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Analysis

Russian Gas: Will There Be Enough Investment?

By Daniel Simmons and Isabel Murray, International Energy Agency (IEA), Paris

Abstract

In the following piece we outline some of the major challenges facing the gas sector in Russia and focus on where some of the potential upsides are to be found. While we remain concerned about the overall level of investment in Russian upstream and transportation, the potential of the independent gas producers to rise to the challenge seems strong given the right supporting policy measures. The Russian government seems to be moving in the right direction with regard to domestic pricing policy and third party access to the pipeline system, yet reliance on imported gas from Central Asia is likely to increase the risks to security over the medium term. Our concerns on investment need to be seen within the context of our overall concern about global levels of investment, in upstream gas, pipelines and other infrastructure and even in the burgeoning liquefied natural gas (LNG) industry (see the IEA's *Natural Gas Market Review 2007*)

Importance of Russia for Global Gas

Russia holds the largest share of proven gas reserves worldwide, it produces and exports more gas than any other country and is the second largest gas market in the world after North America. Russia also has a very strong export market in Europe where it accounts for almost a quarter of OECD Europe gas needs. It is in Western Europe that pipeline gas from Russia meets competition from Atlantic LNG. Through this interaction, Russian gas production and demand has the potential to affect other markets, such as the US or Japan, indirectly through the global LNG market. Therefore, an appreciation of supply and demand fundamentals in Russia is critical to gaining an understanding of the future of gas markets worldwide.

One state-controlled company, OAO Gazprom, dominates the Russian gas and hydrocarbon sector, accounting for over 60% of Russian reserves and almost 85% of Russian production. Gazprom owns the Russian gas pipeline system, a key part of any country's gas industry, and also has a legal monopoly on gas exports. There are a series of "independent" gas producing companies operating in Russia, which by dint of the above arrangements can only sell in Russian domestic markets where prices are some 15–20% of those in Europe. These companies, along with Russia's oil companies (which produce gas from their own fields as well as associated gas) account for another 20% of Russian gas reserves and produce between 15 and 20% of total production.

Demand for Russian Gas

The calls on Russian gas are many: Russian domestic gas demand, currently accounting for 65% of Russian production (430bcm in 2005) is growing at an

annual rate of 4–6%. This growth is driven by demand for electricity generation (gas provides almost half of Russian power) to support the strong economy, as well as a successful regional gasification program by Gazprom. Meanwhile, existing export customers in Europe are increasingly looking to Russia to replace falling domestic gas supplies while they too see rising gas demand, again from the power sector. Russia is also looking to new markets, such as China, India and North America.

However, before Russian producers can increase supply to customers, be they internal or external, new or old, it must offset declines of between 10 and 20bcm/yr each year in existing fields. In particular, three super-giant fields, responsible for about half of Russian production, are declining fast. So far, Gazprom has managed the situation by a combination of infill drilling – bringing on a series of satellite fields surrounding existing sites – and by exploiting new geological structures in existing fields. The Nadym-Pur-Taz region has been the focus of this activity, and it is hoped that production will continue to at least 2011. Beyond this date Gazprom aims to produce first gas from greenfield regions – the Yamal peninsula, Barents Sea and East Siberia – requiring the resolution of a series of complex technical and practical challenges which are likely to translate into high capital expenditure and potentially long lead times. Gazprom itself has declared that the era of cheap gas is over for the state company.

Russian Gas Reserves, Investment and Production Plans

Russia clearly has sufficient reserves to back up ambitious supply plans; some 26% of global gas reserves

(48tcm) are located in the country, and there are undoubtedly more to be discovered. Gazprom posted an increase in reserves from 29.13tcm to 29.85tcm in 2006, a reserves replacement ratio of 1.06. The sufficiency of reserves in Russia is therefore not an issue although it must be mentioned that many of these reserves are in challenging areas, either on or offshore in the arctic. While the gas is undoubtedly in place, it will be difficult, and hence expensive, to extract.

We are generally concerned about the level of upstream gas investment in resource-holding countries around the world, and see a tight global market for gas into the medium term. In Russia however, the level of concern is amplified because of its crucial importance as the largest player in the world's gas markets.

In meeting the demand for Russian gas, approximately USD 18Bn per year of investment will be needed to ensure that sufficient gas is produced between now and 2030, the majority of which is needed in production assets. As the owner of the Russian pipeline system and developer of the Yamal region, Gazprom will need to spend the vast majority of upstream and almost all pipeline investment. At the most recent board meeting, the directors of Gazprom agreed that the investment budget for 2007 would be USD 29.8 billion, broken down into capital investments of USD 12.8 billion, down USD 1.2 billion from the budget agreed at the beginning of 2007. Meanwhile, the financial part of the 2007 investment budget agreed to in August increased almost 3-fold in comparison to the budget agreed to in January, to USD 17 billion – in order to cover all of Gazprom's acquisitions over the year. While Gazprom increases the financial part of its investment budget to buy up assets of existing production, its capital expenditures fall far short of what seems necessary to ensure sufficient new production. Over the past five years, the growth in Russian gas production has been mostly due to the independent gas producers and Russian oil companies, while Gazprom gas production has grown by less than 1% per year. Furthermore, it is unclear to what extent this growth is a result of Gazprom's acquisition of stakes in other gas producing companies which are then aggregated into its production numbers.

However, the problem may not be one of adequate investment, but inadequate transparency in communicating Gazprom's plans to consumers. While communication issues are a less serious problem than are those of adequacy, such problems may adversely affect the growth of Russian gas export markets as customers start to question future plans. We have been urging Gazprom to publish a greater level of detail with regard to its investments to increase trust between both importer and producer, leading to greater security for

all, both suppliers and consumers. As in the case of investment, we see this against a background of needing improved transparency in many regions of the world.

Import and Export Security

Recent commercial disputes with its neighbors that have cascaded into Western markets have caused many observers to question Russia's ongoing commitment to reliable supply. However, Russia's long history as a reliable supplier of gas to Europe suggests that it is Russia's intention to honor contractual commitments to trade partners in IEA and the EU. Nevertheless, it is clear that more robust commercial terms are needed for many of these contracts if indeed third party security is to be ensured.

The Russian pipeline system as it now stands was conceived in the Soviet era, built on the basis of two sources of natural gas reserves – major fields in West Siberia and the Central Asian states (Turkmenistan, Uzbekistan and Kazakhstan), which then made up part of the Soviet Union. While these Central Asian states are now politically independent of Moscow, the pipeline system ensures that they are still physically linked with regard to gas trade. Annually some 50 bcm of Central Asian gas has been transported through the Gazprom system. Traditionally, Ukraine has been supplied by gas from Turkmenistan. Long term contractual agreements for Russian imports of Turkmen gas (of up to 80 bcm/year from 2009–2029) affect this arrangement – in terms of control and ownership of the gas – and increase Russia's dependence on Central Asian gas to meet its export obligations to the near and far abroad. Furthermore, because they travel through a unified system, domestic and export demand is exposed to some degree of risk from Central Asian states. If Central Asian gas production increases as expected in the Russian energy strategy, then these risks may increase.

Independent Gas Producers

Independent gas producers and major Russian oil companies control about a third of Russian natural gas reserves – on the order of 11 tcm. In 2006, non-Gazprom natural gas production reached 106 bcm, accounting for 16% of the total. The Russian Energy Strategy assumes that the share of such "independent" production out of the total transported by the Gazprom system will increase to 20% (140–150 bcm) by 2020. A review of various projections from the key non-Gazprom gas producing company websites reflects a much more bullish outlook with potential production volumes of over 300 bcm per year possible in the period 2015–2020 if the investment climate is favorable. Key factors which can help to mobilize this

high-potential source of gas production are focused on providing security of off-take at reasonable prices. Currently vast quantities of gas (more than 20 bcm/year) are flared in Russia as the only alternative to the poor economics of sale and hence production.

Russia is seeking a solution to ending gas flaring through ruling it unlawful (i.e., enforcing license terms of 95% use of associated gas by 2011) – but this risks resulting in a dramatic decline in accompanying oil production as seen in other countries which have enforced an outright ban. On the other hand, policy measures, such as improved economic incentives to remunerate gas production, will have the double benefit of reduced flaring and increasing non-associated gas production. There are two areas which would seem to need attention: access to transportation capacity and price.

