula.

⁴⁵³ Estimations predict production of 8–10 bn m³ annually in Urals, Volga and Northwest regions by 2020.

⁴⁵⁴ 'Энергетическая стратегия 2030' (Russ.) [Energy Strategy 2030]. op. cit., p. 96.

largement and maintenance of the existing grids, as well as in export facilities and new pipelines to new export clients.

The Russian electricity sector is of major importance for the future development of gas production and exports, as currently a large part of electricity is produced by gas fired plants in Russia. Insofar, the liberalisation of the sector and the invitation to foreign capital to participate in the process of modernisation provides the opportunity to link both sectors in our search for acceptable solutions for both partners of the energy partnership.⁴⁵⁵ The economic upswing of Russian economy has lead to an important increase in demand for electricity.⁴⁵⁶ Power shortages and restrictions even in the capital regions of Moscow and St. Petersburg are an obstacle to Russia's economic development. The Russian electricity sector infrastructure urgently needs to be modernised and new power-generating plants must be built. The share of coal-fired plants, nuclear and hydro-energy in electricity production shall increase. The Energy Strategy foresees the doubling of nuclear energy capacity to 2020 in order to export more oil and gas, which is highly lucrative for state finances. Furthermore, coal production is also foreseen to rise. State price policy shall increase competitiveness of coal fuel over natural gas, production becoming technologically modernised and intensified. In the period from 2011 to 2020, a quality and technology change shall lead to clean state of the art production of coal. The focus will be on energy coal production rather than coke coal production. Coal output in Eastern Siberia and the Far East shall reach 40–50 Mt/year in each of these regions, also allowing for exports to Japan or South Korea.

The Energy Strategy 2030 revised investment necessities for the whole energy sector upwards, foreseeing USD 534–551 bn of investment in the first phase, i.e. until 2015.⁴⁵⁷ Overall investment until 2030, according to the Energy Strategy, would necessarily reach USD 2,356-2,763 billion.⁴⁵⁸ However, the current economic crises already sew seeds of doubt whether these investment figures could ever be realised.

⁴⁵⁵ Foreign investors such as Italian ENI or German EON already acquired Russian regional electricity producers in the course of sector liberalisation.

⁴⁵⁶ Production was at 1,037 billion kWh in 2008.

⁴⁵⁷ USD 35 billion of these investments would be destined for production development in Eastern Siberia and the Far East, USD 70 billion for the Yamal peninsula projects.

⁴⁵⁸ 'Энергетическая стратегия 2030' (Russ.) [Energy Strategy 2030]. op. cit., p. 93ff.

4.3.3.2 Ecological Energy Safety and Climate Protection

The Energy Strategy also emphasises environmental soundness as energy policy objective. The ecological dangers caused by new production fields call for the preservation of vulnerable ecosystems in regions with an inclement climate such as the Arctic, but also in off-shore fields in the Barents and Okhotsk seas and pipelines in the Baltic, Black and Caspian seas. The state energy policy aims at gradually limiting the stress on environment and attempts to approach European standards.⁴⁵⁹ The companies' lack of awareness in their exploitation of especially crude oil reserves is presented as a major problem to solve. State policy will address the problem by

"rigid ecological requirements to stimulate highly ecological productions, ecologically clean low-waste and waste-less production technologies, furthermore the creation of a compensation payments system for breaching these requirements, including an insurance fund for preventive measures as well as a rationalisation of payment sizes for the exploitation of natural resources, conducting and legal regulation of ecology insurance principles."⁴⁶⁰

Legislation shall be improved and authorities trained. Control over compliance to ecological requirements shall be strengthened. As for the Kyoto obligations, Russia will very likely not have to bother about its greenhouse gas emissions, which shall be kept below the level that they were in 1990. Estimates predict a level of 75–80 % for 2010 and predict that even in 2020 the 1990 level will not be reached.⁴⁶¹ Whereas it is not likely that Russia will introduce emission trading in its domestic market, joint implementation programmes could become interesting in the future, the first laws in this direction having been passed in May 2007.⁴⁶² However, the continued growth of the Russian economy makes it likely that the country will sooner or later have difficulties to fulfil its reduction commitments. Therefore, it will probably try to prevent concrete emission targets for the Russian Federation. More so, as Russia is interested in continued exports of fossil fuels to its clients, it will oppose too far-reaching emission reduction

⁴⁵⁹ 'The Summary of the Energy Strategy of Russia for the Period of up to 2020'. Ministry of Energy of the Russian Federation, 2003, p. 5.

⁴⁶⁰ 'Энергетическая стратегия 2020' (Russ.) [Energy Strategy 2020]. op. cit., p. 26f.

⁴⁶¹ Russia thus could even sell emission rights abroad. Cf. 'Russland: Energieeffizienz und Klimaschutz kommen zu kurz'. DIW Report, No. 49, Deutsches Institut für Wirtschaftsforschung, 2007, p. 747.

⁴⁶² Cf. Korppoo, Anna: 'Joint implementation in Russia and Ukraine: Review of Projects Submitted to JISC'. Briefing Paper, London, Climate Strategies, 2007.

commitments for others. In addition to this, the consequences of climate change are regarded as being rather positive for the Russian economy.⁴⁶³

Nevertheless, it is obvious that a sustainable climate policy must begin now to create the conditions for sinking emissions. Russia's potential for the use of alternative renewable energy sources is vast and largely unused, apart from hydropower. According to the Energy Strategy, up to 30 percent of the country's energy needs could be met by using alternative sources, if these were developed to their full potential. Far away and not easy to reach regions which spend much of their budget on transport and energy supply could benefit largely from renewable local energy supplies.⁴⁶⁴ Moreover, there is an important market for renewables simply by the fact that to date, up to 25 million people in Russia do not have access to electricity, and 10 million are not connected to the electricity grid but produce electricity locally with the help of hydrocarbons.⁴⁶⁵

4.3.3.3 Energy Intensity of the Russian Economy

Another major objective of Russian energy policy consists of the reduction of energy intensity. Russian energy intensity is one of the highest in the world and a heavy burden for society. Although between 2000 and 2004 it was already reduced by 21%, energy intensity of GDP in PPP is still 3.1 times more than in the EU-15 and 2.3 times the world average.⁴⁶⁶

⁴⁶³ See 'Climate: Putting Panic in Perspective'. Ria Novosti, 18-04-2007.

⁴⁶⁴ Merle-Béral, Elena: 'Réveiller le géant'. *Notre planète*, Vol. 16, No. 4, United Nations Environment Programme, 2005, cited in Yavid-Reviron, op. cit., p. 163.

⁴⁶⁵ Ibid.

⁴⁶⁶ In order to compare the energy efficiency of different economies, "energy intensity" measures the quantity of energy that is needed to produce one unit of GDP. Russia's energy intensity has fallen only 3.4% a year since 1990, while most former Soviet republics achieved reductions of 6–7%, mainly resulting from a shift towards less energy-intensive industries.

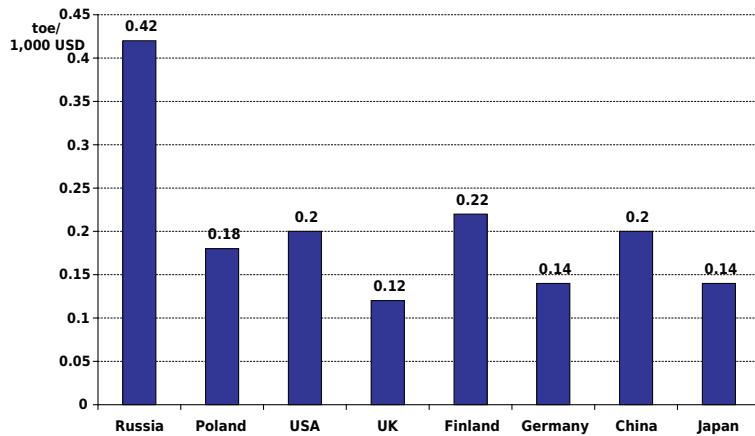


Figure 31: Energy intensity of GDP (PPP) in selected countries, 2007 (IEA, 2009).

Annual gas consumption per capita is extremely high, with 4,314 cm in 2007 (Germany: 1,182 cm). The extreme energy intensity is due to the lack of efficient up-to-date plants and machines, but also to Soviet mismanagement and waste of resources.⁴⁶⁷ It is clear though that such a large country with cities in some of the coldest areas, with one of the world's largest economies and a predominance of heavy industry, will have higher energy intensity than other economies, but these factors cannot justify such a high efficiency gap. Electricity generation, together with the industrial sectors, account for approximately 80 % of the gas demand. Much of residential gas consumption is used for heating, whereas customers cannot adjust heating systems due to the lack of thermostats in individual apartments. Individual metering for gas and heat is not common, and monthly gas fees are paid as part of the rent. Legal and technical constraints make it barely possible to disconnect individual apartments from the grid. Following these characteristics, residential demand for gas is inelastic. A dynamic demand response to higher prices is not possible. Consumers have neither information nor control over their own consumption.

⁴⁶⁷ Abundance of space and resources was part of the official propaganda and led to misperceptions of no need to save energy.

Consequently, the potential for energy saving is enormous.⁴⁶⁸ Increasing energy efficiency could save the country USD 120–150 bn per year, representing one third of the costs of installing new capacity in order to match the forecast demand increases. Another advantage is that energy efficiency measures are quicker to implement than the construction of new energy supply facilities. Moreover, energy resources released through increased efficiency can meet the forecast shortfall in gas production and electricity generation.⁴⁶⁹ Higher energy efficiency would also be beneficial for the industry's competitiveness, as productivity would have to rise. Budget expenditure would lower. Currently, roughly USD 40 bn of energy subsidies are annually distributed by the state. Direct government spending for energy services amounted to USD 12.7 bn or 1 % of GDP in 2006.⁴⁷⁰ Lost revenue on world markets for hydrocarbons is another aspect of high energy intensity. It is situated in the range of 5 % of GDP. Losses of foregone sales of CO₂ emission reduction units of USD 10 bn a year have to be added. The efficiency potential translates into the equivalent of 793 m t CO₂ per year (half of 2005 emissions). By realising its energy efficiency plans, Russia could avoid becoming a CO₂ buyer and reduce its environmental costs. Environmental consequences of high energy intensity, notably air pollution resulting from inefficient combustion of fossil fuels put Russian health at risk and may be responsible for a high rate of premature mortality.

The task for the state, therefore, is to assure the restructuring of the economy with a focus on low energy consuming manufacturing industries, knowledge based industry and human services, which can be achieved by a purposeful industrial policy, and to use the potential in the field of technological energy saving. Power intensity of GDP thus shall be reduced by 26–27 % by 2010 and 45–55 % by 2020, according to the Energy Strategy. Most barriers to energy efficiency are regulatory and informational. An effective policy agenda, therefore, has to supply critical information to households, companies and public organisations, remove barriers and establish clear standards and conditions for ener-

⁴⁶⁸ In the residential sector 53.4 mtoe, in electricity generation 44.4 mtoe, in manufacturing 42.5 mtoe, in transport 38.3 mtoe and in heat supply systems 31.2 mtoe. Source: 'Russian Economic Report No. 14'. The World Bank, 2007.

⁴⁶⁹ In the gas sector demand is growing at 2.5 % a year despite considerable price rises. Demand for electricity already outpaces supply. Without according upstream investments, the country may see a situation of having to choose between exports and serving domestic demand. Russian supply constraints then could become painful for its partners in the EU. Cf. 'Russian Economic Report No. 14'. op. cit.

⁴⁷⁰ Ibid., p. 31.

gy efficiency. Information and access to long-term funding for efficiency raising measures are crucial. It is necessary to create an energy efficiency agency which coordinates systematic data gathering, develops benchmarks and best practice guidelines to demonstrate the potential benefits to end-users. General awareness must be raised together with the acceptance for changes, by, for example, the help of campaigns tailored to the end-user, and also by energy labelling, school education and audits. Nevertheless, higher costs will most likely provide the best incentives for energy saving.

4.3.3.4 External Energy Policy

The key statement in the Energy Strategy that characterises the external dimension of Russian energy policy relates to the general economic objectives of governmental policy: "The state energy policy must be guided by the change from the role of supplier of raw resources to the role of substantive member of the world energy market."⁴⁷¹ "Russia is one of the guarantors of energy security in the world and enters into a strategic dialogue with both transit countries and energy users."⁴⁷² In line with this, the strengthening of Russian positions on world oil and gas markets is considered a strategically important task. Russia wants to promote gas as a more important factor in global energy not because of gaining political leverage or blackmailing consumer countries. The often-heard argument of an "energy weapon" quickly becomes irrational when considering that any such "weapon" could only be used once. Energy and especially gas simply are Russia's comparative advantage. Bartering energy for increased trade and investment access to the rest of the world is the aim that the Russian government is pursuing – in its long-term ambition to create a more diversified economy in Russia.⁴⁷³ It is a very rational economic behaviour for Russian companies, and

⁴⁷¹ 'The Summary of the Energy Strategy of Russia for the Period of up to 2020'. op. cit., p. 12.

⁴⁷² Vladimir Putin: "Россия является одним из гарантов энергобезопасности в мире и выступает за стратегический диалог поставщиков, транзитеров и потребителей энергоресурсов." (Russ.) [Russia is one of the guarantors of energy security in the world and calls for a strategic dialogue of suppliers, transitors and users of energy resources.] (translated by the author from Salygin, Valeriy: 'Глобальная энергетическая безопасность и внешняя политика России' (Russ.) [Global energy security and the external energy policy of Russia]. International Institute of Energy Policy at the Moscow State Institute for International Relations (MGIMO), 2007, p. 4.

⁴⁷³ Cf. Trenin, Dmitri, op. cit.

Gazprom, too, to look for acquisitions in the CIS countries' distribution networks.

The Energy Strategy commits Russia to a dialogue with both the countries-producers and the countries-consumers and to active participation in the work of international energy conferences. Russia shall pursue export possibilities of the fuel energy complex to a maximum, while remaining a stable and reliable partner for the European countries and the world community as well as securing energy safety at home. The country wishes to cooperate with industrially developed countries both in the framework of IEA and G8 and also with the leading exporting countries in and outside the OPEC in order to provide fair prices for energy resources.⁴⁷⁴

Whereas the Western European market clearly appears as the key market for the next two decades, the Energy Strategy argues for diversification of energy exports allowing for Russia to reduce its dependence on a small number of European customers. Accessing new markets in the Asia-pacific region and in North-East Asia in particular is a crucial task in this strategic repositioning. The government actively promotes energy production in new, capital-intensive environments such as Eastern Siberia and the Far East, which border the important markets of China, Korea and Japan. The increases in oil and gas exports will be to the major part commercialised in Asian markets. While 88 % of Russian oil exports went to Europe in 2000, this share shall be reduced to 50 % in 2020.⁴⁷⁵ The US, who in the long run, represent a potential market for oil sales, atomic energy and LNG, are also seen as a possible capital supplier for investments in Russian resource production and transport. Furthermore, developing countries are seen as possible markets for technology and services offered by Russian energy companies. An active state policy to foster the involvement of Russian

⁴⁷⁴ 'The Summary of the Energy Strategy of Russia for the Period of up to 2020'. Ministry of Energy of the Russian Federation, 2003, p. 12.

⁴⁷⁵ Götz, Roland: 'Russia and the energy supply of Europe: The Russian Energy Strategy to 2020'. Working Paper, German Institute for International and Security Affairs, 2005. Exports to Europe are not even projected to grow over the next two decades, whereas exports of both oil and gas to Asia will grow to about 105 Mt/year in 2020. In this, the Energy Strategy prognoses differ from those of the IEA. Total gas exports according to the strategy will reach 235–245 bcm in 2020, not the IEA-figure of 280 bcm. In contrast, the Energy Strategy specifies that at the end of the projected period, oil and natural gas exports to Asia should amount to one third and one sixth of the total exports of these two hydrocarbons. The figures for gas exports are far less than those for oil due to various impediments to cross-border trade and limited reliance of the North-East Asian economies on natural gas.

joint stock companies abroad in order to integrate with international markets is called for, referring to the sale of know how, services and machines as far as to Latin America, Africa etc. In this, Russia would become an active competitor for Western companies. Moreover, Russia is determined not to let go of its interests in the so-called near abroad, the former Soviet republics. Point five of the so-called 'Medvedev Doctrine' states that "there are regions in which Russia has privileged interests [...] our close neighbours."⁴⁷⁶ Some commentators have interpreted this, along with the price disputes and the Georgian war as a Russian attempt to reassert its primacy with respect to other powers, i.e. Europe and the US in its near abroad. Clearly, a conflict of interests in the region has emerged with Russia feeling menaced by what it perceives as Western containment policy and the West referring to a resurgent Russian imperialism.

The Energy Strategy clearly states the aim of forming a common energy transport infrastructure in Europe and Asia. In view to its high dependence on transport routes and Central Asian gas to fulfil its export obligations this approach clearly is economically rational as it reduces Russia's risks. However, political motivations cannot be excluded, with Russia trying to establish itself as single buyer (monopsony) for Central Asian gas and striving to acquire controlling stakes in the energy infrastructure of its neighbours which could provide for a double dividend in future; namely profits and political leverage.⁴⁷⁷

According to the Energy Strategy, international energy and transport systems shall provide the guarantee for undiscriminatory transit that is in the strategic interest of Russia. Problems of transit have a special importance for Russia in its unique geographical situation. The country has the necessary premises for being provided with energy resources, it can export them and shall gain through assuring its transit functions, for example, for Central Asian energy exports. To address transport problems, infrastructure must be upgraded. Efficient and environmentally friendly technologies shall be applied in transport as well. The short-term goals include the improvement of the legal base for energy transport, legal security for long-term supplies, and physical security of transport

⁴⁷⁶ The "Medvedev Doctrine" refers to a speech by the Russian President on 05-11-2008 in which he explained an ambitious plan for restoring Russia's position in the world as well as improving the situation at home. See: Medvedev, Dmitry: 'Послание Федеральному Собранию Российской Федерации' (Russ.) [Speech to the Federal Assembly of the Russian Federation]. 05-11-2008, available at: <http://www.kremlin.ru/transcripts/1968>, 12-12-2009.

⁴⁷⁷ See Christie, Edward, op. cit., in Liuhto, op. cit., p. 12.

networks as well as new transport infrastructure projects of common interest.⁴⁷⁸ The Russian state will, in order to reach this aim, "foster the participation of Russian joint stock companies in development and realisation of the great international projects of transport of gas, oil and energy both in western and eastern lines."⁴⁷⁹ Projects, as we have already seen in Chapter 3, include the extension of export capacities of Russian ports, the construction of several new pipeline systems and capacity increases for the existing transport grid for crude oil.⁴⁸⁰ The Energy Strategy also proposes to link Central and Eastern European oil pipeline systems. As for the Far East and Siberia, a pipeline is being built from Taichet to Nakhodka at Russia's Pacific coast. The 4,200 km pipeline (ESPO) is to have a capacity of 80 million tons and will provide the basis for exports to China, Japan, the US, Australia, South East Asia, Korea etc.⁴⁸¹

As for Russia's policy strategy concerning Europe, several interesting remarks can be made. First, Russian market shares are relatively low in Western Europe, whereas they are extremely high in Eastern European states and of considerable value in the central countries Germany, Austria and Italy. Russia aims at preserving and enlarging its market share, but also at penetrating deeper in the markets by acquiring companies that are situated downstream in the value added chain. At the same time, the EU's diversification policy poses a real threat to demand security, market shares and thus revenues for Russian companies and the state. Russia thus started to approach not only the Central Asian states on whose natural gas it relies to a large extent, but also the main non-Russian gas suppliers of the EU. Gazprom's joint ventures in Northern Africa can also be interpreted in this way, and most notably the Russian pressure for forming a forum of gas exporting countries.

⁴⁷⁸ 'The Summary of the Energy Strategy of Russia for the Period of up to 2020'. op. cit., p. 35 ff.

⁴⁷⁹ 'Энергетическая стратегия 2020' (Russ.) [Energy Strategy 2020]. op. cit., p. 35 ff.

⁴⁸⁰ A second Baltic Transport System (BTS) with a capacity of 50 million tons/year and a new pipeline system on the Kolsky peninsula count among the completely new projects. In addition, the existing Atyrau-Samara-pipeline's capacity shall be increased to 25–30 million tons and the CPC-grid (Caspian Pipeline Consortium) shall be enlarged to 67 million tons/year. A new pipeline shall be built between Bulgaria and Greece to circumvent the chronically crowded Bosphorus strait. Oil export capacity of the Black Sea oil terminals in Tuapse and Novorossiysk shall grow to 59 million tons/year.

⁴⁸¹ Other possibilities for export diversion comprise the use of the existing Adriatic pipeline in Croatia from Omisalj to Rijeka, the enlargement of the Druzhba pipeline through Belarus and Poland and the construction of a new pipeline from Western Siberia to Indiga at the Barents Sea.

4.3.4 Summary

The previous chapter traced back the main motivations for Russian energy policy. They derive from the energy sector's importance in the Russian national economy and make clear that energy policy in Russia, with the background of chaotic economic transformation, constitutes a major tool for rebuilding and securing Russian statehood and sovereignty. Russian policy now follows the logic political stability equals economic stability, which in turn equals social stability. Thanks to its abundant resources in hydrocarbons, Russia is one of the few industrialised countries able to cover its energy demand with own domestic resources. This is a major advantage for the Russian economy. As the state regained power, it engaged in measures meant to reinstate control over the country's resources, which manifested themselves in revisiting previously concluded contracts that from a neutral perspective were harmful for Russian interests. Moreover, government fostered the establishment and expansion of large national energy companies. These companies, partly controlled by the state, shall become internationalised and enter into competition with the global energy majors. The contest for rents from the Russian hydrocarbon sector was ended under the presidency of Vladimir Putin.⁴⁸² Informal rent distribution, though, has not been abandoned; it has been subordinated to the interests of the state, but continues to cause inefficiencies and intransparency and to hamper investment. President Medvedev in his address "Russia, forward!" made clear that these informal relations need to become formalised.⁴⁸³

Industrial policy in Russia is aimed at increasing competitiveness of the domestic economy and maintaining national control over the energy sector. At the same time, the economy's one-sidedness in view to the energy sector shall be overcome. A major challenge is presented by the integration of Russia into the world economy, not as a peripheral supplier nation, but as one of its economic cores. Notwithstanding all the criticism of growing state influence in Russian economy and society, it is necessary to consider the fact that in the aftermath of crises, today's developed industrialised countries have also known such phases of increased state interference. The Russian government thus points to the

⁴⁸² Robinson, op. cit., p. 1.

⁴⁸³ Medvedev, Dmitry: 'Россия вперёд!' (Russ.) [Russia, forward!]. gazeta.ru, 10-09-2009, available at: http://www.gazeta.ru/comments/2009/09/10_a_3258568.shtml, 10-09-2009.

fact that modernisation and democratisation are all but fast processes and have taken even centuries for their development, also in the West. Russia thus could not simply take over Western structures, but conscience of democracy, economic and social liberties, would have to be developed within the population. This relates to the material well-being of the population in which the Russian state shall set its priority.⁴⁸⁴ Partial renationalisation in the oil and gas sectors and their subordination to state development goals can, to a certain extent, be read as instruments for a future (and this time guided) transformation, which would encompass the whole economy. As for the time being, Russia remains "a country with substantial economic problems, supplying energy and other materials to more developed and prosperous countries. [...] Russian national interests lie in modernising its society, strengthening democracy and advancing its economy from being oil to technology driven."⁴⁸⁵ President Medvedev made clear that strong state interference in economic sectors is not an ideal choice, and that private ownership would be preferential.⁴⁸⁶ The current situation in Russia's hydrocarbon industry thus should be regarded as temporary and as a result of the processes of the first transformation phase in the 1990s.

The Russian government has formulated ambitious targets in its two Energy Strategy papers for the periods to 2020 and 2030. The Energy Strategy foresees nothing less than the energy sector becoming the catalyser for socio-economic development. The results aimed for are a stable and efficient supply for the needs of the developing economy and population, as well as increased competitiveness of the energy sector products and services on international markets. As identified in these papers, Russian energy policy must address the projected decline in self-sufficiency; the need to ensure that gas plays a greater role in the energy mix; and the fiscal and other issues impacting on the competitiveness of Russia's current and potential gas exports. Challenges ahead comprise the necessary increase in production according to rising demand levels. This means increased investment in exploration and exploitation of resources, as well as new transport infrastructure. For this, Russia is dependent on Western progressive technology. However, in the domestic use of energy, efficiency must be increased, prices shall be raised in order to stop waste and to provide the ap-

⁴⁸⁴ Grigoriev, Leonid: 'Growth with energy and energy security'. in 'European Energy Security What should it mean? What to do?' ESF Working Paper, No. 23, 2006, p. 16–17.

⁴⁸⁵ Ibid.

⁴⁸⁶ Cf. Medvedev (2009), op. cit.

ropriate incentives for a reduction of the economy's energy intensity. An active external energy policy is destined to foster Russian interests abroad, to diversify export routes and markets and to provide Russian companies with governmental support in overseas projects.

5 Towards a Solution

5.1 Opposed and Shared Interests

Two main tendencies can be made out on global energy markets. On one hand, competition increases in demand regions, where markets that traditionally have been vertically integrated are opened up by liberalisation. On the other hand, central management and control of resources gain terrain in supply regions. State ownership of strategic resources, be it under the form of partial or full control, is a reality in many countries. On the other hand, the acknowledgement of property rights is essential for private investments in the energy sector. Another problem lies in interest groups abusing energy policy and the derived economic policy measures for their own advantages. This is of special importance in resource rich countries where the wealth that can be generated from them attracts various interests. Nevertheless, with regard to the large multinational energy companies influencing governments' choices, the activity and success of lobby groups in forming energy policies is considerable. The conflicts between the European Union, Russia and the transit states are enrooted in this global context.

5.1.1 European Union and European Companies

European energy policy and interests show a very fragmented picture. Interests are manifold, comprising interests as a consumer, as an investor, and interior policy objectives. The driving idea for EU authorities is the formation of a single European energy market, including accession of new members and market liberalisation. Yet particular business interests and national strategies are directed against a transfer of competence to Union level which would be essential for a

common EU energy policy. “One of the key obstacles on the path to a common foreign policy on energy of the EU is, among others, the commercial interest of separate European monopolist companies and their energy business with Russia.”⁴⁸⁷ Furthermore, “liberalisation has altered the way in which companies do business, the perception of specific time horizons for various actors as well as the type of actor which can benefit from the liberalised energy markets.”⁴⁸⁸ The large companies dominating the EU market, freed from former institutional ties and responsibilities to the state, now primarily search for profit maximisation in the downstream sector, i. e. they are mainly concerned with wholesale and retail distribution, power generation and transit. The different perceptions of time horizons among businesses and political decision makers lead to increasingly national strategies be it in the gas, oil, coal, LNG, or nuclear sectors. One can argue that European companies when signing agreements with Gazprom simply act in their business interest, which is wished for in liberalised markets and thus cannot be blamed. However, if the EU would coordinate its energy policy towards Russia and thus not allow the implementation of projects without political coordination, the business decisions of individual European companies would become quasi state-run. This would not be in line with the EU’s liberalisation strategy. Nevertheless, it is in the European interest to determine a common energy policy as well as binding and executable rules between member states in emergency situations and to build up an interconnected integrated gas market. Moreover, it can also be argued that market concentration around several large European companies with strong positions in their “home countries” increases their negotiating power and creates large credible partners for stable long-term relationships with Gazprom.

As a consequence of its own liberalisation efforts, the EU has a profound problem with Russia not embracing the same approach and refusing the Energy Charter Treaty. The European side complains about the lack of competition and transparency in Russia’s market, its domestic price subsidies and insufficient investment, which might cause a future supply gap. The EU has a profound interest in opening up the Russian gas market for European companies in order to participate in the resource rents, which would finally also result in increased political leverage.

⁴⁸⁷ Gonchar et al., op. cit., p. 54.

⁴⁸⁸ Dusseault in Liuhto, op. cit., p. 23ff.

From September 2007, the Third Legislative Package for the Energy Sector intensifies the liberalisation strategy of the European Commission. Production and supply of gas and electricity shall be unbundled from transmission networks.⁴⁸⁹ Third party access to grids shall become mandatory. The Commission's preferred option in this respect is ownership unbundling, but it also proposed independent system operators, which formally remain under the same ownership as a second option. An agency for the cooperation of national energy regulators, with binding decision powers will be created. The package contains safeguards to ensure that in the event of companies from third countries wishing to acquire a significant interest or even control over an EU network, they will have to comply with the same unbundling requirements as EU companies. However, with the realisation of the Third EU Gas Package, financing for large gas projects, e.g. pipelines, would become more difficult or even inhibited. Gazprom thus insists on negotiated third party access, as was practice before the second gas directive (2003), and points also to the fact that major energy infrastructure projects within the EU are financed under derogation from mandatory access.⁴⁹⁰

As to pipeline diversification, EU member states currently seem to not take into consideration that individual energy policies and over-diversification of supplies or infrastructure can potentially undermine energy security for the whole of the EU, as the European market could lose in attractiveness for external suppliers. European companies currently are engaging in the two projects of Nabucco and South Stream. Of course, two parallel projects would increase the diversification of supply routes and possibly even the realisation of both projects might not suffice to satisfy growing European demand. Nabucco and South Stream would then not be alternative but complementary projects, unless they rely on the same fields for being filled with gas. Furthermore, if Central Asian gas would be pumped through both lines, the EU would become the benefiting party, not only in case of supply disruptions in one of the pipes. So actually, the EU is interested in the realisation of both projects, and so are European energy companies.

⁴⁸⁹ As part of the package, see: 'Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC', available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0073:EN:NOT>, 14-01-2014.

⁴⁹⁰ See, e.g., Konoplyanik, Andrey: 'A Common Russia-EU Energy Space: The New EU-Russia Partnership Agreement, Acquis Communautaire and the Energy Charter'. *Journal of Energy and Natural Resources Law*, Vol. 27, No. 2, pp. 258–291.

