The Geopolitics of Natural Gas

The Russian Gas Sector: A Political Risk Case Study

Harvard University's Belfer Center and
Rice University's Baker Institute Center for Energy Studies

January 2014

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January 29, 2014

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Acknowledgments

The Center for Energy Studies of Rice University's Baker Institute would like to thank ConocoPhillips and the sponsors of the Baker Institute Center for Energy Studies for their generous support of this program. The Center for Energy Studies further acknowledges the contributions by study researchers and writers.

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Acknowledgments

The Geopolitics of Energy Project at Harvard University's Kennedy School is grateful for the support it receives from BP, as well as the Belfer Center for Science and International Affairs. It also appreciates the work and contributions provided by the scholars who have participated in this program.

About the Study

Some of the most dramatic energy developments of recent years have been in the realm of natural gas. Huge quantities of unconventional U.S. shale gas are now commercially viable, changing the strategic picture for the United States by making it self-sufficient in natural gas for the foreseeable future. This development alone has reverberated throughout the globe, causing shifts in patterns of trade and leading other countries in Europe and Asia to explore their own shale gas potential. Such developments are putting pressure on longstanding arrangements, such as oil-linked gas contracts and the separate nature of North American, European, and Asian gas markets, and may lead to strategic shifts, such as the weakening of Russia's dominance in the European gas market.

Against this backdrop, the Center for Energy Studies of Rice University's Baker Institute and the Belfer Center for Science and International Affairs of Harvard University's Kennedy School launched a two-year study on the geopolitical implications of natural gas. The project brought together experts from academia and industry to explore the potential for new quantities of conventional and unconventional natural gas reaching global markets in the years ahead. The effort drew on more than 15 country experts of producer and consumer countries who assessed the prospects for gas consumption and production in the country in question, based on anticipated political, economic, and policy trends. Building on these case studies, the project formulated different scenarios and used the Rice World Gas Trade Model to assess the cumulative impact of country-specific changes on the global gas market and geopolitics more broadly.

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Introduction

Russia has long been a preeminent global producer and supplier of gas, but the recent evolution of global market dynamics has begun to erode this status. Now, it finds itself at a crossroads that could determine its fate in this evolving market. Faced with the US shale gas revolution, competition from global LNG suppliers and new pipeline projects, an uncertain demand outlook in Russia's once captive European market, and slow penetration of high growth Asian markets, Russia may no longer be able to thrive at status quo and must take decisive steps to devise a strategy that addresses these challenges and ensures its continued role as a leading global gas producer and exporter.

Russia undoubtedly has made some early progress on this front by making forays into liberalizing its gas export market, facilitating the rise of a handful of non-Gazprom producers, and pursuing options that begin to shift its strategic focus to Asian consumers. However, given Russia's heavy budget dependency on oil and gas revenues, coupled with the recent introduction of tax breaks to incentivize new high-cost resource development, the country's success in expanding gas production and capturing key export market share will depend first and foremost on sustained high oil prices to support government spending. The current system allows Russia to muddle through, but a more drastic price shock could have significant, detrimental knock-on effects for Russia's gas sector (five years ago the budget could balance at $50-55/bbl oil while breakeven prices were $117/bbl in 2012 and expected to remain at over $100 through the end of the decade).

Over time, Russia will have to introduce still more reforms from additional tax incentives to greater contract pricing flexibility and increased access for foreign investors if it hopes to remain a dominant global gas player. Russia's market position will become more difficult and uncertain post-2017 as competition rises from global LNG and unconventional producers. Russia's gas modernization efforts to date do not appear adequate to brace the industry for this uncertainty, and Russia's position increasingly will come under pressure absent more comprehensive reform of the domestic gas sector, additional tax incentives to expedite the development of key projects, and reconsideration of pricing mechanisms in contracts. Given the myriad challenges facing the

Russian gas sector, government growth targets for gas production probably will not be met. As such, the ability of Gazprom and independent producers to adjust to new conditions in the next five years largely will determine Russia's longer-term market share.

Statements from the Kremlin increasingly have underscored the importance of Russian expansion into Asian markets. At an Asia-Pacific Economic Cooperation (APEC) forum in 2013, President Putin stated, "we see that energy resources are playing an ever more important part in speeding up economic growth in the Asia Pacific region …We are aware of our responsibility in this sector and therefore plan to expand our energy sector cooperation with our partners in Asia."[1] Meanwhile, the range of available alternative gas supplies for Europe is often overstated. While Europe certainly has a number of shale and other pipeline options that could gradually erode Russian market share, the additional volumes from these options are likely only to scratch the surface in terms of displacing the roughly 150 bcm of gas Russia exports to Europe annually. A combination of stagnant growth in Europe and the availability of incremental volumes of alternative gas supply available at hub-based pricing have had an outsized negative impact on Russia's oil-linked, take-or-pay, long-term supply contracts with Europe and will likely drive down demand for Russian supply in the future. As this transition occurs, Russian producers are attempting to turn to Asian consumers to lock in a limited number of longer-term supply deals. However, given these energy relations are not underpinned by stronger bilateral political relationships, these arrangements will face a range of hurdles associated with geopolitical influence, energy security concerns, and pricing and the availability of alternative suppliers. Accordingly, while the shift to Asia is inevitable for Russia, it will occur at a limited pace with lingering skepticism among involved parties.

