

Chapter Twelve

Towards a New Balance with Russia? Russian Energy Challenges and the West

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Russia is the biggest hydrocarbon producer and exporter in the world. In 2010 combined Russian oil and gas production was above the U.S. level by 15%, Russian exports exceeded those of Saudi Arabia by more than 50%. At the same time Russian fixed capital costs are high, and the demand situation is relatively bad in global comparison. The western Siberian and Arctic regions belong to the worst production sites of the planet from a climatic, geographic and infrastructural point of view. In the 1980s construction costs were four to eight times higher in western Siberia than in temperate Russian locations; labor costs were two to seven times higher, and infrastructure development costs were sometimes ten times higher.¹ Moreover, western Siberia is halfway between Berlin and Tokyo, and all across this distance both oil and gas have to be transported by pipelines. According to some estimates 70% of all investment costs in the gas industry were spent on transportation during the 1980s, and these numbers seem to be close to current proportions.² During the intensive phase of development of these regions, every four to five weeks a pipeline network equal in length to the Alaskan pipeline was laid down.³ Due to pipeline con-

¹ For a good overview of the climatic determinants: Victor L. Mote, "Environmental Constraints to the Economic Development of Siberia," in: R. G. Jensen; T. Shabad; A. W. Wright eds., *Soviet Natural Resources in the World Economy* (Chicago, London: University of Chicago Press, 1983), pp. 15-72.

² Thane Gustafson, *Crisis amid Plenty—The Politics of Soviet Energy under Brezhnev and Gorbachev* (New Jersey: Princeton University Press 1989), p. 149. Gazprom puts the high-pressure transportation network at 50% of its basic gas branch value. Gazprom Annual Report—2010, Available at <http://gazprom.ru/f/posts/42/228071/gazprom-annual-report-2010-rus.pdf> p. 57.

³ Mote, op cit., p. 38.

nections, export options are locked in at the initial stage of development. Russia shares not only the global producer risks, but its exports exclusively depend on European, and in some cases on some national, market developments.

The factors determining Russian energy policy to a large extent, especially in its external aspects, are:

- (1) Russia is a high fixed capital cost conventional oil and gas producer.
- (2) Demand security considerations prevail in Russian energy thinking.

These two features make Russian energy production vulnerable. The paradox is that despite all these handicaps, Russia could still become by far the largest global energy exporter. According to classical economic theory, low-cost areas with better marketing opportunities and higher profits should take a bigger share of the market and increase their drilling faster, than high-cost producers. Russian exports have been showing the opposite in the past two decades. This also means that Russian production prospects are becoming dependent not only on domestic policies and the industrial technological progress, but also on existing patterns of the global marketplace. This study tries to explore Russian energy policy efforts to tackle these risks and decrease their potential impacts.

A Dual Export Strategy—Gas and Oil

Russia has a peculiar external energy strategy, as it exports both gas and oil to foreign markets on a large scale. Most producers in a similar situation focus only on oil, since it is more transportable and has an energy density four times bigger than gas. Russia is not fully an exemption from this general rule: crude oil and oil product export revenues reached \$206.2 billion, while Russia earned only \$47.7 billion from gas exports in 2010.⁴ However, natural gas still has a remarkable share, and according to the Russian Energy Strategy, it is definitely

⁴ Source: Russian Central Bank, Available at <http://www.cbr.ru/eng/statistics/?PrId=svs>. Traditionally these data slightly differs from those of the Custom Service.

gas exports that should grow by roughly 40% in the next 20 years.⁵ Russia has a dual export strategy.

Accordingly, gas and oil markets will be separated in the following sections. They differ both technologically, institutionally, with respect to global market patterns and Russian regulation and internal situation. The main differences can be summarized as follows:

(1) Oil demand is more inelastic mainly due to the lack of substitute fuels in transportation. More than 60% of oil consumption comes from the transportation sector. Further efficiency gains and potential substitutions in chemical and electricity sectors are scarce. This results in higher price volatility, consequently a bigger potential for cartelization than in gas sector. Developing export strategies for oil is an easier task than for gas. The situation may change only by breaking oil's monopoly in the transportation sector. Understandably Gazprom officials are eagerly looking for such a technological switch.⁶

(2) The oil market has a global price setting mechanism in the form of OPEC, whereas the gas market has not. Even though the oil market is a more convenient place for price setting, gas markets have been globalizing rapidly mainly due to the rise of LNG trade. This also opens up a certain potential for institutionalization of global producer cooperation, and some early attempts in the form of GECF (Gas Exporting Countries Forum) can be observed. Russia traditionally pursues a free-rider policy towards OPEC: contacts are rather cautious and have not reached a strategic level. Production cuts were supported by Russia only sporadically and rather rhetorically, if at all. However, since Russia has become a major exporter during the last couple of years, its dependence and interest in global oil price levels has increased significantly. It can be stated, that the immanent Russian

⁵ The Strategy envisages stagnating crude oil exports (not providing a numerical estimate for oil product exports), while gas exports prognosed to grow from 243 bcm in 2008 to the range of 349-368 bcm in 2030. Source: Energy Strategy of Russia for the period up to 2030. Available at http://www.energystrategy.ru/projects/docs/ES-2030_%28Eng%29.pdf p. 136.