However, if liberalisation and increased gas-to-gas competition leads to lower prices in Europe, this might become problematic in the case of liberalised prices in Russia approaching or exceeding those paid in Europe. Russian supplies might then be switched to domestic customers first. As we have seen, EU-wide liberalisation of the gas market is far from realisation. The EU energy sector remains dominated by a continued concentration of large businesses; access to pipelines and the number of contracts remains limited. In this situation it is not very surprising that third companies such as Gazprom remain cautious about subscribing to future rules. It will take years to build the sufficient infrastructure for realisation of the common market. Europe faces several risks, such as underinvestment in producer and transit countries, economic risks related to resource finiteness, risks of deliberate supply cuts but also risks of Gazprom's market power. In the end, only a common energy policy can provide some solutions, combined with an improved and targeted dialogue with producing countries. Future energy security would be compromised if resting only on bilateral relations between Gazprom and vertically integrated European companies, as stable as ever these might be.⁴⁹¹

5.1.2 Russia and Gazprom

Not surprisingly, the motivation behind Russian energy policy differs from that of the European Union member states. Of course, one major difference simply relates to the endowment of natural energy resources. In states, which dispose of rich natural resources which are prone to export energy and energy sources, energy policy objectives differ from those, which are obliged to purchase them due to a lack of domestic resources. With its abundant energy resources, security-of-supply concerns play a minor role, although technical problems continue to put supply security at risk. Rather, energy policy becomes a major tool in trade and development policies. Russia is searching for intelligent policies that foster domestic sustainable growth and industrial diversification by providing energy resources on its own conditions to global markets. Clearly, political and economic interests in Russian energy policy are intertwined. They comprise income maximisation, the strengthening of market positions by penetrating and

⁴⁹¹ Milov, op. cit., p. 9f.

insulating markets, keeping an export monopoly, controlling the whole value chain and increasing political leverage. This is an “entirely rational [strategy] and should not invite value judgements. It would be unrealistic to expect Russia not to maximise the economic benefits energy resources can deliver and foolish for Russia not to make use of its energy supplies to attain political influence, particularly as this is one of the strongest levers at its disposal.”⁴⁹² Economic strength is at the basis of geo-political weight, at which Russia is aiming. The Russian side fears the consequences of EU market liberalisation, as they are to a large extent uncertain in both scope and time. Uncertainties encompass demand and price development in Europe, the future market structure, competition and regulation. Will Gazprom be allowed to enter European retail markets; will it conserve its market share as gross supplier? Will long-term contracts be replaced, and if so, by which trading schemes? Will the company’s revenues and thus Russian state revenues remain stable or become more volatile? The lack of unanimity in European energy politics can not only be interpreted as an opportunity for Russia to play one member state against the other, but it also represents a major problem as to the assessment of future developments in EU policy. Russia sees itself menaced by a possible reduction of European demand for its hydrocarbons, which could be the consequence of the priority set for European policies concerning the reduction of carbon dioxide emissions, i. e. energy saving, the development of new technologies and the promotion of renewable energies. Table 12 presents various influence factors that contribute to a perceived menace to energy security for both the EU and Russia.

⁴⁹² Kefferpütz, Roderick: ‘EU-Russian natural gas relations – Pipeline politics, mutual dependency, and the question of diversification’. in Liuhto, op. cit., p. 102.

Table 12: Possible threats to Russia's export security and the EU's supply security.

EU supply security would be menaced by:	Russia's export security would be menaced by:
Insufficient investment in exploration as well as rising domestic demand in Russia	Insufficient investment in exploration as well as rising domestic demand in Russia, due to lack of funds and lack of demand security (European non-commitment, EU liberalisation, EU climate and environment targets)
Export diversification of Russia	Import diversification of EU
Insecure transport ways (political risk and insufficient investment)	Insecure transport ways (political risk and insufficient investment)
Waste and technological backwardness of Russia	Waste and technological backwardness of Russia
Dependency from one single supplier (risk of cut-off, political blackmailing)	Dependency from one single market
Increased EU consumption	Declining EU consumption

Energy security is often about perceptions – if Russia perceives the EU as willing at all cost to diversify from Russian supplies, Russia too will have to diversify its markets for its own economic security. Germany, for example, plans to build more than 20 new coal-fired plants, and a nuclear renaissance is not excluded. European market liberalisation and increased spot trade mean reduced chances for new long-term supply deals or at least altered conditions. Uncertainty of demand is not a good incentive for engaging in costly investments. New Russian supply treaties with Asian countries and the United States can be read as a threat to cut off Europe, but also as a means to secure itself from declining European interest in Russian supplies. More competition from LNG, from African exporters as well as increased spot-based deliveries through its pipelines translate into accrued revenue volatility for Gazprom, and the Russian state. Gazprom holds that it would see its capacity for gas flow management reduced, and could then get into problems fulfilling its supply obligations. As the Russian Energy Strategy testifies: “Russia develops its activity in the gas sphere with the aim to get maximum profit from gas export and reduction of possible export profit loss from transition to spot gas trade in Europe through keeping a single export channel for gas export and entering into long-term contracts [...]”⁴⁹³

At the same time, the company’s retail activities in Europe are under suspicion and in discussion of being restricted. EU declarations to reduce its dependence

⁴⁹³ ‘Энергетическая стратегия России на период до 2020 года’. op. cit., p. 70.

on Russia as a supplier will not be perceived in Russia as laying the basis for a continued and enlarged future partnership. On the contrary, Russia is interested in building pipelines first in order to be sure that the produced resources can be transported and will be purchased. Why should the Russian side develop costly production facilities when its main customer is seeking supplies elsewhere? The question of who would bear the cost of spare capacity is a recurring topic in the producer-consumer dialogue. Spare capacity would provide for absorption possibilities in the case of sudden supply shocks. However, overinvestment in spare capacity is feared by producers, due to its potential to limit resource prices and market power. Consequently Russia will seek other markets, resulting in a vicious circle.

It is certain, however, that energy will remain an important factor in Russia's negotiations with the EU over new security architecture. It is via the energy tool that Russia wants to assure growing financial resources and economic integration with Europe, as energy resources simply are Russia's comparative advantage in a newly shaped international division of labour. According to the Energy Strategy, Russia's continued centralised control over gas revenues and decision-making are the basis for further economic and social development. At the same time, Russia will use its economic strength to tie the CIS countries. This encompasses attempts to gain direct control over pipelines and energy infrastructure in these countries. The repeated gas crises are also opportunities for Russia to present Ukraine as an unreliable partner for the EU. This would increase acceptance for direct pipelines to Russia. Russia's position would be strengthened by both the circumvention of Ukraine or by acquiring a stake in the country's transport grid.

The business interests of Gazprom can be explained by its proclaimed aim to become the largest global energy company and a vertically integrated company with activities also in electricity generation and chemical industry. Since spring 2008, when Gazprom was the third largest company worldwide according to its stock market value, the company has lost 75 % of this value in the world economic crisis.⁴⁹⁴ Foreign debts account to USD 50 bn and the company struggles with falling gas prices (in 2008, crude oil price fell by USD 100 in only four months).

⁴⁹⁴ Market capitalisation dropped from USD 300 billion in 2008 to around USD 90 billion by the end of 2009. Cf. Kefferpütz, Roderick: 'Gazprom's changing fortunes'. CEPS Commentary, Centre for European Policy Studies, 2009.

Moreover, production has been declining since 2006.⁴⁹⁵ High costs for Central Asian gas under recently concluded contracts meant to preserve Gazprom's role as sole transitor would further diminish profits, as would devaluation of the Rouble.⁴⁹⁶ Gas markets are changing in various ways, the most visible aspect lately being a general depression in natural gas demand throughout the world. Since 2008, gas consumption in all major markets has fallen considerably due to the economic crisis. Western companies, therefore, reduced their gas purchases from Gazprom by more than 50 bcm in 2009. They refused to pay up as they were obliged to, according to their long-term contracts, knowing that the Russian company granted exemption of this rule to cashless Ukraine, and that Gazprom itself had stopped purchases of Central Asian gas. For Gazprom, however, reduced exports translate into severe financial problems.

In the meantime, the IEA has revisited its forecasts for world gas demand and predicts a fall of 5 % by 2015 and 17 % by 2030, if energy saving and the increased use of renewable energy sources are realised as planned. The EU would then be able to cut back its gas consumption by 125 bcm annually, without having considered the probable effects of technological progress yet. Consequently, uncertainty over future gas demand in Europe for Gazprom has been increased. The company, therefore, has cut its 2009 investment programme by USD 5 billion and will delay the development of the Bovanenko field. Gazprom can be grateful to have not followed persistent demands for increased upstream investment. The global gas market has changed into a buyers' market. The US production of shale gas covering large parts of the domestic market has especially led to falling prices on spot markets due to overcapacities in LNG originally meant for North America.

However, in order to continue its global strategy, the following points are crucial for Gazprom (cf. Table 13):

- The company needs to meet its domestic and external obligations. For this, exploration and investment in new production facilities as well as transport infrastructure are necessary. Transit problems must be resolved to assure continuous energy flows. Therefore, the diversification of routes and channels is a priority for the company.

⁴⁹⁵ Ibid., and also: Pleines (2008), op. cit., p. 8.

⁴⁹⁶ Profits have been down by 61 % in January-March 2009.

- The company needs to become profitable on its domestic market. This is necessary to accumulate more capital and to end market distortions, which would free resources for export (and to meet its obligations). A changing demand pattern in Russia is highly appreciated by Gazprom. For this, domestic prices have to rise quickly. In this, the company faces strong opposition inside Russia, notably from the electricity generating industry. In addition, the government is also opposed to all-to-quick price rises due to social considerations.
- The stability of current export relations is the basis for Gazprom's further development. This asks for the maintenance of long-term contracts which guarantee predictable demand and export prices.⁴⁹⁷
- Furthermore, with the aim of meeting its contractual obligations, Gazprom is interested in retaining its monopoly for Central Asian gas exports to the EU.
- In order to grow internationally and notably downstream, i.e. in order to benefit from final customer business with higher margins and to accumulate market share, Gazprom absolutely needs to rely on non-discriminatory access to EU markets and elsewhere. The Third Legislative Package threatens the company's expansion strategy and would undermine the position Gazprom holds today.⁴⁹⁸
- A depoliticisation of its relations with CIS countries is in the interest of Gazprom, though it might not be in the interest of the Russian state.

Table 13: Principal business interests of OAO Gazprom.

Free market access in Europe, depoliticisation
Domestic price rises and CIS price rises
Access to advanced technology and foreign investment/joint ventures
Diversification and control of transport routes and channels
Retaining the gas export monopoly in Russia and its dominant domestic position
Retaining and expanding market shares and positions in export markets

⁴⁹⁷ Demand fluctuations would present major uncertainties for Gazprom's activities. In 2009, the company shut down some production in view of the crisis in Europe: in February 2009 down 15.3% yoy, 2009 10% lower than 2008 predicted. See Grigoriev in Liuhto, op. cit., p. 76 ff.

⁴⁹⁸ Cf. Pleines (2008), op. cit., p. 68. This legislation would prevent Gazprom from acquisitions in transport and distribution grids and force it to sell its shares in pipeline consortia already existing.

European energy companies as counterparts share some of Gazprom's business objectives. They have the same interest in that Gazprom is able to meet its export obligations and, therefore, share the aim of maintaining long-term contracts, and are themselves threatened by liberalisation efforts at the expense of vertically integrated companies. However, with Gazprom ever more active on European downstream markets, European energy companies would face competition from a company which, according to its quasi-monopoly in its domestic market and its hold on large reserves, would be able to benefit from important, if not decisive, cost and market power advantages. On the other hand, higher prices in Russia's domestic gas market would certainly benefit Europe because energy would be saved and more gas could be exported. This is also beneficial for the environment and global climate protection. Then again, if Russian prices were close to European ones or even higher, Gazprom might lose interest in the European market. One should also not forget that Ukraine is, according to its volumes, Gazprom's largest single client, and gas prices in Ukraine will soon reach world market prices. However, in spite of the described interests and fears that clearly are in opposition to each other, shared objectives and thus chances for a true partnership are great. We will see this further below, but first we will look at possible scenarios for the future development of energy relations between Russia and the EU.

5.2 Four Possible Scenarios for Future EU-Russia Energy Relations: An application of game and cooperation theory

Four basic scenarios for the future development of EU-Russian energy relationships can be identified from a theoretical viewpoint. We will in the following consider the consequences these scenarios would relate to. In this, we follow a game theory approach referring to the standard situation of a prisoner's dilemma where players can choose between cooperation and non-cooperation. The prisoner dilemma models quite well the fact that the outcome of an interaction does not solely depend on a particular strategy, but also on the nature of the other actors' strategies. The non-cooperation outcome refers to four situations:

either one party (the EU or Russia) imposes its strategy, forcing the partner to adapt, i.e. to subsequently run a cooperative strategy. The third outcome consists of the perpetuation of the status quo where no partner is able to dominate the other, and both prefer to continue non-cooperative strategies. The danger would be for relations to deteriorate to an energy security dilemma as described by Monaghan.⁴⁹⁹ Only if both parties adopt cooperative strategies, will a mutually beneficial outcome be reached.

		Russia	
		cooperative	non-cooperative
EU	cooperative	cooperative solution	Russia imposes its will
	non-cooperative	EU imposes its will	status quo

Figure 32: EU-Russia energy relations in a prisoner's dilemma matrix.

The different cooperative or non-cooperative strategies relate to possible mixtures of the options either side has. The European Union basically faces six different policy options to enhance its security of energy supply, which it sees as being menaced by Russian dominance. First, it can attempt to diversify its energy imports away from Russian sources and hinder Russian enterprises such as Gazprom from entering EU downstream markets. A second option would consist of diversifying away from the use of fossil fuels by the use of whatever instruments are regarded useful and necessary. A third alternative consists of saving energy. A fourth option would foresee expanding European control over transport routes and a fifth strategy focuses on acquisition and investment in Russia in order to establish mutual dependency relations. The sixth approach would comprise enhanced cooperation and solidarity in the domestic market. Of course, all of these options could be pursued in parallel, as in reality is the

⁴⁹⁹ This means that the two sides continue to feel insecure vis à vis each other and make preparations in case the other intends to threaten, leading to increased suspicion and a potentially aggravated conflict. See Monaghan, Andrew: 'Дilemma энергетической безопасности' (Russ.) [The dilemma of energy security]. Pro et Contra, Vol. 10, No. 2/3 (March-June 2006), pp. 16–31, published in English as 'Russia-EU relations: An Emerging Energy Security Dilemma'.

case. However, the relative importance, which is given to either of these options, would determine whether the overall strategy could be characterised as cooperative or non-cooperative.⁵⁰⁰

Table 14: Options for the EU to increase energy (supply) security.

1. Diversify away from Russia and block Russian market entry
2. Diversify away from fossil fuels
3. Save energy
4. Control transit routes
5. Acquire and invest in Russia
6. Achieve a unified market with interconnectors, storage and solidarity

Russia, for its part, sees itself confronted by a decision problem. In almost all aspects, which relate to the maintenance of future energy security, large investments have to be made. Capital for investment is scarce. As for pricing, the government has already bound itself to a price increase scheme for the Russian market. The option though of opening up the domestic market for competition and European companies is unlikely, given the crucial role of Gazprom in state finances and the Kremlin's policy considerations.

Table 15: Options for Russia to secure energy demand security, exports and revenues.

1. Invest in direct transit routes and acquire control over existing transit routes
2. Invest in export diversification to the Far East and in LNG
3. Invest in production via long-term contracts and JVs for EU and domestic needs
4. Invest in downstream (also abroad) to increase the profit margin
5. Invest in production (just in case) for potential gas supply gap in EU

As with the EU, the cooperative or non-cooperative character of the Russian strategy would depend on which of these options it focuses on. Increased efforts to improve transparency and investment conditions would, for example, be a clear sign for cooperation.

⁵⁰⁰ Allowing Russian market entry in Europe would obviously be another possible choice, but it is unlikely without obtaining something in return.

5.2.1 The EU Imposes its Will

When considering the differences in policy objectives of the European Union and the Russian Federation, it could be realistic to expect both partners to continue in their non-cooperative strategies. Several developments could bring the EU into a favourable position in which it could hope to impose its will, i. e. its liberalisation approach, on the Russian side. This could be the case if the EU was successful in limiting its energy demand increases (through saving and technological improvements as well as renewables), if it was successful in geographically diversifying energy sources and transport routes, and if the single domestic market would be realised and a common energy strategy defined. At the same time, however, the Russian position would need to be weakened for this to happen. This could be the case if world market prices for hydrocarbons remain modest and if Russia continues to experience economical difficulties related to the world economic crisis and if it lacks alternatives for exporting its hydrocarbons. Pressure from inside Russia for reforming the existing energy sector structure and rent distribution would then increase and the government may finally see itself inclined to accept European proposals concerning investment conditions, access to transport grids etc. This approach can be seen as a renewed attempt to export the *acquis communautaire* to Russia which, however, already failed once during the 1990s.

5.2.2 Russia Imposes its Will

A second theoretically possible outcome would consist of the Russian side succeeding in maintaining its stance while the European Union finds itself in a situation where it has to fully accept Russian ideas about the terms of their energy relations. This would actually be thinkable if European attempts for demand restriction and import diversification fail, but more importantly if the unified energy market is not realised, and if international conditions change to the detriment of European interests. The situation on international energy markets could severely tighten, with ever more competition for increasingly restricted energy resources, which would naturally improve the market position of supplier countries such as Russia. At the same time, alternative suppliers could

become unstable, thus ceasing to be an alternative to Russia, or their reserves simply become insufficient. Transport routes might become unsafe. Russia, for its part, may succeed in forming a gas cartel. This strong position for Russia might coincide with pressure from business within the EU keen to do business with Russia at any cost.

5.2.3 The Status Quo

More likely than the two previously described situations though is a prolonged status quo as we witness today. Both partners officially declare their commitment to dialogue and highlight the need for an energy partnership, but pursue their specific interests with policies that not only contradict the official declarations but also are directed against the partner's interests. For the time being, neither side is in a position to force the partner to adapt its stance. The actual situation is characterised by a lack of understanding and the lack of genuine dialogue. The partner's objections and interests are not taken seriously. Both partners tend to bring themselves in better bargaining positions instead of jointly resolving the conflicting issues. This does not mean that there is no space at all for co-operation, for joint projects and thus resource flows. But the extent to which cooperation takes place is reduced compared to a situation where both opt for cooperative strategies and a real energy partnership. Sticking to this status quo is what we criticise with this thesis. In an environment of increased global competition for resources, the likely consequence of this, at least in the medium to long term, would be a serious redirection of Russian resource flows to Asian and North American markets. The European Union risks losing its priority status for Russian hydrocarbon exports and would forego many chances; increased political influence in Russia, binding Russia to Europe economically, economic rents that could be realised through access to the exploitation of Russian resources, and also through Russian investment in renewable energies, energy saving technologies etc. Moreover, the status quo benefits the EU competitors in Japan, China, South East Asia and the United States. Russia, for its part, would lose from foregone foreign investment that could otherwise accelerate the country's economic and social development. It would have to engage in costly infrastructure projects to redirect its hydrocarbon exports. Technological

change would be decisively more difficult without European support. However, the status quo is not a steady state. It contains, in itself, at least two possibilities of development. It could remain a largely rhetoric conflict in which both partners forego the chances of cooperation, but it could also degenerate into a deeper and more pronounced conflict, for example, if global economic or political conditions change unexpectedly.

5.2.4 The Cooperative Solution: Which strategy performs best? Contributions from cooperation theory

As we have seen, currently all actors engage in strategic moves to improve their own position although all of them know that no single party can do without the other. Transit countries strive to benefit from the obvious conflicts between Russia and the European Union. Strategic behaviour though, whether it relies on more or less credible threats or not, will not bring forth increased energy security. In the long run, all parties lose from not cooperating and from breaking the rules. The base for common interests though is large, as all stakeholders would like energy flows to be guaranteed. The more investment is made in the partner's market, the more common interest and confidence will develop. Common interests not only extend to economic modernisation in Russia and environmental protection. A first key assessment that should be made is that Russia cannot simply be replaced as gas supplier for the EU. Second, geographical diversification does not necessarily improve security of supply in qualitative terms, as other producers are no more reliable than Russia in many aspects. Neither the risk-assessment for other possible non-OECD supplier states nor the amount of their proven reserves is promising. Further "diversification of natural gas imports in favour of these non-OECD countries beyond a certain critical point and the simultaneous reduction of Russia's share may appear questionable."⁵⁰¹ For Russia, payment security and political stability of the European export market are and remain highly attractive. And for Europe, Russia's economic development is valuable as it contributes to global stability.

⁵⁰¹ Losoncz, op. cit., in Liuhto, op. cit., p. 145.

Having described the four basic possible outcomes in this strategic game regarding energy relations, the question would be to identify concrete strategies that ensure that the best possible outcome of the game is reached. We will therefore turn our attention in the following to the theoretical findings of Axelrod, who modelled an iterated prisoner dilemma situation as the basic form of non-zero-sum-games. The objective is to derive conclusions for our own analysis. Axelrod parts from the condition that for cooperation to make sense, the history of the interaction needs to be taken into account.⁵⁰² Cooperation thus needs repeated, long-lasting interaction. This condition clearly is given in EU-Russian energy relationships.

The most successful strategy in Axelrod's analysis was a 'tit for tat' strategy, characterised by cooperation at the start, and by exact repetition of what the other actor plays at all the following stages. Following Axelrod's analysis, the main characteristic of a successful strategy is to be 'nice', meaning not to be the first to defect. It thus can be concluded that being nice pays. In the case of two players adopting nice strategies, they can reap high benefits as they virtually cooperate until the end of the game.⁵⁰³ Another characteristic of well-performing strategies is forgiveness. The tit for tat strategy, the best-performing in Axelrod's findings, is unforgiving for one move only. After that, the former defection is forgotten. In an environment of mutual power positions, the issue to solve would be to effectively minimise echo effects of defections in order to enhance mutual benefits. Clearly, if a single defection leads to a long string of recriminations and counter-recriminations, both sides suffer losses. Defection thus shows a three-layered effect: First, it pays more than cooperation, second though, the other side may recur to punitive measures, and third, this might iterate into future rounds of the game. Consequently, three guidelines can be identified:

1. Defection is costly in the long run, which means it pays to be nice.
2. Forgiveness is beneficial.
3. Optimism about the responsiveness is also beneficial.

⁵⁰² In zero sum games, what loses one player is won by the other. In contrast to this, in the described situations both players can get better off if they cooperate, compared to the status quo. The introduction of reaction functions integrates the fact that your own behaviour will be echoed on you, and changes the other player's behaviour.

⁵⁰³ A less 'nice' strategy would for example consist of outcome maximization, attempting to identify the specific probabilities for cooperation or defection by the other player and set the maximising choice according to these probabilities. Cooperation then depends on probabilities, which might be treacherous. In case of expected non-cooperation, the player would defect. As a result, there would probably be too much defection which harms all sides.

But it also pays to be retaliatory, or at least the players must be ready to retaliate. Reciprocity (in case of defections) is a necessary characteristic for long-term cooperation in the way that it shows that restraint was not due to weakness. Tit for tat actually combines these characteristics of being nice, forgiving and retaliatory, punishing immediately every defection of the other player. Tit for tat also shows the benefit of being a very clear and simple strategy. "Its niceness prevents it from getting into unnecessary trouble. Its retaliation discourages the other side from persisting whenever defection is tried. Its forgiveness helps restore mutual cooperation. And its clarity makes it intelligible to the other player, thereby eliciting long-term cooperation."⁵⁰⁴

Clearly, all strategic choices depend on future prospects. The discount rate of the future must be high, i. e. future needs to be held highly relevant by both partners. With regard to the interdependency of the EU and Russia, the huge resource and market potential in Russia and the economic and technological strength of Europe, this should not be too difficult. Furthermore, a sufficient number of interactions are needed, which will clearly be the case. Axelrod found that "sustained mutual cooperation altered the payoff of the players, making mutual cooperation even more valued than before."⁵⁰⁵ Repeated interactions thus promote the development of ethics and ritual in the players' relations. Consequently, Axelrod gives the following advices to players in a prisoner's dilemma type situation: not to be too envious, not to be the first to defect, to reciprocate both cooperation and defection and not to be too clever or complex in their strategies.⁵⁰⁶

In order to arrive at long-term cooperation, conscience must rise about the value of the ongoing relationship. "The foundation of cooperation is not really trust, but the durability of the relationship."⁵⁰⁷ But how could cooperation be promoted and the strategic setting itself be transformed? Which institutional system would help cooperation? Promoting cooperation thus does not simply mean to teach that more can be gained, but also to shape the "characteristics of the interaction so that over the long run there can be a stable evolution of cooperation."⁵⁰⁸ The same players have to meet over and over again to make future interactions

⁵⁰⁴ Axelrod, Robert: 'The Evolution of Cooperation'. Basic Books, New York, 1984, p. 54.

⁵⁰⁵ Ibid., p. 85.

⁵⁰⁶ Ibid., p. 110.

⁵⁰⁷ Ibid., p. 182.

⁵⁰⁸ Ibid., p. 141.

relevant for the present. As to the subject of our study, a positive record of past cooperation already exists. The Russian argumentation thus points to the long business relationship in the gas and oil sphere. The heated discussions about future energy security and increased struggle for resources show the relevance both partners accord to future. Moreover, several instruments, which make the future more important, already exist in energy markets, such as long-term contracts and joint ventures. The pay-off structure can be changed in order to make long-term incentives for mutual cooperation greater than the short-term incentives for defection (and looking for other sources). However, also values, facts and skills can promote cooperation, such as respect for the other and reciprocity. On the other hand, only the credible threat of retaliation makes it hard for exploitative strategies to survive. From a cooperation theoretical point of view, it is also necessary to keep others away from the game, as the aim is for frequent interactions with the same partners. Russian attempts to block the market entry of Central Asian countries for instance can be interpreted in this way. Moreover, small but continuous steps on the path towards cooperation are more important than one single step, as early defection for example appears less important than the gains to be made from future cooperation. This approach promotes stable cooperation.

Nevertheless, Axelrod also points to some problems. For example, labels or stereotypes can be stable even if not based on objective differences. They cannot easily be brushed aside. This also holds for subliminal fears of Russia, which may persist despite good experience. Moreover, also a tit for tat strategy, although it is easy to be recognised and hard to be ignored by the other player, has its weaknesses, especially in the case of continued defection by the other player. In such a case, it is not forgiving enough. On the other hand, it would be too forgiving faced with a strategy based on total ransom. Nevertheless, tit for tat performs well in a wide variety of situations where it faces the more or less sophisticated strategies of the counterpart. So why not at least partly considering these theoretical findings for the energy relations between Russia and the EU?

However, Axelrod does not content himself with tit for tat, but mentions also the possibility of existing central authorities which enforce community standards and thus facilitate cooperation. Normally, he points out, "You don't read

legalistic contract clauses at each other if you ever want to do business again.”⁵⁰⁹ Only when this anticipation of future interaction breaks down, is an external authority invoked. However, the core of the problem is that processes of trial and error in order to find trustworthy partners and establish cooperation are slow. It, therefore, would be necessary to speed up this process by using rational foresight and intelligence. Any strategy employed thus would need to be accompanied by dialogue and, preferably, an institutionalised framework. Such a central authority would police all participants, imposing and improving rule of law.

5.3 Criteria for Solutions

The current situation of the status quo clearly is unstable and inefficient. It reflects a struggle for rent appropriation related to energy production, transport and retail. Stakeholders at all stages of the value and transport chain attempt to increase their share of the rents. This results in repeated blockades of resource flows, contract negotiations and investment projects leading to growing concern over energy security. A variety of uncertainties challenge future gas supply. This must be kept in mind when considering possible solutions. These must either attempt to resolve these uncertainties beforehand, or provide for some risk-sharing. It is necessary to identify what the stakeholders perceive as threats and insecurities respectively. We will, in the following, identify criteria, which we consider appropriate for the evaluation of solution proposals, which will subsequently be dealt with. These criteria directly relate to the interests of the parties involved. For our classification we refer to the general aims of energy policy as described in Chapter 2, i. e. energy security, profitability or economic viability and environmental soundness, and add political leverage. These four main criteria show large interdependencies. Going beyond this abstract level, we will also consider subsets of these criteria. Our aim is to establish some sort of a matrix, which integrates the criteria that are necessary for both sides to arrive at an agreement, i. e. mutually beneficial solutions for energy conflicts or conflictual situations with the aim of preventing supply cut-offs, price disputes and regular accusations of geopolitical blackmailing.

⁵⁰⁹ See Macaulay, Stewart: ‘Non-contractual relations in business: A preliminary study’. American Sociological Review, Vol. 28, No. 1, 1963, p. 61, quoted in Axelrod, op. cit., p. 179.

5.3.1 Energy Security

Naturally, all parties involved in energy trade are interested in the security of energy flows. Energy security, therefore, is the core criterion, which has to be guaranteed or even improved by the different solution proposals. Energy security, though, comprises a large subset of specific criteria such as (1) physical availability, (2) security of price, (3) reliability, predictability and transparency, (4) investment security and (5) access to physical infrastructure, including that in transit countries.

5.3.1.1 Physical Availability

The physical availability of energy depends on the geographical distribution of resources. If the consuming state does not possess these, the crucial question would be whether resources from other regions are available. The question then would be about sufficient production quantities, and their transport to the consumer. Several studies have pointed to the biggest threat for future energy supplies lying not in the political games of pipeline routes and transit countries, but in the potential Russian gas deficit. In 2004, Russia already had a domestic gas deficit of 69 bcm. Domestic gas demand has been growing at an annual rate of 4–6 % over the last years, mainly driven by electricity generation and regional gasification programmes.⁵¹⁰ With rising exports and domestic demand, but falling or at best stagnating production, projections of this gas deficit are alarming.⁵¹¹ If Russian gas production is declining, then the Russian market is likely to be supplied first. Gazprom, if it was to honour its long-term obligations with Europe, would then have to buy gas on the spot market, probably with substantial losses. The essential question would thus be whether the proposed solution would provide for adequate incentives to guarantee sufficient investment, resulting in sufficient production and the according transport infrastructure. The necessary condition would consist of investment security, which in turn relates to other sub-criteria: stable legislation and framework conditions, a clear and predictable taxation, the rule of law, but also price and cost stability.

⁵¹⁰ Simmons, Daniel, and Isabel Murray: 'Russian gas: Will there be enough investment?' in Pleines et al. (ed.) (2008), op. cit., p. 27.

⁵¹¹ See, e.g., Riley (2006), op. cit.

5.3.1.2 Price and Cost Security

Price and cost security relate both to the energy security criterion and to the profitability criterion. In the energy security context, prices must allow for profitable investment and maintenance activities. As these require large financial means, the security, and thus stability of prices (i.e. income or securities for loans), as well as costs, is essential. Price volatility could thus be seen as beneficial for competition, but poisonous for investments based on long-term commitments.