Key Trends Shaping the Russian Gas Market

In order to contextualize Russia's current status and future prospects as a global gas producer, we turn first to a brief overview of the major shifts in global gas market trends as well as the major

[1] "Russia to Expand Cooperation with Asia-Pacific Region – Putin," *RIA Novosti*, October 8, 2013, http://en.ria.ru/business/20131008/183998043.html.

macro considerations in the Russian gas sector that are shaping the country's strategy moving forward.

Competition: Global Unconventionals and LNG

Arguably the greatest challenge to the Russian gas market in the future is the abundance of new gas suppliers and export options coming online over the next decade that will provide significant new volumes of gas at competitive prices, which could undermine Russia's current supplier relationships. At the center of this gas glut is the US shale revolution and the prospects for US LNG exports, which have had an immediate impact on Russia's market share and pricing. First, the abundance of new US shale-derived gas supplies has resulted in Russia losing the US market as a potential customer for exports from its Arctic LNG projects. In addition, Russia has been negatively impacted by flows of cheap LNG into the European market since 2008–2009, which has triggered a series of pricing renegotiations between Gazprom and its main European customers.

Russian producers will endure increased competition from a range of LNG and pipeline supplies. Four sources of LNG growth likely will provide supplies after 2015: extra output from established suppliers such as Qatar; additional projects in Australia; shale-to-LNG exports from the United States and Canada; and emerging exports from East Africa and the Mediterranean (not expected to hit the market before 2020). Additionally, new pipeline export routes to Russia's key legacy consumer markets threaten to encroach on Russia's trade relationships, and of particular concern to Russia is the EU-driven Southern Gas Corridor. While more modest than Russia's planned South Stream pipeline—16 bcm versus 63 bcm to Europe—it offers European consumers potentially cheaper gas as well as an option that bypasses Russia and the contentious Ukrainian transit market.

In 2013, Azeri state oil company SOCAR and partners including BP and Statoil selected the Trans Adriatic Pipeline (TAP) in the Southern Gas Corridor for shipment of Shah Deniz gas. There are a range of European energy and utility company buyers, and Germany's E.ON has signed a 25-year contract with SOCAR for 40 bcm of gas. Of the total 16 bcm that will be sent to Europe annually by around 2019, 8 bcm is destined for Italy. Just two years ago, the consortium

was expecting to sell 40 bcm annually to European consumers, but realistic buyer demands have reduced this figure and there is some optionality for decisions on capacity expansion. Pipeline construction now will proceed, albeit with slight delays by a year or two, and the pipeline should be fully operational by the end of the decade. Ultimately, TAP and South Stream are being pursued on the assumption that European demand will recover to pre-crisis levels by the end of the decade. However, if demand remains stagnant or experiences only minimal growth, this would seriously undercut the success of both TAP and South Stream.

These trends have driven a strategic rethink by Russia, which is now reviewing options to fast-track large infrastructure projects that will help shift focus to the high-growth Asia-Pacific markets. Part of this effort also involves liberalizing LNG exports with the hope of increasing the competitiveness of Russian gas on the global market.

Weaker European Demand

Russia has faced myriad challenges in its core European market: the reputational impact of its dispute with Ukraine, the Eurozone crisis causing a decline in gas demand, growing gas competition, and change in the EU regulatory framework. These changing dynamics have triggered an ongoing antitrust investigation on the grounds that Gazprom restricts European buyers' rights to sell gas to one another and unfairly raises costs by linking prices to oil. The investigations have heightened tensions between Russia and the European Union.

EU policymakers are eager to diversify away from Russia, but the opportunity to do so is limited until Europe experiences far more rapid demand recovery. In the interim, poor economic performance, the availability of cheap coal, environmental regulations, and promotion of renewable technologies have taken their toll on European gas demand. While Gazprom has begun to experience some demand recovery in Europe and ongoing production challenges at Statoil's Troll field in Norway have leant some near-term support to volumes of Russian gas exports to Europe, overall European demand remains weaker than in precrisis years, and the outlook is still uncertain. According to the International Energy Agency (IEA), demand will continue to fall over the next few years from 513 bcm in 2012 to 506 bcm by 2014, only starting

to recover by 2018 to reach 525 bcm.[2] In the near-term, European demand for Russian gas likely will hover around 150 bcm. Beyond 2018, the European outlook is more unpredictable as it remains unclear whether carbon prices will continue to fall, encouraging power production from coal, and how pricing dynamics will evolve. This element of uncertainty is one of the drivers rendering Russia's eastward expansion and infrastructure build-out more critical and time sensitive. While it is widely believed Russia will continue to be Europe's primary energy supplier, including of natural gas, for the near future, its best days are behind. Ongoing antitrust investigations will upset an already tenuous relationship, and this coupled with rising supply alternatives for Europe almost certainly will erode Russia's role in the market with more pronounced signs of this trend emerging only post-2020.

Asian Demand Growth

Faced with an uncertain European demand future and increased competition in the European market, Asian markets have become Russia's new gas export priority and will become the main battlefield for pricing and market share. With a majority of new production coming online in East Siberia and the Far East, Gazprom heavily supporting (albeit so far unsuccessfully) the construction of a pipeline from the Far East to China, and the gradual melting of sea ice in the Far North opening up a commercially viable and efficient Northern Sea Route to ship Russia's immense Arctic gas supplies to Asian consumers, Russia's Asia prospects are vast. But so, too, are the challenges for Russia in establishing more comprehensive supply agreements with Asian consumers.