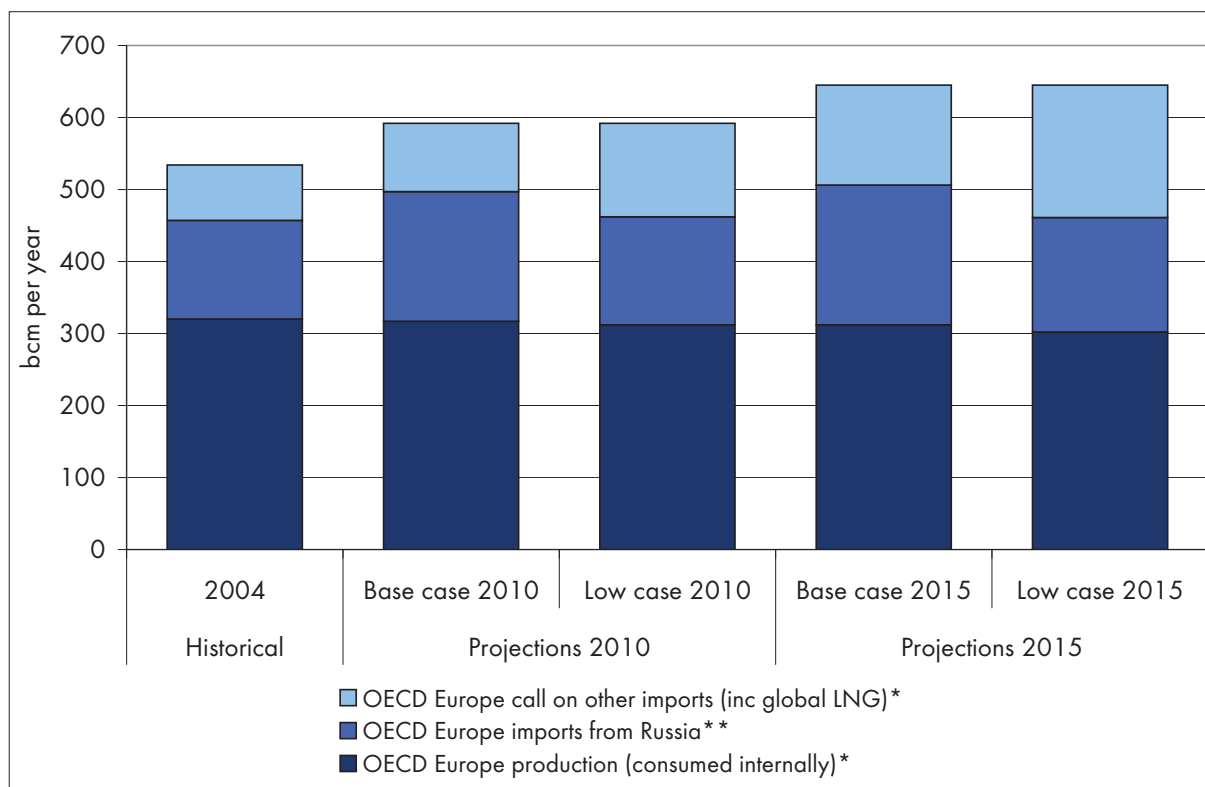
Transportation conditions which may lead to increased independent production include improving the terms of access for independents and specifically,

continuing to improve pipeline regulation to ensure that it is cost reflective. Progress has been made recently in this effort following the formation of a “Gas Market Coordinator” partnership in 2004 between producers and consumers. More work remains to be done, but this seems to be a positive development for independent gas production in the Russian upstream.

Regarding pricing, wellhead prices for independent gas production in Russia will depend heavily on domestic market prices as the “premium” export market seems likely to be controlled by Gazprom. Reform of domestic gas pricing will therefore have a large effect on gas production from independents. It is essential that prices rise to levels where producers can earn revenues in excess of cost after transportation and essential gas processing.

However, even after issues of access to transportation capacity and price are addressed, there will remain myriad challenges facing independent gas producers in Russia. The key seems to be in ensuring that the

Russian Investment Risk Leads to Global LNG Tightness



Source: IEA.

* Information from Supply/Demand section.

** Base case Russian Government Energy Strategy (2003) total projected exports to IEA Europe.

** Low case IEA scenario based on restrained investment.

Note: We have assumed total Russian exports per Russian Government Energy Strategy (2003) less 77 bcm of Russian gas flows to countries other than OECD Europe for all future periods (Russia supplied 77 bcm to these countries in 2005). We assume that Chinese export plans made in 2006 do not form part of this 2003 Energy Strategy.

power of Gazprom as a monopoly buyer/transportation provider is balanced so that independents have confidence that they can sell gas profitably over an extended period.

Domestic Price Reform

Gazprom sells gas in the domestic market at wholesale prices regulated by the Federal Tariff Service. In 2005, Gazprom sold 307 bcm on the domestic market for about USD 13 billion, an average price of USD 1.11/MBtu – roughly a fifth of that paid by OECD countries for gas in the same year. Russian *per capita* consumption of gas is similar to that in Canada, but consumption per unit of GDP is roughly five times higher than IEA countries. Gazprom has argued for years that regulated prices are below replacement cost levels and contract prices to Europe. Despite low prices, Gazprom has ongoing problems in collecting payment from Russian customers – in 2005 it reported a total of USD 2 billion in total unpaid bills.

Annual gas price increases on the order of 25% or more are planned – although elections in early 2008 could slow the pace of these plans. The outlook is for domestic gas prices to about double from current levels to just over USD 2.64/MBtu (USD 100/1,000 m³) in 2010, still only 40% of current European export prices (which may change in the interim). President Putin has stated that he expects Russian domestic gas prices to level off at a rate of 60–70% of European prices given the transportation netback. Domestic prices still have a long way to go after 2010 to match this intended ratio given the differential of nearly USD 5.28/MBtu (USD 200/1,000 m³) based on current prices. Despite the intention to raise prices to “European levels”, it is worth noting that most gas producing countries with which Russia must compete in a number of sectors have very low levels of gas “feedstock” prices. This factor may act to limit the scope for price rises in those sectors.

The establishment of a gas exchange in Russia, where up to 10 bcm is being sold at unregulated prices, 50% by Gazprom and 50% by independent producers, is an important step towards more market-based pricing in Russia’s domestic gas market. Prices on the gas exchange have been as high as USD 2.48/MBtu (USD 94/1,000 m³) compared to regulated gas prices of about USD 1.06/MBtu (USD 40/1,000 m³). As in IEA Europe, we believe that there are considerable benefits to gas exchanges, which allow price transparency according to economic factors. Russia is making progress in improving gas sector regulation for market participants and working on installing a more effective balancing regime. Improvement of modified entry/exit schemes and balancing regimes is an ongoing challenge in many IEA European gas markets.

Conclusion

Russia is the world’s largest gas producer and exporter and the biggest reserve holder. In the current tight market circumstances, it has never been more important to create the correct economic conditions within the Russian gas market. If conditions for independents can be improved, then Russian gas production will surely rise. If policymakers continue to gradually reform gas pricing, then efficiency will improve as companies start to see the positive economics of investing in new plant and equipment.

Nevertheless we remain worried about the overall level of investment in Russia which seems insufficient to guarantee security of supply and hence will affect security of demand. We therefore repeat our call for greater transparency in the sector, particularly with regard to investment in future production. It is clear that there has to be a steep change in Russian gas investment, given the costs and technical challenges for the next big gas provinces.

About the authors:

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Analysis

Power Politics: Electricity Sector Reforms in Post-Soviet Russia

By Susanne Wengle, Berkeley

Abstract

While efforts to exert greater state control over a number of sectors of the Russian economy have made headlines, the government is currently also proceeding with efforts to privatize large parts of the electricity sector. Since the beginning of attempts to liberalize, effective opposition to these measures has changed: while in the 1990s, a variety of actors who reflected public concerns could negotiate the terms of reform, today influence is limited to a narrow elite of powerful insiders. Crucially, since about 2002 electricity sector liberalization has had the backing of President Putin and far-reaching reforms have been implemented. Nevertheless, it remains to be seen who emerges as the new owners of valuable power plants and if the plans to liberalize wholesale prices by 2011 will be realized in a post-Putin era.

“Power Politics” and the Political Economy of Electricity Sector Reform

The Soviet-era state-controlled electricity monopoly “Unified Electricity System” (UES), whose origins lie in Lenin’s initiative to electrify the newly-founded Soviet Union, is currently being broken up and privatized. Russians old enough to remember the Soviet period are aware of the extraordinary economic, political and symbolic importance of the electricity sector. The liberalization and privatization process has been marked from its onset by conflicts over the immensely valuable assets as well as over the future of electricity provision more generally. Struggles over property rights and resources are never simply battles between reformers and resisters, with one side pushing for change and the other blocking it. The stakes are high for a variety of actors: politicians at different levels of government, household and industrial consumers paying their bills and petitioning for subsidies, utilities negotiating their monopoly position in a changing regulatory environment, reformers with visions of more efficiency and lower prices – to name just a few. Multiple and shifting fault lines shape the conflicts over electricity sector reforms.

In what follows, I will sketch changing patterns of the political economy of electricity sector reform. The utility sector provides an interesting lens for understanding the post-Soviet period for several reasons. First, electricity is an important sector in a country with cold winters and energy inefficient industries; the electricity sector crisis and the proposed reforms have held public attention and generated stormy headlines for years. Second, Russia’s ongoing process of utility sector liberalization is at odds with accounts that portray the country as moving “backward” towards more statism. It also contrasts with widely publicized news

in other energy sectors – the “re-nationalization” of Yukos and the ouster of foreign oil companies from key oil and gas fields. An analysis of the patterns of conflict in the electricity sector illustrates that the dynamics of liberalization and privatization in the Russian economy vary across sectors. Finally, “power politics” mirrors some of the larger dynamics of post-Soviet political economy. The effective opposition to reform has narrowed over time and become less representative: in the 1990s Duma deputies, regional governors, regionally-based industrialists and mayors of important cities influenced the trajectory of the sector; today the terms of reform are negotiated among select elites close to the Putin administration.

The Aims of the Reforms: Unbundle, Restructure and Create Markets

The guiding principle of the electricity sector reforms, in Russia and elsewhere, has been to force utilities to operate more efficiently and reduce prices for end users through the introduction of market forces. In order to create markets and competition, electricity sectors are being fundamentally restructured. For much of the 20th century, vertically-integrated state-owned monopolies produced and distributed electricity throughout the world. While the global wave of electricity sector liberalization has taken shape in various ways in different countries beginning in the 1980s, restructuring typically involves undoing the vertically-integrated monopolies, isolating competitive segments from those that are considered natural monopolies. The unbundling of the different parts of the production chain restructures the sector into four segments: generation, transmission, distribution and retail. In generation and retail, reformers hope to introduce competition between independent companies. In transmission and

distribution, non-discriminatory access to grids is to be secured by a strong and independent regulator. The privatization of the generation and retail segments of the sector tends to be a later step in the reforms – although in Russia, privatization of electricity assets started before the restructuring of the sector.