5.3.1.3 Reliability, Predictability, Transparency

Reliability, predictability and transparency form a complex of sub-criteria, which influence energy security. Clearly, solutions for the problems of supply and demand certainty must go hand in hand as they are but two faces of the same coin. The EU faces the choice of reliance on industrially non-tested technologies or on readily available energy resources. Will it engage in stable external relations or in independence at any cost? For the time being, the EU expects more supplies from Russia to serve its demand but at the same time wants to become more independent from Russian supplies. A concrete answer to this contradiction is missing. Consequently, there is no reliable commitment to Russia as a supplier. Also the EU's 20-20-20 programme may significantly change European demand and imports structure. Russia for her part actively pursues pipeline projects towards China. This also increases uncertainty. Commitment and reliability though are basic conditions for successful commercial relationships. No single party will take the risk of under- or overinvestment. Transparency of decision making and pricing processes is necessary for building mutual trust and thus essential for stable solutions where no player is tempted to breach the agreement. Solutions could also foresee sensible sanctions for the latter case. Criteria of reliability, predictability and transparency are strongly related to political interference, especially when it comes to political backing of major energy projects, but also with respect to setting the rules of the game. On the other hand, they also mean to protect the energy sector from arbitrary political interference and the use of some kind of "energy weapon".

5.3.1.4 Investment Security and Protection

As we have already seen throughout our study, investment issues have proved very problematic in the energy sector as a whole, especially so in the gas sector. Property rights and liability rules are necessary to establish incentives for long-term investment. In case of supply disruptions, companies would then be tangible for liability court suits for having neglected investment needs. Security of supply also can be integrated into the costs of using transport grids. Compared to other economic sectors, the extreme costs in energy sector projects lead to unusually long planning and amortisation periods. The technical adaptability of the sector to social and economic changes is reduced. Together with considerable uncertainty over future supply and demand prevailing under- or overcapacities may result in suboptimal welfare. This makes clear that long planning horizons, stability of demand and contracts, are highly important for investment security. Also, stable rules over the economic life of projects have to be assured. This also means investment protection by foreign countries and foreign legislations.

5.3.1.5 Access to and Control over Infrastructure

A fourth influence factor for energy security and notably transport security consists of access to or control over infrastructure. This argument is often put forward for justifying the construction of new direct pipelines, and was used in the acquisition of the Belarusian pipeline grid. Considering the Ukrainian case it becomes clear that pipeline control would enhance energy security, as political interference from Ukraine would be prevented and the maintenance of the grid undertaken. But control could come at the expense of competition, fortifying market power of the Russian company. Infrastructure control is also essentially important for profitability, as higher margins can be obtained if the transport grid is owned and no transit fees would have to be paid. Access to infrastructure on the other hand, and especially to infrastructure in Russia, would increase competition. For example, this would allow Central Asian resources to reach Europe without intermediary commercial step. In addition to this, also the position of companies other than Gazprom, which are active in the Russian market, would be strengthened.

5.3.2 Profitability or Economic Viability

Profitability or economic viability aspects are another important criterion for solution proposals to fulfil. Naturally, any proposals for conflict solution must guarantee commercial attractiveness to the different stakeholders to be achieved.

5.3.2.1 Price Security and Investment Profitability

For business companies, this clearly refers to profitability of investments and trade with energy sources. In this respect, both price stability and cost stability are also sub-criteria for profitability, not only for energy security as described above. However, interests differ between those who purchase and those who sell the energy sources. Whereas the former are interested in cheap prices, the latter pursue the opposite interest and want to achieve the highest prices possible. Questions of profitability also comprise questions of access to lucrative markets, of safe investment and transparent rules which apply in a consistent and not arbitrary way.

5.3.2.2 Revenue Security

For states, this refers to safe revenues (as high as possible) and stable costs, for example, for transit services. Economic profitability on a business level thus directly translates into stability of revenues, which is especially important for Russia but also the transit countries as their state budgets rely heavily on these revenues.

5.3.3 Environmental Soundness and Efficiency Aspects

As we have already seen in Chapters 2 and 4, environmental aspects are gaining in importance in all energy related questions and decisions. The reasons for this are manifold. Without going again into detail, brief reference shall be made to climate change and increased public awareness for all environment-consuming activities such as energy production. Nevertheless, environmental soundness as a criterion for any sustainable solutions to the energy conflicts between Russia and the European Union, in which transit countries play an essential role as we

have seen, also relates to the efficient production, transport and use of energy and energy saving. These are shared objectives by all partners and, therefore, should not pose major problems in the evaluation of different solution proposals. Nevertheless, environmental aspects also can be utilised for exerting pressure on the other party, not only when it comes to decisions about investment projects such as pipeline routes, processing plants, the choice of techniques etc.

5.3.4 Political Leverage and Cooperation Rent

Although the danger of direct political interference in energy issues poses a threat to energy security and, on the other hand, political backing of energy sector projects may improve their security, it is also clear, that all the parties involved in this interdependency relationship seek for some sort of political leverage over their partners. We, therefore, have to consider, whether these solution proposals allow for political leverage or whether they exclude the possibility of political leverage. The trade-off between abandoning and keeping political leverage needs to be positive for all of the parties in order to engage in a lasting solution. Political leverage in this respect would rather result in a cooperation rent than in traditional concepts of political influence.

5.3.5 Summary

To summarise the criteria, which possible solutions need to take into account, Table 16 presents the main interests and disagreements of the three parties involved.

Table 16: The differing interests of the EU, Russia and transit countries.

	EU	RUSSIA	TRANSIT STATES
Pricing	Low & stable prices, low transit fees	High & stable prices, low transit fees	Low & stable prices, high transit fees
Stability	Stable supplies	Stable demand	Stable flows
Transport	Diversified and more direct import routes, transit countries, avoid Russian export diversification	Diversified and more direct export routes, control of transport infrastructure, retain EU market share	Retain infrastructure control and avoid bypassing lines
Investment	Access to resources, export pipelines and grids for European companies, technology sales	Foreign investment & technologies, while maintaining control over resources and grids	Foreign investment for the modernisation and extension of the transport system
Competition	Contain Russian concurrence in profitable domestic downstream markets	Access to European downstream markets, increase market share and rents	Access to resources
Environment & efficiency	Environmental safety, energy saving and efficiency increase	Environmental safety, energy saving and efficiency increase	Environmental safety, energy saving and efficiency increase
Subsidies	Industrial level playing field, against price subsidies	Advantages for non-competitive industries for social reasons	Advantages for non-competitive industries for social reasons
Politics	Political leverage over suppliers and transit states	Political leverage over transit states and consumers	Political leverage over suppliers and consumers

5.4 Solution Proposals

The following will now attempt to highlight ways leading to a solution, or at least to an improvement of the conflictual situations in energy relations between the European Union and Russia or even global energy relations. I claim that solution proposals must consist of two components. The first component arises from the conviction that essentially global problems need a multilateral approach. The need is for states to agree over a legal framework for international energy relations. This would provide for legal security, common rules and practices and thus essentially de-politicise energy trade. Future demand needs to be evaluated jointly. For such a framework to be accepted and respected, it would need to reflect the interests of all participating parties and constitute a compromise between them. Moreover, an explicit and transparent mediation

and arbitration procedure for conflict regulation has to be found. The second level would concern appropriate measures on the market level, i. e. concrete proposals for structural organisation of trade and cooperation between the market actors. This comprises market characteristics, contracting habits and price formation, instruments suited to deal with market imperfections and long-term strategic investment needs.

5.4.1 A Legal Framework for International Energy Relations

As we have seen before, reliability of partners' figures prominently among the sub-criteria for energy supply security. Transparency and reliability are generally bound to the existence of the "broadly defined institutional system of the market economy inherent in the OECD countries."⁵¹² However, the energy sectors of both Russia and the CIS countries are under-institutionalised. Naturally, there are different interest groups both within the European Union and the Russian Federation, which shape national energy policy; and there are also distinct groups, which benefit from resource rents, at least in Russia.⁵¹³ In Russia, interaction and co-operation among these different groups is under-institutionalised and highly personalised, with "final say resting with the Presidential Administration in Moscow".⁵¹⁴ Federal energy policy in Russia thus appears as the "result of competition and intriguing between ministries, interregional relationships and competition between companies."⁵¹⁵ "Consequently, due to the under-institutionalisation of relationships among actors and structures it is hardly imaginable that long-term efforts to further develop priority projects in the energy sector can be coordinated without a monopoly actor."⁵¹⁶ This may explain the strong governmental preference for the maintenance of Gazprom in its

⁵¹² But then, how could the USSR have been a reliable supplier? Actual experience thus may constitute a major component as well. Cf. Losoncz, Miklos, op. cit., in Liuhto, op. cit.

⁵¹³ They comprise the President and the Presidential Administration, Ministries of the Federal Government, regional administrations, legislative assemblies of Russian regions, leading energy companies, and other businesses and financial actors.

⁵¹⁴ See Dusseault, David: 'The Structure of Russia's Energy Sector: Expectations and Challenges in Tomsk Oblast'. Paper presented at the conference 'Proceedings from Energy Challenges in Northern Europe', Pan-European Institute, Turku School of Economics, 27–29 November 2008, quoted in Liuhto, op. cit., p. 38.

⁵¹⁵ Tkachenko (2007), op. cit., p. 163.

⁵¹⁶ Dusseault, op. cit., in Liuhto, op. cit., p. 38.

current position. Under-institutionalisation and a lack of transparency also apply for Ukraine. The EU could attempt to improve these aspects by developing the institutional system and regulatory framework for natural gas trade within the EU and with Russia and Ukraine.

“The global energy supply system is a vast complex of large, fixed capital assets which take years to plan, sanction and construct, and they tend to be in place for decades. This long-term business must operate within a political context manifestly driven by short-term concerns and developments.”⁵¹⁷ We have seen in Chapter 2 that many states opt for energy policy strategies of resource nationalism in order to tackle the problem of growing energy scarcity and of increased insecurity of supply. Energy sovereignty as a securitisation principle is the expression of this. Bilateral energy diplomacy in search for resources would then become a political cornerstone of policies and even a means to apply pressure. However, if consumer states are pursuing unilateral strategies, ignoring the fundamentals of resource finiteness and geographical proximity, profitability, prohibitive sunk costs and environmental impact, the capital and energy infrastructure race could escalate to the detriment of all. The growing consciousness for climate change also not only forces changes in national energy systems, but also forces more cooperation at the international level. Inside the European Union, the risk of division between energy rich and energy poor would grow.

However, this is the conflictual strategy. In our attempt to provide for cooperative solutions instead, another way of dealing with the problem would consist of a multilateral approach aimed at shaping the international energy system for the equal benefit of exporting and consuming countries, for developing and emerging countries. The change in power balances in favour of resource producing countries has to be mirrored by any such international energy treaty framework. This is necessary for it to gain legitimacy and acceptance. The multilateral approach also comprises the idea of an arbitration tribunal. Currently, there are no international institutions, which can enforce multilateral contracts in case of disputes in the sphere of energy. In order to provide a mutually agreed legal framework for energy relations between different countries, in particular between Russia and the European Union, several possibilities are worth consid-

⁵¹⁷ Skinner, Robert: ‘Strategies for Greater Energy Security and Resource Security’. Oxford Institute for Energy Studies, 2006.

ering, at least theoretically. A first possibility consists of the extension of community law, i.e. the *acquis communautaire*, to other countries, notably Russia. A second alternative can be seen in the existing Energy Charter Treaty, whether renegotiated, altered, amended or even in a new multilateral energy treaty. Also the integration of some of the ECT principles and provisions into the new Partnership and Cooperation Agreement between Russia and the EU seems possible.⁵¹⁸ Finally, closer cooperation on the supplier side following the model of the International Energy Agency for consumer states would be thinkable. For example, in an organisation uniting gas exporting countries, it could also contribute to stabilisation and the set-up of an international framework.

5.4.1.1 The Extension of Community Law

The extension of the *acquis communautaire* to EU non-member countries was first thought of during the 1990s as a proper way for the European Union to secure energy resources and supplies. This would mean the ‘harmonisation’ of the third countries’ legal systems with that of the EU, in fact an export of the EU’s internal rules. The EU was motivated to

“[...] coerce Russia into adopting the EU gas market proposal. This would make sense even more with view to the fact that given the large market shares of Russian gas in Europe’s markets, it would be difficult for an internal market to develop with monopolistic suppliers at its borders. The economic decline and weak political environment of the 1990s were all the more reason why the EU approached Russia on the basis of an unequal power relationship.”⁵¹⁹

But Russian economic and political recovery changed this picture:

“Such an approach might be realistic for some transit states, and perhaps certain energy producers that regard the EU as a model for economic development. However, the big gas exporters will want to remain outside the EU’s legal reach and continue to develop and manage their resources independently, to maximise the rents they collect.”⁵²⁰

In 2005, the EU successfully concluded an agreement with all South Eastern European states and Turkey to form a common energy market. This means, that

⁵¹⁸ See, e.g., Losoncz, op. cit., in Liuhto, op. cit., p. 148.

⁵¹⁹ Van der Linde, Coby: ‘The art of managing energy security risks’. loc. cit., p. 66.

⁵²⁰ Konoplyanik, Andrey: ‘Regulating energy relations: *acquis* or Energy Charter?’ in Barysch (ed.), op. cit., p. 109f.

the *acquis communautaire* will be valid in this region in some time to come. Partnership agreements under the EU Neighbourhood policy and an enhanced energy co-operation have also been signed with Ukraine, Moldova, Israel, Jordan, the Palestinian Authority, Morocco and Tunisia. They provide for a gradual adaption to European regulations with the ultimate aim being that of a common energy market. However, the majority of South Eastern European countries, which already agreed on the “energy *acquis*” have in the meantime embarked on a path leading to full EU membership. For Russia, this option is not real at the moment. Signing the *acquis* means to somehow abandon sovereign decisions in the energy sphere and transfer them to Brussels, but without benefiting from EU membership. Russia thus would have to deprive itself of liberty of action, which is simply not realistic.

5.4.1.2 An International Energy Treaty

An international agreement, i.e. a multilateral treaty, which regulates international energy trade and investment relationships appears to be a highly preferential solution to the general interest conflicts between producing, transit and consumer countries. Such a treaty has important advantages from its universal nature, and it creates the utmost level of transparency. Bilateral negotiations between governments or companies about transit, for example, are unlikely to succeed as they will sooner or later become meddled with political problems between the countries and as they cannot fully reflect the underlying trade relationships, which are by nature multilateral. Chances for solutions to transit issues though are great, as mutual dependency situations cannot generate win/lose outcomes but instead either win/win or lose/lose ones.⁵²¹ Developing common rules for the capital-intensive energy sector would reduce political risks, facilitate transfer of capital, technology and know-how and could increase energy flows. Their acceptance provides for stable relations between states and investors, which are absolutely necessary as energy projects are highly strategic and capital-intensive. Non-discrimination and reciprocity, therefore, necessarily constitute basic principles of an international energy treaty. Protectionist measures would need to be ruled out. If, for example, Russian companies are allowed to invest in European downstream sectors, and also to acquire controlling stakes

⁵²¹ Stern (2005), op. cit., p. 136.

or majority interests, foreign companies need to be allowed the same in Russia. A common transit cost formula can protect from political arbitration.⁵²²

The Energy Charter Treaty

These were exactly the considerations that led to the already mentioned Energy Charter and the subsequently formulated Treaty in the beginning of the 1990s. Although the idea of mutually beneficial investment and technology transfer in energy sectors is behind the Energy Charter motivation, national sovereignty over resources is a core principle of ECT (Article 18). Member states can decide themselves when and how to develop resources and to what extent the sector shall be open to foreign investment. One objective of ECT is to promote transparency and efficiency of energy markets, but the states themselves decide on how to structure and regulate the sector. There was no obligation for privatisation of national companies or unbundling of vertically integrated companies. The ECT obliges member states to facilitate energy transit through their territory and to secure existing transit, but originally there was no obligation foreseen to grant access to third parties, which now, however, has found entrance into the treaty's Transit Protocol. The ECT to date remains the only body of legally binding rules tailored to the energy sector. It also foresees dispute settlement procedures for conflicts between states, but also between states and companies. Apart from the treaty itself, the big advantage of the Energy Charter process is that it offers an international discussion forum, which brings together producers, consumers and transit countries.

Russian Refusal to Ratify

Although having signed, Russia did not ratify the treaty for almost fifteen years. Gazprom, which was part of the coalition in favour of ratification in 1997 became opposed to the treaty during negotiations over the treaty's Transit Protocol amendment and was able to impose its stand at the expense of some government officials in favour of ratification. Pressure on Russia increased as the EU linked the ECT issue to Russia's access to WTO, which back then seemed imminent. In fact, the EU had integrated several key issues in WTO negotiations:

⁵²² Stern (2005), p. 139. To provide an example, the doubling of Polish transit tariffs within one single year (2003, from USD 1.35 to 2.68) clearly shows the volatility of costs if there is no cost-based commercial framework in place and the dangers this relates to the supplier company.

the abolishment of gas export tariffs, domestic price rises, ending of the export monopoly, free transit, and access for foreign investors to Gazprom's pipelines. In the meantime, WTO access seems far away, and the Russian refusal to ratify the ECT in its common form has fortified. Igor Shuvalov, chairman of a commission on Russia's G8 summit preparations declared in 2006: "We share the tenets of the Energy Charter Treaty, and will be ready to ratify it after we have coordinated previously agreed amendments with our partners."⁵²³ But since then, no further progress has been made. The clarifications demanded by Russia comprise the link between transit and internal transport tariffs, as well as the conciliatory procedure for transit dispute resolution and the finalisation of the Transit Protocol.⁵²⁴ Russia officially objected the Transit Protocol provisions foreseeing mandatory third party pipeline access and the liberalisation of export gas pipelines. This would mean uncontrolled transit of Central Asian gas through Russia, Russia would become a mere transit country for gas producers in Kazakhstan and Turkmenistan and lose market power. Another point of contention was the responsibility in case of under-deliveries of gas to Europe caused by Russia's conflicts with post-Soviet transit countries, notably Ukraine. The ECT would effectively prohibit Russia from stopping gas deliveries even in cases of non-payment. Experience from the 2009 Ukraine gas crisis also showed the problems with the enforcement of the treaty. ECT demands independence of gas supply and gas transit terms and conditions. Another article demands the transit country to propose terms and conditions for continued transit in adequate time. Moreover, transit rates must reflect the real transit costs in an appropriate way. Additionally, the conciliation procedure could have been invoked (Article 7 VII) with the conciliator setting an interim tariff.⁵²⁵ In the 2009 gas crisis Russia, albeit non-ratifier, applied ECT rules and demanded for arbitration according to the treaty. This would have drastically reduced the possibility of interruption of export flows to Europe. Ukraine refused, although having ratified the ECT. The Russian side consequently complained not only about Ukraine but also the EU countries, "which preferred not to act in the spirit of the treaty"⁵²⁶ and did not pressure Ukraine to apply ECT rules.

⁵²³ 'Russia would ratify amended Energy Charter Treaty – Kremlin aide'. RIA Novosti, 26-04-2006.

⁵²⁴ Konoplyanik, op. cit., in Barysch, op. cit., p. 107f.

⁵²⁵ See, for instance, Grigoriev, op. cit., in Liuhto, op. cit., p. 81.

⁵²⁶ Ibid., p. 82.

Another major Russian objection related to the EU's unwillingness to apply the multilateral Transit Protocol within its own borders, arguing that only flows that cross the entire European region shall be transit, not those that only cross individual member states.⁵²⁷ Van Agt writes:

"The European Union simply no longer wished an agreement on transit it, formally still, negotiates under international law to be applicable within its own jurisdiction. Did this not mark the escape from the Energy Charter by the European Union through a more discreet window than Russia has now opted for?"⁵²⁸

However, many Eastern European EU member states are transit countries for Gazprom's deliveries to its Western European clients. This would make supplies much more costly for Gazprom, reducing the competitiveness of Russian gas importantly. As Konoplyanik shows, Russian deliveries to the main clients passing through Slovakia for instance, would not be transit, and ECT rules would thus not be applied, but community law instead. This would impact on the long-term agreements; increasing risk and prices for Western consumers.⁵²⁹ As Russia perceived the Transit Protocol as putting all the disadvantages on it, with benefits from granting access to its transport network unclear, chances for a Russian ratification continued to shrink. The benefits of ratification were said to include a multiplication of foreign investment and efficiency gains in production, which within the background of the global crisis may be doubted. Russia remained firm in its refuse to ratify the ECT, as it "provides for unilateral advantages for the EU over producers concerning access to mineral resources and their delivery to the international market."⁵³⁰ And where the ECT might be prejudicial for European suppliers, e.g. uranium enrichment services, the ECT protects them. In August 2009, the Russian government finally informed the ECT depositary in Lisbon of its withdrawal from the treaty. While the Russian Ministry of Foreign Affairs acknowledges "the many positive contributions made in the Energy Charter context which has gone a long way in contributing international energy cooperation"⁵³¹, Russia now considers itself entitled to defeat the object and purpose of the ECT and will no longer apply the ECT rules, although it remains signatory to the 1991 Energy Charter.

⁵²⁷ The EU proposed a Regional Economic Integration Organisation (REIO) clause in the Transit Protocol which would treat her as a single entity.

⁵²⁸ Van Agt, op. cit., p. 24.

⁵²⁹ Konoplyanik, op. cit., in Barysch, op. cit., p. 107 ff.

⁵³⁰ 'Why Russia refuses to ratify Energy Charter'. RIA Novosti, 07-04-2006.

⁵³¹ Van Agt, op. cit., p. 11.

Towards a New Treaty?

With regard to nationalisation and state interference in energy markets, it is clear that future regulation mechanisms and rules for the international energy system are unlikely to match with a global liberalisation concept. Energy producers and emerging economies are setting own rules for market access, investments and competition and foster the role of states. But also bilateral dialogues in the energy sphere “require some multilateral framework or consensus to avoid undue trade and investment barriers and suboptimal investment flows.”⁵³² The core task thus would be to develop a governance structure, which integrates the interests of both energy consumers and producers:

“Now that we may have to accept that open market rules are less broadly shared and even less so implemented, ensuring reliable investment and trade terms seems to be a more realistic policy focus than the pursuit of energy market liberalisation in Russia.”⁵³³

The question would be, to what extent market mechanisms could be incorporated for the benefits of greater efficiency. With new political risks, energy security policy tools have to adapt, and the toolset needs to be changed, although risk spreading through financial markets, environmental risk management and diversification remain important. As the ECT has failed, a new negotiation process would need to be launched. Common definitions of energy security must be at the base, and the different regulatory systems in place need to be studied. Success, however, will depend on the ability to compromise. The described imbalances of the existing Energy Charter Treaty and Russia’s refusal to ratify demonstrate the need for a new treaty, which better represents and balances interests of producer, transit and consumer countries. If Norway doesn’t see its interests represented in the ECT, and if the US is unlikely to ever take part, why should not Russia’s provisos be considered? OECD countries would have to admit that Western energy majors’ interests are not necessarily congruent with world energy security interests. Security of demand means stable export revenues and stable prices. Aggressive discourses about diversification and substitution unnecessarily fortify conflict lines. A better distribution of rents, which encompasses larger benefits for producing countries would enhance acceptance for a

⁵³² Van Agt, op. cit., p. 4.

⁵³³ Ibid., p. 21. Although, as van Agt also writes, one has to note that demonopolisation and liberalisation of the internal gas market in Russia continuously figure among the priorities of Russian energy policy as formulated in the Energy Strategy 2030.

worldwide energy system and increase security. Energy producers need more help in facing social and economic problems of one-sided economies. Nevertheless, such a universal regulation system would also be useful to ease the latent conflicts between major consuming countries.

Clearly, the persisting incompatibility of institutional systems in Russia and the EU leads to problems. Proposals concerning discriminatory reciprocity clauses and concerns over political leverage would almost certainly become obstacles to bilateral relations. An international treaty with clear rules for transparency, long-term price deals, supply as well as demand reliability, which are essential for the securitisation of investments and dispute settlement, would be useful in solving these issues. Losoncz, for example, writes that "the economic interests of Russia should be considered by the EU more than in the past (...)." ⁵³⁴ Indeed, Russian energy policy becomes nothing but predictable in the moment when it is accepted that Russia rightfully has and pursues its interests.

Already in 2006, when energy security was made a number one topic by Russia at the G8 summit in St. Petersburg, a list of critically important items in the energy security area has been formulated, but no new legislative or institutional instruments were agreed on. Instead, pressure on Russia to sign the ECT was increased, although even for the EU itself ECT priority was reduced, as the treaty included total investment grandfathering (opposed to unbundling) and referred to transit provisions for national borders, in conflict with the single EU market strategy.

In April 2009, Russian president Dmitri Medvedev, also in response to the January supply crisis came up with a draft of Russian proposals for a new energy treaty, which is now being considered by the EU authorities.⁵³⁵ Whether these would mouth into a new treaty or are to be taken as the basis for renewed negotiations about the ECT and its Transit Protocol remains to be seen. The new Russian concept states "existing bilateral arrangements and multilateral legally binding norms [...] have failed to prevent and resolve conflict situations."⁵³⁶ This,

⁵³⁴ Losoncz, op. cit., in Liuhto, op. cit.

⁵³⁵ Cf. Van Agt, op. cit.

⁵³⁶ 'Концептуальный подход к новой правовой базе международного сотрудничества в сфере энергетики (цели и принципы)' (Russ.) [Conceptual approach to a new legal base for international cooperation in the energy sphere (objectives and principles)], President of Russia, Official Web Portal, 21-04-2009, paragraph 2, available at: <http://www.kremlin.ru/text/docs/2009/04/215303.shtml>, 14-01-2014, quoted in Van Agt, op. cit., p. 13.

however, not only refers to the conflicts with Ukraine, but also to Bilateral Investment and Trade agreements (BITs). Consequently, Russia preserves “its full sovereign discretion over energy sector affairs.”⁵³⁷

5.4.1.3 A New Partnership and Cooperation Agreement

Another possibility for defining common legal bases on which European-Russian energy relations could develop is to incorporate some of the ECT principles into the Partnership and Cooperation Agreement (PCA) between Russia and the EU.⁵³⁸ Negotiations for a renewed PCA started in 2008, the legal framework for a common economic space forming one key issue. Naturally, energy figures prominently in the economic relations between the two partners. It is not clear though, how ECT principles would be formulated in this new treaty and what this would mean in practice. The risk lies in the possible emergence of “two different standards for applying ECT principles [...], which may be especially tricky for the different dispute settlement procedures of the two treaties.”⁵³⁹ Moreover, the multilateral negotiations about the decisive (because conflictual) regulations for investment and transport conditions are not likely to be any easier between Russia, the EU and its 27 members than negotiations for an alteration of ECT and the Transit Protocol. It is far from clear, how European demands for investment access to Russia’s upstream sector, for access to trunk pipelines, for an accelerated gas price reform as well as the reform of Gazprom could be more successfully negotiated under a new PCA. Finally, any agreements concluded under the PCA are somehow predetermined by the Energy Charter Treaty, which nevertheless manifests a minimum standard of liberalisation for its members. The aforementioned arguments do not provide much hope for a legal framework for Russian-European energy relations to be agreed on under a renewed PCA.

⁵³⁷ Van Agt, op. cit., p. 13.

⁵³⁸ For a discussion of the EU approach towards Russia throughout the 1990s see: Hughes, James: ‘EU relations with Russia: Partnership or asymmetric interdependency?’ London School of Economics, LSE Research online, 2006, available at: <http://eprints.lse.ac.uk/archive/00000651>, 14-01-2014.

⁵³⁹ Konoplyanik, op. cit., in Barysch, op. cit., p. 110.

5.4.1.4 A Gas Producers' Forum

The GECF, the Gas Producers' Forum, is not only a response to European gas market liberalisation, but needs to be interpreted as an attempt of increasing and concentrating negotiating power of the consumer side in a context of energy market globalisation. The forum has existed since 2001 as annual meetings at minister level of the most important gas exporters, and became a formal organisation in December 2008 in Moscow.⁵⁴⁰ The forum currently unites Algeria, Bolivia, Brunei, UAE, Indonesia, Malaysia, Venezuela, Egypt, Iran, Qatar, Libya, Nigeria, Trinidad and Tobago, Equatorial Guinea and Russia, with Norway as observer and Kazakhstan as a guest. It provides an information exchange as to market development, international pricing rules and technological developments. Coordination was agreed on in respect of relations with consumer countries. A contract database is to be built up. It will also allow for the creation of joint development projects and thus could become a catalyst for a substantial increase in upstream production and infrastructure. The promotion of new technologies and LNG could result in improved energy security on a global scale.

GECF has sometimes been presented as a "Gas-OPEC in the making" in a situation of tighter supplies and more liquid markets due to a rising LNG share, but a cartel cannot exist where a global market for the time being remains inexistent. Supply contracts for both pipeline gas and LNG for the most part are currently long-term, as unlike with oil, "nobody produces unsold gas." A cartel would need to set up capacity control mechanisms, as regulation of capacity expansion would indeed be a cornerstone for enforcing production quotas. However, given the massive opportunity costs of gas projects though, it would be difficult to artificially slow down capacity expansion and production for maintaining quotas. Maintaining costly spare capacity in order to play the role of swing producer (as Saudi Arabia does with oil) would hardly be possible for Russia with its growing domestic demand.⁵⁴¹ As gas projects are much larger than oil ones, financial risks are prohibitively high and cost recovery periods too long for spot price gambling at the start of an investment cycle. Moreover, long-term supply contracts actually represent safeguards to cartel formation. Their abolishment and increased LNG trade might lay the basis for a gas cartel only in the long run.

⁵⁴⁰ The secretariat will be established in Doha, Qatar.

⁵⁴¹ Pleines (2008), op. cit., p. 76.