Asian gas demand growth will be led by China, which remains the fastest growing economy with a 12 percent annual growth rate. According to the IEA, China's gas consumption is expected to grow from 150 bcm in 2012 to 295 bcm in 2018, and according to China National Petroleum Corporation (CNPC), consumption will grow to as much as 350 bcm by 2020.[3] Yet, Russia is having a hard time securing long-term contracts with China, Japan, or Korea, largely a result of pricing disputes and energy security concerns from both parties about becoming too dependent on any one consumer or supplier, respectively. Meanwhile, rising supplies from LNG producers

[2] International Energy Agency, *Medium Term Gas Market Report 2013 – Market Trends and Projections to 2018*, (Paris: IEA Publications, 2013).
[3] Ibid.

such as Australia, the United States, Canada, East Africa, and the Mediterranean will pose a greater threat to Russian market share particularly after 2020. Asian appetite for Russian supply will depend on a handful of factors, most notably GDP growth, availability of foreign supply, and China's development of unconventional gas sources.

Pricing Reform and Liberalization

Russia's future competitiveness rests largely on how its gas supplies stack up to LNG, the primary alternative supply source for both Europe and Asia. This, in turn, will be determined by pricing, as producers' ability to compete on price is constrained by the need to generate a rate of return on what are increasingly high-cost liquefaction projects. Putin continues to defend long-term deals based on oil-linked pricing and minimum purchase requirements. But the gas abundant/oil scarce market fundamentals will make things harder for Gazprom as it struggles to defend its increasingly obsolete export pricing model, particularly in some low-growth European markets.

In September 2012, the European Union launched an investigation into anti-competitive Gazprom practices. Russia, which feeds 26 percent of European gas consumption, did what it said it never would and, motivated by a combination of weaker demand and arbitration, rewrote long-term contracts to include a new price formula for certain European buyers. This move came at the expense of several billion dollars in budget revenue at a time when Russia's overall economic growth has slowed and the country has had to introduce considerable tax breaks to incentivize development of more difficult hydrocarbon plays. This was a huge hit for a budget that is 50 percent dependent on oil and gas revenue (in 2012 oil and gas revenues stood at $215 billion), but it also revealed an awareness on the Russian part that it needs to at least consider other pricing options to find mutually beneficial arrangements. So far, Russia has demonstrated greater willingness to take chances on competition in favor of desirable prices. At the same time, Russia possesses a lingering fear that permitting market liberalization in the resource sector will inhibit economic growth and constrain its ability to reassert itself as a superpower.[4] Longer term,

[4] Caroline Kuzemko, Andrei V. Belyi, Andreas Goldthau and Michael F. Keating, eds., *Dynamics of Energy Governance in Europe and Russia* (New York: Palgrave Macmillan, 2012).

this could become more problematic and something will have to give; growing gas competition seems to suggest Russia's hand will increasingly be forced on price.

Meanwhile, the LNG export legislation passed in late 2013 sets the stage for Russia's largest independent natural gas producer, Novatek, and Russia's state-owned integrated oil company, Rosneft, to slowly chip away at Gazprom's export monopoly. Both companies will continue to lobby to end Gazprom's monopoly on gas exports altogether, but for now Gazprom will maintain its pipeline export monopoly. Full liberalization of access to the gas transportation system is unlikely in the short term, and Gazprom to date retains control over pipeline exports. While major structural reforms are unlikely in the medium term, longer term the government may move to restructure Gazprom's relations with independent companies to prevent it from blocking strategically important export projects. If Gazprom projects lag the export-focused projects being developed by other Russian companies, then the company will likely be forced to further open up its export network.

There are also early signs of liberalization on the domestic market. Non-Gazprom users continue to demonstrate their ability and desire to capture an increasingly large share of the domestic market in a move that could challenge Gazprom's dominant market position and production plans and further impact Gazprom's profitability. This trend is expected only to intensify.

Historically, both gas and electricity have been sold within Russia at a price well below international prices. Different pricing tiers are offered for the domestic consumers, former Soviet states, and European consumers.[5] Russia has long capped domestic natural gas prices, which has resulted in significant waste and inefficiency. Considering domestic sales account for around 60 percent of Gazprom's total sales, the company has managed to find relief only through recent subsidy reform measures aimed at achieving parity between domestic gas prices and the European export prices, although this effort has been challenged by global market volatility. The company has also found relief through Gazprom's ongoing sales abroad, on which it makes nearly double its production costs (Gazprom was granted a full monopoly over Russia's gas exports in exchange for shouldering the immense subsidy burden on the domestic market).

[5] Ibid.

However, as the domestic market continues to grow and experience more deregulation, and as new non-Gazprom suppliers increase their share, Gazprom is losing access to some of the most lucrative opportunities, including key industrial clients. This has already created a window of opportunity for Novatek and Rosneft to charge prices below regulated levels and gain access to profitable domestic markets. In 2012, Rosneft signed a momentous gas contract with state-controlled power company Inter RAO to supply up to 35 bcm/yr to the company from 2016 to 2035. The Ministry of Economic Development foresees domestic gas demand growth of nearly 140 bcm by 2030, which should support a continued rise in competition among domestic gas producers.