In the Soviet Union, the “Unified Electricity System” was run by the Ministry of Energy and Electricity, a hierarchically-organized bureaucracy directed from Moscow. The current reform process rests on a set of laws that were passed in 2002/2003. Earlier efforts to restructure the sector, starting in 1997, were largely futile. The first important step of the ongoing liberalization was the unbundling of the regional vertically-integrated electricity companies, known as the “Energos” in 2004/2005. Reforms mandate the privatization of the bulk of generation assets by 2008, although the government always planned that hydro-electric generation would remain partly state-owned and nuclear power generation would remain fully state-owned. Prices are in the process of being liberalized, with full liberalization of wholesale prices planned for 2011. Transmission networks will remain state controlled, to be overseen by regulatory institutions that guarantee open and non-discriminatory access to the grid for all generators. Given that Russia had no experience with a privately-owned and marketized electricity sector, legal and regulatory institutions that underpin the sector had to be built from scratch.

The Key Drivers of Structural Change: A Monopoly Orchestrates Its Own Demise

UES itself has been the main driver of the current reforms in Russia. UES and its subsidiaries produce about 70 percent of Russia’s electricity, making it by far the largest electricity producer in Russia. It inherited most of the Soviet-era infrastructure in the sector via a 1992 presidential decree, including most power plants, transmission and distribution networks, and many other related functions – repair and maintenance companies, research institutes, etc. Under the leadership of Anatoly Chubais, a highly skilled, though controversial, politician strongly committed to the introduction of market forces, the monopoly provider UES has been orchestrating its own demise.

While UES has been providing the impetus and many of the blueprints for reform proposals, the Duma, Presidential Administration and two key ministries have also been involved in power sector reforms. Victor Khristenko’s Ministry of Industry and Energy has been charged with the somewhat vague mandate of the “overall oversight of reforms.” German Gref’s Ministry of Economic Development and Trade monitors the macro-economic and social impact of reforms, such as the effect of tariff increases on living standards

and inflation rates. At several points the Duma has played an active role in trying to shape the reform outcome. During the planning phase of the current reforms a Duma commission – led by Tomsk Oblast governor Viktor Kress – worked out a competing program to the UES plans, which involved less radical unbundling and allowed the state to maintain control of more generation assets. Nevertheless, the legislation that led to electricity-sector reforms was ultimately based on plans favored by UES, but the legislation ultimately adopted included hundreds of amendments to the law initially proposed by Chubais.

Without the support of the president, the current reforms would not have been possible. Putin reversed his position on utility reform after coming to office. In early 2000, then Prime Minister Putin sharply criticized Chubais for wanting to hike electricity tariffs and joined efforts to remove him from the chairmanship of UES. By the end of 2002, however, Putin had sided with the reformers and by 2003 signed the legislative package that came to serve as the basis for reform. Since then electricity has been grouped with other infrastructure sectors, such as railways, telecoms and financial services that have been liberalizing over the last few years. The faction of liberal reformers among Putin-era elites, including Gref, Kudrin and Chubais, prevailed over opponents of reforms. They justified the need for reform with the logic that liberalization and privatization are prerequisites to attract capital for infrastructure investment, which in turn they present as a necessary condition to reach Putin’s 2004 growth target of doubling GDP by 2010.

Who Opposes Liberalization? Narrowing Circles of “Relevant” Opponents

Changing coalitions of various social and economic groups have opposed structural changes in the electricity sector. The most threatening opposition to Chubais’ vision of a liberalized electricity market has narrowed over time, and, arguably, become less representative of public opinion. In the 1990s, the most vocal and powerful opponents included Duma deputies, the regional governors and regionally-based industrialists, often the incumbent beneficiaries of the UES empire. In contrast, in recent years the relevant opponents are concentrated closer to the president.

A comparison of the two reforms attempts – one in 1997 that largely failed and one after 2003 that has so far succeeded – reveals how much the actors and the contours of the conflicts in the sector have shifted. UES tried to liberalize and restructure the electricity sector for the first time in 1997. At that time, the fragmentation of bureaucratic authority and the economic crisis inherited from the late 1980s and early 1990s set the context for reforms. The central government

in Moscow was struggling to assert political authority and many regional governors managed to control assets and tariff-setting institutions in the electricity sector in the early and mid-1990s. Governors were keeping electricity tariffs low to subsidize regional industrial elites, gain legitimacy among constituencies and assert their independence from the central government. Subsidy arrangements for industrial users varied across regions, depending, for example, on the dominant industry and its relations with the regional governments. In many regions, UES' reform attempts in the late 1990s were thus unwelcome: the reformist vision of what should happen with the sector – unbundling the regional, vertically-integrated monopoly, creating wholesale markets for electricity and other liberalization measures – threatened the basis of the subsidy arrangement among the troika of regional governors, regional Energos and regional industrialists.

The opponents of reforms thus outnumbered supporters by far. When Chubais took the chairmanship of UES in 1998, a broad coalition of opponents rallied against electricity sector reforms, which included Duma deputies, and influential political actors like Moscow mayor Yuri Luzhkov and Boris Berezovsky, who controlled Russia's most important television network at the time. A coalition of Duma deputies tried to stop UES' plans by removing Chubais: over 60 motions seeking to remove him from the leadership of UES came to a vote between 1998 and 2004 (when the Duma became dominated by United Russia). Communist deputies, opposed to the sale of state property, were joined by other opponents of reforms and those who opposed Chubais personally, such as the Yabloko party.

During the Putin-era centralization of power, the opposition by regional elites, the Energos, the governors and industrialists was broken or co-opted. Since 2004, the Duma has been dominated by United Russia deputies, who have loyally followed the Kremlin's position on infrastructure reforms. The most threatening opponents to Chubais' plans to fully liberalize the electricity sector are now positioned not in the regions or in the legislature, but close to the presidential apparatus. Some key members of the Presidential Administration envisage something like a Gazprom-led energy empire and are not in favor of selling UES' assets to a broader investor base that includes foreign strategic and portfolio investors.

Reforms in the electricity sector are thus still contested, but the fault lines of the conflict are no longer aligned with the opponents and proponents of privatization (although Chubais tends to frame the conflict in this way – calling his opponents supporters of “Goskapitalism”). Instead, the debate centers on the question of whether electricity should be classified

as a “strategic sector,” which would provide a rationale to exclude foreigners and give a larger role to Russian companies, including Gazprom. Gazprom has been trying to buy electricity sector assets. It is not yet clear to what extent the enormously powerful gas monopoly will be able to control the sector. (Gazprom presents itself as a profit-oriented private company, but most observers think of it as basically an arm of the government.) State support for vertically-integrated “national champions” that can compete internationally is clearly on the agenda in a number of other sectors. Electricity, so far, is considered an infrastructure sector, where competition and foreign investment are ultimately needed to support the growth of the Russian economy as a whole. Even if Gazprom can secure assets, unlike previous rounds of privatization, it will probably have to offer a high-enough price to outbid other interested parties. Yet, the classification of utilities as a “non-strategic” industry may be short-lived. Opponents to the involvement of foreign investors have successfully used the argument that electricity *is* strategic to keep the St. Petersburg generation company reserved for Russian investors.

Does public opinion matter for the progress of reforms? Following price increases and frequent electricity black outs in some regions, Russia saw a wave of protests against electricity reforms around 2001. Ordinary Russians are clearly vulnerable to changes in the sector: over half (57%) of the respondents to a recent survey by the Public Opinion Foundation (FOM) said that the increase in utility prices has greatly affected their lives, and about a third (33%) said they will have to adapt spending patterns or find additional income sources. Currently, in the run-up to presidential elections, the government is committed to not letting electricity prices increase too quickly; gradual price increases up to full liberalization in 2011 are planned. A gradual approach is to a large extent motivated by a concern about the inflationary effect of price liberalization, though it is probably also partly the result of fears of a popular backlash against sharp price hikes. It remains to be seen if any of the parties in the Duma will articulate opposition to price hikes in the future. Representation under Putin is in many ways deeply flawed: at a time when opposition to increasing utility prices and the hatred of Chubais and his schemes is at a high, the circle of actors able to shape the reforms in the sector has narrowed to a small group of elites in Moscow.

Prospects for Reforms: Two Open Questions – Who Will Be the New Owners and How Will Price Liberalization Progress?

The structural change in the power sector over the last five years has been substantial: vertically-integrated

regional monopolies have been broken up, generation companies are in the process of being privatized, a wholesale market for power has been created with a non-profit organization that administers trading, and lastly, the regulatory institutions of the electricity sector have been re-organized to deal with the marketization of the sector. Finally, since the culmination of Chubais' plan is the abolition of vertically-integrated monopolies, the UES reform plan seeks to liquidate all UES assets by 2008.

It is highly unlikely that the restructuring of the vertically-integrated monopolies into horizontal holding companies will be reversed. And it is probable that the government stake in generation assets will be significantly reduced, which will mean a *de facto* privatization of generation. This is currently happening through the public issue of equity stakes, which are intended to raise capital for future investments, but simultaneously reduce UES' stake – and therefore state ownership – in generation companies. It is also likely that the share of liberalized transactions and contracts on the wholesale markets will gradually increase over the next few years. It is *not* clear at this point, however, who will be allowed to acquire the shares of generation companies – domestic or foreign, industrial or energy interests – and how much competition will be created.

About the author:

Susanne Wengle is a Ph.D. candidate in the Department of Political Science at the University of California, Berkeley.