Another obstacle for creating an effective gas cartel is found in the replacement possibilities for natural gas by other types of fuel, which simply do not exist for oil, for example, in the transportation sector. The risk of producers losing their markets in case of unfair price formation thus is considerably higher.⁵⁴² The GECF today is focused on market analysis and forecasting. There are no quotas or voting procedures for setting output levels or price targeting.⁵⁴³ Moreover, membership structure is different from OPEC, and members do not share cartel interests.⁵⁴⁴ The forum is important to some of its members though as it offers ways to identify potential synergies in vertical integration, partnerships and swaps. Russia, which can be identified as a main driver of the forum, sees it as a mechanism to attract more investment in its gas industry and to foster Gazprom's role as a major global partner in LNG trade. Nevertheless, there may be concern, for example, over market division. In Europe, for example, Algeria and Russia could agree not to meddle in the other partner's market. This would challenge the EU's liberalisation strategies and gas deregulation. The forum's character could change in oversupply situations in the future, although these are improbable in view of the more than careful investment taken out upstream.⁵⁴⁵ Also, other forms of producers' agreements than cartels exist. For example, LNG exporters establish common rules for separate markets. Bilateral cooperation on energy projects is increasingly taking place between producer countries. For example, Algerian and Russian companies swapped upstream assets, and Gazprom is marketing Algerian gas in Europe, for example.

However, if consuming countries did not consider the GECF irrelevant or a threat, but rather engage from the beginning as partners in global energy issues, including sharing costs and being involved in planning, the gas forum could actually provide for more security and be interpreted as one step to international legal institutionalised system. This would help global energy security, as "In a world where energy demand is rising and energy security is the new mantra, it makes a lot of sense for greater coordination between consumer countries and those with gas resources."⁵⁴⁶ The Gas Exporting Countries' Forum, although it

⁵⁴² Pleines (2008), op. cit., p. 76.

⁵⁴³ See Grigoriev, Leonid: 'Forum of gas exporters – design'. Baltic Rim Economies Review, No. 1, 2009, Turku School of Economics.

⁵⁴⁴ See Hallouche, Hadi: 'The Gas Exporting Countries Forum: Is it really a Gas OPEC in the Making?' Working Paper, Oxford Institute for Energy Studies, 2006.

⁵⁴⁵ Cf. Hallouche, op. cit.

⁵⁴⁶ Weafer, Chris, op. cit.

may not be the solution to all conflictual issues, surely has the potential to enhance all aspects relating to the criteria we have identified in Chapter 5.3., i.e. energy security, profitability, environment and political leverage/bargaining power or cooperation rent.

5.4.1.5 Treaty Enforcement and Conflict Settlement: Arbitration tribunals?

Clearly, rules are only one side of a coin – their application and enforcement being the other. Adequate legal provisions are necessary, but are not sufficient conditions for security of supply. Naturally, the best way to provide for a treaty's enforcement would be incentives for conforming to the rules. However, it must be assured that the treaty's rules are not applied selectively i.e. where it seems appropriate only and in other cases not. In this respect, the validity of any treaty also depends on the possibility of sanctions for the breach of the treaty's rules. Dispute settlement was foreseen in the Energy Charter Treaty for a variety of possible disputes. Disputes between states over the interpretation or application of the treaty could thus be taken to ad hoc arbitration or to the Permanent Court of Arbitration based in The Hague. As to disputes between investors and host governments, apart from applying to tribunals of the contracting parties and direct mediation, investing companies could take host governments to international arbitration in case of an alleged breach of the treaty's investment provisions. Dispute settlements can, therefore, be undertaken by the International Centre for Settlement of Investment Disputes (ICSID) at the World Bank, by the Arbitration Tribunal of the International Chamber of Commerce in Paris⁵⁴⁷, or by the Arbitration Institute of the Stockholm Chamber of Commerce. The disputing parties could also agree to a sole arbitrator or the setting up of ad hoc arbitration tribunals established under the rules of the United Nations Commission on International Trade Law (UNCITRAL). Special provisions, based on the WTO model, would apply for the resolution of inter-state trade issues. These would comprise the permission of balanced countermeasures in case of one party breaking the trade rules. However, the issues of competition and environment are exempt from regular arbitration under the Energy Charter

⁵⁴⁷ The Paris Tribunal has been solicited, for example, in March 2010 by Slovak gas company Slovenský Plynárenský Priemysel (SPP) against Gazprom for compensation for the January 2009 supply cut-offs.

Treaty unless both parties agree to the application of arbitration. Rather, the treaty proposes non-binding bi- or multilateral consultations to solve conflicts in these matters.

The advantages of arbitration, as opposed to litigation, lie in its applicability across different legal systems. This makes it very useful for international commercial and investment disputes. Therefore, contractual clauses often foresee arbitration as a possible means for conflict resolution. It also has advantages over mediation. Whereas the latter relies on some cooperative approach, arbitration establishes a third authority to which both parties have agreed from the very first. In arbitration procedures, the conflict parties remain autonomous. This means that the parties determine whether they want their conflict solved by arbitration. The arbitrator thus derives its authority only from the parties themselves. Parties also partly determine the arbitrator's panel's composition. In most cases, arbitral awards represent a win-lose-situation and are conclusive, final and binding. However, it could occur that the unsuccessful party challenged the arbitration procedure after the arbitral award. Without a formal enforcement mechanism, this could translate into a re-escalation of the conflict. Clearly, a major drawback of arbitration consists in its slowness. Supply cut-offs though would need immediate reaction and conflict solution. The Energy Charter conflict settlement, therefore, foresees a specialised conciliation mechanism for transit disputes, allowing for a faster and less formal procedure. International arbitral awards are binding and final, and each contracting party is obliged to make provision for the effective enforcement of such awards in its area.

More than twenty cases have already been brought to arbitration by investors.⁵⁴⁸ Bringing a case to international arbitration is a last resort for any investor, but experience shows a rising frequency. This is a clear sign of growing awareness of both investors and states. Of course, the existence of a credible option to take a case to arbitration is an important incentive to observe contractual and international obligations under the ECT, but if decisive players in energy trade and production do not adopt the treaty, they are also not submitted to the treaty's dispute settlement mechanisms. The example of the Russian-Ukrainian gas crisis in 2009 showed that even if countries have signed and ratified the treaty (Ukraine),

⁵⁴⁸ See the Homepage of the Energy Charter Treaty Secretariate, available at: <http://www.energycharter.org/index.php?id=269&L=0>, 07-07-2009.

or if they apply it provisionally (Russia), the dispute settlement mechanism was not respected. Gazprom filed suit against Naftogaz Ukrainy in Stockholm, but the tribunal never had the chance to engage in sustainable decisions as the crisis was ended soon after by a new agreement.⁵⁴⁹ Another drawback would consist of possible negative consequences for a country or investor that appealed to international arbitration, for example, with regard to non-consideration in future projects in the country concerned. The question then would become a trade-off between foregoing profits and market shares and forcing a state to respect the treaty's rules. After the 2009 crisis, several Eastern European states and companies have announced to file suit against Gazprom for interrupting supplies, but not a single one actually did.

5.4.1.6 Summary

To conclude, an international institutional framework for energy relations appears to be highly attractive if all parties feel themselves bound to its rules. This means that the appropriate sanctioning measures for breaking the rules must be defined and accepted. Such an accepted framework provides for clear and transparent rules, increasing reliability and security of energy flows. Certainly, governments should establish more clarity on the principles that govern the so-called pre-investment phase that the ECT failed to cover and that ensure that specific projects strengthen and not undermine the overall governance system. Investments would be encouraged and discrimination in market entry restriction etc. prevented. Clear rules also favour the discussion and solution of environmental aspects. Political leverage, however, would not be ruled out completely, as the specific interdependencies between some of the actors will prevail. Nevertheless, an international institutional framework would protect from arbitrary political interference as witnessed with the Ukraine-Russia disputes. More difficulties lie in profitability issues. The framework alone cannot guarantee for stable prices and costs and thus stable state revenues. However, we see such a framework, which integrates the views and interests of all parties involved as a necessary though not sufficient condition for solving global energy problems, and thus also the conflictual energy relationship between the EU and Russia. For such a framework to be respected, modes of international dispute

⁵⁴⁹ Cf. Pleines, Heiko (ed.): 'Der russisch-ukrainische Erdgaskonflikt'. loc. cit.

settlement such as arbitration mechanisms and retorsion measures need to be defined and implemented. Their success, however, depends on the universal acceptance of the legal framework.

5.4.2 Economic Approaches

The second component for a solution to energy-related conflicts must obviously go beyond the mere setting of international regulation and practices. The task now is to identify concrete arrangements between market actors. Which cooperation instruments and which market structure are best suited to provide for mutual benefits and supply security? How can interdependency be strengthened? Which policies, or which policy changes, are necessary and useful to assist market actors in building cooperation relationships? Public-private partnerships, for example, would be helpful to “mobilise and stabilise investment flows in Russia and Central Asia to secure sustainable gas sector performance in Eurasia for the longer term.”⁵⁵⁰

5.4.2.1 Increased Interdependency

The commercial relationship between Russia and the EU can be best described as interdependency. This interdependency opens up a wide range of possibilities for increased cooperation. Such offers for economic cooperation can in fact constitute a solution to the energy related conflicts. Both partners are conscious of their growing interdependency, with European energy demand rising and Russia’s need for foreign investment and access to export markets for its products. More than half of Russia’s foreign trade is destined to the EU. The activity of many Russian companies depends directly on the business cycle of Europe and European regulation. 78 % of Russian oil exports and more than 90 % of gas exports outside the CIS are flowing to Europe. The overall EU dependency on Russian oil supplies is at considerable 29 %. Moreover, the EU covers 60–80 % of Russia’s foreign investments. 60 % of Gazprom’s earnings are generated by Europe and Turkey, which means that 10 % of Russian state budget revenues

⁵⁵⁰ Van Agt, op. cit., p. 23.

originate from gas exports outside the CIS.⁵⁵¹ Clearly, “Moscow has no other option but to sustain its energy trade with the EU. [...] Any other option would entail a tremendous loss of income.”⁵⁵²

As we have seen the Russian gas industry faces enormous challenges. Declining exploration and extraction, waste and losses due to worn-out infrastructure and production facilities and also the necessary development of new fields and pipelines represent enormous modernisation needs. This need for investment and technology after all cannot be satisfied without cooperation with the West. It is an urgent task to reduce waste and inefficiencies, which harm both the interests of the Russian as well as the consumer side. Russia clearly has no interest in losing clients and needs to sustain its reputation as a reliable supplier and partner. If EU consumption really is to grow, new pipelines are needed. Logically, Russia with its huge reserves would be a major supplier. Existing pipes are not sufficient, and LNG for the short and medium term is not a serious option to provide the volumes needed. It becomes competitive only for transports over more than 4,000 km of onshore pipeline and 1,500–2,000 km of sub-sea pipelines.⁵⁵³ Other arguments for the direct pipelines between Russia and European consumer countries can obviously be found in the proven unreliability of transit countries. Underwater pipelines, for their part, are not likely to be sabotaged. Finally, it can be hoped that they would provide for economic and interests integration between Russia and the EU. Nord Stream, for example, can be seen as an important step for strengthening economic ties. As former Swedish ambassador to Russia Sven Hirdman puts it: “the more economic and industrial cooperation we have in Europe, the better. Nord Stream is comparable to the European Coal and Steel Community [ECSC] back in the days.”⁵⁵⁴ The shipping of LNG through the Baltic or Black Seas is no alternative, as transport by ship is costly, and traffic already high with oil transports. The risk of tanker collisions and damages to the environment would be too high. However, direct pipelines show drawbacks in their potential to politically and economically divide the EU, and in their higher costs

⁵⁵¹ Figures from Liuhto, Kari: ‘The EU needs a common energy policy – not separate solutions by its member states’. in Liuhto (ed.), op. cit., p. 120; see also Wiegand, Gunnar: ‘EU-Russia Relations at a Crossroads’. Irish Studies in International Affairs, Vol. 19, 2008, pp. 9–15.

⁵⁵² Proedrou, Filippou: ‘The EU-Russia Energy Approach under the Prism of Interdependence’. European Security, Vol. 16, No. 3, pp. 329–355, quoted from Solum-Whist, Bendik: ‘Nord Stream – A solution or challenge for the EU?’ in Liuhto, op. cit., p. 179.

⁵⁵³ Solum-Whist, op. cit., in Liuhto, op. cit., p. 178.

⁵⁵⁴ Ibid., p. 179.

compared to land pipelines. Repair under water is more difficult; construction is dangerous and harmful to the environment.⁵⁵⁵ All of the large pipeline projects Nord Stream, South Stream and Nabucco face basic challenges to their viability, considering the ever-changing financial, physical, institutional and international conditions. In all three projects, there are no institutions and no universally accepted regulatory framework to cover transit. For the two southern projects, access to markets and reserves is unclear. It is unclear which fields will fill the pipes, whether the projects will be profitable in view of increasing gas-to-gas competition. It is far from sure that more pipelines mean more energy security, because they can also translate into reduced maintenance in existing pipes, or delays for investment in a changed energy mix for instance.

Clearly, both partners need to look for cooperation possibilities in less politicised areas of their larger energy relationship. For example, the development of renewable energies and the promotion of energy efficiency along the entire value chain of production, transportation and end use show a huge potential and are economically attractive for both Russia and the EU: "Joint Russian-Western research [...] could lead to the development of new technologies that would be extremely valuable on the global market place as energy prices continue to rise, benefiting both Russian and Western partners."⁵⁵⁶

But increased interdependency and cooperation go way beyond the energy sector. Having identified the Russian policy objectives of accelerated if not to say high-speed restructuring, diversification and modernisation of the country's economy, the important role European business could play in this process becomes obvious. Russia's economy needs up-to-date technology and foreign investment in virtually all industry sectors.⁵⁵⁷ Figure 33 shows the dynamic development of trade between the EU and Russia in recent years, but potential is even greater.

⁵⁵⁵ See, e.g., Österlund, Bo: 'Baltic Sea gas pipeline in Finland's economic zone'. *Baltic Rim Economies Review*, No. 2, 2009, Turku School of Economics.

⁵⁵⁶ Pleines, Heiko: 'Russia's Energy Sector between Politics and Business'. op. cit., p. 13.

⁵⁵⁷ See, e.g., the 'Russian Economic Report' series by the World Bank.



Figure 33: Development of EU/Russia trade turnover and share in total trade turnover (Eurostat).

Economic offers of the European side just could combine a new scale of European investment and the transfer of high technology, an action plan for the modernisation of Russian enterprises and infrastructure, a partnership for increasing energy efficiency, joint development of technologies etc. The Russian side then would have to come forward with what it offers in return. Access to Russian energy resources, grids and markets would of course be comprised but does not seem to be rejected right away by the Russian side, if certain conditions are respected. The privatisation of the electricity sector currently shows that such a scenario does not belong into the realm of wishful thinking but could be a reality. Of course, such conditions would have to be set up and respected. Until now, however, Russia regularly complained about European demands for access to its resources and grids without getting anything in return. Russian firms attempting to enter European markets or acquiring shares in European firms would be discriminated. If allowed, they regularly raise mistrust and protest. However, if both partners engage on a path of increased cooperation, why not by applying a tit for tat strategy, chances for large benefits on either side are great. Beyond these more or less practical proceedings, the issue at stake is further integration of the two partners. Why not envisage a common free trade zone, a tariff union, or, a common market in some time to come? Of course, these ideas

belong to the future, but neither partner can content oneself with backward security policy thinking in power blocks.

5.4.2.2 Long-Term Contracts

As we have already seen, commercial relations between suppliers and buyers of natural gas in Europe are dominated by long-term contracts.⁵⁵⁸ These, however, have once again become the focus of attention in the course of European liberalisation of natural gas markets, and in relation to the rising debate about energy security.⁵⁵⁹ The theory of long-term contracts explains their advantages referring Williamson's considerations of transaction costs.⁵⁶⁰ New institutional economics identify asset specificity, frequency and market uncertainty as the key drivers to transaction costs. Investment in relationship-specific assets contains the risk of overcapacities in case the partner stopped the relationship. Production and transportation of natural gas are characterised by large initial investment in specialised facilities with a long life span and low operating costs. Most of the expenditures on projection and construction are sunk costs. Once installations are in place, they generate large rents. The specific up-front investment in production facilities and transport pipelines makes the gas industry very prone to the risk of hold-up.⁵⁶¹ In an environment of opportunistic behaviour and limited information, asset-specific investment and uncertainty contribute to high transaction costs – these require alternative institutional arrangements to simple contracting.⁵⁶² Long-term contracts are indeed concluded to avoid the hold-up problem and in this constitute an alternative to vertical integration.⁵⁶³ "The

⁵⁵⁸ Cf. Neuhoff, Karsten, and Christian von Hirschhausen: 'Long-term vs. short-term contracts: A European perspective on natural gas'. Technische Universität Berlin, 2005.

⁵⁵⁹ An intense debate on long-term contracting emerged during the 1980s around a study by MIT researchers Adelman et al. This discussion was accompanied by liberalisation in the US and UK gas markets. See Adelman, Morris, et al.: 'Western Europe Natural Gas Trade'. MIT Energy Lab, 1986.

⁵⁶⁰ Williamson, Oliver: 'Transaction-Cost Economics: The Governance of Contractual Relations'. Journal of Law and Economics, Vol. 22, 1979, pp. 233–260.

⁵⁶¹ See, e.g., Klein, Benjamin, et al.: 'Vertical integration, appropriate rents and the competitive contracting process'. Journal of Law and Economics, Vol. 28, No.2, 1078, pp. 297–326.

⁵⁶² Institutional economics part from the idea that two parties wanting to engage in a supplier buyer relationship have the choice between institutional arrangements ranging from anonymous spot trading via long term contracting to vertical integration. Cf. Coase, Ronald: 'The Nature of the Firm'. *Economica*, Vol. 4, No. 16, 1937, pp. 386–405.

⁵⁶³ Joskow, e.g., studied the relationship between the asset specificity of investments and the duration of long-term contracts and confirmed that the latter are concluded to avoid the hold-

particularity of the gas business in Russia is that gas is not extracted before it is sold. If extracted quantities are not assured by respective supply contracts, there will be no extraction. To date, it is first and foremost the long-term contracts, which constitute the only guarantee for financing the costly extraction and transport projects.”⁵⁶⁴

To prevent inflexibility in face of demand and supply fluctuations, long-term contracts contain renegotiation clauses. A non-pricing clause can be seen in the take-or-pay clause, which regulates quantities instead of prices. The buyer takes a specified minimum quantity of output even if demand is lower. Such long-term contracts with extra clauses are following efficiency considerations and preserve joint-profit maximisations and protect from opportunistic behaviour.⁵⁶⁵ The clauses have a disciplining function.

Effects on Supply Security

Consistent uncertainty over future developments is the main obstacle for large investments in the development of new fields and transport infrastructure. This also holds for transit countries and their activity in maintenance and reconstruction. Without long-term contracts, future development of gas flows becomes even less certain, which would pose problems also to, for instance, the Ukrainian grid operator. With consumers preferring short-term contracts, retail companies are no longer credible partners for long-term contracts with suppliers. In times of low prices (excess supply), new market entrants could supply customers if the original retailers cannot fulfil their contract obligations. Authors such as Wybrew, argue that long-term contracts and thus supply security are put at risk by liberalisation.⁵⁶⁶ Price volatility increases price risk for gas revenues for the supplier, and thus capital costs. Investment would be delayed and supply security jeopardised. Aggregate supply is difficult to predict without a considerable

up problem. Cf. Joskow, Paul: ‘Contract Duration and Relationship Specific Investments: Empirical Evidence From Coal Markets’. *American Economic Review*, Vol. 77, March 1987.

⁵⁶⁴ Miller, Alexey (2006), op. cit., quoted in Yavid-Reviron, op. cit., p. 66, translated by the author.

⁵⁶⁵ Cf. Crocker, Keith, and Scott Masten: ‘Efficient Adaptation in Long-term Contracts: Take-or-Pay Provisions for Natural Gas’. *American Economic Review*, Vol. 75, No. 5, 1985, pp. 1083–1093.

⁵⁶⁶ See Wybrew, John: ‘The Security of Future Gas Supplies for the British Market: The Need for Adequate Gas Infrastructure’. in Helm, Dieter (ed.): ‘Towards an Energy Policy’. Oxford, Oxera Press, 2002, pp. 199–214.

share of long-term contracts. For enhancing security of supply, it is necessary to minimise investment risks in both production and transport infrastructure. This not only needs to be improved and deepened by governmental dialogue, but also by close cooperation between upstream and downstream companies and by commitment to the business partnership, as expressed by long-term contracts. Long-term contracts also provide for protection from political risks, as they mean that suppliers are eager to honour their contracts. If short-term contracts dominated instead, the risk of more or less frequent supply cut-offs would rise. Gas trade in Europe still is overwhelmingly based on long-term contracts for pipeline gas supplies. These contracts link suppliers and purchasers for a long period, historically between 20 and 25 years, although this duration has recently decreased. The Russian side, and also its European partners in the energy business regard these long-term take-or-pay contracts as essential for this cooperation. Long-term contracts allow Gazprom to plan its investments and are preferred by banks for giving loans:

"We work on the basis of long-term contracts concluded for periods of 10–15 years. This creates stable conditions for the development of Europe's economy and offers it competitive conditions in the energy sector. I would like to point out that last winter under these long-term contracts European consumers were receiving gas at a price of \$ 250 per 1,000 cubic metres. On the spot market, on the free market in Europe, the price was at \$ 1,000 per 1,000 cubic metres and in Britain the price reached \$ 1,300 and more for 1,000 cubic metres."⁵⁶⁷

Literature not only suggests that both consumers and producers benefit from risk hedging through long-term contracts. Furthermore, long-term contracts may also reduce the exercise of market power, which would benefit consumers at the expense of producers' profits. This especially would be the case if the long-run demand elasticity was significantly lower than the short-run elasticity. Then, both strategic producers and consumers would benefit from lower prices and larger market volume.⁵⁶⁸ Another advantage for businesses as well as states

⁵⁶⁷ Putin, Vladimir, at the EU-Russia summit press conference in Sochi, 25-05-2006.

⁵⁶⁸ Allaz and Vila (1993) have studied the linkage of long-term contracts and market power. According to their findings, consumers benefit from long-term contracts. Suppliers sell additional output in each period. However, the smaller the quantity they sell at spot markets (i.e. the larger the share of long-term contracted volumes), the lower the incentive to reduce production in order to raise prices. See Allaz, Blaise, and Jean-Luc Vila: 'Cournot competition, forward markets and efficiency'. Journal of Economic Theory, Vol. 59, 1993.

Hirschhausen and Neuhoff (2005) have shown that producers also benefit from long-term contracts. Consumers who anticipate low gas prices will invest more in gas consumption in-

is the reduced price volatility and stability of revenue flows, which is guaranteed by long-term contracts. Short-term contracts would inevitably be more uncertain. However, by the end of 2009, gas prices on spot markets had become considerably cheaper than those stipulated in long-term contracts with Gazprom. European companies started to demand for alterations of price formulas.

Effects on Competition

Existing long-term contracts imply that Gazprom has to supply certain quantities to a specific hub in Europe. Production and transport thus are in the hands of the supplier. Long-term contracts provide for some flexibility as they also contain renegotiation clauses and foresee adaptations to price changes. Nevertheless, the European Commission ruled long-term contracts anti-competitive, as in general they tend to impede new market entries. Destination clauses in long-term contracts often forbid the resale of excess gas on other markets; they thus enable the suppliers to lock up markets and to prevent catastrophic falls in prices. The destination clauses impacted markets not only via prices, but also via limiting liquidity in the gas market – making it easier to identify break of collusion in the market. However, in the meantime, destination clauses have been removed from Gazprom's contracts with its European middlemen on the condition that Gazprom can sell directly to the final customer in European markets. Clearly, there is a relative shortage of upstream competition as a few international oil and gas companies dominate the gas market. This situation will continue, as well-head regulation is not possible in Europe, because all suppliers are external. The hope is for liberalised markets to generate spare volumes, which are unsold under long-term contracts. These quantities would become traded at spot markets. Abandoning destination clauses and linking national markets will benefit the consumers. However, third party access to the transport network is required. Open access to the transportation system would also reduce the potential contractual hold-up problem between monopoly buyers, pipeline owners and field producers.⁵⁶⁹ However, with fewer long-term contracts, investment in production and transport would hardly grow, thus increasing uncertainty over

frastructure. Demand and long term profits thus increase. The reason for this is high demand elasticity in the long-term and low elasticity in the short-term. However, their findings are related to a finite horizon. Cf. Neuhoff and von Hirschhausen, op. cit.

⁵⁶⁹ Doane, Michael J., and Daniel F. Spulber: 'Open Access and the Evolution of the US Spot Market for Natural Gas'. *Journal of Law and Economics*, Vol. 37, 1994, pp. 477–515.

future production capabilities. Consequently, marginal costs of production and spot prices would rise.

Effects of Increased Spot Market Trading

The emergence of short-term gas trading in Europe clearly is a consequence of the regulatory reforms undertaken by the European Commission. Under the First Gas Directive (1998), countries were given two options to make sure that third party access to the pipelines is granted: regulated access based on published tariffs, or negotiated access based on a commercial agreement between pipeline owner and user.⁵⁷⁰ The European Commission's eyes are on North American and the UK gas market and it hopes that liberalisation and growing competition would lower gas prices. Indeed, under the growing pressure from regulators and competition authorities, and also with major new suppliers entering the market via LNG, it is probable that long-term contracts will evolve. In general, contract duration decreases as the market structure develops from monopolistic to more competitive regimes.⁵⁷¹ Regulation already has an impact on both take-or-pay provisions and the duration of contracts. Direct competition from other suppliers (LNG from Qatar, Nigeria and Algeria) is seen as a key component in this strategy of increasing pressure on the (Russian) monopoly suppliers. There is a pressure on suppliers to renegotiate the long-term contracts to adapt to changing conditions and a more flexible pricing. This force consists of rising demand, new market actors demanding pipeline access and the producers' wish to regain control over the gas under take-or-pay provisions, in order to sell it at spot markets. It thus seems plausible that long-term contracts might step by step lose their anti-competitive elements such as central negotiations or destination clauses. Changes in the market can already be observed as to diminishing asset specificity: Upstream contracts are no longer field specific, but related to global

⁵⁷⁰ Creti and Villeneuve, op. cit., p. 76f. Cf. 'Richtlinie 98/30/EG des Europäischen Parlaments und des Rates vom 22. Juni 1998'.

⁵⁷¹ Neumann, Anne, and Christian von Hirschhausen: 'Less Long-Term Gas to Europe? A Quantitative Analysis of European Long-Term Gas Supply Contracts'. Zeitschrift für Energiewirtschaft, Vol. 28, No. 3, 2004, pp. 175–182. The authors show that the length of long-term contracts in Europe has considerably decreased over the past two decades, supposedly largely driven by liberalisation. In the US, less than 10% of final demand is bought under contracts of more than five years, about 30 % on one to five year contracts and around 60 % on contracts of less than one year. See also: Elkins, John: 'How long can long-term gas contracts survive?' APX Energy Viewpoints, 2006.

exports of a country or a producer, which finds its expression in the abatement of the destination clause in European contracts.⁵⁷²

However, the Commission has a contradicting view on how it sees long-term contracts. On one hand, it judges them necessary to intervene in the redefinition of take-or-pay contractual arrangements and favours market-based solutions. On the other hand, it is conscious of the importance for backing investment and long-term security of supply. The mix of price stability and security ensured by long-term contracts is advantageous for European wholesalers. In addition, most of the LNG contracts are long-term. Long-term contracts as an intermediate organisational form lie somewhere in between vertical integration and short-term market based trading. They lose some of their importance because of the more competitive structure in the market, but they play a considerable role when large-scale investment is at stake. Producers will not make an investment until they are assured over a possibility to transport their goods, and that demand is certain.⁵⁷³ Pipeline operators will not invest until they are sure that the pipes can be filled.

Long-term contracts will remain an important element of EU gas industry but their role will diminish in the short-term. However, it would be unwise to rule them out by legal provisions, as the need for long-term contracts will prevail at least for major investment projects, which are essential for supply security. The core issue is about long-term effects of the open access policy on investment⁵⁷⁴; for an institutional arrangement allowing for signing long-term contracts with suppliers and at the same time benefiting from domestic liberalisation. One should not forget that in the US, spot transactions have developed in a situation of low oil prices and weak demand for gas, which is not the case now in Europe. Investment thus will be a recurring issue, and “whether rate-of-return regulation of transmission services will prove as effective as long-term, bundled contracts in supporting investment in new transmission capacity is an open question.”⁵⁷⁵ Although spot markets have developed, the number of actors

⁵⁷² Neumann and von Hirschhausen, op. cit., p. 6.

⁵⁷³ Indeed, low market prices in the US have importantly reduced new explorations.

⁵⁷⁴ Joskow, Paul, and Jean Tirole: ‘Merchant Transmission Investment’. mimeo, 2003, available at: http://econ-www.mit.edu/faculty/?prof_id=pjoskow, 14-01-2014.

⁵⁷⁵ Crocker, Keith J., and Scott E. Masten: ‘Regulation and Administered Contracts Revisited: Lessons from Transaction-Cost Economics for Public Utility Regulation’. *Journal of Regulatory Economics*, Vol. 9, pp. 5–39.

remains limited. The outcomes of liberalisation are ambiguous and uncertain. If the number of suppliers remains limited and diversification fails, i. e. a scenario where no market exchanges govern the world gas market, long-term contracts might gain in importance. In so far they should not be ruled out by any legislation. Rather, European institutions should foster long-term cooperation with external suppliers. Long-term take-or-pay contracts bind sellers and buyers for a long period to each other and provide for risk sharing along the value chain according to the scheme that the buyer takes the quantity risk and the seller the price risk. The question will be for an optimal contract portfolio.

5.4.2.3 European Demand Pools

A proposal destined to overcome the situation of one monopoly supplier (Gazprom) largely determining the contract terms and picking its priority customers could consist of the EU side pooling its demand.⁵⁷⁶ European energy companies could form a sort of monopsony, as a response to Gazprom's monopolist role as supplier of Russian natural gas. This would mean increased market power for the European purchaser, as the individual companies could no longer be played one against the other by the Russian side.

However, such a demand pool has serious drawbacks. First of all, it appears questionable how competing European companies could be persuaded, or forced, to form such a consortium. Second, the consequences for competition on the common market could be negative. If all suppliers get their gas at the same cost from Gazprom, how shall competition arouse on the steps further below in the value chain? The compatibility of demand pools with European legislation on competition thus needs to be questioned. European demand pools, however, could increase energy security in the way that they increase negotiation power of the consumer side and thus would possibly lead to lower prices. Also, they could provide for more stability, necessary for the large investments in production and infrastructure in Russia and the transit countries. This would depend on contract duration. However, by simply pooling European demand in negotiations with Gazprom, transit problems would not be solved and the question of EU access to Russian resources and markets not be settled. Also, this instrument would not provide a great advantage if Gazprom itself becomes more and more

⁵⁷⁶ See: Westphal in Pleines (2008), op. cit., p. 26.

active on European downstream markets. Moreover, given the lack of interconnectors in the EU's gas transport system, the distribution of jointly purchased quantities could pose problems and lead to intra European conflicts.