Given the authorization of higher wholesale prices by the Federal Tariff Service, companies stand to benefit as the higher regulated prices outweigh the burden of the Mineral Extraction Tax (MET). Non-Gazprom producers benefit more limitedly from this tax until a convergence with import price parity levels is achieved by 2017. Meanwhile, transportation tax levels have grown, but more slowly than regulated tariffs, so independent producers have been able to conclude sales contracts at a lower price than Gazprom. According to the IEA, non-Gazprom producers could increase their production at least to a level of 200 bcm by 2018–2020.[6] As all these changes are happening on the domestic and export market, the Russian budget faces a narrowing oil and gas tax base as new production shifts to higher cost areas where lagging infrastructure and more technically difficult plays have necessitated significant tax breaks. Developing fields and pipelines to supply Asia in particular will be costly. Officially, Russia aims to reduce its dependence on oil and gas revenues by cutting the non-oil-and-gas deficit in the budget and building the reserve fund, financed by oil and gas revenues. However, current market conditions likely will complicate these goals and leave the government dependent still on MET, export duties, and profit taxes from the hydrocarbon industry. The government has continued to review and experiment with different tax regimes as it considers its medium-term production forecasts.

[6] IEA, *Medium Term Gas Market Report 2013*.

Russia's Natural Gas Market

Russia certainly is not at a deficit for options to expand gas production and export, but how the sector evolves and which projects are prioritized will depend heavily on the previously mentioned factors, including domestic market demand; the structure of competitive dynamics between Gazprom and other domestic producers; export potential based on Russia's production capacity and global demand, particularly in Asia; facility of exporting via pipeline versus LNG facilities; and, finally, whether Russian gas can be competitive under new market conditions given the country's high production and transportation costs. It appears the path forward will be shaped by a combination of pipeline and LNG options and an effort to increase competitiveness of Russian suppliers through partial liberalization of the export market.

As the impact of these trends becomes increasingly pronounced across the global gas market, Russia is certainly aware of its susceptibility to these shifts, and President Vladimir Putin has publicly acknowledged the need for Russia to react to the range of trends from wavering European demand to North America's growing LNG export capabilities and gas demand growth in Asian markets. In particular, Russia currently has only a small share of the LNG market, and Putin has labeled growth of LNG export capacity as a strategic priority for the industry. But overall, investment into all production expansion and export infrastructure—whether by pipeline or LNG terminal—will be critical, and company exploration, production, and investment plans through the end of the decade underline this priority.

Given the Russian budget is 50 percent dependent on oil and gas revenues, growth in gas sector investment and development will depend heavily on both oil price and the depth of Russia's commitment to developing its resource rich, but difficult to access and unconventional, plays. This will determine how extensively Russia can incentivize new gas production. These fields—including East Siberian greenfields, Russia's West Siberian tight oil reserves (the United States Energy Information Agency estimates Russia's total recoverable shale oil reserves at 75 billion bbls), and the remote Arctic fields—offer vast crude production growth potential for Russia, but also require significant tax incentives to producers and heavy investments into advanced technologies and infrastructure if the government ever hopes for these plays to reach their full

potential and be economically viable. The ongoing priority placed on the oil sector has continued to come at the detriment of the gas sector. With crude production declining in the heartland of Russia's oil industry, the Soviet era West Siberian brownfields, the government is pressed to bring new crude production online to keep levels over 10 million bpd and continue to provide budget revenues. The extensive tax breaks being offered for these new oil fields leave less opportunity and leeway for dramatic tax breaks in the gas sector. The government has attempted to prioritize certain gas projects, in particular Yamal LNG, by extending MET discounts to fields in the area, but longer term it is unlikely that one-off, project-based discounts will be adequate to support dramatic gas production growth, and more extensive measures will be needed (for more detail on Russia's gas tax regime see "The Impact of Economic and Legal Trends on the Russian Gas Sector" below).

Upstream Outlook

According to IEA forecasts, Russian gas production will grow by around 47 bcm in the 2010–2020 time frame, and then by another 104 bcm by 2030. These predictions more or less align with estimates released by the Russian Ministry of Economic Development that forecast 783 bcm of Russian gas production by 2020 and 870 bcm by 2030 against a 2013 baseline of 667 bcm. Recently, Gazprom's total production decreased, while production from non-Gazprom producers continued to rise. The major gas players, including Gazprom, Novatek, and Rosneft, all have the potential to dramatically boost production to feed upticks in domestic and external demand. Domestic demand alone could grow substantially from around 485 bcm in 2013 to 566 bcm by 2020 and 625 bcm by 2030.[7]

Gazprom remains by far the largest player in Russia with production at 487 bcm in 2012, compared to combined production from other major non-Gazprom producers of just 129 bcm. Based on the company's forecasts, Gazprom's market share will continue to shrink with a 25 percent decline in production from existing fields by 2020, a 75 percent decline by 2030, and only marginal production growth over the next few years to reach around 518 bcm by 2015. This trend appears linked to waning demand in the European market, long the key consumer of Russian gas, but Gazprom also plans to offset this decline by tapping into new fields. This

[7] Ibid.

includes projects in the Far East and LNG projects in the Arctic that would target Asian consumers and help Gazprom reach a planned 660 bcm of total production by 2020.

In the future, Gazprom's production growth targets will face increasingly steep competition for access to end-consumers from Rosneft and independents that have set their own aggressive growth targets. For instance, Rosneft and Novatek both are targeting 100 bcm of production by 2020. These targets seem excessively ambitious under current market conditions, but the IEA does believe it is realistic for all non-Gazprom producers to deliver a combined 200 bcm annually by the end of the decade. Furthermore, the 100-bcm target for Rosneft was established even before the company's 2012 acquisition of TNK-BP, which makes the target appear more reasonable for the state company. Still, as with Gazprom, growth will be determined in part by whether European gas demand rebounds post-2020 and by Russia's ability to develop new links to Asian markets.