Suggested readings:

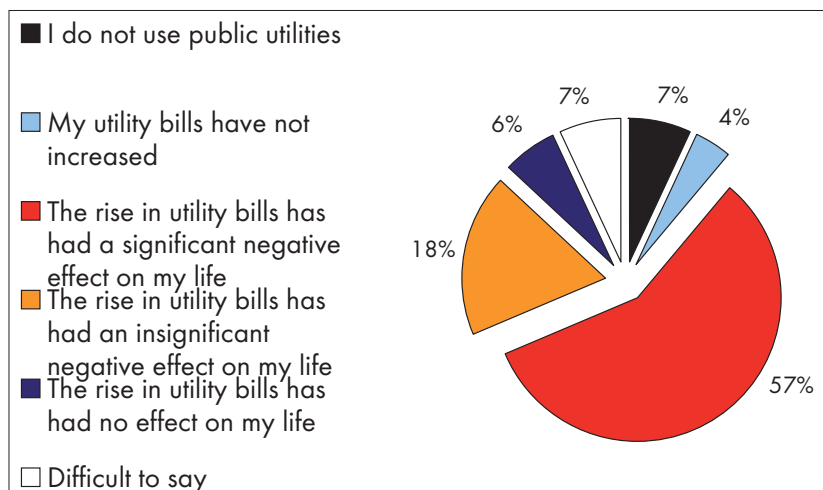
- Peter Rutland, "Power Struggle: Reforming the Electricity Industry," *The Dynamics of Russian Politics II*. Peter Reddaway and Robert Ortung (eds.), Rowman and Littlefield, 2005.
- William Tompson, *Restructuring Russia's Electricity Sector: Towards Effective Competition or Faux Liberalization*. OECD Economics Department Working Paper No. 403. Paris, OECD, 2004.
- Public Opinion research on utility reforms, see <http://www.fom.ru/>.

Nor is it clear if the government will stick to its current commitment to fully liberalize wholesale electricity markets by 2011.

Conclusion: Who Determines the Price of Power in the Future?

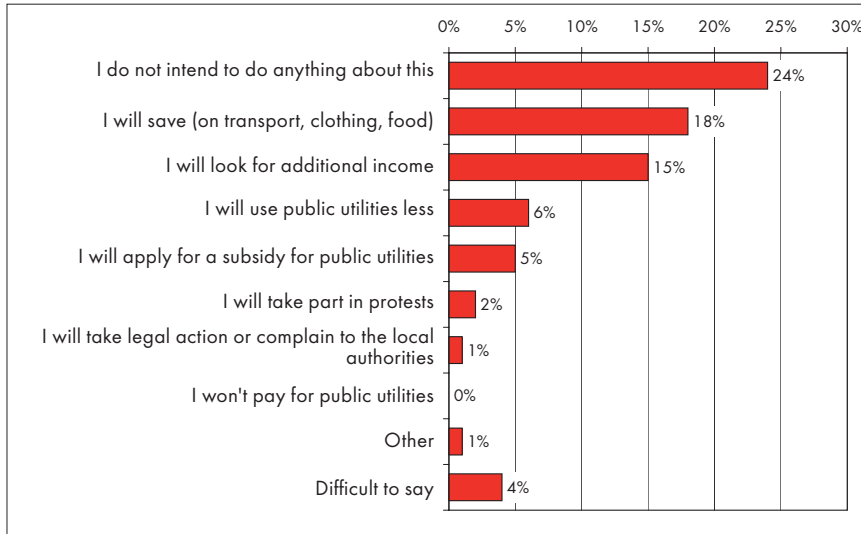
What does this analysis of the electricity sector tell us about the overall direction of reforms in the Russian economy? The circle of relevant opponents to liberalization has changed over time; more precisely, it has narrowed and arguably become less representative. In the 90s, actors who could shape reform policies included Duma deputies, regional governors and regional industrialists. Today, struggles about reform outcomes are mostly fought out among elite actors who either favor state control in the energy sectors or believe that market mechanisms can make energy production more efficient. The question of how the price of power will be determined in the future – by markets, technocrats, politicians or industrial consumers – remains open. It is clear, however, that the outcome of the current large-scale change in the sector will crucially affect the cost of living and the cost of producing and will thus be reflected in some way in every Russian's life.

“Have Your Utility Bills For 2006 Grown Compared To 2005? If So, Has The Rise in Utility Prices Had a Significant Or an Insignificant Negative Effect On Your Life?”



Source: FOM opinion survey conducted on December 16–17 2006, http://bd.fom.ru/report/map/projects/dominant/dominan2006/dom0650/domt0650_1/d065010

“What Do You Intend To Do About the Rise in Utility Prices?” (Only Those Who Answered that the Rise in Utility Prices Has Had a Significant Negative Effect On Their Lives)



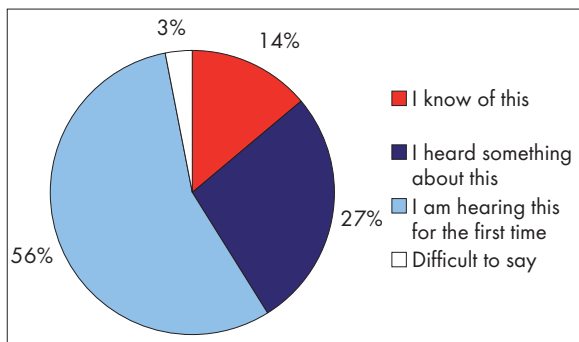
Source: FOM opinion survey conducted on December 16–17 2006, http://bd.fom.ru/report/map/projects/dominant/dominan2006/dom0650/domi0650_1/d065010

Opinion Survey

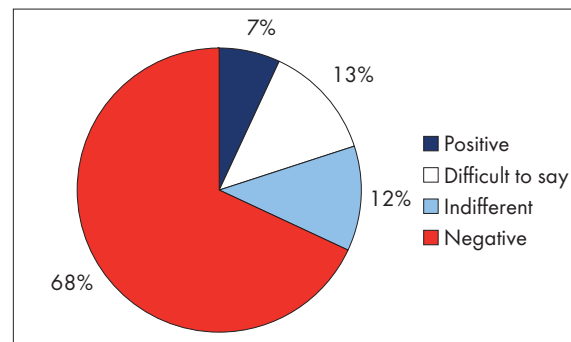
Russian Attitudes towards the Privatization of UES

Source: FOM opinion survey conducted on June 30 – July 1 2007, <http://bd.fom.ru/report/map/d072727>

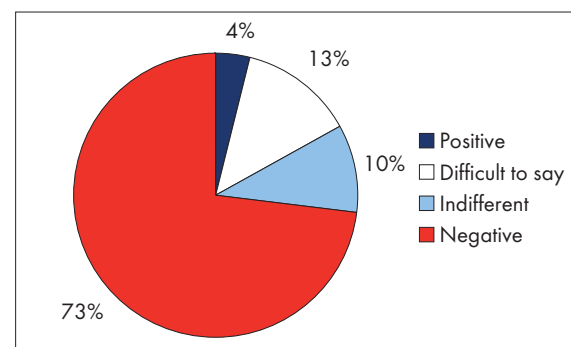
UES is the Largest Russian Company Generating and Transmitting Electricity. Do You Know, Have You Heard, or Are You Hearing for the First Time that the Government is Planning to Reform UES?



UES is a System of Electric Power Stations, Transmission Grids, Distribution Networks and Dispatching Organizations. As Part of the Reforms it is Planned to Transfer Electric Power Stations to Independent Producers and Private Companies. What is Your Attitude towards this – Positive, Indifferent or Negative?



The Proposed Reform of UES will allow the Transfer of Electric Power Stations to Foreign Private Companies. What is Your Attitude towards this – Positive, Indifferent or Negative?



Analysis

The Russian Oil Industry between Foreign Investment and Domestic Interests

By Julia Kuszniir and Heiko Pleines, Bremen

Abstract

As the world's second biggest oil producer, Russia has profited hugely from high world market prices for oil. In contrast to the gas industry, the Russian oil industry was privatized in the 1990s and the domestic market for oil and oil products was liberalized. Foreign investors were allowed to play an important role in the development of the industry. However, at present the Russian leadership is aiming to increase state control over oil production and to focus on the development of the domestic market. This strategy may hamper efficiency.

Oil Production and Exports

Though Russia holds only 7 percent of worldwide proven oil reserves, the country has in recent years been the world's second largest oil producer, ranking between Saudi Arabia and the USA. Russia's oil production is likely to rise until the end of this decade. However, for the following decade many forecasts are pessimistic. They see four main risks to production growth. First, known, accessible reserves are limited. Undiscovered oil reserves may be large, but their exploitation will be difficult due to their remote location and unfavorable geological conditions. Second, investment in exploration and production has declined in recent years. Third, onerous windfall profit taxes block rising world market prices from stimulating Russian oil production. Fourth, state ownership in the oil industry has been growing in recent years. Combined with restrictions on foreign investment, expanded state intervention poses a serious risk to efficiency.

Oil exports also face major challenges. Nearly two thirds of Russia's oil exports go to the EU. However, the Russian government seeks a diversity of customers as a clear long-term aim. According to its energy strategy, exports to Europe will grow, but at a much slower pace than exports to Southeast Asia and North America. As a result, according to the targets, Europe's share in Russian oil exports will decrease to about 50 percent by 2020, while the proportion sent to America and Asia will rise from 3 percent to about 30 percent. This different geographical focus implies not only a considerable rise in production, but also the realization of ambitious pipeline projects. Because of constraints on the existing export pipeline infrastructure, Russian exporters are forced to export over 50 million tons of oil per year via more costly railroads and internal waterways. Using these forms of transportation increases costs by \$5 to \$7 per barrel.

The Domestic Market

Domestic prices for oil and oil products were liberalized in 1992 and, according to Russian legislation, they are not subject to regulation by the state. Therefore, the state has only indirect influence on prices. However, this indirect influence is considerable. First, the state owns some production companies and the operators of the oil and oil products pipelines. As a result, it can directly determine the price policy of some market players. Second, a large part of the prices of oil and oil products consists of taxes, which are also directly set by the state. Third, export tariffs for oil and oil products set by the state have a direct influence on the attractiveness of supplies to foreign vs. domestic markets. Fourth, the state can pressure the oil companies to lower their prices either formally through anti-monopoly investigations or informally through round table talks with leading managers to impose a temporary moratorium on prices increases.