5.4.2.4 Inter-Organisational Relationships

Inter-organisational relationships are one instrument to arrive at an increased interdependency between the Russian Federation and the European Union. The explanations given for the formation of inter-organisational relationships are diverse and comprise, for example, transaction cost theory, resource dependency, strategic choice, organisational learning, and institutional theory. Whereas some of these theories put emphasis on an economic rationale, others part from a behavioural rationale. Each of these theoretical explanations is useful on its own, but only a blend of them is likely to sufficiently explain the complex motivations leading two or more companies to cooperate. The question is for creating a win-win situation and distributing the cooperation rent. The motivation for cooperation comes from the interest to grow and from synergy effects such as pooling of resources, sharing of resources, economies of scale and scope. Various forms of inter-organisational relationships are possible. We will focus on joint ventures in one of the following chapters. Other forms of business cooperation are also imaginable. Company networks, for example, are especially important in knowledge-based industries, in situations with high demand uncertainty and stable supply. Although more flexible, they are more difficult to manage than two or three-partite alliances or joint ventures, as there usually is a large power imbalance between the central hub firm and smaller firms at the periphery.

Alliances, for their part, do not involve joint ownership. As they are often governed by informal norms only, this increases also chances for opportunism, misunderstanding and disputes. Other forms of loose cooperation comprise trade associations and interlocking directorates. In considering the potential of cooperation agreements to create value, simple cost benefit analysis is insufficient. Much of the benefits and dangers are difficult to measure, as in many cases they are more about strategic than economic value. However, all instruments of business cooperation also pose the threat of collusion, which could be harmful for competition.

Joint Ventures (in Production and Retail)

Arguably the most complex type of inter-organisational cooperation, joint ventures, or more specifically equity joint ventures are legally and economically separate entities created by two or more parent organisations which collectively invest financial as well as other resources to pursue certain objectives.⁵⁷⁷ They thus differ from non-equity alliances in which the partners do not share ownership of capital resources. Clearly, both of the partners must expect to considerably benefit from engaging in a joint venture. With regard to international business cooperation, joint ventures are especially an important alternative to acquisitions, mergers, contracting, internal development and also other forms of inter-organisational cooperation such as alliances, networks etc.

Joint ventures can be explained from different theoretic point of views. Following transaction cost theory as developed by Williamson⁵⁷⁸, enterprises engage in joint ventures to minimise the sum of production and transaction costs. Whereas production costs mainly depend on the scale of operations, on learning processes and business-inherent knowledge, the notion of transaction costs encompasses the expenses for negotiating and enforcing contracts and for managing the risk of opportunistic behaviour. Otherwise, simple market transactions could be chosen, but obviously the risk of opportunistic behaviour is too great, so that joint ownership and control rights and the mutual commitment of resources in a joint venture are the preferred option over contracts. Transaction cost theory refers to the phenomenon of small number bargaining. This actually means that due to high asset specificity, costs for switching partner are high. However, asset specificity needs to be joined by uncertainty and frequency of the transaction in order to provide sufficient motivation for engaging in a persistent cooperation. In the gas sector, all these conditions hold. The number of market actors is rel-

⁵⁷⁷ Cf. Luo, Yadong, and Aimin Yan: 'International Joint Ventures: Theory and Practice'. M. E. Sharpe, 2000, p. 3. See also: Anderson, Erin: 'Two Firms One Frontier: On Assessing Joint Venture Performance'. Sloan Management Review, Vol. 18, 1990, pp. 19–30; and: Pfeffer, Jeffrey, and Phillip Nowak: 'Joint-ventures and interorganizational interdependence'. Administrative Science Quarterly, Vol. 21, No. 3, 1976.

⁵⁷⁸ Williamson, Oliver: 'The Economic Institutions of Capitalism – Firms, Market, Relational Contracting'. Free Press, New York, 1985. Williamson parted from markets and hierarchies as the two organisation possibilities in 1975 and later added interorganisational forms. The original make or buy decisions thus becomes a make, buy, or partner decision. Cf. Barringer, Bruce, and Jeffrey Harrison: 'Walking a Tightrope: Creating Value Through Interorganizational Relationships'. Journal of Management, Vol. 26, No. 3, 2000, p. 371.

atively small; asset specificity is high and uncertainty over both future developments and the partner's performance and behaviour as well. In this respect, transaction costs considerations, which in fact simply relate to profit maximisation as purely economic objective, certainly would play a role in joint ventures between Russian and Western companies. In summary, the advantage of joint ventures lies in the resolution of high levels of uncertainty over the behaviour of contracting parties in a situation of high asset specificity. The risks related to joint cooperation are outweighed by higher production or acquisition costs of the alternative formation of a wholly owned subsidiary.

An alternative explanation for joint ventures is given by strategic behaviour theory, which also focuses on the maximisation of a company's profits, though this time via improving its competitive position over rivals. Indeed, the cooperative aspects of joint ventures have to be evaluated in the context of competitive incentives for the partners and competitive rivalry within the industry.⁵⁷⁹ Clearly, joint ventures have the potential to stabilise oligopolistic market structures but this does not necessarily have negative consequences for consumers and public welfare. Joint exploration, research, development and production may still result in lower prices and improved quality. If downstream competition is preserved, upstream cooperation may enhance supply security.

However, current joint ventures in the Russian gas industry for exploration and licences hint to very strategic motivations with regard to both the world market and Russia herself. According to resource dependency theory, companies need to acquire control over critical resources to decrease their own dependency and to increase dependency of others on themselves. Participation in inter-organisational relationships is one way to reach this goal.⁵⁸⁰ The company's stock market values are directly linked to the reserves they control. Engaging in joint ventures in Russia at least partly increases the foreign companies' reserves, and thus their market value. This would result in more market power, easier access to financing instruments etc., and thus influences competition with other multi-national energy companies. However, future expectations are also mirrored by these joint ventures. They aim at securing resources in expectation of increasing worldwide competition for resources. Vernon, for example, argues for joint

⁵⁷⁹ Cf. Kogut, Bruce: 'Joint Ventures: Theoretical and Empirical Perspectives'. The Wharton School, 1988.

⁵⁸⁰ Barringer and Harrison, op. cit., p. 373.

ventures as some kind of defensive investment allowing companies to hedge against strategic uncertainty.⁵⁸¹ Moreover, joint ventures may serve in getting a foothold in the Russian market in case it would witness some reform and liberalisation. Without the specific knowledge of a domestic partner, there are many ways to fail in foreign markets. For Gazprom, they are a means to access foreign markets more directly than as upstream “far away” supplier. All these are strategic considerations speaking in favour of joint ventures with Russian companies. The Russian side for her part could be interested in choosing different partner companies for different joint venture projects [as has been the case for the Sakhalin projects, for example] not at least with the aim of preventing a dependence on only one partner company, but surely also to increase its bargaining position in future joint venture contract arrangements.

A third set of explanations for setting up joint ventures consists of organisational learning: The specific knowledge base of companies cannot easily be diffused outside the company; it is organisationally embedded, known as “tacit knowledge”.⁵⁸² Help of a joint venture though, could transfer this tacit knowledge. Internalisation theory can serve as another explanation for joint ventures. At first glance, equity joint ventures seem to be in conflict with the theory of internalisation destined to explain the existence of multinational enterprises.⁵⁸³ Internalisation theory favours internal structures over market exchanges in order to serve a foreign market. This is because of market imperfections such as uncertainty and a small number of market agents combined with opportunism and bounded rationality, making transaction costs prohibitively high.⁵⁸⁴ Wholly owned subsidiaries would then be preferable. However, Beamish and Banks show that under certain conditions and structural arrangements, joint ventures can provide a better solution to opportunism, small numbers dilemma and uncertainty in the face of bounded reality than wholly owned subsidiaries. Beamish finds that “in situations where a joint venture is established in a spirit of mutual trust and

⁵⁸¹ Cf. Vernon, Raymond: ‘Organisational and institutional responses to international risk’. in Herring, Richard (ed.): ‘Managing International Risk’. Cambridge University Press, New York, 1983.

⁵⁸² Cf. Polanyi, Michael: ‘The Tacit Dimension’. Smith, Gloucester, 1983, originally published in 1966.

⁵⁸³ In reality however, a number of models deal with these market imperfections: licensing, management contracts, subcontracting, joint ventures, and consortia. And companies even employ several at a time.

⁵⁸⁴ Beamish, Paul W., and John C. Banks: ‘Equity Joint Ventures and the Theory of the Multinational Enterprise’. Journal of International Business Studies, Vol. 18, 1987, pp. 1–16.

commitment to its long-term commercial success opportunistic behaviour is unlikely to emerge.”⁵⁸⁵ The key to an effective management of opportunism would then be found in managerial persistence, reinforced by joint decision-making processes, reward and control systems and mechanisms for the division of profits. Mutual trust develops thanks to successful transactions in the past and to compliance with equity norms. Thus the focus would be drawn to long-term joint profit maximisation, i.e. long-term investment commitments.

Depending on the context, one theory or the other may better explain the formation of joint ventures. Apart from transaction cost theory, strategic behaviour and organisational learning, more practical reasons for international joint ventures could also be identified. For example, joint ventures can simply result from government insistence. Institutional theory refers to the institutional environment exerting pressure on organisations to appear legitimate and conform to social norms. For example, Gazprom’s legitimacy is threatened whenever it comes to announce an investment in the EU market. Nevertheless, national legislation could also require domestic companies retaining a major or even the controlling stake in any project undertaken in specific (strategic) economic sectors. Without accepting the form of joint ventures, foreign companies then would not be able at all to enter the market. Licences for exploration and production might be granted to Russian firms or joint ventures with Russian participation only. Another motive relates to sharing political risks. Moreover, in Russia, adaptation and information costs for market entry may be higher than elsewhere. By engaging in joint ventures with local partners, the “liability to foreignness” is circumvented.⁵⁸⁶ The local partner provides local legitimacy, labour supply and industry contacts. Another reason for joint ventures could be that leading national companies engage in joint ventures simply to rule out foreign competition from the beginning. However, on behalf of the international energy majors there could also be an interest in international organisational coordination through joint ventures that would partly replace markets.

⁵⁸⁵ Beamish, Paul W., and John C. Banks: ‘Equity Joint Ventures and the Theory of the Multinational Enterprise’. *Journal of International Business Studies*, Vol. 18, 1987, p. 4. This resembles the concept of mutual forbearance where agents on a reciprocal basis deliberately pass up short-term advantages. See Buckley, Peter, and Mark Casson: ‘A theory of cooperation in international business’. in Contractor, Farok, and Peter Lorange: ‘Cooperative Strategies in International Business’. Lexington, Toronto, 1988.

⁵⁸⁶ Luo and Yan, op. cit., p. 78.

Obviously, the trade-off between autonomy and control by the parent companies is a crucial issue for joint ventures. Due to the own legal personality of the joint venture, multiple inter-organisational relationships are implied, as are the relations between the parental enterprises, the relations between the joint venture's management and both parental firms, and also the relations between managers nominated by the parental companies within the venture itself.⁵⁸⁷ This already hints to various potential sources of conflict about strategic objectives, cultural differences and structures. At the same time, an own legal personality translates into certain autonomy and thus independence from arbitrary interference from either parental company. This stabilises the joint venture and provides protection from opportunistic behaviour. Nevertheless, the conflict would increase with the degree of congruence with their own operations desired by the parents.⁵⁸⁸ Another problem that has to be solved for the joined venture to be stabilised over time is that of how to divide costs and profits. Several studies have shown that the equity percentage of joint ventures reflects an outcome of negotiation.⁵⁸⁹ Transfer of important resources will only occur if the companies obtain control in return. If one of the partners is dissatisfied over a longer period, the JV will not hold. Joint ventures, therefore, establish a monitoring mechanism and incentives to share information and technologies, and to guarantee performance. This governance mechanism contains rules for sharing costs and profits and the mutual investment obligations such that, in the end, both parties gain or lose from the venture's performance.⁵⁹⁰ Joint ventures though may become unstable with political and business environment and strategies changing. There is a risk of creating a new competitor by sharing (or losing) proprietary knowledge beyond the intended scope. Surely, breaking up a joint venture is risky, as the one who does the breaking up will face a loss of credibility and reputation, a loss of foreign market access and financing, of access to technological developments combined with the threat of lawsuits. This again relates to bargaining power and shows the importance of pre-JV-planning. Joint ventures are very likely to

⁵⁸⁷ These relate to common agency problems of hidden action and hidden information. Contrary to that, stewardship theory holds that managers act in the interest of the principals as they suppose that exactly this behaviour serves their own interests best.

⁵⁸⁸ Kogut, Bruce: 'The stability of Joint Ventures: Reciprocity and competitive rivalry'. *Journal of Industrial Economics*, Vol. 38, No. 2, 1989, pp. 153–198.

⁵⁸⁹ For example, cf. Gomes-Casseres, Benjamin: 'Multinational Ownership Strategies'. Harvard Business School D.B.A. Thesis, 1985.

⁵⁹⁰ Cf. Kogut, Bruce: 'Knowledge, options, institutions'. Oxford, Oxford University Press, 2008, p. 122.

be unstable if the balance of power is not respected, if planning is poor and trust is lacking. This makes us underline the need for an overall international legal energy framework in which cooperation such as expressed by joint ventures takes place.

To summarise, the advantages of joint ventures and the main motivations for their creation are to be sought in the evasion of small number bargaining, the improvement of the companies' competitive positioning (or market power) and in mechanisms to transfer organisational knowledge. The pooling of resources means an economisation on information requirements for foreign investment and so the uncertainty problem is eased. The multinational energy company investing in Russia would contribute its technological knowledge, management skills and access to capital markets, whereas the Russian partner could provide location-specific knowledge, experience with the domestic market, business habits and politics as well as infrastructure.

In Russia, joint ventures under so-called production sharing agreements (PSAs) are a common feature since the 1990s.⁵⁹¹ Gazprom and the Russian side are dependent on Western know-how and technology, but also on capital. That is one principal reason why the Russian side is interested in concluding joint ventures with world energy majors. However, these joint ventures focus only on exploration and production in Russia. To a far lesser extent, joint ventures between the two [European and Russian] sides exist in the downstream, i.e. in marketing the natural gas to consumers. We hold that one of the best options to create common interests was to also create joint ventures for the downstream sector of gas marketing and distribution in Europe. Rather than allowing Gazprom to enter downstream markets on its own, the Russian company could be invited to form a variety of joint ventures in Europe. Moreover, Gazprom has stated its aim to expand activities on European retail markets. To the same extent that joint ventures in Russia require a majority stake for Russian companies, downstream joint ventures in Europe then could require a majority stake for European companies. Of course, this proposal implies rent sharing for European companies in

⁵⁹¹ For an in-depth analysis of PSAs and their contractual differences to other forms of co-operation see Bindemann, Kirsten: 'Production-Sharing Agreements: An Economic Analysis'. Oxford Energy Institute, 1999. We employ the term joint venture in a more general way than Bindemann does, PSAs figuring as one type of joint venture.

their home markets. As a result, a multitude of jointly owned energy companies could compete in energy markets with common rules.

With regard to competition though, a problem could arise if Gazprom remained the sole Russian gas company active outside Russia and the CIS. Once again, the crucial question would be that of control in the respective joint venture agreements. Clearly, control needs to be shared. The preferential solution appears to be a Russian export monopoly opening up for independent producers and their joint ventures with Western companies. These should then be allowed to sell their produced gas independently. However, in order to reach such an agreement with the Russian side, a tit for tat strategy seems necessary to be applied and a credible long-term commitment on behalf of companies and governments be made. Commitment somehow being the antithesis of opportunism is again a key condition for lasting mutually beneficial cooperation.

Joint Ventures in Transport: Transit consortia

Consortia are special sorts of joint ventures. Typically, consortia consist of a group of organisations, which share a common need and come together to form a new entity to satisfy this need for all of them.⁵⁹² The forms and governance mechanisms differ widely. An interesting aspect of consortia is the fact that they tend to facilitate the cooperation of business companies, government and not for profit organisations more than other types of inter-organisational relationships. Obviously, the key advantage of consortia lies in the pooling of important resources and know-how in order to accomplish specific tasks, which no single company could have coped with alone. For our objective of identifying possible solutions to conflicts in energy relationships, consortia become especially attractive for the transport part of the gas value chain. In theory, transit consortia can provide for a mutually beneficial solution to energy security problems related to the transport of gas through foreign territory. These consortia would integrate supplier companies from the exporting nation with gas transport, distribution or retail companies from transit and consumer countries. Thus, all stakeholders in gas transit would be part of a consortium. They would have the common interest of assured gas transport and would share rents of pipeline transport while at the same time sharing the risks and sharing the necessary investment. The

⁵⁹² Barringer and Harrison, op. cit., p. 389.

formation of pipeline consortia theoretically also would allow for a necessary depoliticisation of pipeline transit. The advantage of transit consortia can clearly be found in the institutionalisation of the common interests of the stakeholders in gas transit. Every stakeholder shares the interest for secure and stable transit flows. Thus the consortium would provide for incentives not to cut off gas supplies. And in fact, pipeline consortia, or rather pipeline management companies, which are jointly owned by the supplier as well as a distributor, are a common feature in gas markets. For example, for the Polish part of the Yamal-Europe gas pipeline, Gazprom and Polish PGNiG jointly own the managing company EuRoPolGaz.

So at least theoretically, a pipeline consortium could also be beneficial for solving the recurring Ukraine gas transit problems. In reality, however, Ukrainian politics present an unbreakable obstacle to this proposal. As Ukrainian officials repeatedly have stated, they regard the high-pressure pipeline grid as essential for the country's national security, pretty much like their Russian neighbours do. However, Ukraine attempts to bargain for cheaper gas prices via its transit role for Russian resources and would lose this lever if an international consortium with Russian participation took control of the pipelines. What is worse: the gas dispute has long since entered inner-Ukrainian pre-election rows between President and Prime Minister. Back in 2002, then Ukrainian president Leonid Kuchma, Vladimir Putin and German chancellor Gerhard Schroeder put forward the idea of a consortium managing the gas transit through Ukraine.⁵⁹³ However, Ukraine after the change of government, refused to cede pipeline control to the consortium. Meanwhile, the consortium is virtually dead. This situation would not necessarily be problematic if Ukraine was able to fulfil its payment and maintenance obligations. Unfortunately, this is not the case. The Ukrainian transport system urgently needs investment in order to maintain its capacity and ensure its functioning, but the country is in deep financial turbulence, and faced bankruptcy in 2009. Russia is determined not to solve Ukrainian problems to its own detriment. Therefore the Russian side has continuously

⁵⁹³ Finally, the tripartite consortium failed because of EU fears of a German-Russian-Ukrainian triangular trade agreement. Thus, the "International Consortium on Management and Development of Gas and Transport System of Ukraine Ltd." was created in 2003 between the two remaining partners in accordance with the agreements fixed in the Statement of the Presidents of Russia and Ukraine of June 9, 2002 and the Agreement on Strategic Cooperation in Gas Sphere signed by the Cabinets of Russia and Ukraine on October 7, 2002. See: 'Naftogaz will not let Gazprom in Ukraine's territory'. UNIAN/www.for-ua.com, 14-12-2005.

demanded European assistance, mediation and help in providing Ukraine with the necessary credit to ensure a continuous payment and thus gas flow. The European side for a long time refused to take part in this conflict. Clearly, the need is for a long-term juridical codification of transit relations between Russia and Ukraine.

"The only way to break the deadlock is to change the balance of power. Russia's proposal to set up a new consortium among Gazprom and Gazprom-friendly companies like Germany's E.ON Ruhrgas or Italy's ENI will not do this. The Ukrainians would see themselves outnumbered. A more feasible alternative is for Ukraine to retain ownership of the pipeline, but for a genuinely tripartite consortium to run it on the basis of a long-term lease (30 years or more) and an international treaty establishing clear rules of transparency, longer-term price deals, supply reliability and dispute settlement."⁵⁹⁴

In 2009, German business associations again brought up demands for a realisation of the pipeline consortium consisting of Naftogaz, Gazprom and German distributors. The consortium should be open for further European companies, which would like to join. This new consortium, according to Mr. Mangold, President of the Eastern committee of German business federation BDI, shall not take ownership of the Ukrainian pipeline grid but provide for technical maintenance and modernisation of the gas pipes and storage facilities.⁵⁹⁵ In the course of the world financial crisis, Ukraine's financial situation rapidly worsened. Alarmed, Russia also pushed for help from international organisations and the European Union. On March 23, the EU and Ukraine announced that the EU would provide EUR 2.5 billion to upgrade Ukraine's natural-gas pipelines and speculations rose that EU companies may become operators of the Ukrainian pipeline system. The Brussels declaration foresees the extension of the EU interior gas market rules to Ukraine. This announcement called forth fierce opposition from Moscow. According to Russian Energy Minister Sergey Shmatko:

"the exclusively bilateral nature of the joint declaration by the EU and Ukraine is unexpected and perplexing [...] As a matter of fact, the Ukrainian gas transit system, as part of the unified gas supply system of the former Soviet Union, is tech-

⁵⁹⁴ Wilson, Andrew: 'Avoiding the next gas crisis'. Wall Street Journal, 28-01-2009.

⁵⁹⁵ 'Gasstreit zwischen Russland und der Ukraine – Ausweg gesucht'. Russland.ru, 08-01-2009, available at: <http://www.russland.ru/analysen/morenews.php?iditem=174>, 14-01-2014.

nologically linked with and dependent on Russia's gas transit system and supply base.”⁵⁹⁶

Finally, in June 2009, representatives of the IMF, World Bank, EBRD, EIB and the European Commission issued a joint communiqué about the necessity to evaluate the Ukrainian gas payment and gas storage to what extent the EU and international organisations could help Ukraine. Finally, the European Union and Ukraine signed a deal over a European grant, in which the latter commits itself to concrete reform steps in its gas market, including raising prices and increasing transparency in Naftogaz.⁵⁹⁷ The objective is to integrate Ukraine into the common European energy market, i. e. to extend the rules of the *acquis communautaire* in the energy domain to Ukraine.

5.5 Summary

The previous chapter in its first part brought together the conclusions, which are derived from our previous analysis of the motivations for economic and energy policy of the European Union and the Russian Federation. Although both sides share a variety of interests and objectives, notably those related to security of supply and environmental aims, they also differ in fundamental issues such as regulation, market structure and development issues, as well as in the appropriation of rents. We have seen that energy security is related to various different risks from physical ones (resource depletion and flux interruption), over economic (prices) and political to social and environmental risks. Only a combination of political, legal and economic measures is likely to correspond to the problem. “Market forces cannot reduce all risks, as they tend to short- or mid-term strategies; and tend to follow already existing investment paths because of lower transaction costs than in unknown business environments.”⁵⁹⁸ Energy projects

⁵⁹⁶ ‘Putin Says Ukraine-EU Gas Plan Unprofessional’. GlobalSecurity.org, 24-03-2009, available at: <http://www.globalsecurity.org/military/library/news/2009/03/mil-090324-rferl01.htm>, 14-01-2014.

⁵⁹⁷ The agreement is directly related to an IMF grant of USD 3.3 bn. See the ‘Joint Statement of Intent Regarding Support to Gas Sector Reform in Ukraine and the Purchase of Gas from Russia’.

⁵⁹⁸ Westphal, Kirsten: ‘Energy in International Relations – Dominance of Politics over Economics?’ Working Paper presented at the 45th ISA Annual Convention, Montreal, March 17–20, 2004, p. 15.

thus present a challenge for markets not only at an international level, but also domestically. They often require long-term strategies, which are not taken into account by pure shareholder-value strategies. Market forces demand for competition, but competition on energy markets will necessarily remain limited due to a limited number of suppliers. Consequently, “liberalisation cannot be seen and should not be seen as a cure-all formula.”⁵⁹⁹ Foreign and security policy considerations will continue to influence energy relations. The international economy of oil and gas remains a political economy – not only in the geopolitical sense, but also in respect to its environmental and social impacts.⁶⁰⁰

Energy relations do not differ from other situations in that they are non-zero-sum-games. The current situation both the European Union and Russia are facing therefore resembles a prisoner dilemma situation, which theoretically can be solved with four different outcomes. Apart from the prolonged status quo, either the EU or Russia could impose its stance, or both agree to a cooperative solution, which theoretically generates the best outcome. The actual outcome crucially depends on the strategic choices both partners make. Once the cooperative solution identified as yielding the best outcome, we posed the question of which strategy would theoretically be best suited for reaching cooperation. Theoretically, a tit for tat strategy seems well suited to foster cooperation and beneficial outcomes. It is essentially characterised by being not the first to defect, i.e. to recur to non-cooperative behaviour, but also by being forgiving in a way that the partner’s defection would be punished once, but would not cause future punishments. At the same time, the tit for tat strategy is able to retaliate and as such is a very clear and easy to understand strategy. It thus seems a promising way for engaging cooperation in EU-Russian energy relations as well.

A list of criteria has been identified, which are necessary for any lasting solution to be fulfilled. These criteria comprise the question whether and to which degree they provide for security of physical availability of energy, for price and cost security, whether they enhance transparency, predictability and trust, as well as investment security, whether they guarantee for efficient energy use

⁵⁹⁹ Westphal, Kirsten: ‘Energy in International Relations – Dominance of Politics over Economics?’ Working Paper presented at the 45th ISA Annual Convention, Montreal, March 17–20, 2004, p. 15.

⁶⁰⁰ Cf. Mitchell, John (et al.): ‘The New Economy of Oil, Impacts on Business, Geopolitics and Society’. London, 2001.

and profitability of projects. Revenue security, environmental soundness and to what extent bargaining power is increased and political leverage can be exerted or not are as powerful criteria as is the question for the maintenance of competition, for access to infrastructure and markets. All these criteria are inseparably linked to each other.

The concrete proposal for a solution to the conflicts in energy relations between the European Union and Russia is twofold. On the first level, I argued for an international institutional framework agreed on by all stakeholders, as “international rules and regulation could reduce the scope of inherent geopolitics in the decision-making for energy exploration, production and transport routing.”⁶⁰¹ Having analysed the shortcomings of the Energy Charter Treaty, but also other possibilities of establishing common rules for energy markets such as the extension of the *acquis communautaire* or a new partnership and cooperation agreement, I hold that such a new international framework must truly integrate the interests of energy producing countries. A spirit of cooperation and solidarity must guide an institutional framework, whilst at the same time safeguarding that not only energy security and efficiency, but also economic soundness are maintained. A legal framework would create a level playing field, reduce business risk and increase stability of world energy markets. For international institutional guidelines to work, credible sanctions are needed. A universally accepted arbitration institution as well as a tribunal needs to be introduced. On the international level, we have also discussed the possible emergence of an institutionalised cooperation of gas producing countries and its advantages or disadvantages.

There is also a second level of the solution, which concerns the concrete steps undertaken by market actors rather than states. Also at this level, cooperation and adjustment is needed in order to arrive at mutually beneficial outcomes. There is no choice for the EU and Russia but to engage in the cooperation approach. A highly preferable strategy for both partners was to strive for an increased interdependency of their economies. Not only are there large complementarities, but also this would allow for depoliticising the whole energy issue and best enhance the development of common perspectives. A key element for cooperation surely

⁶⁰¹ Waern, Karl Petter: ‘European Energy Security and Cooperation: The ECT and its Protocol on Transit’. *Law in Transition*, Vol. 16, No. 19, 2002, p. 20.

has to be seen in long-term supply contracts for various reasons that we have explained above. Demand pools also have been discussed. The most promising form of institutionalised cooperation on the company level though has been identified in joint ventures of Russian and European companies, which cooperate in both production and retail. Derived from theoretic considerations, this form of cooperation seems not only feasible, but also very probable in order to achieve common goals and could in the end result in a common energy market. Also in the highly conflictual field of transit, joint ventures between suppliers, transitors and distributors could provide for an urgent depoliticisation of the issue, which would be extremely beneficial. However, some persuasion may be needed to arrive at these solutions as the Ukrainian example shows. In any case, it is necessary to develop multilateral strategies and projects which foster economic and social stability through long-term commitment. Sustainability and efficiency rises are shared objectives among all partners. Further moves towards competition are clearly necessary to make substitution and inter-fuel competition stronger, but liberalisation is bound to some shortcomings, especially in far from perfect energy markets. The transfer of technologies should be internationally organised.

6 Main Findings and Conclusions

The starting point of this study was the deterred debate about energy politics and energy security, especially in respect to the role of the Russian Federation for European energy supplies. Derived from the observation of misleading accusations I found the motivation to provide for a more balanced view on this matter in order to arrive at mutually beneficial outcomes.

In the first part, I gave some fundamental explanations about the energy issue and its current and future importance in order to provide a setting for our analysis. I enrooted energy in the global context, showed up the conflicts between different objectives of energy policy and defined energy security and different related concepts of market liberalisation versus energy sovereignty. Special attention has been given to the natural gas sector, as the importance of gas will increase considerably over the next decades, whereas other fuels such as oil may see their importance reduced.

The next step was to identify three major conflict issues in European-Russian energy relations. These consist of pricing questions, the role of transit and transit countries as well as major future projects capable of fundamentally altering the nature of energy relations between these two partners. I provided for an in-depth assessment of the role of transit routes and new supply and diversification projects and their consequences on future supplies and market structures. I regard this as a major contribution to freeing public debate from one-sidedness and arriving at more balanced judgements of the actions of the European and Russian sides as well as the transit countries. The potential for conflict is so great because key priority energy projects and investments are to severely alter present power positions. I found that conflict lines thus have to be searched beyond the mere energy sector sphere but in general energy policy and economic policy objectives. Therefore, Chapter 4 extended the analysis towards the energy policy objectives of the European Union on one side, and the Russian Federation

on the other. I found European energy politics dominated by national interests hampering the formulation of a common EU position in important issues such as market organisation and the strategic orientation of EU energy policy. Nevertheless, the EU Commission pursues a liberalisation strategy for its energy markets and tends to promote free trade in the energy sphere also beyond its borders.