The Nadym-Pur-Taz area near the Yamal Peninsula currently accounts for nearly 80 percent of Gazprom's total production. To help offset overall brownfield production decline, Gazprom launched operations at its giant Bovanenkovo gas field in Yamal in October 2012. The field will produce a modest 46 bcm in 2013, but reach 115 bcm by 2017 and 140 bcm at a later stage. The Yamburg fields in the Yamal-Nenets autonomous region produced around 200 bcm of gas of the total 487 bcm produced by Gazprom in 2012. Gazprom's Zapolyarnoye oil, gas, and condensate field, which reached plateau production in late 2012 at 130 bcm, is included among these fields. Finally, through a handful of joint ventures with Novatek and foreign firms (Enel, Eni, Wintershall, and E.ON Ruhrgas), Gazprom is producing smaller volumes from a handful of fields in Urengoyskoye and Yamal-Nenets.

Meanwhile, Novatek has doubled its production since 2007, reaching 56.5 bcm in 2012 thanks to the development of phase 2 of the Yurkharovskoye field, the acquisition of new assets, and the expansion of processing capacity. Rosneft is still a newcomer in the Russian gas market with just 13.4 bcm of production in 2012, mostly in the form of associated gas from the company's mega-oil field projects such as Vankor. Expanding gas-processing abilities would support tremendous growth in gas production for the company. While Russian oil and gas companies have almost

doubled spending on projects to reduce flaring of associated gas, the country's 95 percent utilization target by 2015 remains a challenge. Lags in compliance by some of Russia's largest integrated oil and gas companies, including Rosneft, can be expected.

Rosneft also has been on an acquisition streak, absorbing smaller companies and assets that will help support production growth by later in the decade. Through its recent acquisition of Itera, Rosneft will now develop the Kynsko-Chaselskiy fields and the Kharampur field in Yamal-Nenets, which will begin production in 2016 and achieve plateau production of around 20 bcm toward the end of the decade. Separately, Rosneft plans to deliver on pre-acquisition targets put forth by TNK-BP to develop 35 bcm of gas by 2020 (the company produced 13.2 bcm of mostly associated gas in 2012).

As the Russian hydrocarbon industry shifts its gaze eastward, fields in East Siberia and the Far East will be the backbone of Russia's future gas production strategy. Two major Gazprom fields, Chayanda and Kovytka, will contribute to this strategy and feed into the planned Power of Siberia pipeline from Yakutia-Khabarovsk-Vladivostok to target Asian buyers. The Chayanda field is currently the focus for Gazprom, given its closer proximity to export markets and the pipeline to China, and could produce 25 bcm after 2020. Once Gazprom starts developing Kovytka, the field could reach peak production of 35 bcm. In the past year, Gazprom also initiated exploration in Taz Bay in the Kara Sea and on the Kamchatka and Sakhalin shelves. Given the remoteness of these offshore fields, successful development will depend heavily on the tax incentives due to come into effect in January 2014 and provide MET breaks based on the geology and extraction difficulty of a field, as well as cancel export duties and apply a zero VAT on imported equipment.

In the Far East, additional production is expected in Sakhalin, although significant volumes are only expected in the long term. Gazprom's fields in the region are expected to hold 1.4 tcm of total reserves and yielded 27.6 bcm total in 2012. The Kirinskoye field is Gazprom's priority in the region and could produce 2 bcm by 2015 to feed into the Sakhalin-Khabarovsk-Vladivostok pipeline. Other sources could include ongoing production from Sakhalin-I and -II and short-term

incremental production additions from Sakhalin-III (peak annual production of around 13 bcm to be reached further out).

Production hikes over the longer term will require tapping both deeper, dry gas layers and liquids-rich layers, which should yield the most additional production. Liquids-rich layers, abundant in Yamal-Nenets, are advantaged due to their proximity to existing pipeline infrastructure and already producing fields. In the case of non-Gazprom producers, such as Novatek or Rosneft, which are able to export liquids, this production can be extremely profitable if the companies are able to capitalize on both the gas and petroleum products. However, it also benefits the government because of MET and export tax gains from petroleum product exports.

As Asian consumers become more of a priority, the aggressive push to develop LNG capacity will accelerate in the coming years. Currently, Russia accounts for only a small share of the global LNG market with 13.6 bcm of total production from one plant at Sakhalin. Of the new projects under consideration, Shtokman has been indefinitely postponed due to costs and disagreements between Gazprom and Total over how to proceed, and the 20.4 bcm Yamal LNG project (Novatek, Total, and CNPC) and Gazprom's 20.4 bcm Vladivostok LNG project (consisting of three trains, 6.4 bcm each) appear to be the frontrunners.

Yamal LNG benefits from MET exemptions and the ability to export both to Europe and Asia. In particular, the September 2013 agreement in which Novatek agreed to sell a 25 percent stake in Yamal to CNPC solidifies the political importance of this project for strengthening energy ties between Russia and China. Following the passage of Russia's LNG export liberalization legislation in late 2013, Novatek took a final investment decision on Yamal LNG. The plant is expected to come on stream as early as 2016. A strong case can be made for the development of Vladivostok LNG as well, considering it is situated much closer to Asian LNG markets, saving on significant freight costs that are required to ship Yamal gas through the Northern Sea Route to Asia. For this reason, Vladivostok is being targeted as a new export hub to Asia for not just the Vladivostok LNG project, but for gas from the Kovytka, Chayanda, and Sakhalin projects as well. Gazprom already has signed a memorandum of understanding with Japan Far East Gas Company on development of a Vladivostok liquefaction terminal. The first train could come

online as soon as 2018, and the ultimate decision to proceed with the project likely will depend on the success of Yamal as well as Gazprom's ability to secure LNG export contracts with Asian consumers.