⁶ Apart from smaller vehicles, like automobiles that can be fuelled both by electricity or CNG, there is a German-Russian pioneer project to put heavy truck traffic on LNG in Europe. Interview with Sergey Komlev, Gazprom, Head of Contract Structuring and Price Formation Department, Moscow, November 24, 2010.

reliance on OPEC has grown and the cartel's policy is not a neutral issue in Moscow anymore. But free-riding is not an option in the gas markets yet. There is no cushion against recession and Russia has to adjust both its production and pricing to market dynamics.

The 2008-2009 economic crisis clearly demonstrated different impacts on Russian oil and gas exports. In the oil market Russia did not have to join the OPEC production cut and could increase both its crude oil and product exports. Accordingly exporters suffered only the consequences of the price collapse in 2008-2009, cushioned by the OPEC and even could slightly offset its impacts by increasing sales. In the gas sector Gazprom faced both the reduction of its exports prices, and also a 15% decrease in its export volumes in 2009. While Russian oil export revenues dropped by 14% between 2008 and 2010, Gazprom suffered a 31% drop in the same period and recovery seems to be more sluggish.⁷ The reason for the difference between the two outcomes is that the oil market has a price-setting mechanism and Russia enjoys its benefits without the commitments. On the gas market there is no global price-setting mechanism and Russia has to suffer all the consequences of a recession. Supporting cartelization and being a member of it is somewhere between the two strategies.

(3) Russia has a resource bottleneck in the oil production, while gas reserves are abundant. Even though Russia has the biggest proved conventional oil reserves outside OPEC, and according to a 1998 U.S. Geological Survey the biggest undiscovered reservoir,⁸ due to its high production level and vast area where these fields are located, reserve replacement remains a problem. Reserves in particular regions and their quality put a constraint on future developments, questioning the mid-term sustainability of current levels and future increases. Unlike oil, the abundance of natural gas deposits offer a high number of different development paths for producers. Gazprom alone has half a dozen gas fields with the size of each equal to Europe's biggest forma-

⁷ Even if these numbers are not fully comparable because of the different pricing in the two sectors. Source: Gazprom in numbers 2006-2010, Available at <http://gazprom.ru/f/posts/42/228071/gazprom-reference-figures-2006-2010-rus.pdf>.

⁸ Referenced by John D. Grace, *Russian Oil Supply—Performance and Prospects* (Oxford: Oxford Institute for Energy Studies, 2005), p. 182.

tion, the Groningen field.⁹ Having one quarter of global reserves, gas output can be increased if corporate ambitions are present and market conditions allow.

(4) The two industries have different market and policy patterns in Russia itself. Oil industry has an oligopolistic structure and a solid export orientation. There is a consensus at the corporate and governmental level that oil exports are crucial for Russian welfare and exports should have the priority. Unlike oil, 70% of gas production goes for domestic consumption, covering more than half of Russia's primary energy demand. Cheap gas is a major social benefit for the population and an important subvention for a high number of influential lobbies in the processing sector. The relationship is further complicated, because prices and market mechanisms do not play a decisive role in balancing between domestic consumption and exports. It is the interplay of many corporate and governmental actors that shape the regulation and determine the form and scale of cross-subsidies between the two. Theoretically, given the large reserves, Gazprom could separate the two segments and pursue an export policy independent from domestic considerations. But Gazprom's export monopoly has been questioned by many other lobbies, and the company cannot be sure about the future distribution of its export revenues. Thus, prospects for gas exports are surrounded not only by domestic supply tasks, but also by internal policy and political uncertainties.

Despite these differences, there is at least one major factor identical in the two industries: exports are much more profitable than domestic sales. Only export rents are divided differently. The government takes much of the export revenues in the oil industry, while gas exports have a lower export custom and royalty level combined with much lower domestic prices. However, on the macroeconomic level the rationale of directing limited financial and political resources to exports is indisputable. All the rest is an internal Russian divide. The question is how to increase exports further, without increasing external vulnerability stemming from high fixed costs and high demand dependency. There are three possible ways to do so:

⁹ Johnathan P. Stern, *The Future of Russian Gas and Gazprom* (Oxford: Oxford Institute for Energy Studies, 2005), p. 9.