Domestic prices for oil and oil products are set in a highly monopolistic environment. The privatization of the oil industry in the first half of the 1990s was based on regionally-concentrated, vertically-integrated oil companies. As a result, there are wholesale monopolists in many regions, which in turn determine retail prices, although independent retail traders have emerged in most regions. As the oil companies often collude with regional authorities, their dominant market position is often protected by regional administrations. According to an estimate by the Russian Anti-Monopoly Commission, the market for oil products is either monopolistic or oligopolistic in about two thirds of Russian regions.

Nevertheless an analysis by the Cambridge Energy Research Associates came to the following conclusions: "(1) domestic wholesale prices for refined products are not excessive, but generally in line with export parity

levels (although gasoline is priced at a premium due to the tightness of the balance for high-octane material); and (2) there is no evidence of monopoly rents in retail prices even in highly monopolized regions where a single company might control 75–85 percent of sales. We believe that the major factor causing the substantial increase in product prices within Russia is the upward pull exerted by international price trends. It also appears that the wide gap noticed between retail and wholesale prices in Russia can be largely attributed to the relatively high transport costs of moving products over Russia's vast geographical space from a relatively small number of refineries rather than monopoly rents per se."

Oil Refining

In the 1990s, Russia's major vertically-integrated oil companies focused on the upstream business, deriving most of their profits from crude exports. The domestic market for oil and oil products was unattractive due to low prices and the inability of many customers to pay for the oil they consumed. In addition, high export tariffs for oil products (meant to secure supplies for the domestic market) and tax levels rising in line with refining depths, discouraged investment in refining.

Outdated refining capacity was shut down rather than modernized. In the last ten years the aggregate capacity of Russian refineries dropped by nearly a fifth. The remaining refining capacity is still in need of modernization. As a result of under-investment, the average depth of refining in Russia does not exceed 73 percent, and output of light oil products is estimated at 55 percent (rates in the OECD are about 90 percent and 75 percent respectively). Only five Russian refineries have a refining depth of more than 80 percent.

However, the outlook for Russian refining is brightening fast. Demand for refined products is rising domestically and internationally, while at the same time margins for high-quality products from Russian refineries are rising faster than those for low-quality products.

Domestic demand is rising rapidly due to increased consumer spending. The dynamic growth in car sales has led to growing demand for gasoline. Although gasoline use per car is expected to fall, the Russian Ministry of Industry and Energy forecasts overall demand for gasoline to rise by a third by 2015. Since 1998 retail gasoline prices have risen much faster than average consumer prices, thus improving sales margins. The industry's limited capacity to produce high-octane gasoline for cars has led to a pricing premium in the domestic market for gasoline.

At the same time, refining margins have been rising worldwide, driven by a global move towards cleaner fuels. As utilization rates have risen, the long-distance

trade in refined products has become an important aspect of the business, increasing the international demand for Russian exports of oil products. As a result, the average capacity utilization at Russian refineries has risen from about 65 percent in 2000 to about 80 percent in 2005, not too far below the average worldwide rate of 86 percent.

The Russian government has adjusted taxes and export tariffs to favor domestic oil refining. Since export tariffs were changed in 2005 to make exports of refined products more attractive than crude exports, exports of oil products have soared, rising above 100 million metric tons (mmt) in 2006 and generating revenues of \$44 billion. In addition, tax levels are no longer rising in line with refining depths. Accordingly profit margins for high quality products have become higher, thus encouraging investment in new production technology.

State Control over Strategically Important Sectors of the Economy

As the oil industry is one of Russia's most important and most profitable businesses, it has attracted considerable foreign investment. As a result Russia's oil and gas production accounts for about a third of total foreign investment in the country. In addition, oil refining contributes another 7 percent. The biggest foreign direct investors in the oil industry so far are the participants in the major Sakhalin production sharing agreement (PSA) projects (Sakhalin I and II), concluded in 1996, and British Petroleum, which merged its Russian activities with the Tyumen Oil Company (TNK) in 2003. Additionally, ConocoPhillips has entered the Russian oil industry through portfolio investments and now holds 20 percent of Lukoil. For an overview of foreign investment in the Russian oil industry, see Table 1 on page 15.

However, fears of a sellout to foreigners in strategic parts of the economy have always been a part of Russian political debates and often strike a chord with Russian voters. The population strongly opposes any foreign involvement in strategic sectors of the economy and in the energy sector, in particular. Experts from the state sector, such as high-ranking bureaucrats from the relevant ministries and members of respective parliamentary commissions, are more open to foreign investment in general. But a majority of them speak out against foreign investment in the oil and gas industry (see Graph 1 on page 14).

However, in the 1990s Russia did not pursue a consistent policy towards strategic sectors. On the one hand, this policy was part of a political struggle between liberal-minded reformers in the government and the communist/nationalist factions in parliament. On the other hand, the treatment of strategically im-

portant companies was often improvised according to specific urgent needs, including financial ones.

The present economic boom has now made Russia under President Putin much more self-confident. State policies currently seek to increase state control in strategic sectors of the economy mainly through ownership of big enterprises in these sectors, which are then united into a state holding company. Through this state holding company the state can then control the respective economic branch and influence its development directly. State representatives to company boards are state employees either from the responsible ministry or, in the case of chairpeople, sometimes with a secret service background.

What is not yet clear, and subject to controversial debate in Russia as well as internationally, is the way through which the state wants to acquire additional stakes in enterprises it considers to be of strategic importance and the extent to which the state wants to concentrate ownership in the respective sectors of the economy.

As far as the ways to increase state control are concerned, the Russian state has used both civilized and uncivilized methods. While the former clearly prevail across the economy as a whole, the latter have received much greater publicity, particularly because of their application in the energy industry. In most cases the state does not directly acquire ownership, but rather acts through state-owned companies like Gazprom or Rosneft.

The civilized method of increasing control over strategic sectors of the economy is to unite all state shares into one holding company and to let this holding buy additional stakes at market prices, as happened in the case of Sibneft. In addition, ownership by outside (and especially foreign) shareholders is restricted by legal means.

The uncivilized method of increasing state control over strategically important enterprises is based on manipulated allegations of legal wrongdoings (especially concerning tax, safety and environmental regulations), which lead to pressure in the form of bad publicity, office searches and the confiscation of company documents, frozen bank accounts, hefty fines and the arrest of senior managers. This strategy is above all associ-

ated with the Yukos case. In addition, the Sakhalin II consortium was put under pressure in order to sell a stake to Gazprom.

In summary, it seems that the state wants to increase its share in the oil industry considerably and rapidly, and therefore uses uncivilized measures, whereas in other branches of the economy deemed strategically important, the state has used more civilized methods, such as creating a “national champion,” which will then be able to compete successfully with foreign investors in the longer run.

The second important question is how much control the state wants to get over these strategic sectors. This question has two aspects. First, how many enterprises can continue to operate without state ownership and second, what will the role of private investors be in state-controlled companies? At present the state does not seem to have a clear answer to these questions. As a result, plans for different branches change rather rapidly, while conflicting concepts are being developed by different state agencies. State acquisitions of strategic enterprises often look improvised. A consistent framework may only emerge after the election period of 2007/08.

Conclusion

It should be noted, that in oil production the state's share still stands below 50 percent, as Graph 2 on page 14 indicates (though it may increase further if Surgutneftegaz is sold as persistent rumors have it). At the same time, shares of the state-owned Rosneft company have been issued through an IPO. Gazprom, the major gas company which now has acquired assets in oil production, is only 51 percent state-owned. This situation seems to indicate that, on the one hand, the state wants majority ownership in the major oil companies, but, on the other hand, loyal (majority Russian-owned) companies can continue to operate without the state as a shareholder and foreign investors can be active as (friendly) minority owners. However, the government's present ideas about corporate governance suggest that the performance of Russian state-owned companies may serve to supply arguments in favor of private ownership.

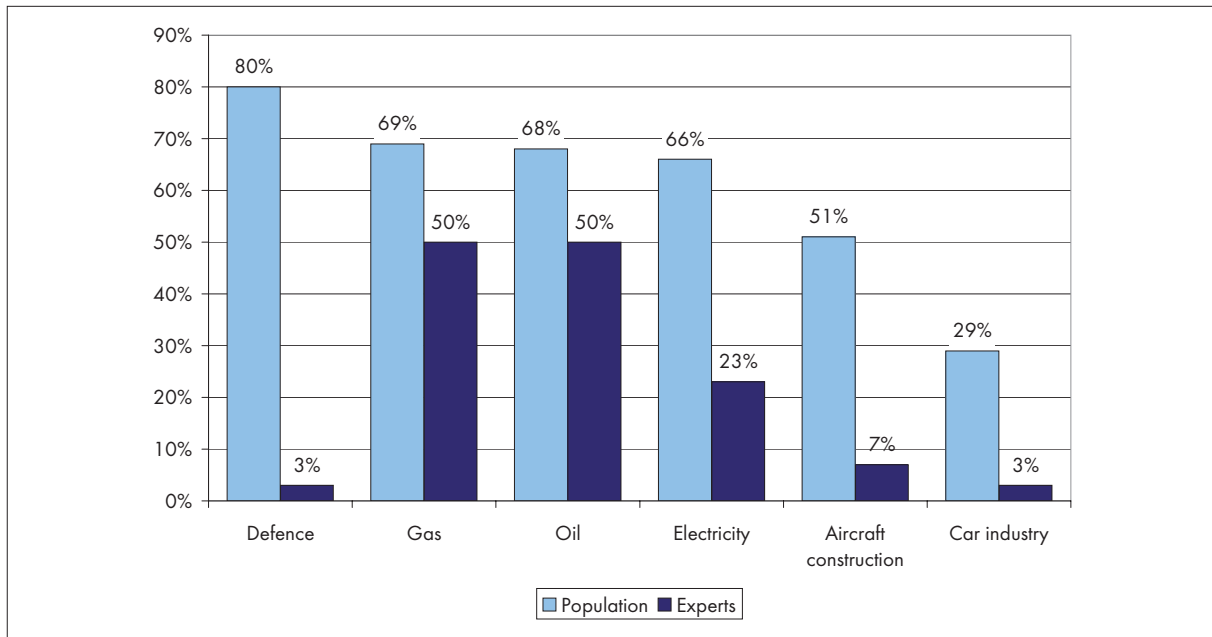
About the authors:

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Tables and Graphs

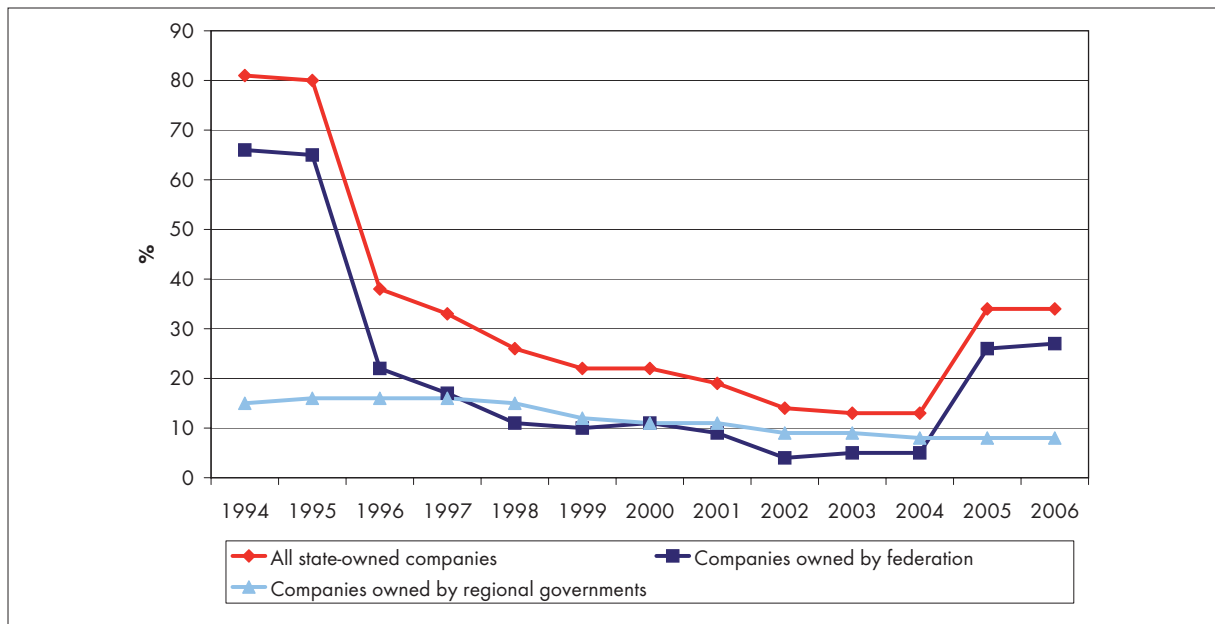
FDI and State Ownership in the Oil and Gas Industry

Graph 1: There should be no foreign investment in this sector of the economy!
 (Representative poll of the Russian population and expert poll of state actors, 2005 and 2006)



Source: Russian polling institute VTsIOM

Graph 2: State's share in oil production 1994 – 2006
 (% of total oil production)



Source: own calculation based on company data

Table 1: Major foreign investments in Russia's oil industry 1992–2006

Year	Foreign investor and Russian partners	Foreign investment	Value
1992	Conoco (USA) - joint venture with Lukoil (Russia) 2003: + Rosneft (Russia)	50% stake in "Polar Lights" (exploration of Ardalinski Oilfield, Komi and Archangelsk regions)	80 mn USD
1992	BASF/Wintershall AG (Germany) – joint venture with Lukoil (Russia)	50% stake in Volgodeminoil (oil production in the Volgograd region)	na
1995	ARCO (USA) – portfolio investment	8% stake in Lukoil – sold back to Lukoil in 2001	250 mn USD
1995	TotalElfina (France) + Norsk Hydro (Norway) + Lukoil (Russia) + Nenets Oil Company (Russia)	Kharyaga PSA (oil production in the Nenets Autonomous Region)	2.5 bn USD over 33 years
1996	ExxonMobil (USA) + Sodeco (Japan) + Rosneft (Russia) 2001: + ONGC (India) – see below	Sakhalin I PSA (offshore oil production in the Sakhalin region)	15 bn USD over 33 years
1996	McDermott (Canada) until 1997 + Marathon Oil (USA) until 2000 + Mitsubishi (Japan) + Mitsui (Japan) + Shell (UK) 2006: + Gazprom (Russia)	Sakhalin II PSA (offshore oil production in the Sakhalin region)	10 bn USD over 25 years
1996	Royal Dutch/ Shell (Netherlands/UK) - joint venture with OAO NK Evikhon (Russia), now a subsidiary of UK-based Sibir Energy plc	50% stake in Salym Petroleum Development N.V. (development of the Salym group of oilfields in Western Siberia)	Shell approved a budget of more than 1 bn USD
1997	British Petroleum (UK) – portfolio investment	10% stake in Sidanko	571mn USD
2001	ONGC (India)	20% stake in Sakhalin I (see 1996)	225 mn USD
2003	BP (UK) – merger	50% stake in TNK-BP	6.75 bn USD
2003	BASF/Wintershall AG (Germany)	70% stake in Megatron NVK (offshore exploration in Dagestan)	na
2004	ConocoPhillips (USA) – portfolio investment	7.6% stake in Lukoil	1.98 bn USD
2005	ConocoPhillips (USA) – portfolio investment	8.5% stake in Lukoil	na
2005	ConocoPhillips (USA) – joint venture with Lukoil (Russia)	30% stake in Naryanmarneftegaz (development of parts of the Timan- Pechora Field, Komi and Archangelsk regions)	529 mn USD
2006	ConocoPhillips (USA) – portfolio investment	3.9% stake in Lukoil	na

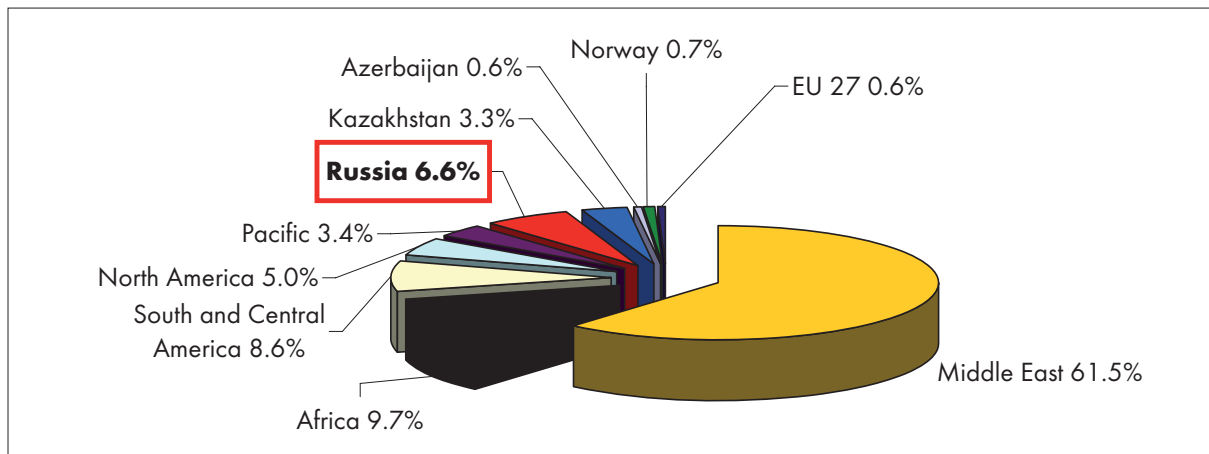
Source: Research Centre for East European Studies, Bremen