Following a series of talks by Rosneft CEO Igor Sechin in China and Japan, Rosneft has placed greater emphasis on its LNG export ambitions and in April 2013 announced plans for a $15 billion project with ExxonMobil to source an initial 6.3 bcm of gas from Sakhalin-I and eventually Sakhalin-III, beginning as soon as 2018. This project has been of particular interest to Japan, which remains heavily gas dependent after the Fukushima-Daiichi nuclear accident and has absorbed 60 percent of total Russian LNG exports. But Gazprom has voiced strong opposition to Rosneft's plans to build a gas liquefaction plant at Sakhalin and is mulling purchasing and liquefying the gas itself in a plug to defend its hold on the gas export market as new Russian LNG projects arise, threatening to challenge Gazprom's position. A territorial row over the Kuril Islands has kept Russia and Japan from signing a peace treaty and expanding economic ties since World War II, but there is a sense that Japan's Prime Minister Shinzo Abe, who has experienced tensions both with China and South Korea, may hope to break the impasse with relations with Russia, and a larger energy deal could be an important contribution to this process.

Russian Gas Exports Outlook

As a result of the ongoing crisis, European gas demand has continued to flounder, and the region, which depends on Russia for a quarter of its gas demand, provides Russia no guarantees of long-term security of demand. Low carbon and coal prices relative to gas have compounded the problems caused by the prolonged economic crisis in Europe and have resulted in the closure of 51 gigawatts (GW) of natural gas power plants, owing to a lack of competitiveness in the power sector. Additionally, in many markets, more rapid growth of renewable energy consumption is displacing demand for natural gas, especially in markets with high solar power generation, which reduces the need for more medium and peak load plants and in what were formerly very lucrative operating hours for these plants. Improved transmission networks would increase total penetration of renewable energy resources with the intention of lower consumption of both gas

and coal in the power sector. Absent a strong rebound in carbon prices, gas demand will likely remain suppressed through the end of the decade.

On the plus side for Russia, European import dependency is expected to intensify by the end of the decade—albeit only slightly over 2010 figures—as a result of falling North Sea production and slow uptake of European shale development. To Russia's benefit, there is no realistic outcome where Russian natural gas is not an integral part of the European supply scenario, and the European Commission has estimated that even if unconventionals development takes root, total European gas import dependence will remain at current levels of around 60 percent. And so, Russia is doggedly trying to maintain market share in a variety of ways: by pushing ahead with commercially unviable pipelines, through outspoken criticism of shale gas and the EU's gas market liberalization agenda, and in its muscular approach to bilateral gas relationships with eastern European markets dependent on Russian supply. The most noteworthy defeat for Europe's diversification strategy was a decision to forego the 10 bcm Nabucco West pipeline in favor of the Trans Adriatic Pipeline (TAP).

Beyond these basic market realities, politics play a strong hand in influencing the bilateral EU-Russia gas relationship. Russia has compromised its own reputation in the European Union in recent years because of the ongoing Ukraine gas disputes, growing gas competition (from Azerbaijan, the United States, and possibly Cyprus and Israel post-2018 as well as from within Europe, given Norway's 13 bcm production hike in 2012), and changes in the EU regulatory framework. Gazprom lost 8 percent of export market share to Europe in 2012 (to 139 bcm of pipeline gas) due to a combination of these factors and the stagnant economy, and some small, additional loss of market share is possible in the coming years. Meanwhile, pipeline and LNG exports to Asia present an immense growth opportunity for Russia.

Even as utilization of the Nord Stream pipeline—a direct offshore pipeline route from Russia to Germany—falls, the European Union has simultaneously continued its diversification effort from Russia and supported the establishment of a non-Russia dependent natural gas pipeline system to supply European consumers with Caspian and Central Asian gas. To this end, the Southern Gas Corridor, which comprises three pathways—the existing South Caucasus pipeline, Azerbaijan

and Turkey's Trans-Anatolian pipeline (TANAP), and the aforementioned TAP project—is a more modest project in terms of planned volumes delivered to the European market. This is relative to Gazprom's planned South Stream pipeline (16 bcm delivered to Turkey and the European mainland versus 63 bcm to the European mainland), suggesting greater market rationale for the former in the longer term, given the slowing demand growth in the EU market.

For now, these alternatives will not make a substantial dent in Russia's European market share, but current market conditions negate the logic of Russian plans under consideration to expand westward pipeline infrastructure adding 55 bcm of additional capacity along two expansions of Nord Stream in addition to South Stream and LNG shipments from Yamal. This would add a combined additional total of 133 bcm per year when Russia is already running at over a 100 bcm per year deficit against the 244 bcm per year total existing pipeline capacity to Europe. Russia possibly could tap into spare Central Asian capacity—this includes Turkmenistan, from which it currently imports around 10 bcm annually as well as Kazakhstan and other former Soviet states—to fill excess pipeline capacity to Europe, but these producers have their own Asian export ambitions and the European Union is unlikely to need any of this gas for the time being.

Now, as Russia races against the clock to seize additional Asian market share and redirect volumes to these high-growth markets ahead of its competitors (namely LNG from incumbents like Australia and Qatar as well as new participants from North America and East Africa and pipeline gas suppliers like Turkmenistan, Uzbekistan, and Kazakhstan), its strategy is to employ both pipeline and LNG export options to tap into as much additional Asian market capacity as possible. But Russia faces a challenge on the implementation front. LNG projects have faced delays and even indefinite postponement in the case of Shtokman, and Russia has been unable to close on the Power of Siberia pipeline due to its challenges securing a pricing agreement with China. Other options include direct pipeline options to Japan and Korea, but these proposals also face political and security risks that could delay or prevent realization of these plans.