1. Diversification of risks at the level of transit, export destinations and, in the case of oil, at the level of products (rebalancing crude and oil product exports).
2. Increasing energy efficiency domestically, thus decreasing development needs and average capital costs.
3. Establishing corporate and/or industrial synergies in foreign markets in order to decrease demand risks. This may mean acquiring downstream assets in export markets, letting foreign companies into the Russian industry or strengthening price setting mechanisms and cooperation with other producers.

The current Russian external energy policy combines all these potential solutions. It would be difficult to pick one and qualify it as a priority for Moscow. There is no final engagement and it is not sure that there will be any in the upcoming years. The following sections offer an overview and evaluate these policies, respectively, on the oil and the gas markets.

Has Russia Becoming a “Normal” Oil Producer?

Most of the challenges of Russian external oil policy are to be found in Russia itself. Due to the substantial call from global, primarily Far Eastern markets and the existence of OPEC, effectively capable to cushion oil demand and price collapses, the mid-term external environment seems to be favoring even high-price exporters like Russia. Moscow and Russian companies can set export targets relatively freely, both for crude oil and oil products. Russia efficiently used the emerging sellers' market of the 2000s: its incremental production covered half of global market growth between 2000 and 2010.¹⁰ The basis of this export offensive was primarily the expansion of the export infrastructure and the refurbishment of already existing fields and, to a lesser extent, some selected new field developments in western Siberia, such as Priobskoye or Vankor (the latter formally located in Eastern Siberia, but connected to the western Siberian infrastructure).

¹⁰Increasing its share in global production from 8.7% to 12.5%.

Maintaining a production level beyond 10 million bpd is extremely difficult, especially with Russian capital costs and a reserves-to-production ratio of 20.6. Much of the production increase has happened between 1999 and 2006, since then output has been growing at a much lower rate. The only published production target is in the 2009 Energy Strategy, which does not foresee further export increases; only domestic consumption is expected to grow in the range from 0.8 to 1.5 million bpd until 2030.¹¹ Accordingly, Russia appears to be unwilling to further increase its exports. On the basis of past underestimations, this target has to be taken with certain caution. At the same time Moscow will need increased efforts to sustain or even increase its production. It is telling that Moscow has launched a series of tax reforms in the last couple of years in order to overcome potential constraints at investments into production capacities. Since 2008 there has been a shift towards a more pin-point taxation policy with differentiated levels, benefiting new, mainly eastern Siberian, off-shore deposits and smaller fields.¹²

All these shifts in taxation could provide huge additions. James Henderson has examined company data and has projected 1.5 million bpd of incremental supply from eastern Siberia by 2020.¹³ More focus on smaller and less extractable deposits may contribute to production levels even more in the future. Having a mature, even declining reserve base with infrastructure on the spot, turning to formerly ignored smaller deposits and strengthening post-mature production strategies is almost a must if Russia wants to level off its oil revenues. However, corporate structure, philosophy and governmental taxation have not been fully adjusted to these tasks. It is very likely that new additions will be sufficient to flatten the production until 2015, but it is unclear where the incremental supplies will come from in the second half of the decade.¹⁴ The current measures will have to provide their benefits until then.

¹¹Energy Strategy of Russia for the period up to 2030, p. 135.

¹²S. Sinelnikov-Murilyev; A. Radigin; N. Glavackaya eds., *Rossiyskaya ekonomika v 2010 godu. Tendencii i perspektivi* (Moscow: Institut Gaidara, 2011), pp. 267–285.

¹³James Henderson, *The Strategic Implications of Russia's Eastern Oil Resources* (Oxford: Oxford Institute for Energy Studies, 2010), p. 66.

¹⁴Russia may have huge reserves in the Arctic off-shore regions, but since these fields are unexplored and are at the edge of technical capabilities, they cannot contribute until 2020–2025 to the overall production level.

At the same time, Transneft's (the Russian oil pipeline monopoly's) export pipeline capacity expansion shows a slightly different picture. According to its current plans, total Russian export pipeline capacity is going to be raised by 3.3 million bpd until 2015.¹⁵ This capacity is unlikely to be fully utilized, even if Caspian Pipeline Consortium expansion is meant for increasing primarily Central Asian crude oil transit to Russian Black Sea ports, and not for Russian exports itself. Thus, Transneft will be able to allocate idle transport capacity for the first time since the Soviet split-up. It is reasonable to think that shipments will be diverted from inconvenient and expensive trade routes to new pipelines. This may negatively affect the Druzhba-pipeline and the Black Sea terminals.¹⁶ The high-level of idle capacity also suggests that construction of new crude oil export pipelines is extremely unlikely even after 2015, but some small-scale additions towards the Pacific or China are possible.