Statistics

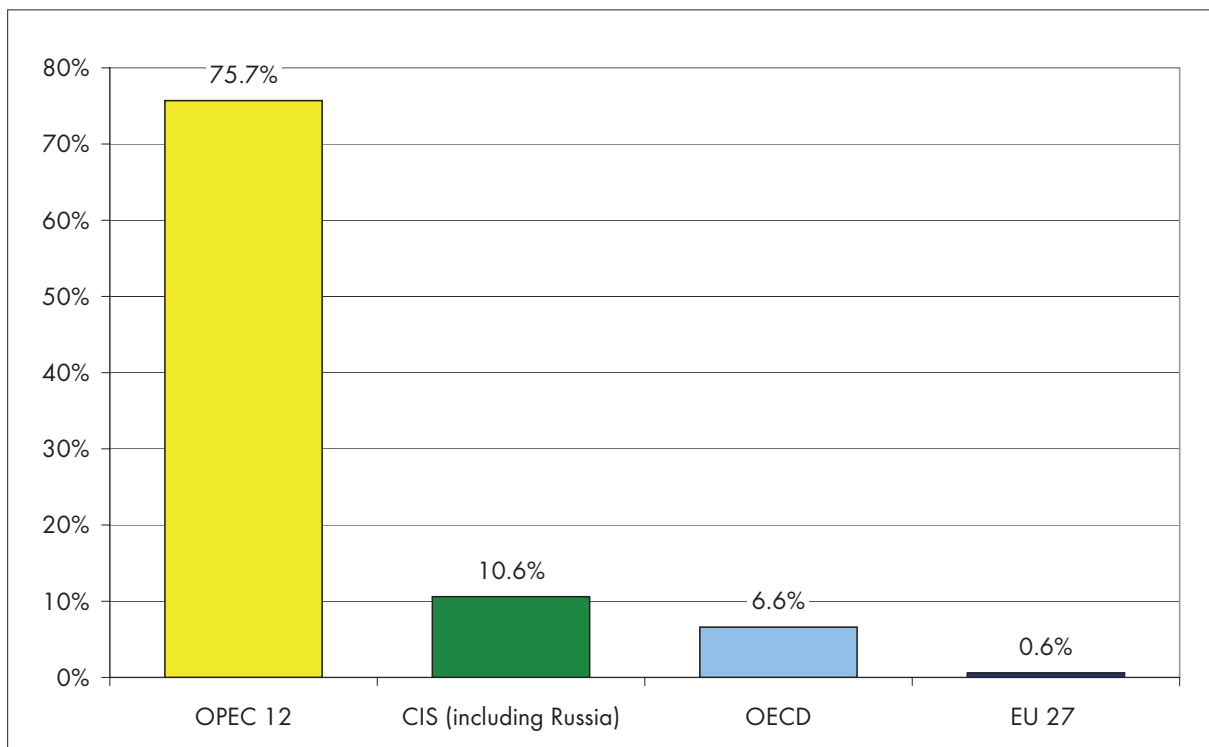
Russia's Oil and Gas Industry in an International Context

Source: BP Statistical Review of World Energy June 2007, <http://www.bp.com/statisticalreview>

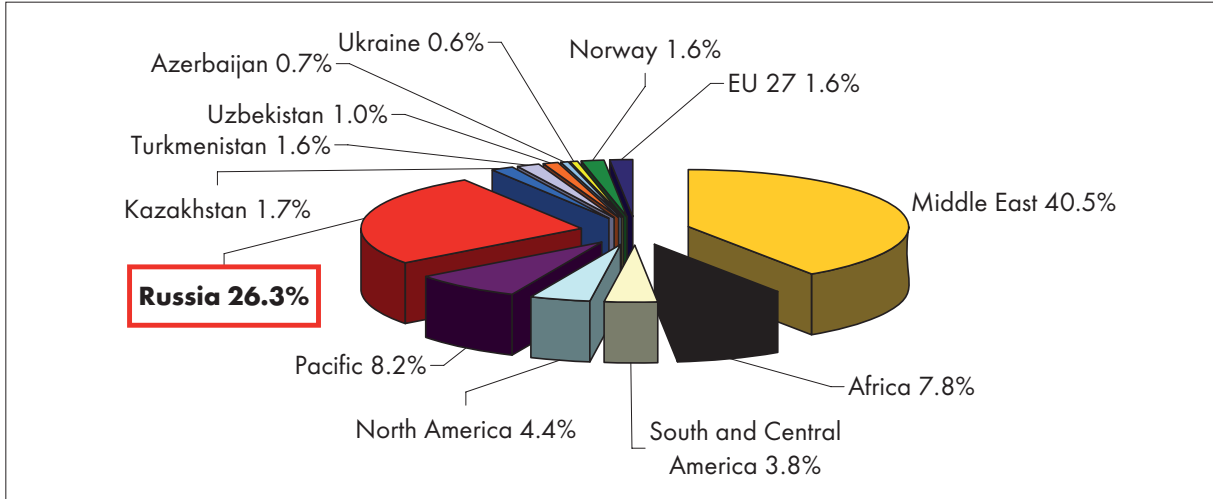
Graph 1: Distribution of Worldwide Proven Oil Reserves (End of 2006)



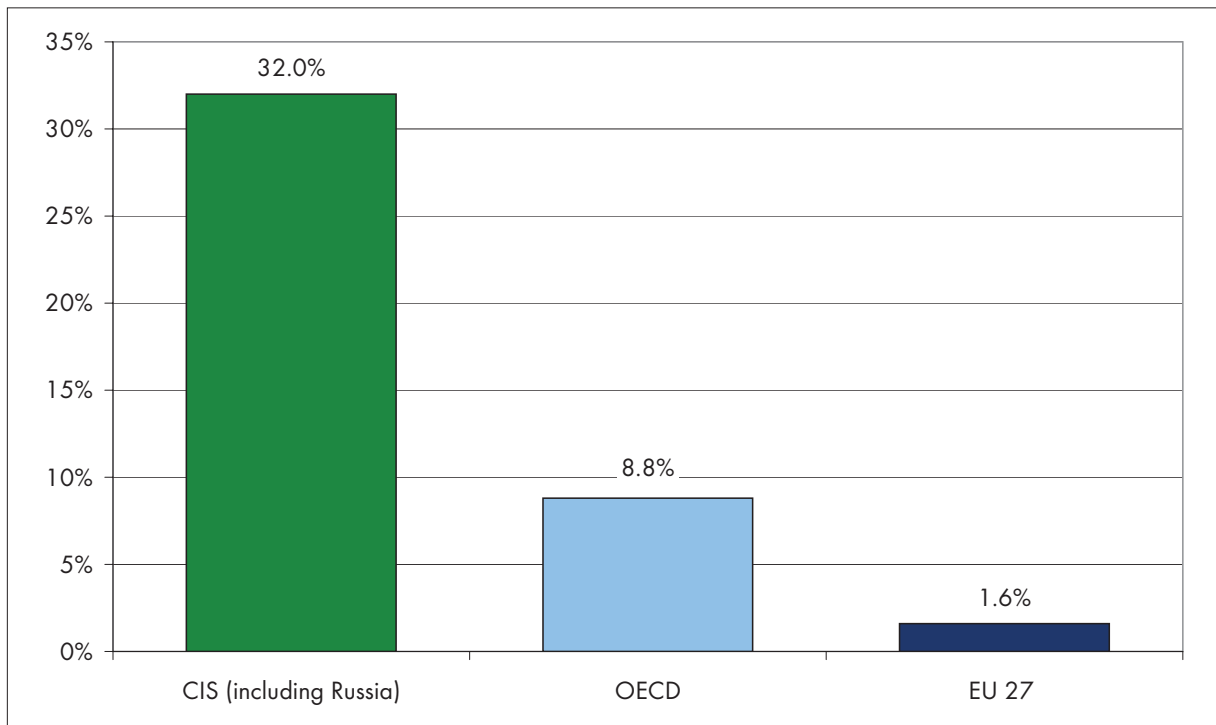
Graph 2: Distribution of Worldwide Proven Oil Reserves (End of 2006)



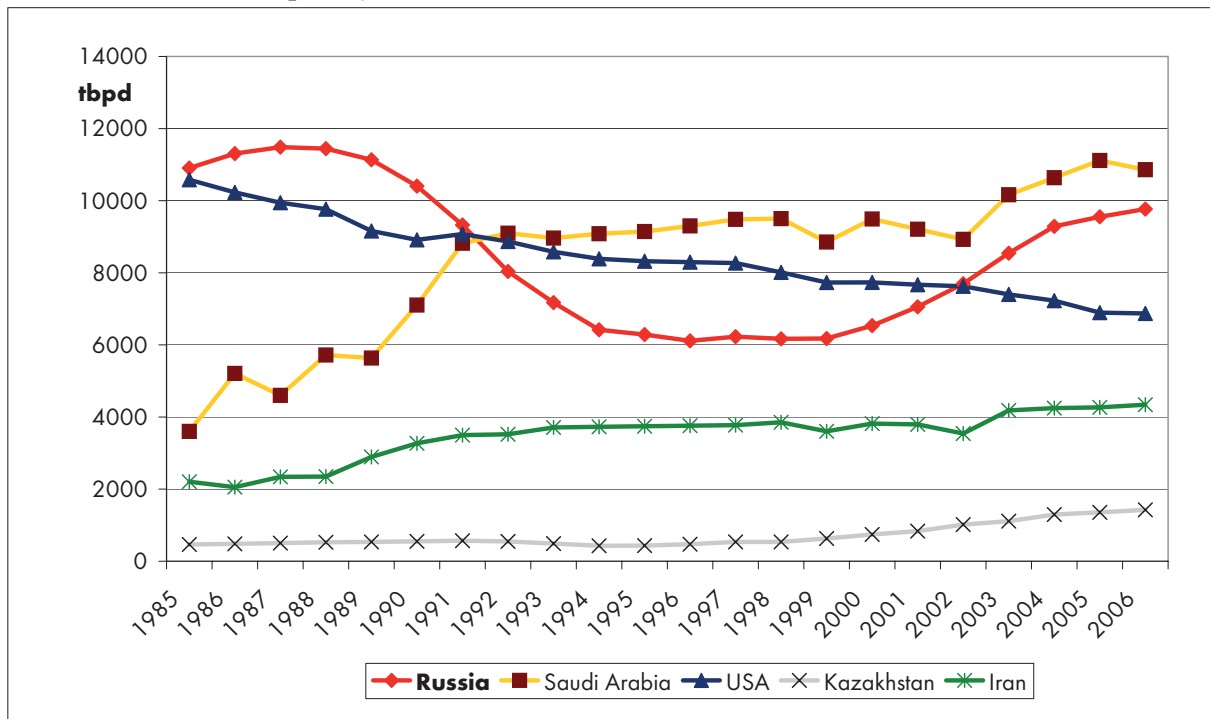
Graph 3: Distribution of Worldwide Proven Gas Reserves (End of 2006)