On the Russian side, energy policy is dominated by urgent objectives relating to economic and social development. This study stands out due to the fact that it integrates the gas sector developments with the transformation of the whole Russian economy. A majority of publications evaluates the development perspectives of the Russian economy with a focus on the country's high dependency on resource exports and the dangers of Dutch disease as negative. Important measures taken by the government but also by Russian companies are not taken into due account. This study, in consideration of the major lackings in Russian policy, sets the latter in relation to development theory as a strategy of resource led growth and thus argues against often heard reproaches of nationalisation simply serving to increase the state's wealth and power base. It consequently provided an altered view on Russia's economic development taking into account the specific framework conditions, which cannot easily be compared to other Eastern European transformation economies. Often the impression is given that Russia would deliberately and purposefully strive for extending and reinforcing its power and dominance in the Soviet sphere of influence. It would use its energy weapon to these aims. This study, contrary to the latter view, does not consider the Russian transformation as complete. Rather, I interpret Russian governmental policy as guided by the objective of achieving a more controlled second stage of transformation towards a democratic and developed society based on market economy principles.

Russia wants to end a situation where others are benefiting over-proportionally and in an unjustified way from Russian resources. There is clear evidence for such an economisation of Russian foreign policy. The introduction of market prices for Russian natural resources in the former Soviet space not only creates modernisation incentives for the countries concerned, but also actually reduces the hitherto dominant political element in bilateral relations with Russia. The tremendous task of transforming a national economy of Russia's size is not

accomplished. “Russia’s energy sector and policy cannot be studied separately from the deep modernisation problems the country currently faces or the analysis may be doomed to be incomplete and from time to time mistaken.”⁶⁰² Energy lies at the heart of Russia’s economic recovery. The wealth generated from energy exports has gone hand in hand with political stabilisation and has contributed significantly to Russia’s assertiveness in international politics.

Having thus demonstrated that conflict lines in energy relations go well beyond energy issues and are enrooted in geopolitics, security and development objectives, the final chapter centred on possible solutions. Consequently, these must consider the different conflict levels, which I have already outlined in the introductory part; the conflict about gas pricing and conditions between particular private or state companies, the conflict between producing and consuming countries in general, as well as a meta-political conflict.

Moreover, I argued that the essentially global problems in the energy domain need global solutions, which go beyond the prevailing approaches of risk reduction, crisis management and geopolitics. A multilateral institutional framework appears to guarantee best a cooperative spirit necessary to reduce physical, economic, environmental and social risks related to energy consumption and external dependencies on energy. As a consequence to the ambiguous nature of energy as both a commercial and a strategic good, different approaches are needed to highlight either of these characteristics. This not only is true for approaches towards the external securitisation of energy sources, but also for different approaches towards “the interior management of energy sectors, to property rights structures at national level and approaches of liberalisation or state regulation.”⁶⁰³ The multitude of different national approaches leads to important differences in energy markets. Liberalised consumer markets face producer markets, which are highly regulated and dominated by state companies. “As long as energy trade has to be realised between differing market fragments, under different portents, approaches relying on market forces will reveal shortcomings.”⁶⁰⁴ Instead, all actors have to become aware of the need to cooperate. “Any party can try to achieve some diversity in energy input by a blend of supply contracts,

⁶⁰² Grigoriev, Leonid: ‘Growth with energy and energy security’. op. cit., p. 18.

⁶⁰³ Westphal, Kirsten: ‘Energy in International Relations: Dominance of Politics over Economics?’ op. cit., p. 3.

⁶⁰⁴ Ibid. p. 11.

strategic reserves, spare capacity etc., all this takes is time and investment. But at no means can one avoid interdependence on a global scale."⁶⁰⁵ Cooperation demands for fair treatment of basic interests of all partners, such as supply and (!) demand stability as well as price stability. For a successful partnership, trust has to be built.

In order to advance in this sphere, I would recommend to separate the analysis of actual events and situations from media coverage, and to listen more to the actual business partners from both European and Russian companies. Divergent views and perspectives need to be evaluated objectively. Increased dialogue and responsiveness for other views and interests are necessary to solve conflicts and arrive at solutions. For example, demands for reform, market access and liberalisation can only be made in a realistic scope, as the specific conditions the partner finds itself in have to be considered and the arguments of the partner heard. The need is for reciprocity. Partnership needs good will. The EU does not have the power "to force a sovereign state of Russia's might to bend to treaty-backed disciplines Moscow sees as detrimental to its national interest."⁶⁰⁶ As President Putin put it:

"If our partners hope for some kind of exclusive relations and want us to put in place a resolutely liberal policy regarding access to infrastructure, production and transportation, then this raises the question on our side of what do we get in return? Perhaps we could also gain access to infrastructure, production and transportation, but of what kind? Where is your production? Which deposits will you give us access to? What mainline pipelines do you have? If you cannot offer us these things, and you cannot, then we have to find another acceptable form of compensation and take steps to respond to each other's interests."⁶⁰⁷

The European Union clearly needs to question itself whether its energy policy should be primarily about liberalisation of the energy market as it currently is. The question must be raised whether the hitherto existing European approach provides the basis for a mutually beneficial long-lasting partnership. President Putin has clearly stated that Russia would use its vast natural resources to rebuild its world status and prestige. However, does this mean a blow to cooperation, only because it is read in political rather than in economic terms? It should

⁶⁰⁵ Grigoriev, Leonid: 'Growth with energy and energy security'. op. cit., p. 24.

⁶⁰⁶ No l, op. cit., p. 3.

⁶⁰⁷ Putin, Vladimir, at the EU-Russia summit press conference in Sochi, 25-05-2006, available at: http://eng.kremlin.ru/speeches/2006/05/25/2359_type82915_106123.shtml, 14-01-2010.

not be readily assumed that only Western energy companies can guarantee stable supplies, and that therefore they need to acquire ownership of Russian and other reserves. The usefulness of the Russian approach also has to be doubted, as inefficiencies, waste and corruption in producer countries obviously affect global energy security. Rather, the demand is for a common EU energy policy that goes beyond creating a functioning domestic market, but also for a more balanced approach that takes the suppliers' interests explicitly into account. However, we have also shown that, if the EU really wants to encourage Russia to open up its markets, this first has to be successfully realised inside the EU. The EU Commission is anxious to cede control over its energy infrastructure to third countries, as has been proven by the third legislative gas package. This leaves no room for, at the same time, demanding from producing countries to cede exactly this control. For the EU, energy security passes both at home through demand management and policies to optimise domestic production capacities, and abroad with foreign trade and investment policies. More diverse sources and routes, saving and efficiency rises need to be combined with an integrated infrastructure, member states' solidarity and strategic reserves. All countries seek to diversify but encounter the reality of the gas market, where diversification is very limited. LNG also could not replace Russian supplies but simply substitute them. Clearly, a sound energy policy will involve not only close interaction of foreign and security dimensions, but also economic and environmental policies with respect to alternative fuels and fuel diversification. European energy security faces several risks in its relation to Russia as a major supplier, ranging from insufficient investment and inexistent regulatory environment to political and environmental risks. These risks need to be addressed. Nevertheless, it has to be positively noted that some of the Russian Energy Strategy paper's ambitious programmes really have been launched. Energy intensity of GDP has already been reduced by 34 % between 2000 and 2008, this is 12 % more than foreseen.⁶⁰⁸ Clearly, a price increase on Russia's domestic market would be necessary to establish competition with export markets and to possibly curb the menace of a gas deficit. The Russian government has announced this price rise. However, this does not mean complete market liberalisation. As long as independent pro-

⁶⁰⁸ Gromov, Alexey: 'The Actual Problems of Energy Saving and Energy Efficiency in Russia'. Northeast Asia International Conference for Economic Development, Niigata, 2009, p. 2.

ducers conserve but minor market shares, the export monopoly would remain rational for the Russian side.⁶⁰⁹

Europe could gain leverage in dealing with Russia by speaking with one voice. Bilateral relations of member states would become largely irrelevant for the conditions of access to Russian gas. Otherwise it misses its full potential and cannot reach full reciprocity in energy relations. On the other hand, one may also ask the question, whether reciprocity would really be in the interests of the EU. Could it be potentially problematic if Russian companies were to control shares in EU downstream markets? Is upstream access in Russia worth running this risk? Which measures need to be adopted to prevent negative outcomes for European energy security?

The question is which strategic objectives such a European energy policy should pursue? The aim to diversify import routes and to circumvent Russia increases mistrust instead of reducing it. With regard to the long-term reliable commercial relations and Russian deliveries these statements are humiliating and must be read as all but signals for a European commitment to energy partnership with Russia. Even considering the striving for diversification justified in terms of enhanced energy security as well as negotiating power, it still seems more appropriate to decide on them in dialogue or even offering participation to the Russian side. And diversification possibilities clearly are limited. In the short to medium term, there is no alternative to Gazprom as a reliable supplier, even if there was a political component in the company's strategy. Accepting this fact opens up the possibility of cooperative games. Russia's long-term commercial interests go along with the needs of EU energy security in its strict meaning. "Gazprom actually is prepared to provide highly expensive alternative pipelines to guarantee European gas security at its own (and its partners') expense."⁶¹⁰ Moreover, it has to be questioned whether the EU would enhance its energy security by making Turkey a major energy hub in its strive to diversify away from Russia. This seems even more fruitless, as already half of Russia's oil exports today pass also through the Bosphorus strait and thus depend on Turkey.

⁶⁰⁹ Sagen, Eirik Lund, and Marina Tsygankova: 'Russian Natural Gas Export – Will Russian Gas Price Reforms Improve the European Security of Supply?' *Energy Policy*, Vol. 36, No. 2, 2008.

⁶¹⁰ Stern, Jonathan: 'The January 2009 Russia-Ukraine crisis and the imperative of bypass pipelines'. *Baltic Rim Economies*, No. 1, 27-02-2009.

Consistent with the previously undertaken analysis that takes into account and explains the interests of the different stakeholders, the solution proposals, which were developed in Chapter 5, are based on a cooperative approach. This cooperative approach is necessary to be applied at both the international level to set up an international institutional framework for energy trade and relations, and at the business level in which market actors engage in mutually beneficial cooperation agreements. Collective solutions also are needed in transit issues and future supply projects. For this to work, a real global dialogue must result in a balanced integration of different approaches towards energy relations and trade, supply security and market organisation. Whenever states have to interact in the process of setting up business cooperations, we propose the application of strategies related to characteristics of a tit for tat as theory has shown that nice ness, forgiveness, and clearness combined with a menace of retaliation provide for a stable base for beneficial cooperation outcomes.

The limited scope of this thesis obviously signifies that much more detailed research not only can be undertaken but is necessary for an improved understanding of the motivations of the different actors. For example, I did not look into the details of different national motivations and interests inside the European Union. Especially the differences between governmental policy aims and the interests of private European energy companies would have been interesting to look at, and highly telling as to the contradictions of policy and public debate in Europe, but were beyond the scope of this work. Equally, the presentation of Russian policies could not in an extensive manner reflect the diversity of Russian views on either state energy policy, the role of competition and Gazprom or clientelist tendencies within Russia's elite.

In the final part, an in-depth evaluation of the different criteria for solutions to the conflict in energy policies would be desirable to complement this study. The theoretical proposal for a cooperative solution would need to be underpinned by examples and case studies from the real world. Dispute settlement and inter-state as well as investor-state arbitration surely merit a detailed evaluation. Last but not least, the ever changing nature of the subject have rendered the task both ever motivating anew and challenging as to the integration of the latest developments into this work.

The very acuteness of the repeated gas supply disruptions should not result in overhasty accusations. These would inevitably witness a lack of information and would most likely have long lasting effects. It is a positive sign that the negative media debate is not reflected in actual economic relations between Russia and the EU, which are developing properly. In a globalised world, time for supply security reasoning in terms of autarky is over. Solutions must be found in integrative measures, and dependence is nothing but the price for integration. The EU and Russia are historical partners who complement each other. They have but the chance to cooperate in order to find a balance that guarantees security of supply as well as demand, but a trustful relationship would depend on the solution of the problems relating to mutual fears. This needs more understanding and respect for diverting interests, as well as increased integration efforts by both partners, but given the strong interdependencies, chances are great that the difficulties will be overcome.

Annex

Table 17: Production, consumption, net gas imports and dependencies of EU countries, 2008 (IEA).

Country	Production (bcm)	Consumption (bcm)	Net imports (bcm)	Net imports in % of consumption	Imports from Russia in % of consumption
Belgium	0	17.3	17.4	100.5	5.2
Bulgaria	0.2	3.5	3.5	98.7	98.7
Denmark	10.1	4.6	-5.5	-120.2	0
Germany	16.4	95.8	79.2	82.7	42.5
Estonia	0	0.9	0.9	100	100
Finland	0	4.7	4.7	99.3	100.1
France	0.9	45.9	43.9	95.7	14.1
Greece	0	4.2	4.2	99.9	66.9
Ireland	0.4	5.2	4.7	90.1	0
Italy	9.3	84.9	76.7	90.3	26.2
Latvia	0	1.7	1.4	84.8	84.8
Lithuania	0	3.3	3.1	96	96
Luxemburg	0	1.3	1.3	103.6	0
Netherlands	84.7	48.3	-36.4	-75.3	0
Austria	1.5	8.7	7.2	83.4	77.5
Poland	5.7	16.5	11.2	67.4	47
Portugal	0	4.8	4.8	100.2	0
Romania	11.4	14.4	4.5	30.9	39.2
Sweden	0	0.9	0.9	98.6	0
Slovakia	0.1	6.3	6.1	96.9	99.3
Slovenia	0	1	1	100	51.3
Spain	0	38.2	38.6	101.1	0
Czech Republic	0.2	8.7	8.6	99	86
Hungary	2.6	13.2	11.5	87.2	66.9
United Kingdom	73.4	99	25.8	26.1	0
EU total	217	533.3	319.4	59.9	24.4

Table 18: Countries with principal natural gas reserves (BP, 2009).

Country	Reserves (tcm)	Production(bcm)	Consumption (bcm)
Russia	43.3	601.7	420.2
Iran	29.61	116.3	117.6
Qatar	25.46	76.6	19.8
Turkmenistan	7.94	66.1	19
Saudi Arabia	7.57	78.1	78.1
USA	6.73	582.2	657.2
UAE	6.43	50.2	58.1
Nigeria	5.22	35	n.a.
Venezuela	4.84	31.5	32.4
Algeria	4.5	86.5	25.4
Indonesia	3.18	69.7	38
Iraq	3.17	0	n.a.
Norway	2.91	99.2	4.4
Australia	2.51	38.3	23.5
China	2.46	76.1	80.7
Malaysia	2.39	62.5	30.7
Egypt	2.17	58.9	40.9



Figure 34: The Yamal gas fields (OAO Gazprom).

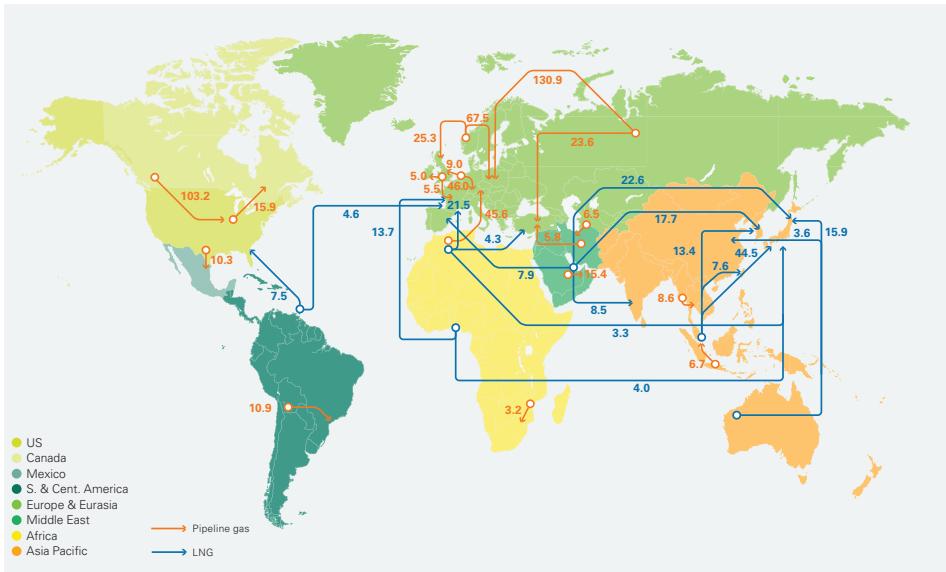
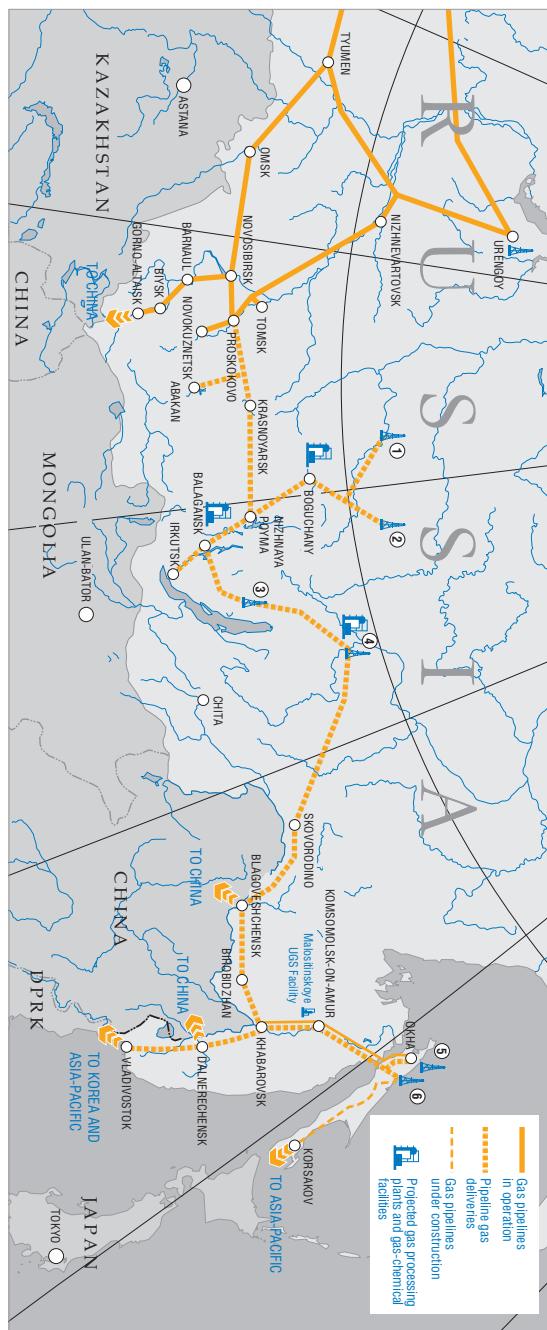


Figure 35: International gas trade flows, 2008 (BP, 2009).



Figure 36: The Sakhalin-2 project and related infrastructure (OAO Gazprom).

Figure 37: Russia's Eastern Gas Programme (OAO Gazprom).



Bibliography

Aalto, Pami (ed.): 'The EU-Russian Energy Dialogue'. Ashgate, 2007.

- 'A European Strategy for Sustainable, Competitive and Secure Energy'. Green Paper [COM(2006) 105 final], European Commission, 2006, available at: http://ec.europa.eu/energy/green-paper-energy/doc/2006_03_08_gp_document_en.pdf, 22-02-2008.
- [A pipeline without gas – what's it good for Ukraine?] (Russ.) 'Зачем Украине труба без газа?' Izvestia, 30-03-2009.

Adelman, Morris, et al.: 'Western Europe Natural Gas Trade'. MIT Energy Lab, 1986.

Ahrend, Rüdiger and Tompson, William: 'Russia's Gas Sector: The Endless Wait for Reform?' OECD Working Paper, No. 402, 2004.

Allaz, Blaise and Vila, Jean-Luc: 'Cournot competition, forward markets and efficiency'. Journal of Economic Theory, Vol. 59, 1993.

'An Energy Policy for Europe'. Communication from the Commission to the European Council and the European Parliament, 2007 [COM(2007) 1 final], available at: http://ec.europa.eu/energy/energy_policy/doc/01_energy_policy_for_europe_en.pdf, 22-02-2008.

Anderson, Erin: 'Two Firms One Frontier: On Assessing Joint Venture Performance'. Sloan Management Review, Vol. 18, 1990, pp. 19–30.

[As if for export: Domestic gas prices will be par to European ones] (Russ.) 'Как на экспорт: Цены на газ внутри России сравняют с европейскими'. Izvestia, 28-10-2009.

Åslund, Anders: 'Russia's Economic Transformation under Putin'. Eurasian Geography and Economics, Vol. 54, No. 6, 2004.

'Aussenpolitik im Zeichen von Energiesicherung'. Interview with Frank-Walter Steinmeier, German Foreign Minister, 14-10-2006, available at:

<http://www.auswaertiges-amt.de/diplo/de/Infoservice/Presse/Interviews/2006/061014-SteinmeierRBB.html>, 30-03-2009.

'Avec la crise, la Russie à la diète'. Libération, 28-02-2009.

Axelrod, Robert: 'The Evolution of Cooperation'. Basic Books, New York, 1984.

[Azerbaijan imposes its will] (Russ.) 'Широко качает Азербайджан'. Kommer-sant, 30-06-2009.

Bahgad, Gadwat: 'Europe's Energy Security: Challenges and Opportunities'. International Affairs, Vol. 82, No. 5, 2006, pp. 961 – 975.

Balzer, Harley: 'The Putin Thesis and Russian Energy Policy'. Post-Soviet Affairs, Vol. 21, No. 3, 2005.

Balzer, Harley: 'Vladimir Putin on Russian energy policy'. The National Interest, available at: <http://www.nationalinterest.org/article.aspx?id=id=10884>, 12-01-2005.

Baran, Zeyno: 'EU Energy Security: Time to End Russian Leverage'. The Washington Quarterly, Vol. 30, No. 4, 2007, pp. 131 – 144, available at: http://www.twq.com/07autumn/docs/07autumn_baran.pdf, 27-03-2009.

Barringer, Bruce R. and Harrison, Jeffrey S.: 'Walking a Tightrope: Creating Value Through Interorganizational Relationships'. Journal of Management, Vol. 26, No. 3, 2000.

'Barroso rechtfertigt Gazprom-Klausel'. Financial Times Deutschland, 20-09-2007.

Barton, Barry, et al.: 'Energy Security: Managing Risk in a Dynamic Legal & Regulatory Environment'. Oxford University Press, 2004.

Bartuška, Václav: 'First responsibility, then solidarity'. published in Liuhto, Kari (ed.): 'The EU-Russia gas connection'. Pan-European Institute, Turku, 2009.

Barysch, Katinka (ed.): 'Pipelines, Politics and Power: The future of EU-Russia energy relations'. Center for European Reform (CER), London, 2008.

Bates, Robert H.: 'The Role of the State in Development'. in Weingast, Barry and Donald A. Wittman (eds.): 'The Oxford Handbook of Political Economy'. Oxford University Press, 2006.

Baumann, Florian: 'Energy security, a transatlantic challenge?' Policy Analysis Papers, No. 2, Center for Applied Policy Research, Munich, 2007.

Beamish, Paul W. and John C. Banks: 'Equity Joint Ventures and the Theory of the Multinational Enterprise'. Journal of International Business Studies, Vol. 18, 1987.

'Belarus as a gas transit country'. Working Paper, Research Centre of the Institute for Privatisation and Management, Minsk, 2004.

Bhadrakumar, M. K.: 'Russia sets the pace in energy race'. Asia Times, 23-09-2006, available at: <http://www.eu-digest.com/2006/09/asia-times-online-russia-sets-pace-in.html>, 12-09-2008.

Bindemann, Kirsten: 'Production-Sharing Agreements: An Economic Analysis'. Oxford Energy Institute, 1999.

Bochkarev, Danila and Greg Austin: 'Energy Sovereignty and Security: Restoring confidence in a cooperative international system'. EWI Policy Papers, East West Institute, 2007.

Bönker, Frank, Müller, Klaus and Pickel, Andreas (eds.): 'Postcommunist Transformation and the Social Sciences. Cross-Disciplinary Approaches'. Rowman & Littlefield, Oxford, 2002.

'BP Statistical Review of World Energy 2008', available at: http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2008/STAGING/local_assets/downloads/pdf/statistical_review_of_world_energy_full_review_2008.pdf, 14-01-2014.

'BP Statistical Review of World Energy 2009', available at: http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2008/STAGING/local_assets/2009_downloads/statistical_review_of_world_energy_full_report_2009.pdf, 14-01-2014.

- Brander, James and Spencer, Barbara: 'Export subsidies and international market share rivalry'. *Journal of International Economics*, Vol. 18, 1985, pp. 83–100.
- Brander, James and Spencer, Barbara: 'International R&D Rivalry and Industrial Strategy'. NBER Working Papers, No. 1192, 1983.
- Brill Olcott, Martha: 'The Energy Dimension in Russian Global Strategy: Vladimir Putin and the Geopolitics of Oil'. Baker Institute, Rice University, October 2004.
- Brzezinski, Zbigniew: 'The Grand Chessboard: American Primacy and its Geostrategic Imperatives'. Basic Books, New York, 1998.
- Buckley, Peter and Casson, Mark: 'A theory of cooperation in international business'. In Contractor, Farok and Peter Lorange: 'Cooperative Strategies in International Business'. Lexington, Toronto, 1988.
- Bugajski, Janusz: 'Cold Peace – Russia's New Imperialism'. Praeger, Westport, 2004.
- Buzan, Barry, Waever, Ole and de Wilde, Jaap: 'Security: A New Framework for Analysis'. Lynne Rienner Publishers, Boulder, 1998.
- Campanier, Nadia: 'Géopolitique gazière de la Russie et de l'Asie centrale'. CGEMP, University of Paris Dauphine, 2007.
- 'Candidates are asked if Russia is an evil empire'. Online article about the TV debate between US presidential candidates Barack Obama and John McCain in Nashville, Tennessee, NECN, 08-10-2008, available at: <http://www.necn.com/Boston/Politics/Candidates-are-asked-if-Russia-is-an-evil-empire-/1223436955.html>, 03-10-2009.
- Central Bank of Russia (statistics), available at: <http://www.cbr.ru/statistics>, 14-01-2014.
- Cheney, Dick: Speech held in Lithuania on 04-05-2006. available at: <http://www.nytimes.com/2006/05/04/world/europe/04cnd-cheney-text.html?pagewanted=5>, 02-03-2008.

[China approves the Eastern Gas Programme] (Russ.) 'Восточную газовую программу утвердит Китай'. *Kommersant*, 10-09-2007, available at: <http://www.kommersant.ru/doc.aspx?DocsID=802779>, 11-09-2007.

Chollet, Andreas, Meinhart, Berit, von Hirschhausen, Christian and Opitz, Petra: 'Options for transporting Russian gas to Western Europe'. Discussion Paper No. 10, Technical University, Berlin, 2001.

Christie, Edward: 'European security of supply – a new way forward'. published in Liuhto, Kari (ed.): 'The EU-Russia gas connection'. Pan-European Institute, Turku, 2009, pp. 3–22.

'Climate: Putting Panic in Perspective'. *Ria Novosti*, 18-04-2007, available at: <http://en.rian.ru/analysis/20070418/63856919.html>, 09-10-2009.

Clingendael International Energy Programme: 'Study on Energy Supply Security and Geopolitics'. Final Report, Clingendael Institute, The Hague, 2004, availanble at: http://www.clingendael.nl/publications/2004/200401000_ciep_study.pdf, 16-04-2007.

Coase, Ronald: 'The Nature of the Firm'. *Economica*, Vol. 4, No. 16, 1937, pp. 386–405, available at: <http://www.seba.bnu.edu.cn/tjly/yyjsh/Upload-Files/200642281932549.pdf>, 12-06-2009.

Corden, W. Max and Neary, J. Peter: 'Booming Sector and De-Industrialization in a Small Open Economy'. *Economic Journal*, Vol. 92, pp. 825–848, 1982.

Cornell, Svante and Nilsson, Niklas (eds.): 'Europe's Energy Security: Gazprom's Dominance and Caspian Supply Alternatives'. Central Asia-Caucasus Institute, Washington, 2008.

Correlje, Aad and van der Linde, Coby: 'Energy supply security and geopolitics'. *Energy Policy*, Volume 34, Issue 5, March 2006, pp. 532–543.

Creti, Anna and Villeneuve, Bertrand: 'Long term contracts and take-or pay clauses in natural gas markets'. *Energy Studies Review*, Vol. 13, January 2004.

Crocker, Keith J. and Masten, Scott E.: 'Efficient Adaptation in Long-term Contracts: Take-or-Pay Provisions for Natural Gas'. *American Economic Review*, 75, 1985, pp. 1083–1093.

Crocker, Keith J. and Masten, Scott E.: 'Regulation and Administered Contracts Revisited: Lessons from Transaction-Cost Economics for Public Utility Regulation'. *Journal of Regulatory Economics*, Vol. 9, pp. 5–39.

'Cross-Border Oil and Gas Pipelines: Problems and Prospects'. Joint UNDP/World Bank Energy Sector Management Assistance Program (ESMAP), 2003, available at: <http://siteresources.worldbank.org/INTOGMC/Resources/crossborderoilandgaspipelines.pdf>, 05-10-2008.

Czernie, Wilfried: 'Security of Gas Supply and Long-Term Contracts'. Presentation held at the IEA Regulatory Forum 'Competition in energy markets', Paris, 2002, available at: <http://www.iea.org/work/2002/forum/Czer.pdf>, 08-10-2008.

Davoust, Romain: 'Gas Price Formation – Structure and Dynamics'. Institut Français de Relations Internationales (IFRI), 2008.

Der Spiegel, 05-03-2007.

'Der Zar und seine Macht über die Sümpfe'. Handelsblatt, 26-06-2007.

'Die Russen kommen – ins Billiglohnland Deutschland'. Spiegel, 16-07-2007, available at: <http://www.spiegel.de/wirtschaft/0,1518,493384,00.html>, 05-09-2007.

'Directive 2003/55/EC of the European Parliament and of the Council of 26 June 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC'. available at: http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexdoc!prod!CELEXnumdoc&lg=EN&num-doc=32003L0055&model=guicheti, 05-11-2009.

'Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC', available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0073:EN:NOT>, 14-01-2014.

Dirmoser, Dietrich: 'Kompass 2020: Energiesicherheit'. Friedrich-Ebert-Stiftung, Berlin, 2007.

Dmitriev, Mikhail: 'Russia's "Energy Key" Strategy'. *Russia in Global Affairs*, No. 4, 2006.