Another factor that can influence crude oil exports is oil product consumption and exports. The Russian government consciously supports increases in higher value added oil product exports, while companies do so with less enthusiasm. The volume of total oil product exports more than doubled from 1.26 million bpd in 2000 to 2.67 million bpd in 2010.¹⁷ The basic problem is that much of this increase came from low-standard oil products (primarily fuel oil).¹⁸ Apart from taxation, which was adjusted recently in order to further promote exports, three factors may limit further increases: (1) the booming domestic demand of lighter products due to motorization; (2) structural problems in refining; (3) the low capacity of the export infrastructure, primarily that of product pipelines.

¹⁵Capacities under construction or investment decision taken. Source: Transneft, available at <http://transneft.ru/projects/119/>.

¹⁶Even if decrease in Druzhba exports may cause some problems in Central Europe, regional refineries have alternative supply options. *Study on the Technical Aspects of Variable Use of Oil Pipelines—Coming into the EU from Third Countries*, Available at http://ec.europa.eu/energy/oil/studies/doc/2010_reporting_technical_aspects.pdf.

¹⁷Source: Russian Central Bank, Available at http://www.cbr.ru/eng/statistics/print.aspx?file=credit_statistics/oil_products_e.htm.

¹⁸In 2008 52 percent of total oil product exports, almost 1 million bpd, was fuel oil. V.V. Busuev; A. M. Mastepanov; A.I. Gromov eds., *Toplivno-energeticheskiy kompleks Rossii: 2000–2008 gg.* (Moscow: Institut Energeticheskoy Strategii, Energiya, 2009) p. 168.

Domestic demand due to fast motorization is the major driver in the modernization of refining. Between 1995 and 2009 the number of cars grew from 14.2 million to 33.1 million,¹⁹ the majority of which were Western-produced. This trend may continue in coming years: the current car per capita ratio is less than half of that in Hungary and less than one fifth of that in the U.S. At the same time fuel oil consumption has fallen by more than half in a decade, due to changing electricity generation and heating patterns. These latter volumes have been redirected to exports, because domestic refining was inadequate to process it. Accordingly, the low depth of refining (around 70% on average) is a major bottleneck.

The modernization of the refinery sector is the basic efficiency reserve that the Russian oil industry currently has, and probably the most reasonable growth path in coming years. Better utilization of fuel oil may help to meet growing domestic gasoline demand and provide incremental diesel yields for exports. This may ease the need for further investments on the supply side and help to maintain current export levels. However, the question remains open whether oil companies will have the financial resources to maintain production levels and increase refinery complexity simultaneously. Despite government efforts and tax preferences, companies must allocate significantly more capital than before to invest into both upstream and mid-stream. Due to low refinery margins worldwide, companies will need further stimulus than just abundance of fuel oil and cheap domestic gas prices to opt for comprehensive refinery modernization.

All in all, the Russian oil industry has been completing two decades of post-Soviet transformation. During these 20 years oil exports from Russia have increased in volume, became more diversified in terms of destination and more direct in terms of transit. In the next few years they may become even more diverse in terms of export products. Russia has managed to redirect its production capacities to foreign markets, has switched domestic electricity and heating systems from oil to other fuels, and has adjusted its export infrastructure to the new realities. Through these fulfilled tasks, much of the transformative and efficiency agenda seems to be exhausted. Russia has become a “normal

¹⁹Source: Russian Statistical Office, available at <http://www.gks.ru/wps/wcm/connect/rosstat/rosstatsite.eng/figures/transport/>.

producer” whose exports performance depends overwhelmingly on investments in new production. Since these gains are more expensive and challenging, Russia has turned greater attention to another, more complex export market, namely that of natural gas.

Who Needs Russian Gas?

Unlike the oil industry, the Russian gas industry has not transformed itself into a full-fledged export industry. The bulk of production is for domestic use; Gazprom exports almost exclusively to European countries (including Turkey and western CIS states) and still tries to manage its dependence on some transit countries. But the basic difference from oil exports is that prospects on external gas markets are much less clear and promising. Until 2008 Gazprom has had a relatively favorable situation, based on the combination of depleting reserves in Europe, global climate policies usually favoring gas consumption, and solid economic growth in its main markets. Since then, the U.S. gas shale revolution and its potential spillover to other regions overshadow global prospects. Relative stagnation and the bleak economic outlook in western Europe limit potential electricity consumption growth. In such an environment, LNG suppliers may pose a longer-term competitive constraint on the market than expected. Far Eastern, primarily Chinese, exports depend on some policy decisions in specific capitals. While some years ago Gazprom had a solid strategy with an exclusive focus on future export growth, these plans have to be at least reconsidered in the light of the new realities.