Gazprom originally planned to begin construction on the $38 billion Power of Siberia Yakutia-Khabarovsk-Vladivostok pipeline in 2013. However, it has had to delay construction since CNPC has held out on finalizing a gas supply and purchase agreement as it weighs alternatives

and resists paying European prices for Russian gas. This is both a blow to Gazprom, which has been in negotiations for years with China trying to reach a mega gas supply deal, and detrimental to the overall Russian strategy of diversifying away from cash-strapped Europe, as plans for the pipeline envision long-term shipments of at least 38 bcm of gas annually from 2018 to 2048. Politically and economically, the pipeline makes good sense for Russia because it will run parallel to the crude ESPO pipeline streamlining infrastructure and power supply costs. However, given the pipeline will pass through remote and largely undeveloped or underdeveloped territories, Gazprom is likely excessively ambitious with its timeline, and ongoing delays suggest Russia is wary about proceeding with the pipeline until it has a formal agreement in place with China.

The Russia-China relationship is currently strong, and both sides recently inked a preliminary deal to double Russian crude exports to China. Russia and China seek to foster closer energy links between their state-owned companies to underpin political and strategic dialogue, which should result in further long-term oil and gas supply agreements by the end of the decade. Putin gradually has pivoted to Asia, both politically and economically, and Russia hopes to expand energy and trade ties not just with China, but also more broadly with Asia. However, the impact of changes in energy markets could subtly alter the relationship between Russia and China in ways that also could escalate tensions in the bilateral ties. While Russia sees China as a key partner in constraining US prerogatives, China sees Russia mostly as a source of energy and natural resource supply and a great power in decline.

While the Power of Siberia pipeline is central to Russia's Asian gas strategy, there are other options that can be pursued as well to expand Russian export share among a broader range of Asian consumers. The first option is a 16–20 bcm per year pipeline from Sakhalin to the Japanese mainland, which has received strong support from Japanese consumers, in particular the gas and steel-making companies, three of which have already expressed interest in financing and building the pipeline. However, this option is less popular with Gazprom, which fears becoming more beholden to one market and is concerned about the risk of widespread nuclear reactor restarts in Japan. The other option, a trans-Korean gas pipeline from Vladivostok to

Korea, could be more economical compared to LNG, but faces sharp political and security risks because it transits North Korea.

The Impact of Political Trends on the Russian Gas Sector

Gas exports remain one of Russia's most effective political weapons. But the power Russia wields through its gas sector also comes at a tremendous cost. Gazprom's relative stranglehold over the domestic and export market until relatively recently has hindered entry of foreign investors who could bring capital and technical expertise and limited sources of Russian budget revenue. On the export side, Russia's disregard for disruptions and the impact on customers further down the line in Western Europe has driven a wedge in the Russian-European gas relationship and compelled Europe to look into alternative supply sources from abroad as well as to its own unconventionals potential to displace Russian supply over the next decade. Despite widespread bans on fracking in Europe, even the partial development of European shale resources or a growth in LNG imports could force further contract pricing revisions on Gazprom, underscoring the increasingly brittle state of Russia's traditional gas sector development model.

Domestic Political Drivers

State capitalism continues to permeate the Russian hydrocarbon industry. The oil and gas industry is by far the most sensitive sector in Russia and the principal source of budget income and export earnings. Hence, state capitalism manifests itself in the ongoing dominance of the state in the sector via Gazprom, despite Gazprom's waning competitiveness, and in the rise of Rosneft as not just a monolithic oil company, but now a player of growing importance in the gas sector as well. Putin has long believed in the efficacy of state monopolization of the resource sector as the key driver for building a strong central state. This policy has allowed Russia to craft energy sector regulations that are seemingly the most compatible with national interests, but perhaps less consistent with the economics of global markets.[8]

State companies are positioned to secure the most favorable terms and lobby for their best interests, and these companies continue to be run by Russia's elite, who persist in lobbying for

[8] Kuzemko et al., *Dynamics of Energy Governance*.

the best interests of their companies and projects. Putin has also sought to reduce the autonomy of the management of state companies, and the appointment of loyal management such as Gazprom's Alexey Miller has been critical for the Kremlin to maintain control over the sector. While Gazprom has long been the favored company in the gas sector, the rise of Rosneft in recent years and the political prominence of its CEO Igor Sechin have created some shake-up in the domestic market and heightened tensions between domestic producers.

Historically, Russia's state capitalism has deterred the kind of much-needed foreign direct investment that facilitates technology transfer and know-how to support greater industry efficiency. In recent years, this has become slightly less true as Russian majors have engaged in limited joint venture partnerships with a handful of prominent international oil companies; however, this is not indicative of a full-scale opening up of the Russian market, and as with export opportunities, the exceptions likely will be limited in number and to specific projects or producers. The state allows foreign investors to benefit financially from participation in the gas sector, but they will never be granted meaningful control over Russian production and the risks of political intervention always remain, much in the way Gazprom intervened in Sakhalin-II to exert political pressure on the partners and assume a 50 percent plus one stake and operatorship of the project.