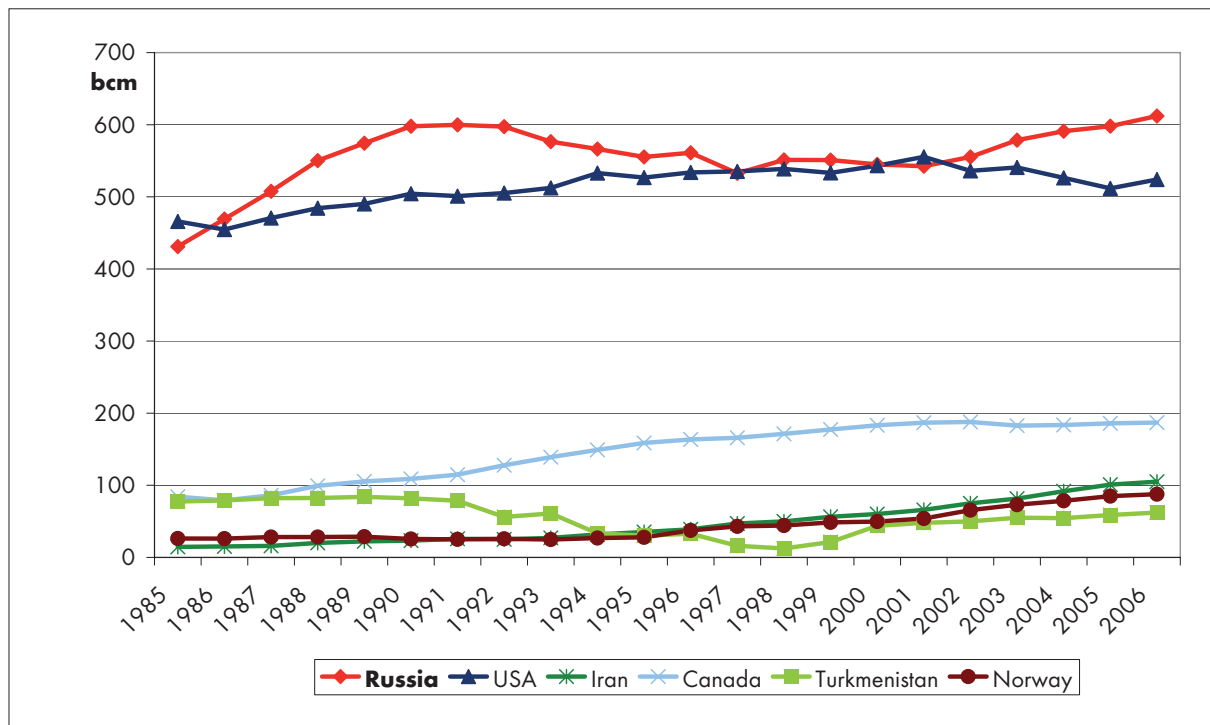
Graph 4: Distribution of Worldwide Proven Gas Reserves (End of 2006)



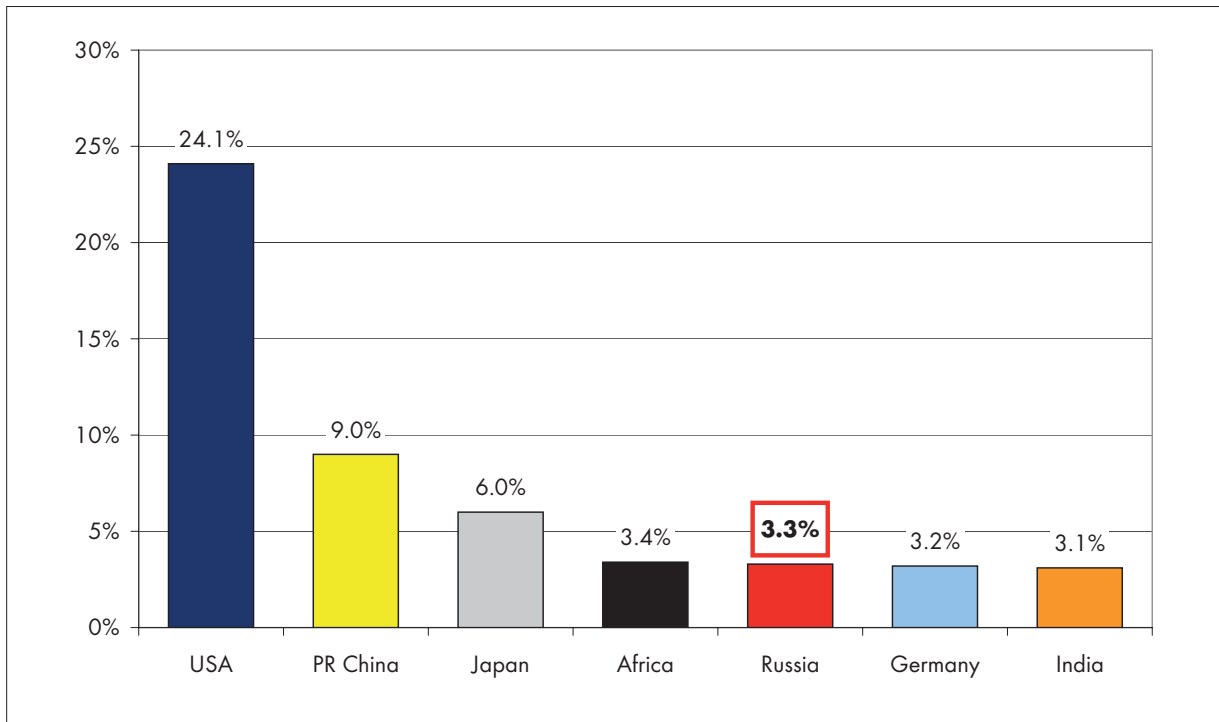
Graph 5: Russia's Oil Production in an International Context 1985–2006
(in thousands of barrels per day)



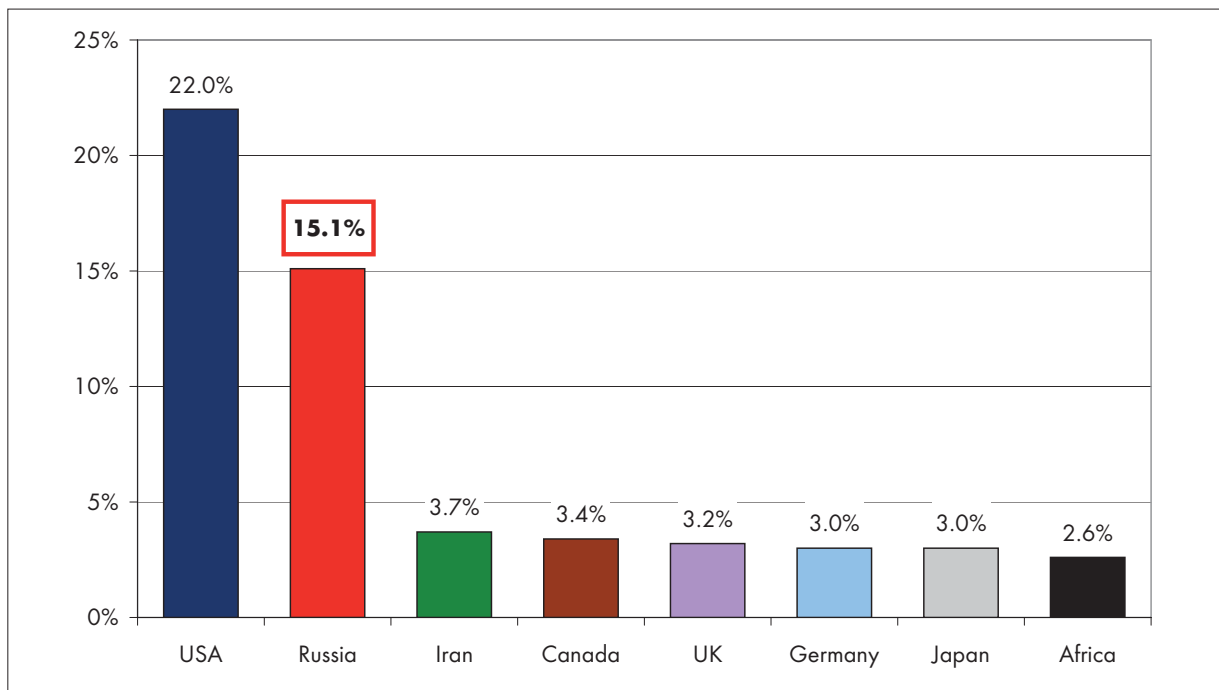
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(in billions of cubic meters)



Graph 7: Share of Worldwide Consumption of Oil 2006



Graph 8: Share of Worldwide Consumption of Gas 2006



About the Russian Analytical Digest

The Russian Analytical Digest is a bi-weekly internet publication jointly produced by the Research Centre for East European Studies [Forschungsstelle Osteuropa] at the University of Bremen (www.forschungsstelle-osteuropa.de) and the Center for Security Studies (CSS) at the Swiss Federal Institute of Technology Zurich (ETH Zurich). It is supported by the Otto Wolff Foundation and the German Association for East European Studies (DGO). The Digest draws on contributions to the German-language *Russlandanalysen* (www.russlandanalysen.de), the CSS analytical network on Russia and Eurasia (www.res.ethz.ch), and the Russian Regional Report. The Russian Analytical Digest covers political, economic, and social developments in Russia and its regions, and looks at Russia's role in international relations.

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The Research Centre possesses a unique collection of alternative culture and independent writings from the former socialist countries in its archive. In addition to extensive individual research on dissidence and society in socialist societies, since January 2007 a group of international research institutes is participating in a collaborative project on the theme "The other Eastern Europe – the 1960s to the 1980s, dissidence in politics and society, alternatives in culture. Contributions to comparative contemporary history", which is funded by the Volkswagen Foundation.

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