Who needs more Russian gas and under what conditions? Before the crisis Gazprom had a highly ambitious production target for 2020. Instead of 580-590 bcm as stated in the Energy Strategy, the government instructed Gazprom to raise output to 670 bcm by 2020.²⁰ This target was calculated on the basis of a growing domestic and European demand, with the launch of Far Eastern exports and Gazprom entering the LNG market. It is almost certain that most of these assumptions have been washed away by the economic crisis and the

²⁰Alexander Ananenkov, the senior manager in charge of production at Gazprom set Gazprom's maximal potential output capacity at 900 bcm/year in 2007 (in 2007 it was 548.6 bcm). Available at <http://gazprom.ru/press/conference/2007/1406/>.

new realities. Gazprom's sales did not reach 508.6 bcm in 2010, more than a 9% drop in comparison with the peak output in 2006. The monopoly has significantly changed its 2009 investment plans and there is no sign of returning to its propositions. Gazprom has drastically decreased its imports from Turkmenistan since 2009, without any agreement on a potential renewal of increased supplies.²¹ The economic crisis appears to be a major milestone in Gazprom's strategy. Thus, it is very important to look at Gazprom plans prior to 2008 with some caution.

At the same time Gazprom has eased its production and transportation bottleneck by entering the Yamal-Peninsula and constructing the Nord Stream pipeline. According to Russian reserve classification the region has 16 trillion cubic meters of proved and probable gas deposits. By 2015 Gazprom would like to produce 115 bcm in the first phase of the Bovanenko-field. This was a necessity if Gazprom wanted to balance its production. However, once these reserves have been tapped, they enhance a relatively flexible production policy for the monopoly. In the coming years it will have an easy access to other Yamal fields if needed, or can boost production by developing smaller deposits in the old Western Siberian regions. Gazprom will have both the infrastructure and the production base to increase exports easily and swiftly. Gazprom has a number of options to form its "future supply roadmap,"²² and one of the main variables remains its exports to external markets. Given the large investments into infrastructure and the possibility of increasing export volumes, there is a permanent temptation to increase sales at the export markets, even if by concessions on contractual terms.

²¹The sharp decrease in Central Asian imports (around 40 bcm in 2010) very much challenges the credibility of South Stream with its previously announced capacity of 63 bcm. Even with Azeri and Southern Russia supplies it would be difficult to free enough gas in the region for South Stream and Blue Stream. Gazprom should bring more gas from Western Siberia to this roundabout way, an unusual option even for the gas monopoly. Maybe it is no accident that statements on future South Stream capacity have been rather scarce since 2008.

²²Jonathan Stern, *Future Gas Production in Russia: Is the Concern about Lack of Investment Justified?* (Oxford: Oxford Institute for Energy Studies, 2009) p. 3. Available at <http://www.oxfordenergy.org/wp-content/uploads/2010/11/NG35-FutureGasProductioninRussiaIsTheConcernAboutLackofInvestmentJustified-JonathanStern-2009.pdf>.

Gazprom senior officials traditionally refer to the Russian domestic market as the most promising one. Their optimism is based on the government policy that aims for equalizing profitability of domestic industrial and export market prices (net netback prices) by 2014.²³ This would mean higher prices, competitive with those of the exports for domestic industries and likely a more modest increase for the population. Despite the revolutionary potential of such a development, it has to be said that initially the deadline was set earlier and tariff increases still lag much behind the schedule.²⁴ Consequently, domestic prices seem to be out of Gazprom's control and therefore references to the emerging Russian market as a major source of income assume a good deal of optimism.²⁵ This also assumes that demand efficiency gains coming from more cost-reflected pricing may remain moderate and the internal market will remain huge, but relatively underpriced.

Gazprom has also been losing its share in the Russian domestic market, showing a good deal of negligence or inability to preserve its positions. The share of oil companies and the so-called "independent" gas producers has been growing steadily since 1998 and already reached 23-24% of total consumption.²⁶ Even if Gazprom, the owner of the high-pressure pipeline system, can get some of the benefits of others' production, it would be difficult to qualify it anymore as a monopoly player on the internal market. There is no single reason behind these trends. On the one hand, oil companies and the few

²³Alexey Miller usually refers to this policy when he argues that soon Gazprom will have "two European markets" in Russia.