'Dmitry Medvedev approves Russian National Security Strategy to 2020'. Carnegie Moscow Center, 15-05-2009, available at: <http://www.carnegie.ru/en/news/81568.htm>, 20-05-2009.

Doane, Michael J. and Spulber, Daniel F.: 'Open Access and the Evolution of the US Spot Market for Natural Gas'. *Journal of Law and Economics*, Vol. 37, 1994, pp. 477–515.

Document of the EU Council of March 8/9th, 2007, available at: <http://register.consilium.europa.eu/pdf/en/07/st07/st07224-re01.en07.pdf>, 12-04-2009.

Douglas, Rachel: 'Maslyukov's Program: A Strategy for National Industrial Development'. *Executive Intelligence Review*, Vol. 27 No. 36, 15-09-2000.

Dronnikov, Dmitri: 'Der russische Erdgasmarkt zwischen Monopol und Liberalisierung'. Doctoral Thesis, Energiewirtschaftliches Institut, University of Cologne, 2005.

Drozhdinina, Alexandra and Getmanov, V.: 'Роль России в обеспечении глобальной энергетической безопасности' (Russ.) [Russia's role in global energy security]. *Вестник* [Vestnik], Vol. 11, No. 2, Murmansk State Technical University (MGTU), 2008, available at: http://vestnik.mstu.edu.ru/v11_2_n31/articles/25_droz.pdf, 20-02-2009.

Dudek, Daniel, Golub, Alexander and Strukova, Ekaterina: 'Environmental aspects of dual pricing for natural gas in Russia'. Environmental Defense, Moscow, 2004.

Dusseault, David: 'Europe's triple by-pass: The prognosis for Nord Stream, South Stream and Nabucco'. in Liuhto, Kari (ed.): 'The EU-Russia gas connection'. Pan-European Institute, Turku, 2009.

Dusseault, David: 'The Structure of Russia's Energy Sector: Expectations and Challenges in Tomsk Oblast'. quoted in Liuhto, Kari (2009), op. cit. Paper presented at the conference 'Proceedings from Energy Challenges in Northern Europe', Pan-European Institute, Turku School of Economics, 27/29-11-2008.

'Economic Survey – Russian Federation 2004: Reforming the domestic natural gas market'. OECD, 2004.

Egenhofer, Christian: 'Integrating security of supply, market liberalisation and climate change'. in 'European Energy Security – What should it mean? What to do?' European Security Working Paper, No. 23, October 2006.

Ehrstedt, Stefan and Vahtra, Peeter: 'Russian energy investments in Europe'. Electronic Publications of Pan-European Institute, No. 4, 2008, available at: http://www.tse.fi/FI/yksikot/erillislaitokset/pei/Documents/Julkaisut/Ehrstedt_Vahtra_42008.pdf, 16-09-2009.

Elkins, John: 'How long can long-term gas contracts survive?' APX Energy Viewpoints, 2006, available at: http://www.moffatt-associates.com/energy_services/forecasting_market_trends/energy_viewpoints/documents/7/how_long_can_lonf_term_gas_contracts_survive.pdf, 16-03-2008.

'Emerging Russian Multinationals: Achievements and Challenges'. Study of the Skolkovo Moscow School of Management, November 2008.

'Energierohstoffe 2009'. Studie der Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), 2009.

'Energy and transport in figures'. Statistical Pocketbook 2009, EC Directorate for Energy and Transport, available at: http://ec.europa.eu/energy/publications/statistics/doc/2009_energy_transport_figures.pdf, 10-11-2009.

Energy Charter Secretariate, available at: <http://www.encharter.org>, 14-01-2014.

Energy Information Administration: 'Country Analysis Briefs: Russia'. May 2008, available at: <http://www.eia.doe.gov/emeu/cabs/Russia/pdf.pdf>, 01-03-2009.

'Energy giant Gazprom generates 20 % of budget revenue'. RIA Novosti, 27-05-2008.

'EON steigt in die sibirische Erdgasförderung ein'. Frankfurter Allgemeine Zeitung, 13-7-2007.

'Equatorial Guinea: Gazprom is coming!' Les Afriques, 24-11-2008, available at: <http://www.lesafriques.net/equatorial-guinea/equatorial-guinea-gaz-prom-is-coming.html?Itemid=35?articleid=0207>, 17-02-2009.

Erdmann, Georg and Zweifel, Peter: 'Energieökonomik'. Springer, Berlin, 2008.

'EU ängstigt sich vor Russland'. Financial Times Deutschland, 24-10-2007.

'EU-Energiepolitik: Höchste Zeit zu handeln!' EU-Monitor 44, DB Research, 2007.

European Parliament: 'Ostsee-Pipeline: Petitionsausschuss hört Kritiker und Unterstützer an'. Report, 10-02-2008, available at: <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+IM-PRESS+20080204STO20427+0+DOC+XML+V0//DE>, 14-04-2008.

Eurostat, available at: <http://ec.europa.eu/eurostat>, 14-01-2014.

Federal States Statistics Service of the Russian Federation (Goskomstat/Rosstat), available at: <http://www.gks.ru>, 14-01-2014.

Finon, Dominique and Catherine Locatelli: 'L'interdépendance gazière de la Russie et de l'Union européenne. Quel équilibre entre le marché et la géopolitique?' Cahier de Recherche Série Energie et Politique de l'Environnement, No. 41, Laboratoire d'Economie de la Production et de l'Intégration Internationale (LEPII), Grenoble, 2006.

Florio, Massimo: 'Economic Theory, Russia and the Fading "Washington Consensus"'. Departmental Working Papers, No. 8, Department of Economics University of Milan, 1998.

'Foreign companies invest billions of dollars in Russia'. [pravda.ru](http://english.pravda.ru/news/business/10-12-2007/102559-russia_investment-0), 12-10-2007, available at: http://english.pravda.ru/news/business/10-12-2007/102559-russia_investment-0, 23-10-2008.

'Foreign investment in Russia shrinks by third'. RosBusinessConsulting, 20-11-2009, available at: http://top.rbc.ru/english/index.shtml?/news/english/2009/11/20/20175509_bod.shtml, 25-11-2009.

'Foreign investments in the Economy of Russia 2006'. Federal State Statistics Service, available at: http://www.gks.ru/free_doc/2007/b07_11/23-11n.htm, 17-12-2008.

'Foreign investments in the Economy of Russia 2008'. Federal State Statistics Service, available at: http://www.gks.ru/bgd/regl/b09_12/IssWWW.exe/stg/d02/24-10.htm, 17-12-2008.

Fruchtmann, Jakob and Pleines, Heiko: 'Das russische Steuersystem'. Working papers of the Research Centre for East European Studies, Bremen, 2001.

'Frühwarnsystem zu Gaskrisen vereinbart'. Frankfurter Allgemeine Zeitung, 17-11-2009.

'Gaddafi in Moscow for arms talks'. Al Jazeera, 31-10-2008, available at: <http://english.aljazeera.net/news/europe/2008/10/200810311533276303.html>, 04-04-2009.

Gaddy, Clifford and Ickes, Barry: 'Resource rents and the Russian economy'. Eurasian Geography and Economics, Vol. 46, No. 8, 2005, pp. 559–583.

Gaddy, Clifford: 'The Russia-Ukraine Natural Gas Battle'. Brookings Institution, 2009, available at: http://www.brookings.edu/interviews/2009/0107_russia_natural_gas_gaddy.aspx, 10-10-2009.

[Game for gas] (Russ.) 'Игра на газ'. gazeta.ru, 22-01-2009, available at: http://www.gazeta.ru/comments/2009/01/22_a_2928072.shtml, 22-01-2009.

Gandolfo, Giancarlo: 'International Trade Theory and Policy'. Springer, Berlin, 1998.

'Gas, gas everywhere...but enough to burn?' UBS Investment Research, 2006.

'Gasstreit zwischen Russland und der Ukraine – Ausweg gesucht'. Russland.ru, 08-01-2009, available at: <http://www.russland.ru/analysen/morenews.php?iditem=174>, 08-01-2009.

'Gaswaffe'. Frankfurter Allgemeine Zeitung, 07-01-2009.

'Gazprom an Gas-Hub beteiligt'. Frankfurter Allgemeine Zeitung, 28-1-2008.

‘Gazprom announces Sakhalin-3 forecast’. RusBusinessConsulting, 24-06-2008, available at: <http://www.rbcnews.com/free/20080624142228.shtml>, 03-07-2008.

‘Gazprom Annual Report’. OAO Gazprom, Issues 2005–2008.

‘Gazprom baut Gaspipeline-Netz in Nigeria’. Ria Novosti, 06-06-2008, available at: <http://de.rian.ru/business/20080606/109426273.html>, 06-06-2008.

[Gazprom did not believe the Presidents’ words] (Russ.) ‘Газпром не поверил на слово президентам’. Kommersant, 29-06-2009.

[Gazprom: Europe – hostage of Ukraine’s careless behaviour] (Russ.) ‘Тазпром: Европа – заложница безрассудного поведения Украины’. RIA Novosti, 06-01-2009, available at: <http://www.rian.ru/economy/20090106/158686015.html>, 06-01-2009.

‘Gazprom in Questions and Answers’. OAO Gazprom, available at: <http://eng.gazpromquestions.ru/>, 14-01-2014.

‘Gazprom not to hike gas price for Georgia starting from June’. Kommersant, 02-05-2008, available at: http://www.kommersant.com/p-12456/r_500/Gazprom_Georgia, 02-05-2008.

‘Gazprom on Foreign markets’. OAO Gazprom, available at: <http://eng.gazpromquestions.ru/?id=4>, 08-09-2009.

‘Gazprom raises gas price for Moldova by 10.2 % in Q4’. Seenews, 2008, available at: http://www.seenews.com/news/latestnews/russia_sgazpromraisesgaspriceformoldovaby10_2_inq4-165459/, 08-09-2009.

‘Gazprom Ready to Buy All Gas From Azeri Nabucco Base’. Bloomberg, 15-05-2009, available at: http://www.bloomberg.com/apps/news?pid=20601072&sid=aFDux_hYIA3Y, 08-09-2009.

‘Gazprom to buy into Belarus pipelines on Friday’. Reuters, 17-05-2007, available at: <http://uk.reuters.com/article/oilRpt/idUKL1739053120070517>, 17-10-2007.

‘Gazprom to give up part of Russian market by 2030’. RIA Novosti, 08-02-2010, available at: <http://en.rian.ru/business/20100208/157806610.html>, 06-03-2010.

'Gazprom today'. OAO Gazprom, available at: <http://old.gazprom.ru/eng/articles/article8511.shtml>, 07-07-2008.

'Generation Putin'. Financial Times Deutschland, 16-02-2009.

Gonchar, Michael, Martynyuk, Vitalii and Chubyk, Andriy: 'The impact of Nord Stream, South Stream on the gas transit via Ukraine and security of gas supplies to Ukraine and the EU'. in Liuhto, Kari (ed.): 'The EU-Russia gas connection: Pipes, politics and problems. Pan-European Institute'. Turku School of Economics, 2009, pp. 49–69.

'Gordon Brown: This is how we will stand up to Russia's naked aggression'. The Observer, 31-08-2008, available at: <http://www.guardian.co.uk/commentisfree/2008/aug/31/russia.georgia>, 10-10-2008.

Goskomstat (Federal States Statistics Service of the Russian Federation, Rosstat), available at: <http://www.gks.ru>, 14-01-2014.

Götz, Roland: 'Die russisch-zentralasiatische Energiegemeinschaft – Eine Bedrohung für die europäische Energiesicherheit?' Stiftung Wissenschaft und Politik, 2007.

Götz, Roland: 'Energietransit von Russland durch die Ukraine und Belarus'. Stiftung Wissenschaft und Politik, 2006.

Götz, Roland: 'Gasproms Diversifizierungstrategie der Exportpipelines und Exportrichtungen'. Stiftung Wissenschaft und Politik, 2007.

Götz, Roland: 'Moskau nutzt seine Energie nicht als Waffe'. Süddeutsche Zeitung online, 09-01-2009, available at: <http://www.sueddeutsche.de/politik/117/453805/text/>, 10-01-2009.

Götz, Roland: 'Russia and the energy supply of Europe: The Russian Energy Strategy to 2020'. Working Paper, German Institute for International and Security Affairs, 2005.

'Governmental Decree No. 1021 of 29-12-2000 (in the version of 22-05-2002) "About state regulation of gas prices and transport fees in the Russian Federation." Government of the Russian Federation, 2000.

- Grais, Wafik and Zheng, Kanbing: 'Strategic interdependence in the East-West gas trade: A hierarchical Stackelberg game approach'. The World Bank, 1994.
- Grigoriev, Leonid and Belova, Maria: 'EU-Russia gas relations'. in Liuhto, Kari (ed.): 'The EU-Russia gas connection'. Pan-European Institute, Turku, 2009.
- Grigoriev, Leonid: 'Forum of gas exporters – design'. Baltic Rim Economies Review, No. 1, Turku School of Economics, 2009.
- Grigoriev, Leonid: 'Growth with energy and energy security'. in 'European Energy Security What should it mean? What to do?' ESF Working paper, No. 23, 2006.
- Grigoriev, Leonid: 'Russia's place in the global economy'. Russia in Global Affairs, No. 2, 2005.
- Gromov, Alexey: 'The Actual Problems of Energy Saving and Energy Efficiency in Russia'. Paper presented at Northeast Asia International Conference for Economic Development, Niigata, 2009.
- Guillet, Jérôme: 'Gazprom as a predictable partner'. Russie/NEI/Visions, No. 18, IFRI, March 2007.
- Guillet, Jérôme: 'Liberal markets create an addiction to gas'. Financial Times, 02-02-2007.
- Gylfason, Thorvaldur: 'Lessons from the Dutch Disease: Causes, Treatment, and Cures'. Working Paper, Institute of Economic Studies, University of Iceland, Reykjavik, 2001.
- Hallouche, Hadi: 'The Gas Exporting Countries Forum: Is it really a Gas OPEC in the Making?' Working Paper, Oxford Institute for Energy Studies, 2006.
- Hanson, Philipp: 'The sustainability of Russia's energy power: implications for the Russian economy'. Economics Working Paper, No. 84, Centre for the Study of Economic and Social Change in Europe, UCL School of Slavonic and East European Studies, London, 2007.

- Hausmann, Ricardo and Rigobon, Roberto: 'An Alternative Interpretation of the "Resource Curse": Theory and Policy Implications'. NBER Working Papers, No. 9424, 2003.
- Heinrich, Andreas and Kusznir, Julia: 'Independent Gas Producers in Russia'. KICES Working Papers, No. 2, Koszalin Institute of Comparative European Studies, 2005, available at: http://www.kices.org/downloads/KICES_WP_02.pdf, 20-05-2008.
- Helm, Dieter (ed.): 'Towards an Energy Policy'. The Oxera Press, Oxford, 2002.
- Herring, Richard (ed.): 'Managing International Risk'. Cambridge University Press, New York, 1983.
- 'History/15th Anniversary of Gazprom Joint-Stock Company'. OAO Gazprom, online article, available at: <http://www.gazprom.com/eng/articles/article26939.shtml>, 12-03-2009.
- Hoogeveen, Feemke and Perlot, Wilbur: 'Tomorrow's Mores: The International System, Geopolitical Changes and Energy'. CIEP, The Hague, 2005.
- [Honey and tar] (Russ.) 'Мёд и дёготь'. gazeta.ru, 18-03-2008, available at: http://www.gazeta.ru/comments/2008/03/17_x_2670437.shtml, 18-03-2008.
- Hubbard, Glenn and Weiner, Robert: 'Regulation and Long-term Contracting in US Natural Gas Markets'. Journal of Industrial Economics, 35, 1986, pp. 71–79.
- Hubert, Franz: 'Strategic investment in international gas transport systems'. EIB Papers, Vol. 12, No.2, 2007.
- Hubert, Franz and Suleymanova, Irina: 'Strategic Investment in International Gas Transport Systems: A Dynamic Analysis of the Hold-up Problem'. DIW Discussion Papers, No. 846, 2006.
- Hubert, Franz and Ikonnikova, Svetlana: 'Investment options and bargaining power in the Eurasian supply chain for natural gas'. Paper prepared for the 2003 conference at the British Institute for Energy Economics, Humboldt University, Berlin, 2003.

Hughes, James: 'EU relations with Russia: Partnership or asymmetric interdependency?' LSE Research online, London School of Economics, 2006, available at: <http://eprints.lse.ac.uk/archive/00000651>, 07-03-2008.

'If another gas dispute breaks out between the Ukraine and Russia, would Europe now be equipped to deal with it?' DIW Weekly Report, No. 2, 2010.

Ikonomikova, Svetlana: 'Coalition Formation, Bargaining and Investments in Networks with Externalities: Analysis of the Eurasian Gas Supply Network'. Humboldt University of Berlin, 2005.

'In Europa wächst die Angst vor Gazprom'. Wirtschaftswoche, 25-10-2006.

'Index of Economic Freedom 2008'. The Heritage Foundation, available at: <http://www.heritage.org/Index/>, 03-12-2008.

Institute of Energy Strategy [Институт Энергетической стратегии] available at: <http://www.energystrategy.ru>, 14-01-2014.

Institute of Transition Period Economy [Институт Экономики Переходного Периода] available at: <http://www.iet.ru>, 14-01-2014.

'Investment Policy Reviews – Russian Federation: Enhancing policy transparency'. OECD, 2006.

Isakova, Irina: 'Russian Governance in the Twenty-First Century: Geo-Strategy, Geopolitics and Governance'. Frank Cass, London, 2005.

Ivanenko, Vlad: 'Russian Energy Strategy in Natural Gas Sector'. Working Paper. 2006, available at: <http://ssrn.com/abstract=953467>, 27-04-2008.

Ivanov, Vladimir: 'Russian Energy Strategy 2020: Balancing Europe with the Asia-Pacific region'. ERINA Report, Vol. 53, Economic Research Institute for Northeast Asia, Niigata, 2003.

Jancovicici, Jean-Marc: 'La croissance économique fait-elle de l'effet de serre?' Online article, 2006, available at: <http://www.manicore.com/documentation/serre/croissance.html>, 02-02-2008.

'Joint Statement of Intent Regarding Support to Gas Sector Reform in Ukraine and the Purchase of Gas from Russia'. European Commission, 2009, available

at: <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1218&format=HTML&aged=0&language=EN&guiLanguage=en>, 10-08-2009.

'Joint Statement on the Caspian-Black Sea-Baltics Energy Transit Space'. President of Ukraine, 17-04-2009, available at: http://www.president.gov.ua/en/content/energosummit_3.html, 10-06-2009.

Joskow, Paul and Tirole, Jean: 'Merchant Transmission Investment'. mimeo, 2003, available at: http://econ-www.mit.edu/faculty/?prof_id=pjoskow, 05-05-2009.

Joskow, Paul: 'Contract Duration and Relationship Specific Investments: Empirical Evidence From Coal Markets'. American Economic Review, Vol. 77, March 1987.

Kalcheva, Katerina and Oomes, Nienke: 'Diagnosing Dutch Disease – Does Russia Have the Symptoms?' IMF, 2007.

Kalyuzhnova, Yelena and Nygaard, Christian: 'State governance evolution in resource-rich transition economies: An application to Russia and Kazakhstan'. Energy Policy, Vol. 36, No. 6, 2008.

Kefferpütz, Roderick: 'EU-Russian natural gas relations – Pipeline politics, mutual dependency, and the question of diversification'. in Liuhto, Kari: 'The EU-Russia gas connection'. op. cit., 2009.

Kefferpütz, Roderick: 'Gazprom's Changing Fortunes'. CEPS Commentary, Centre for European Policy Studies, 2009.

Khristenko, Victor: 'Перспективы развития нефтегазового комплекса России' (Russ.) [Perspectives of the development of the Russian oil and gas sector]. Ministry of Energy and Industry of the Russian Federation, 2005.

Klebnikow, Paul: 'Der Pate des Kreml. Boris Beresowski und die Macht der Oligarchen'. Econ, München, 2001.

Klein, Benjamin, et al.: 'Vertical integration, appropriate rents and the competitive contracting process'. Journal of Law and Economics, Vol. 28, No.2, 1978, pp. 297–326.

Klyamkin, Igor, et al.: 'Политический курс Ельцина'. (Russ.) [The political direction of Yeltsin]. Полис [Polis], No. 3, 1994.

Kneissl, Karin: 'Der Energiepoker: Wie Erdöl und Erdgas die Weltwirtschaft beeinflussen'. Finanzbuchverlag, 2006.

Kogut, Bruce: 'Joint Ventures: Theoretical and Empirical Perspectives'. The Wharton School, 1988.

Kogut, Bruce: 'Knowledge, options, institutions'. Oxford University Press, 2008.

Kogut, Bruce: 'The stability of Joint Ventures: Reciprocity and competitive rivalry'. Journal of Industrial Economics, Vol. 38, No. 2, 1989, pp. 153–198.

Konoplyanik, Andrey: 'A Common Russia-EU Energy Space: The New EU-Russia Partnership Agreement, Acquis Communautaire and the Energy Charter'. Journal of Energy and Natural Resources Law, Vol. 27, No. 2, pp. 258–291.

Konoplyanik, Andrey: 'Regulating Energy Relations: Acquis or Energy Charter?' in Barysch (ed.), op. cit., 2008.

Korduban, Pavel: 'Yushchenko Criticizes Tymoshenko for Gas Accords and Plea for Loan from Moscow'. Eurasian Daily Monitor, Volume 6, Issue 33, 19-02-2009, available at: http://www.jamestown.org/single/?no_cache=1&tx_ttnews%5Btt_news%5D=34526, 03-05-2009.

Korppoo, Anna: 'Joint implementation in Russia and Ukraine: Review of Projects Submitted to JISC'. Briefing Paper, London, Climate Strategies, 2007.

Kotkin, Stephen: 'How Did Russia Rebuild Itself? Sorry, But You're Wrong'. Online article, 28-01-2009, available at: <http://www.russiaotherpointsofview.com/2009/01/how-did-russia-rebuild-itself-sorry-but-youre-wrong.html>, 05-03-2009.

Kotkin, Stephen: 'The Energy Dimension in Russian Global Strategy'. James A. Baker III Institute for Public Policy, Rice University, 2004.

Korzhubaev, A. G. (2005): 'Инфраструктура транспорта нефти и газа в России: приоритетные направления развития' (Russ.) [The infrastructure

of oil and gas transport in Russia: Priority directions of development]. ЭКО [EKO], No. 4, 2005.

Kryukov, Valery: 'Interrelations between the state and large businesses in Russia'. Oil & Gas Law & Taxation Review, No. 12, 1999.

Kurlyandskaya, Galina: 'Moscow and regions share Russia's oil and gas revenues'. Federations, Vol. 6, No.1, 2007.

Lamy, Jean: 'D'un G8 à l'autre, sécurité énergétique et changement climatique'. Politique étrangère, No. 1, 2006.

Lechtenböhmer, Stefan, et al.: 'Tapping the leakages: methane losses, mitigation options and policy issues for Russian long distance gas transmission pipelines'. International Journal of Greenhouse Gas Control, No. 1, 2007, pp. 387–395.

Leggewie, Claus: 'Russlandversteher sehen Gefahr nicht'. Kölner Stadt-Anzeiger, 31-08-2008, available at: <http://www.ksta.de/html/artikel/1218660465980.shtml>, 02-02-2009.

Levett, Flynt and Mann, Hillary: 'Wrong on Russia'. The National Interest, 2008, available at: <http://www.nationalinterest.org/Article.aspx?id=19606>, 03-03-2009.

Liuhto, Kari: 'The EU needs a common energy policy – not separate solutions by its member states'. in Liuhto, Kari (ed.), op. cit., 2009.

Liuhto, Kari (ed.): 'The EU-Russia gas connection'. Pan-European Institute, Turku, 2009.

Locatelli, Catherine: 'EU gas liberalization as a driver of Gazprom's strategies?' Russie.NEI.Visions, No. 26, IFRI, 2008.

Locatelli, Catherine: 'The Russian oil industry between public and private governance: Obstacles to international oil companies' investment strategies'. Energy Policy, Vol. 34, No. 9, 2006.

Lochner, Stefan and Bothe, David: 'From Russia with gas – An analysis of the Nord Stream pipeline's impact on the European Gas Transmission System with the TIGER-Model'. EWI Cologne, 2007.

Losoncz, Miklós: 'Some institutional factors of the EU's logistics in EU-Russia natural gas relations'. in Liuhto, Kari (ed.): 'The EU-Russia gas connection'. op. cit., Turku, 2009.

Lukyanov, Fyodor: 'Украинский Ва-банк'. (Russ.) [Ukrainian va-banque]. Россия в глобальной политике [Rossiya v globalnoi politike], 15-01-2009, available at: <http://www.globalaffairs.ru/redcol/0/11040.html>, 25-07-2009.

Luo, Yadong and Yan, Aimin: 'International Joint Ventures: Theory and Practice'. M. E. Sharpe, New York, 2000.

Macaulay, Stewart: 'Non-contractual relations in business: A preliminary study'. American Sociological Review, Vol. 28, No. 1, 1963.

[Main pretenders for Yamal are fixed] (Russ.) 'Определены главные претенденты на Ямал'. Kommersant, 29-06-2009.

'Majors must go to Gazprom to get access to Russia's vast natural oil and gas store'. Financial Times, 12-07-2005.

Makarychev, Andrey: 'Russia's Energy Policy: Between Security and Transparency'. PONARS Policy Memo, No. 425, Center for Strategic and International Studies, Nizhniy Novgorod/Washington, 2006, available at: http://csis.org/files/media/csis/pubs/pm_0425.pdf, 11-08-2007.

Makarychev, Andrey: 'Энергетическая безопасность: От вопросов – к сомнениям'. (Russ.) [Energy Security: From Questions to Understanding]. Eurasian Home Analytical Resource, Eurasia Heritage Foundation, 2007, available at: <http://www.eurasianhome.org/xml/t/expert.xml?lang=en&nic=expert&pid=1001>, 07-06-2008.

Malygina, Katerina: 'Die Energiesicherheit der EU und die Frage des Erdgastransits. Ein analytischer Rahmen'. Ukraine-Analysen, No. 58, 2009, available at: <http://www.laender-analysen.de/ukraine/pdf/UkraineAnalysen58.pdf>, 07-09-2009.

Mandil, Claude: 'Securing the Russian-European energy partnership'. Working Paper, IEA, 2005.

Mandil, Claude: Energy solidarity "still just words". Euractiv, 09-02-2009, available at: <http://www.euractiv.com/en/energy/mandil-energy-solidarity-just-words/article-179254>, 12-03-2009.

Marangos, John: 'A Post Keynesian Critique of Privatization Policies in Transition Economies'. Journal of International Development, Vol. 14 No.5, 2002.

Meadows, Dennis, et al.: 'The Limits to Growth. A Report for the Club of Rome's Project on the Predicament for Mankind'. Universe Books, New York, 1972.

Meadows, Donella, et al.: 'The Limits to Growth – A 30 Year Update'. Chelsea Green, Vermont, 2004.

Mearsheimer, John: 'The Tragedy of Great Power Politics'. Norton, New York, 2001.

'Medvedev highlights key problems facing Russia in article'. RIA Novosti, 10-09-2009, available at: <http://en.rian.ru/russia/20090910/156083558.html>, 10-09-2009.

Medvedev, Dmitry: 'Послание Федеральному Собранию Российской Федерации'. (Russ.) [Speech to the Federal Assembly of the Russian Federation]. 05-11-2008, available at: <http://www.kremlin.ru/transcripts/1968>, 12-12-2009.

Medvedev, Dmitry: 'Россия вперёд!' (Russ.) [Russia, forward!]. gazeta.ru, 10-09-2009, available at: http://www.gazeta.ru/comments/2009/09/10_a_3258568.shtml, 10-09-2009.

[Menaces by the EU to file suit against Gazprom are unjust] (Russ.) 'Угрозы ЕС возбудить уголовные иски против Газпрома несправедливы'. Regnum, 28-01-2009, available at: <http://www.regnum.ru/news/1110088.html>, 28-01-2009.

Merle-Béral, Elena: 'Réveiller le géant'. Notre planète, Vol. 16, No. 4, United Nations Environment Programme, 2005.

Miller, Alexey: 'Энергия для планеты'. (Russ.) [Energy for the planet]. Report given at the 23rd World Gas Congress, Amsterdam, 06-06-2006, available at: <http://www.gazprom.com/press/miller/speeches/06.06.06/>, 20-07-2008.

Milov, Vladimir: 'Le dialogue énergétique UE-Russie: concurrence contre monopoles'. Russie.NEIVisions, No. 13, IFRI, 2006.

Milov, Vladimir: 'Russia and the West: The Energy Factor'. IFRI/CSIS, July 2008, available at: http://www.ifri.org/files/Russie/IFRICES_milov_russia.pdf, 22-07-2009.

'Mineral and raw material base development, gas production, gas transmission system development'. OAO Gazprom, reference to a press conference, 14-06-2007, available at: <http://www.gazprom.ru/eng/articles/article24063.shtml>, 02-07-2007.

Mitchell, John et al.: 'The New Economy of Oil, Impacts on Business, Geopolitics and Society'. London, 2001.

Mitrova, Tatiana, Pirani, Simon and Jonathan Stern: 'Russia, the CIS and Europe: Gas trade and transit'. in Pirani, Simon (ed.): 'Russian and CIS gas markets and their impact on Europe'. Oxford University Press, 2008.

Mitrova, Tatiana: 'Gazprom's Perspective on International Markets'. Russian Analytical Digest, No. 41, 20-05-2008.

Mommer, Bernhard: 'The Governance of International Oil. The Changing Rules of the Game'. Oxford Institute for Energy Studies, 2000.

Monaghan, Andrew: 'Дilemma энергетической безопасности'. (Russ.) [The dilemma of energy security]. Pro et Contra, Vol. 10, No. 2/3 (March-June 2006), pp. 16–31, published in English as 'Russia-EU relations: An Emerging Energy Security Dilemma'. available at: <http://www.carnegieendowment.org/files/EmergingDilemma1.pdf>, 13-11-2008.

Morbee, Joris and Proost, Stef: 'Russian Gas Imports in Europe: How Does Gazprom Reliability Change the Game?' CES Discussion Paper, Catholic University Leuven, Department of Economics, 2009.