²⁴Average domestic wholesaler industrial prices nominated in USD have grown from 19.64 percent to 27.28 percent of the gross average non-CIS exports price level between 2007 and 2010. Between 2003 and 2010 average domestic (industrial and residential) gas prices grew from 689 RUB/mcm to 2392 RUB/mcm, only a 1.71 times increase in real terms. During the same period average gross export prices to non-CIS countries have risen from 131.6 USD/mcm to 301.8 USD/mcm, a 1.93 times increase in real terms. It can be stated that the "equalization" policy has closed the gap only very modestly until now. Author's own calculations, data from Gazprom and Russian Central Bank.

²⁵Despite the 54.5 percent share of the internal sales, Gazprom earned (after taxation) only 28% of its revenues from domestic markets in 2010, slightly more than in 2006 (25%).

²⁶For a good overview: James Henderson, *Non-Gazprom Gas Produces in Russia* (Oxford: Oxford Institute for Energy Studies, 2010).

independent producers are relatively well entrenched both in the market and behind the Kremlin's doors. It would be difficult to qualify Gazprom's current standing as guaranteed, in light of the political infighting of the Russian leadership. On the other hand, Gazprom prefers exports to the domestic market. Having an export monopoly in its hands, it has the opportunity to swap from internal supplies to external, giving up some of its positions to other producers. "Independent" production gives Gazprom a comfortable supply buffer in the domestic market.

Given these inflexibilities, despite its dominant share, domestic market conditions largely remain externalities for Gazprom. It cannot formulate an independent price policy because of the administrative pricing and the obvious counter-interests of price hikes, and can only increase its sales volume with certain caution. The only sure option for increasing its profits on the domestic market is expansion along the value chain, vertical integration and utilizing industrial synergies. During the last couple of years Gazprom heavily invested into related Russian energy assets like oil production, petrochemical industry or electricity generation. Today the gas industry only has a 59% share in Gazprom's total net revenues.²⁷

Paradoxically, Gazprom can set its policy more freely on export markets than at home. It can autonomously decide about its pricing and export volumes. While Gazprom is constrained by administrative pricing and supply obligations on the Russian internal market, only competition—and to a lesser extent the EU and national regulators—may limit its leverage in Europe. After the crisis Gazprom pursued a "wait and see" policy, and strategic decisions about adjustments were postponed until the post-recovery period. This was a reasonable strategy and Gazprom's export revenue did not decrease as much as those of other, traditional suppliers which gave price discounts (like Statoil). However, maintaining this policy poses a threat to Gazprom's market share in the longer term. Three years after the crisis the mid-term prospects are still bleak, while Gazprom has lost approximately 20 billion bcm of European exports. For European importers Gazprom's contractual inflexibilities, the relatively high level of minimal takeover

²⁷Gazprom in figures 2006-2010. Table "Gas Sales," available at <http://gazprom.com/about/management/shareholders/2011/>.

amounts and full-fledged oil-link pricing are inconvenient and uncompetitive. Companies like Edison or E.ON started or threatened to launch legal procedures in order to quit their existing contracts. The long-term traditional contractual system turned from Gazprom's demand security guarantee into a threat to its export market share. Without changing the conditions importers will probably not prolong their expired contracts and will turn to other sources.

This is a tough choice for Moscow. If they start modifying their export contracts, there will be hardly any way back. Gazprom will have to loosen up its "take-or-pay" system and include spot-pricing into its pricing formulas in almost all contracts. This may be a losing strategy if European economies in the end cope with the crisis or gas demand continues growing in the region. But if it insists on the existing patterns it may lose its credibility and European companies would minimize their sales from Russian sources. There are more arguments for the former strategy. Gazprom invested heavily both into production and transportation before the crisis, so it is in its best interest to utilize the new capacities. Gazprom also tried to enter other, North-West-European markets before the crisis and launched an aggressive price campaign to get a reasonable share. This very well demonstrates its flexibility in contractual issues—if the conditions force it to do so. In the end, it has no other export markets than Europe. If it had a considerable share in the Far Eastern markets, it could change its investment or export policy. But this depends very much on Chinese import policy, and Beijing seems to be unwilling to consent to European prices.

For Gazprom a slow and cautious process of contractual concessions could guarantee its existing market share. Thus, it is no surprise that both non-long-term (it is difficult to define what "long-term" means for Gazprom) and spot-priced sales increased to 7% within total Gazprom exports, and that the company raised its direct sales to 5 bcm in the EU in the midst of the economic crisis. There is an extensive discussion on lower take-or-pay obligations in the contracts and about incorporation of spot-prices into the price formulas. Gazprom has to adjust its policies to realities in Europe and this very much questions the prospects of a Russian gas export offensive until 2015. Export markets seem to be constrained and Gazprom has not found the market to which to sell its gas in the near future.

Shaping Relations—Russian Energy Exports and the West

Traditionally, Russian companies provide access to their reserves in two cases: for technology and assets in consumer countries. Having a complex production background and high level of demand security requirements, an existing but outdated machine-building and metallurgic sector, the Russian energy industry shows great affinity in these questions. This makes the Russian energy sector more accessible to Western companies than many of its counterparts in the Middle East. Despite past limitations to foreign ownership, most Western companies have significant production assets in Russia, even in the gas industry. BP has a 50% share in the third biggest Russian oil major, despite rude takeovers in their Sakhalin-projects Shell and Exxon preserved their assets there, E.ON and Wintershall have gas production assets at the Yuzhno-Russkoye field in the framework of the Nord Stream deal.

However, the underlying considerations are different in oil and gas industries. The Russian oil industry needs primarily technology, while the gas sector is short on markets. Having a resource bottleneck, it will be difficult for the Russian oil industry to sustain its production levels without making the first steps in the Arctic off-shore region or tapping the hard-to-extract on-shore deposits. Any development path without a massive involvement of foreign technology in these two fields seems to be improbable. While Gazprom could postpone the exploration of the Arctic Stokman-field at the first signs of an economic crisis and rely on its huge, traditional reserve base, this is hardly an option for many oil companies. The Arctic off-shore frontier is an opportunity for Gazprom, but a must for Rosneft.

The Russian continental shelf is still underexplored, but even at the current stage it gives more than one-fifth of total reserves.²⁸ Almost 70% of these fields are located in three Arctic seas (the Kara-, the Okhotsk- and the Barents-sea). The Russian Energy Strategy qualifies this region as the major source of compensation for Western Siberian depletion.²⁹ It is difficult to quantify this “production call” as there are different projections for Western Siberian decline. According to

²⁸According to Russian reserve classification.

²⁹Energy Strategy of Russia, p. 60.

announced but not approved plans, regional oil transport capacity can be increased to 2.2 million bpd by 2015 from 0.67 million bpd in 2008—a strong overestimate for potential needs (understandably these terminals would transport at the beginning primarily on-shore oil from the region).³⁰ Russia has an extraordinary expertise in Arctic production, gained during the previous 40 years. At the same time Russian know-how and technology with regard to off-shore is very limited. Gazprom reportedly faced serious difficulties at its Prirazlomnoye oil field, a pioneer Arctic off-shore project, which is just 60 km from the shore in shallow waters. Establishing an efficient infrastructure and extracting other fields further in the high seas will be a challenge even for the most trained personnel and superb technology. It is highly unlikely that the Russian oil industry will be able to cope with this challenge alone. Moscow will have to cooperate with those few Western majors which gained critical expertise in Arctic off-shore drilling. Thus, the recent Exxon-Rosneft deal on Arctic and Black Sea cooperation may be a first step in entering the Russian Arctic continental shelf.

This will be a difficult choice for Kremlin politicians. Apart from the huge tax-exemption, provided for investors on the continental shelf, they will have to provide concessions for Western companies. Not surprisingly, the discussion on easing the current legislation on strategic industries and reserves has a low-profile and senior Russian leaders barely make conciliatory comments on these issues. Industry is still preoccupied with eastern Siberia and new additions from there provide few years flexibility in choosing the next locations for development. Nonetheless, time is not on the side of Russian companies and new fields in other Arctic regions; other countries may create a serious technology capacity bottleneck for the years to come.

At the same time the issue is not neutral for Western countries either. A decline in Russian exports after 2015 could significantly contribute to their dependency on OPEC. More than one-third of non-

³⁰The prognosis was provided by the Russian Ministry of Economic Development. Alexei Bambulyak; Bjørn Frantzen, *Oil transport from the Russian part of the Barents Region. Status per January 2009* (The Norwegian Barents Secretariat, Akvaplan-Niva, 2009) p. 38. Indra Overland estimates 2.2 million bpd oil and 160 billion bcm gas production from Arctic off-shore in 2030. Indra Overland, "Kooperation statt Konfrontation," *Osteuropa* (2011/2-3 "Logbuch Arktis"), pp. 129-143, p 131.

OECD, non-OPEC production comes from Russia; these amounts cannot be easily substituted from other locations. It was only 20 years ago when the world witnessed—despite the Soviet split-up and the collapse of the planned economy—a 5 million bpd drop in Russian supplies.³¹ Even a significantly smaller drop would put tremendous pressure on oil markets now. This provides some leverage for Moscow. Extensive resource nationalism or the failure of renewal of its production assets would influence global price levels. During the past decade Russian oil exports have reached a level which makes them impossible to ignore from a global oil governance point of view anymore. This is an important point of consideration, even if Russian decision-makers often overestimate their own significance.