- 'Moscow-Beijing sign ESPO pipeline deal'. Oil and Gas Eurasia, 28-10-2008, available at: <http://www.oilandgaseurasia.com/news/p/0/news/3086>, 29-10-2008.
- 'Nabucco-Pipeline droht endgültig zu scheitern'. Handelsblatt, 12-11-2008.
- 'Naftogaz will not let Gazprom in Ukraine's territory'. UNIAN/www.for-ua.com, 14-12-2005, available at: <http://en.for-ua.com/news/2005/12/14/184549.html>, 27-10-2008.
- Nakamura, Yasushi: 'Economy-Wide Influences of the Russian Oil Boom: A National Accounting Matrix Approach'. in Tabata, Shinichiro (ed.), op. cit., 2006.
- National Gas Union of Ukraine, available at: http://www.gasunion.org.ua/images/karta_GTS_eng.gif, 01-06-2010.
- 'Natural Gas Market Review 2006 – Towards a Global Gas Market'. OECD/IEA, 2006.
- 'Natural Gas Market Review'. OECD/IEA, issues 2004–2009.
- 'Neue Angst vor China und Russland'. Frankfurter Allgemeine Zeitung, 02-07-2007.
- Neuhoff, Karsten and von Hirschhausen, Christian: 'Long-term vs. short-term contracts: A European perspective on natural gas'. Technische Universität Berlin, 2005, available at: http://www.cni.tu-berlin.de/fileadmin/documents/infraday/2005/papers/neuhoff_hirschhausen_Long_Term_vs_Short_Term_Contra cts.pdf, 16-10-2006.
- Neumann, Anne and von Hirschhausen, Christian: 'Less Long-Term Gas to Europe? A Quantitative Analysis of European Long-Term Gas Supply Contracts'. Zeitschrift für Energiewirtschaft, Vol. 28, No. 3, 2004, pp. 175–182.
- Norling, Nicklas: 'The Nabucco Pipeline: Reemerging momentum in Europe's front yard'. in Cornell, Svante and Niklas Nilsson (ed.), op. cit., 2008, pp. 127–140.
- Noël, Pierre: 'Beyond dependence: How to deal with Russian gas'. ECFR Policy Brief, European Council on Foreign Relations, November 2008.

OAO Gazprom, available at: <http://www.gazprom.com/production/projects/deposits>, 01-06-2010.

[On the conception of the development of the gas market of the Russian Federation] (Russ.) 'О концепции развития рынка газа в Российской Федерации'. Ministry of Economic Development and Trade of the Russian Federation, Report to the Government, Moscow, March 2003.

Onyeukwu, Humphrey: 'Obsolescence Bargaining in Transit Pipelines: What options exist for securing resource supply'. University of Dundee, 2008, available at: http://works.bepress.com/cgi/viewcontent.cgi?article=1001&context=humphrey_onyeukwu, 10-09-2009.

Oomes, Nienke and Kalcheva, Katerina: 'Diagnosing Dutch disease: Does Russia have the symptoms?' BOFIT Discussion Papers, No. 7, 2007.

'Optimising Russian Natural Gas – Reform and Climate Policy'. OECD/IEA, 2006.

Order No. 340 by the Ministry of Industry and Energy of the Russian Federation about the construction of a unified gas transport and supply system in Eastern Siberia and the Far East, 03-09-2007, available at: <http://www.minprom.gov.ru/docs/order/87>, 25-01-2008.

Österlund, Bo: 'Baltic Sea gas pipeline in Finland's economic zone'. Baltic Rim Economies Review, No. 2, Turku School of Economics, 2009.

Owen, David and Robinson, David: 'Russia rebounds'. IMF, Washington, 2003.

Oyefusi, Aderoju: 'Natural Resource Abundance and Development: Is There A Paradigm Shift?' Journal of Business and Public Policy, Vol. 1, No. 3, 2007.

Paillard, Christophe-Alexandre: 'Quelles stratégies énergétiques pour l'Europe'. Notes of the Robert Schuman Foundation, January 2006, pp. 15–17, available at: <http://www.robertschuman.eu/notes.php?num=30>, 04-05-2009.

Panjuschkin, Waleri and Sygar, Michail: 'Gazprom. Das Geschäft mit der Macht'. Droemer/Knaur, Munich 2008.

Patrushev, Dmitry: 'Государственные и рыночные регуляторы в формировании и реализации промышленной политики' (Russ.) [State and market regulators in the formation and realisation of industrial policy]. University of Economics and Finance, St. Petersburg, 2008.

Perović, Jeronim and Ortung, Robert: 'Russia's Energy Policy: Should Europe Worry?' Arbeitspapiere der Forschungsstelle Osteuropa, Bremen, No. 92, February 2008.

Pfeffer, Jeffrey and Nowak, Phillip: 'Joint-ventures and interorganizational interdependence'. *Administrative Science Quarterly*, Vol. 21, No. 3, 1976.

Piebalgs, Andris: 'Herausforderungen für die europäische Energiepolitik der nächsten Jahre'. Speech given at VDEW Congress, Berlin, 09-06-2005.

Pirani, Simon (ed.): 'Russian and CIS gas markets and their impact on Europe'. Oxford University Press, 2009.

Pirani, Simon: 'Der russisch-ukrainische Gaskonflikt 2009'. in Pleines (2008): 'Russia's Energy Sector between Politics and Business'. op. cit.

Pleines, Heiko (ed.): 'Der russisch-ukrainische Erdgaskonflikt vom Januar 2009'. Arbeitspapiere und Materialien der Forschungsstelle Osteuropa, Bremen, No. 101, February 2009.

Pleines, Heiko, et al. (ed.): 'Russia's Energy Sector between Politics and Business'. Working Paper, No. 92, Forschungsstelle Osteuropa, Bremen, 2008.

Pleines, Heiko: 'Der politische Einfluß von Wirtschaftseliten in Russland. Die Öl- und Gasindustrie in der Ära Jelzin'. Arbeitspapiere und Materialien der Forschungsstelle, Osteuropa, Bremen, 2002.

Polanyi, Michael: 'The Tacit Dimension'. Smith, Gloucester, 1983, originally published in 1966.

Pozzo di Borgo, Yves: 'Union Européenne – Russie: quelles relations?' Information report for the French Senate, No. 307, 2007, available at: <http://www.senat.fr/rap/r06-307/r06-307.html>, 20-05-2009.

Presidential Decree No. 426 'About the structural reform of natural monopolies'.

President of the Russian Federation (Yeltsin), 28-04-1997.

Proedrou, Filippou: 'The EU-Russia Energy Approach under the Prism of Inter-dependence'. European Security, Vol. 16, No. 3, pp. 329–355.

'Projections of Fossil Energy Reserves and Supply until 2050 (2100): Implications for Longer-term Energy Supply Security'. Hexagon Series on Human and Environmental Security and Peace, Springer, Berlin, 2009.

[Putin chose human development objectives] (Russ.) 'Путин выбрал человеческие цели'. gazeta.ru, 15-01-2008, available at: <http://www.gazeta.ru/financial/2008/01/15/2558689.shtml>, 16-01-2008.

'Putin has given us a wake-up call: We're vulnerable to blackmail'. The Times online (London), 15-01-2009, available at: http://www.timesonline.co.uk/tol/comment/columnists/rosemary_righter/article5518959.ece, 04-04-2009.

'Putin Says Ukraine-EU Gas Plan Unprofessional'. Global Security, 24-03-2009, available at: <http://www.globalsecurity.org/military/library/news/2009/03/mil-090324-rferl01.htm>, 17-05-2009.

Putin, Vladimir, at the EU-Russia summit press conference in Sochi, 25-05-2006, available at: <http://eng.kremlin.ru/speeches/2006/05/25/2359type82915106123.shtml>, 28-02-2009.

Putin, Vladimir, Statement at the Session of the Security Council of the Russian Federation, 22-12-2005.

Putin, Vladimir: 'Минеральные природные ресурсы в развитии Российской экономики'. (Russ.) [Mineral Natural Resources in the Strategy for Development of the Russian Economy]. Записки Горного Института [Zapiski Gornogo Instituta], Vol. 144, 1999.

Putin, Vladimir: 'Об освоении месторождений газа полуострова Ямал' (Russ.) [On the exploration of the Yamal peninsula gas fields]. Online address, 14-09-2009, available at: <http://www.premier.gov.ru/visits/ru/6133/events/5052/>, 10-10-2009.

Putin, Vladimir: 'Address of the President to the Federal Assembly'. 25-04-2005, retrieved online from www.kremlin.ru/text/appears/2005/04/87049.shtml on 22-07-2006.

'Putin's Economy – Eight Years On'. [russiaprofile.org](http://www.russiaprofile.org/page.php?pageid=Business&articleid=a1187177738), 15-08-2007, available at: <http://www.russiaprofile.org/page.php?pageid=Business&articleid=a1187177738>, 12-10-2007.

[Putin's modernisation] (Russ.) 'Модернизация Путина'. [gazeta.ru](http://www.gazeta.ru/politics/2008/03/18_a_2670903.shtml), 18-03-2008, available at: http://www.gazeta.ru/politics/2008/03/18_a_2670903.shtml, 18-03-2008.

'Putins Weltkonzern in Eisenhüttenstadt'. Süddeutsche Zeitung, 16-4-2007.

Rahr, Alexander: 'Russland gibt Gas. Die Rückkehr einer Weltmacht'. München, 2008.

'Reform of the Russian Gas Sector'. World Bank, 2004, available at: http://194.84.38.65/files/esw_files/Gas_PN_eng.pdf, 16-12-2007.

'Reuters: Russia approves plan to double domestic natural gas prices'. International Herald Tribune, 30-11-2006, available at: <http://www.iht.com/articles/2006/11/30/business/rusgas.php>, 05-05-2008.

'Richtlinie 98/30/EG des Europäischen Parlaments und des Rates vom 22. Juni 1998 betreffend gemeinsame Vorschriften für den Erdgasbinnenmarkt', available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1998:204:0001:0001:DE:PDF>, 05-11-2009.

Riley, Alan: 'Energy Security, Gas Market Liberalisation and our Energy Relationship with Russia'. ESF Working Paper, No. 23, European Security Forum, 2006.

Riley, Alan: 'The coming of the Russian gas deficit'. CEPS Policy Brief, No. 116, Centre for European Policy Studies, 2006.

Robinson, Neil: 'Politics and economic development under Yeltsin and Putin'. Political Studies Association Annual Conference, Manchester, 2009.

'Russen beklagen EU-Energiepolitik'. Financial Times Deutschland, 20-05-2009.

'Russen wollen Alternative zu Druschba-Pipeline'. Tagesschau, 16-01-2007, retrieved on 20-02-2007 from www.tagesschau.de/wirtschaft/meldung67932.html.

[Russia and Turkey agreed on energy cooperation] (Russ.) 'Россия и Турция договорились о сотрудничестве в энергетике'. Kommersant, 06-08-2009, available at: <http://www.kommersant.ru/doc.aspx?DocsID=1216808&ThemesID=185>, 06-08-2009.

'Russia Energy Survey'. International Energy Agency (IEA), 2002, available at: <http://www.iea.org/textbase/nppdf/free/2000/russia2002.pdf>, 03-09-2009.

'Russia gas price liberalization on track'. Reuters, 07-06-2008, available at: <http://www.reuters.com/article/rbssEnergyNews/idUSL073016320080607>, 15-07-2008.

'Russia scraps state caps on associated gas prices'. Reuters, 13-02-2008, available at: <http://uk.reuters.com/article/oilRpt/idUKL1319202120080213>, 13-02-2008.

'Russia to hike gas price for Armenia'. Kommersant, 23-08-2008, available at: http://www.kommersant.com/p-13272/Gas_price_Armenia/, 23-08-2008.

'Russia to raise gas prices for Belarus to USD 128'. RIA Novosti, 21-03-2008, available at: <http://en.rian.ru/russia/20080321/101958337.html>, 22-03-2008.

'Russia would ratify amended Energy Charter Treaty – Kremlin aide'. RIA Novosti, 26-04-2006, available at: <http://en.civilg8.ru/1501.php>, 13-03-2007.

'Russia's gas war'. The Washington Times, 13-01-2009.

'Russia's oil taxation to be reformed'. Russia Today, 23-02-2008, available at: http://www.russiatoday.ru/Business/2008-02-23/Russias_oil_taxation_to_be_reformed.html, 24-02-2008.

'Russian Analytical Digest', No. 41, Forschungsstelle Osteuropa, Bremen, 2008.

'Russian Economic Report'. No. 13–20, The World Bank, 2006–2009.

'Russian gas exports up 5.6 % through November, crude down 7.5 %'. RIA Novosti, 30-12-2008, available at: <http://en.rian.ru/business/20081230/119234746.html>, 01-01-2009.

- 'Russland gibt Gas: Aufstieg vom Partner zum Nulltarif zur Weltmacht'. RIA Novosti, 28-03-2008.
- 'Russland will strategische Industrien schützen'. Frankfurter Allgemeine Zeitung, 29-06-2007.
- 'Russland: Energieeffizienz und Klimaschutz kommen zu kurz'. DIW Report, No. 49, Deutsches Institut für Wirtschaftsforschung, 2007.
- Rutland, Peter: 'Comparative Economics and the Study of the Russian Transition'. In Bönker, Frank, et al. (ed.), op. cit., 2002.
- Rutledge, Ian: 'The Sakhalin II PSA – a Production "Non-Sharing" Agreement. Analysis of Revenue Distribution'. Sheffield Energy & Resources Information Services (SERIS), 2004.
- Ryazanov, Alexander: 'Our goal is a free market'. OAO Gazprom, online article, 12-01-2004, available at: <http://www.gazprom.com/eng/articles/article9576.shtml>, 23-02-2007.
- Sachs, Jeffrey: 'The End of Poverty'. Penguin, New York, 2006.
- Sagen, Eirik Lund and Tsygankova, Marina: 'Russian natural gas export – Will Russian gas price reforms improve the European security of supply?' Energy Policy, Vol. 36, No. 2, 2008, pp. 867–880.
- Sagen, Eirik Lund and Tsygankova, Marina: 'Russian Natural Gas Exports to Europe. Effects of Russian gas market reforms and the rising market power of Gazprom'. Discussion Paper, No. 445, Statistics Norway (Statistisk sentralbyrå), 02/2006.
- Sala-I-Martín, Xavier and Subramanian, Arvind: 'Addressing the Natural Resource Curse: An Illustration from Nigeria'. Economics Working Papers, No. 685, 2003.
- Salukvadze, Khatuna: 'Russia's New Doctrine of Neo-Imperialism'. Central Asia – Caucasus Analyst, Vol. 8 No. 3, pp. 9–10, 2006, available at: <http://www.cacianalyst.org/files/20060208Analyst.pdf>, 02-05-2008.

Salygin, Valeriy: 'Глобальная энергетическая безопасность и внешняя политика России'. (Russ.) [Global energy security and the external energy policy of Russia]. International Institute of Energy Policy at the Moscow State Institute for International Relations (MGIMO), 2007.

Sánchez Andrés, Antonio: 'La dependencia energética europea de Rusia'. *Economía de la Energía*, No. 842, May-June 2008.

Schaeffer, Peter and Mack, Richard: 'The Conceptual Foundations of the New International Division of Labor'. *Journal of Planning Literature*, Vol. 12, No. 1, 1997, pp. 3–15.

Schrettl, Wolfgang: 'Russia's Integration into the World Economy: A European Perspective'. Berliner Osteuropa-Info, No. 20, Osteuropa-Institut der Freien Universität Berlin, 2003.

'Schröder verrubelt seinen Ruf'. Spiegel, 12-12-2005, available at: <http://www.spiegel.de/politik/deutschland/0,1518,389956,00.html>, 03-03-2007.

Schürmann, Heinz Jürgen: 'Energiepolitik: Kröte für Berlin'. Handelsblatt, 12-03-2008.

Seeliger, Andreas: 'Entwicklung des weltweiten Erdgasangebots bis 2030: Eine modellgestützte Prognose der globalen Produktion, des Transports und des internationalen Handels sowie eine Analyse der Bezugskostensituation ausgewählter Importnationen'. EWI Cologne, 2006.

Setyaev, Vassili: 'От союзного нефтяного комплекса к вертикально интегрированным компаниям'. (Russ.) [From the unified oil sector to vertically integrated companies]. Нефтегазовая вертикаль [Neftegazovaya vertikalj], No. 12, 2001, available at: <http://naftowed.narod.ru/oil.htm>, 12-06-2007.

[Shell gets familiar with Vladimir Putin's company] (Russ.) 'Shell освоилась в компании Владимира Путина'. Kommersant, 29-06-2009.

'Shock Therapy in Russia: Was There an Alternative?' Interview with Joseph E. Stiglitz, date not known, available at: http://www.pbs.org/wgbh/commandingheights/shared/minitext/int_josephstiglitz.html#1, 17-04-2009.

'Should Russia raise domestic gas prices?' RIA Novosti, 08-05-2008, available at:
<http://en.rian.ru/analysis/20080508/106906943.html>, 08-05-2008.

Siehl, Elke: 'Privatisierung in Russland'. University of Mannheim, 1997.

Simmons, Daniel and Murray, Isabel: 'Russian gas: Will there be enough investment?' in Pleines et al. (2008), op. cit.

Skinner, Robert and Arnott, Robert: 'EUROGULF: An EU-GCC dialogue for energy stability and sustainability'. Study, 2005, available at: http://Europa.eu.int/comm/energy/index_en.html, 12-10-2007.

Skinner, Robert: 'Strategies for Greater Energy Security and Resource Security'. Oxford Institute for Energy Studies, 2006, available at: http://www.oxfordenergy.org/presentations/BANFF_June_06-1.pdf, 02-05-2008.

Sloterdijk, Peter: 'Unruhe im Kristallpalast'. Cicero, January 2009, pp. 119 ff.

'Soaring energy prices will force six million households into the fuel poverty trap'. The Times online (London), 20-06-2008, available at: http://business.timesonline.co.uk/tol/business/industry_sectors/utilities/article4175568.ece, 22-06-2008.

Solum Whist, Bendik: 'Nord Stream: A solution or challenge for the EU?' in Liuhko, Kari (2009), op. cit., pp. 166–196.

'Sommet UE-Russie: Déficit commercial de 70 milliards d'Euros de l'UE27 avec la Russie en 2008'. Communiqué de presse, No. 74, Eurostat, 2009.

'Sonderbeilage Energie'. Financial Times Deutschland, 22-07-2008.

'South-Stream-Projekt hat keine Konkurrenten'. RIA Novosti, 11-03-2009.

Stern, Jonathan: 'The future of Russian gas and Gazprom'. Oxford Institute for Energy Studies, 2005.

Stern, Jonathan: 'The January 2009 Russia-Ukraine crisis and the imperative of bypass pipelines'. Baltic Rim Economies, No. 1, 27-02-2009.

Stiglitz, Joseph: 'Globalization and its Discontents'. Norton & Company, 2002.

Stiglitz, Joseph: 'More Instruments and Broader Goals: Moving Toward the post-Washington Consensus'. WIDER Annual Lectures, No. 2, United National University/WIDER, 1998.

Stiglitz, Joseph: 'Towards a New Paradigm for Development: Strategies, Policies, and Processes'. Prebisch Lecture, United Nations Conference on Trade and Development (UNCTAD), Geneva, 1998.

Sutela, Pekka: 'Did Putin's Reforms Catapult Russia to Durable Growth?' Bank of Finland, 2005.

Tabata, Shinichiro (ed.): 'Dependent on Oil and Gas: Russia's Integration into the World Economy'. University of Hokkaido, Sapporo, 2006.

Tarr, David and Thomson, Peter: 'The Merits of Dual Pricing of Russian Natural Gas'. The World Bank, 2003.

Tennenbaum, Jonathan: 'The Ishayev Report. An Economic Mobilization Plan for Russia'. Executive Intelligence Review, No. 9, 2001.

The Economist, Issues of 02-07-2009, 16-12-2006.

'The Energy Charter Treaty and Related Documents'. Energy Charter Secretariat, 2004, available at: http://www.encharter.org/fileadmin/user_upload/document/EN.pdf, 20-11-2009.

[The Energy Strategy of the Russian Federation for the period to 2020] (Russ.) 'Энергетическая стратегия России на период до 2020 года'. Ministry of Industry and Energy of the Russian Federation, 2003.

[The Energy Strategy of the Russian Federation for the period to 2030] (Russ.) 'Энергетическая стратегия России на период до 2030 года'. Ministry of Energy of the Russian Federation, 2009.

[The new world map of gas] (Russ.) 'Новая газовая карта мира'. Izvestia, 28-01-2009.

[The pipe will circumvent Russia] (Russ.) 'Труба пройдет в обход России'. Nezavisimaya Gazeta, 29-01-2009.

[The Russian question divided Europe] (Russ.) 'Русский вопрос расколол Европу'. Izvestia, 02-09-2008, available at: <http://www.izvestia.ru/politic/article3120068/>, 02-09-2008.

[The Russian Strategy for National Security until 2020] (Russ.) 'Стратегия национальной безопасности Российской Федерации до 2020 года'. President of Russia, 2009, available at: <http://www.scrfgov.ru/documents/99.html>, 20-08-2009.

'The specifics of Russian poverty'. RIA Novosti, 27-09-2004, available at: <http://en.rian.ru/onlinenews/20040927/39769921.html>, 02-05-2008.

'The Summary of the Energy Strategy of Russia for the Period of up to 2020'. Ministry of Energy of the Russian Federation, 2003.

[The West could again play the "gas card" against Russia] (Russ.) 'Запад снова может разыграть газовою карту против России'. RIA Novosti, 06-01-2009, available at: <http://www.rian.ru/world/20090106/158668874.html>, 06-01-2009.

[Their gas, our Kamaz] (Russ.) 'Их газ, наш Камаз'. gazeta.ru, 24-08-2009, available at: www.gazeta.ru/politics/2009/08/24_a_3239869.shtml, 24-08-2009.

'Thermostatfreie Zone'. Die Welt, 20-02-2006, available at: http://www.welt.de/print-wams/article86700/Thermostatfreie_Zone.html, 23-07-2008.

Tikhomirov, Vladimir: 'The Future of Russia's Economic Growth: De-Coupling from Oil'. 2004, available at: http://src-h.slav.hokudai.ac.jp/coe21/publish/no2_ses/2-2_Vladimir.pdf, 17-05-2007.

Tkachenko, Stanislav: 'Actors in Russia's energy policy towards the EU'. in Aalto, Pami (ed.): 'The EU-Russian Energy Dialogue'. Ashgate, 2007.

Tkachenko, Stanislav: 'Political economy of energy policy of Russian Federation towards USA and European Union'. Paper presented at the ISA panel Russia Energy and Eurasia, San Francisco, 28-03-2008.

Toman, Michael and Bohi, Douglas: 'The economics of energy security: Theory, evidence, policy'. Springer Netherlands, 1996.

Tompson, William: 'Putting Yukos in Perspective'. Post-Soviet Affairs, Vol. 21, No. 2, April-June 2005, pp. 159–181.

'Towards a European Strategy for the Security of Energy Supply'. Green Paper COM (2000) 769, European Commission, 2000, available at: http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=2000&nu_doc=769, 17-03-2007.

Trenin, Dmitri: 'Energy geopolitics in Russia-EU relations'. in Barysch, Katinka (ed.): 'Pipelines, Politics and Power'. Center for European Reform, 2008.

Tsygankova, Marina: 'Netback pricing as a remedy for the Russian gas deficit'. Discussion Paper, No. 554, Statistics Norway (Statistisk sentralbyrå), 2008.

Tsygankova, Marina: 'The Export of Russian Gas to Europe: Breaking Up the Monopoly of Gazprom'. Discussion Paper, No. 494, Statistics Norway (Statistisk sentralbyrå), February 2007.

Tsygankova, Marina: 'When is Mighty Gazprom Good for Russia?' Discussion Paper, No. 526, Statistics Norway (Statistisk sentralbyrå), December 2007.

United Nations Statistics Division, available at: <http://unstats.un.org/unsd/demographic/products/socind/inc-eco.htm>, 14-01-2014.

Vahtra, Peter: 'Energy security in Europe in the aftermath of 2009 Russia-Ukraine gas crisis'. in Liuhto, Kari (2009), op. cit.

Van Agt, Christof: 'Tabula Russia: Escape from the Energy Charter Treaty'. Clingendael International Energy Programme, 2009.

Van der Linde, Coby: 'The art of managing energy security risks'. EIB Papers, Vol. 12, No. 1, European Investment Bank, 2007, available at: http://www.eib.org/attachments/efs/eibpapers/eibpapers_2007_v12_n01/eibpapers_2007_v12_n01_a03_en.pdf, 02-03-2008.

Van der Linde, Coby: 'Energy in a changing world'. CIEP Energy Paper, Clingendael Institute, The Hague, 2006.

Vernon, Raymond: 'Organisational and institutional responses to international risk'. in Herring, Richard (ed.), op. cit., 1983.

- Vernon, Raymond: 'Sovereignty at Bay'. Basic Books, New York, 1971.
- Vinkov, Andrey, et al.: 'Цена бездействия'. (Russ.) [The price of non-action]. Эксперт [Expert], 38 11-17, October 2004, pp. 39 ff., available at: <http://www.expert.ru/printissues/expert/2004/38/38ex-gaidama/>, 05-05-2008.
- 'Vladimir Putin's weapon could easily backfire into a very cold war'. The Times (London), 08-01-2009.
- Waern, Karl Petter: 'European Energy Security and Cooperation: The ECT and its Protocol on Transit'. Law in Transition, Vol. 16, No. 19, 2002.
- 'Warm anziehen, Gazprom kommt'. Financial Times Deutschland, 26-11-2009.
- Weafer, Chris: 'Gas-OPEC – cooperation or confrontation?' Baltic Rim Economies Review, No. 1, 2009, Turku School of Economics.
- Weingast, Barry and Wittman, Donald A. (eds.): 'The Oxford Handbook of political economy'. Oxford University Press, 2006.
- Welfens, Paul: 'Überwindung der Transformationskrise in Russland'. in Welfens, Paul and Ralf Wiegert: 'Russland'. Physica, Heidelberg, 2002.
- 'Welt in Zahlen: Ländervergleich Anteil der Industrie am BIP'. available at: <http://www.welt-in-zahlen.de/laendervergleich.phtml?indicator=67>, 18-12-2008.
- West, Robinson J.: 'The Future of Russian Energy'. The National Interest, No. 80, 2005.
- Westphal, Kirsten: 'Energy in International Relations – Dominance of Politics over Economics?' Working Paper presented at the 45th ISA Annual Convention, Montreal, March 17–20, 2004.
- Westphal, Kirsten: 'Europas Handlungsspielraum'. in Pleines (2008), op. cit., p. 21 ff.
- 'Why Russia refuses to ratify Energy Charter'. RIA Novosti, 07-04-2006.

Wikimedia Commons: File: Nabucco Gas Pipeline-en.svg. available at: http://commons.wikimedia.org/wiki/File:Nabucco_Gas_Pipeline-en.svg?uselang=en, 27-2-2011.

Wiegand, Gunnar: 'EU-Russia Relations at a Crossroads'. *Irish Studies in International Affairs*, Vol. 19, 2008, pp. 9–15.

Williamson, Oliver: 'The Economic Institutions of Capitalism – Firms, Market, Relational Contracting'. Free Press, New York, 1985.

Williamson, Oliver: 'Transaction-Cost Economics: The Governance of Contractual Relations'. *Journal of Law and Economics*, Vol. 22, 1979, pp. 233–260.

Wilson, Andrew: 'Avoiding the next gas crisis'. *Wall Street Journal*, 28-01-2009.

'Wirtschaftsmacht Russland'. *Frankfurter Allgemeine Zeitung*, 28-01-2008.

'World Energy Outlook'. International Energy Agency (IEA), 2006–2009.

Wybrew, John: 'The Security of Future Gas Supplies for the British Market: The Need for Adequate Gas Infrastructure'. in Helm, Dieter (ed.), op. cit., 2002, pp. 199–214.

Yavid-Reviron, Liubou: 'Les relations énergétiques entre l'Union Européenne et la Russie'. L'Harmattan, Paris, 2008.

Yenikeyeff, Shamil: 'The G8 and Russia. Security of supply and security of demand'. Oxford Energy Comment, Oxford Energy Institute, 2006, available at: http://www.oxfordenergy.org/pdfs/comment_0806-1.pdf, 15-09-2008.

Yergin, Daniel: 'Ensuring Energy Security'. *Foreign Affairs*, Vol. 85, 2006.

'Yushchenko aide Bezsmertny: Tymoshenko using gas crisis to advance her political goals'. Kiev Post, 10-01-2009, available at: <http://www.kyivpost.com/nation/32977>, 13-01-2009.

Zaostrovtshev, Andrey: 'Rent extraction in a rent-seeking society'. SPIDER Working Paper Series, St. Petersburg, 2000.

Zhishnin, Stanislav Z.: 'Теоэкономика ресурсного транспорта' (Russ.) [Geo-economics of resource transport]. Centre of Energy Diplomacy and Geopolitics,

Moscow State Institute for International Relations (MGIMO), 11-03-2008,
available at: http://www.ng.ru/energy/2008-03-11/17_geoeconomy.html,
27-11-2008.

'Zwei Pipelines, ein Ziel: Die sichere Gasversorgung'. Frankfurter Allgemeine
Zeitung, 06-10-2009.

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Public debate about energy relations between the EU and Russia is distorted. These distortions present considerable obstacles to the development of true partnership. At the core of the conflict is a struggle for resource rents between energy producing, energy consuming and transit countries.

Supposed secondary aspects, however, are also of great importance. They comprise of geopolitics, market access, economic development and state sovereignty. The European Union, having engaged in energy market liberalisation, faces a widening gap between declining domestic resources and continuously growing energy demand. Diverse interests inside the EU prevent the definition of a coherent and respected energy policy. Russia, for its part, is no longer willing to subsidise its neighbouring economies by cheap energy exports. The Russian government engages in assertive policies pursuing Russian interests. In so far, it opts for a different globalisation approach, refusing the role of mere energy exporter. In view of the intensifying struggle for global resources, Russia, with its large energy potential, appears to be a very favourable option for European energy supplies, if not the best one. However, several outcomes of the strategic game between the two partners can be imagined. Engaging in non-cooperative strategies will in the end leave all stakeholders worse-off. The European Union should therefore concentrate on securing its partnership with Russia instead of damaging it. Stable cooperation would need the acceptance that the partner may pursue his own goals, which might be different from one's own interests. The question is, how can a sustainable compromise be found? This thesis finds that a mix of continued dialogue, a tit for tat approach bolstered by an international institutional framework and increased integration efforts appears as a preferable solution.