The gas industry is a more complicated issue. Technology is not such an urgent necessity in Russian gas production, the sector has more security considerations and governments have a bigger say through regulation. The Russia-West dialogue is based on Gazprom's ambitions to increase its exports on the one hand, and the EU's policies to increase transparency and efficiency of the Single Market and central European national efforts to decrease their dependence on Russian gas imports on the other. The United States is less involved in these issues, due to its self-sufficiency and oil-focused energy policy. Lengthy and complex coordination among European nation states causes understandable frustration in Moscow, while Russian energy philosophy appears to be an unchangeable and imperialistic dictate for many European decision makers.

Gazprom's desire to get closer to European consumers is understandable. Having a long and expensive transport infrastructure to the European markets, it would like to lock in its markets and be sure of efficient returns of its past investments. While this was more or less guaranteed in the mid-2000s during the time of steady growth, the environment became more risky due to increased competition on these markets and the EU's third energy package after 2008. What is more, Gazprom gets financial benefits from entering European markets. Unlike in the oil industry, where Russian taxation is based on globally benchmarked prices, gas export customs are calculated on the

³¹OPEC cut production in 2008-2009 by a comparable volume to balance oil market prices in the midst of economic crisis.

basis of contractual sales at border prices. But Gazprom can use “transfer-pricing,” giving price concessions from border prices if in a joint venture or alone can sell its gas to consumers directly, benefiting from the high margins on European internal markets. Swift cooperation with Germany and Finland resulted in significantly lower border prices than in Poland or Italy where Gazprom’s entry was minimized or excluded.³² Vertical integration and buying assets in petrochemical and electricity generation was a successful policy in the Russian domestic markets to offset negative consequences of low administrative pricing on gas. There is no reason not to attempt a similar policy on the export markets, even if political resistance and coordination with local majors make this strategy a more complex task.

All these factors make a more accommodating Russian gas policy in Europe probable. Gazprom will likely shift its policy from the current price-based strategy towards a more volume-optimization behavior, defending its existing market shares. Due to segmented European markets, these benefits may less affect central European markets than the competitive western European ones. Conversely, in the post-Soviet space Moscow has been collecting the fruits of its past conflicts. Due to relatively high price levels and high consumption, these countries will have to give further concessions, like joining the Customs Union or letting the Russian companies to further buy their gas and oil assets. Ukraine could withstand these efforts alone, if it continues to cut back its gas imports further and could boost domestic gas production by letting foreign companies to its reserves.

Both of these trends may cause political tensions in the years to come. Changing contractual patterns and accommodating to the EU’s third energy package is a painful process for Gazprom. Building up verticality in the post-Soviet space has led in the past to cutoffs and transit wars, which cannot be excluded even in the future. However, since Gazprom will need additional markets, this makes the EU-Russia gas dialogue more market-based than before. Politics cannot help too much in a situation with increased competition. Thus, the current buyers’ market is a window of opportunity for EU governments and

³²This income usually lands in Swiss or other offshore companies. This also complicates comparing Gazprom prices or controlling its income for Brussels and the Russian government.

the Commission to pursue a more independent policy towards the single market, help central Europe to diversify its supplies and even for Ukraine to cope with its energy problems. Given the current supply situation, all these efforts can be done within a more balanced relationship with Gazprom.

Summary

The Russian energy industry has a strong autarkic perspective. Apart from its early 19th century beginnings, it has been developing on a solid national basis; cooperation with foreign majors has been much more limited than has been the case with other producers. Soviet energy has been produced exclusively by national champions since 1917, limiting cooperation with regard to the import of technology and exporting oil and gas. Moreover, Russia became a great power long before it started its energy exports. Unlike Saudi Arabia or Iran, for which oil was almost the single reason to become a foreign policy actor, Russia has to integrate its global energy significance into a ready set of external relations and perceptions. This makes Russia a peculiar actor. It does not have the sometimes negative experience of having foreign concessions on its soil, but it has a high level of expectations regarding its status and leverage on world general and energy matters.

Russia is now approaching the limits of its autarkic industry patterns. It will have to establish a new, more cooperative policy in oil production if it wants to secure its production level in the long term. It has to show a more interactive behavior with gas exports if it wants to keep its markets in the midterm. Thirty years ago similar constraints and the failure of the Soviet leadership to manage them played a considerable part in the collapse of oil production and in the fall of the Soviet Union. The situation has changed since then. The Cold War is over, but Russian leaders remember and fear a similar outcome, while energy exports play a crucial role in current Russian stability. All this provides a chance to set the fundamentals for a moderate, if often uneasy, partnership with Russia in the field of energy.