The recent trend whereby we have witnessed a rise in non-Gazprom players signifies several important shifts in the Russian gas sector landscape. Despite recent changes and a push toward export liberalization, it is important to note that it is not widely believed that Gazprom's CEO Alexey Miller has fallen out of favor with Putin (the two have a strong relationship that dates back to the 1990s when Miller was a colleague of Putin's in the St. Petersburg mayoral office). Furthermore, while Gazprom has made some seemingly poor calculations in recent years, it remains Russia's biggest company by market value, and as a state company, Putin is effectively its leader. Importantly, Gazprom has found itself in a bit of a catch-22; the company has huge reserves and was criticized for not investing enough into developing them, and yet, has been

continuously directed by the government to invest heavily in domestic oil and electricity sector development and in overseas gas development projects.[9]

Gazprom and Putin alike have repeatedly denied the market importance of shale gas, commenting that the recent trend is a mere bubble. But now, faced with mounting competition on pricing and market share, Russia has found itself in the position of needing to boost production, increase global competitiveness, and secure new long-term supply deals with Asian consumers in particular to help offset any potential losses in European markets. The rise of other players beyond Gazprom and the push for liberalization suggest a recent change in pace and tone. For one, the powerful political influence and good standing enjoyed by Novatek owner Gennady Timchenko, and the even greater influence wielded by Russia's so-called energy tsar, Rosneft CEO Igor Sechin, are allowing these two individuals and their respective companies to gain increasing influence and make increasingly large contributions to shaping Russia's gas future. Furthermore, the rising trend toward export market liberalization represents a push by the Russian government to maintain influence in the global gas market despite Gazprom missing the boat on the US shale revolution and its implications, especially in terms of foiling Russia's LNG export plans to North America.

Limited export liberalization will allow for additional competition between Russian producers in foreign markets but is insufficient on its own to facilitate upstream development. As Russia races against other international producers to bring additional LNG export capacity online, the new export liberalization legislation will create opportunities for non-Gazprom players and allow for LNG exports by companies that hold licenses to build LNG plants or to send the gas for liquefaction to a plant determined by the government. The law came into force in January 2014 and should facilitate the finalization of new LNG contracts. While making some exceptions, the government is certainly not writing off Gazprom altogether, and this partial opening up of LNG exports stipulates that exports by other approved producers do not come into direct competition with Gazprom's pipeline exports.

[9] Jonathan Stern, "Future Gas Production in Russia: is the concern about lack of investment justified?," *Oxford Institute for Energy Studies* (working paper, 2009).

External Political Drivers

Russia's international relations constitute an equally powerful and influential driver for the gas sector as domestic politics. Russia's increasingly tense relationship with the European Union has emerged hand in hand with more challenging conditions for Gazprom in Europe. In September 2012, the European Commission launched an investigation into suspected anticompetitive practices by Gazprom. Gazprom insists the investigation is politically motivated, and while a final decision will not automatically invalidate Gazprom's existing contracts, the investigation does signal heightened tensions between the EC and Gazprom that are encouraging Europe to explore more diversified supply options. According to the EU's third energy package, companies are prohibited from both distributing gas and owning the pipeline system, and this law could at last compel a change in Gazprom's Europe strategy. Depending on how the situation plays out and on how dependent Russian exports remain on the European market, Russia may be forced to expand export liberalization rules to create more competition and more favorable pricing options that help maintain market share and continued budget revenue from exports.

Russia seems destined to have a long-term energy relationship with Europe, but there is a continued lack of broader common ground on which to develop deeper ties. Interdependence in terms of natural gas relations will remain a central feature of bilateral relations in the coming decades, and the European Commission estimated that even if the European Union were to develop its unconventional gas resources, import dependence would remain around 60 percent. But as the EU aims to complete its internal market, Russia has been strengthening its grip through supply disruptions especially, raising the degree of suspicion toward Russia. In recent years, oil-indexed contracts have become more costly than spot-market prices, driving a push for renegotiated contracts. Meanwhile, uncertainty over the future of oil-indexed contracts, future supply, and LNG supply may call into question the urgency for the EU to invest heavily into new natural gas infrastructure. Interestingly, while the EU would like to diversify supply routes to be less reliant on transit states such as Ukraine and Belarus, it tends to focus on energy security as a national question rather than a union-wide issue. This means that energy security and energy policy are often fragmented and larger infrastructure investment projects often get sidelined to the ongoing benefit of Russian supply.

Russia will be very strategic about how it offers upstream stakes to foreign companies and under what conditions. This politicization of the Russian gas sector is exemplified in Gazprom's inclusion of a number of European companies (Total, Statoil, Eni, Wintershall) in upstream projects, seen by many market analysts as a move to play upon differences between the states and, in the case of France, to attempt to secure its opposition to the EU's new energy directives.
In one of the most telltale signs of change in the Russian gas market, Russia for the first time is looking to strike mega deals with China, whose state-run oil and gas companies are looking to take stakes in a number of strategic gas projects, particularly in East Siberia. For example, PetroChina is exploring options to invest $10 billion for minority shares in eastern Siberian gas fields operated by Gazprom and Rosneft as the two countries look to conclude gas-supply negotiations that have dragged out for almost a decade mostly because of pricing disagreements. PetroChina is interested in a handful of assets located near the Siberia to Far East pipeline Gazprom plans to build to supply China. The pipeline will also carry gas to the planned LNG plant for supply to Japan and Korea and could be fully operational by late 2017 at the earliest. The deal, expected to be signed in 2014, could eventually result in Russia's supply of 68 bcm of gas a year to China. Furthermore, CNPC is planning to buy 20 percent of Novatek's Yamal LNG in the Russian Arctic.

Despite the monetary value and gas export volume potential of these deals, they are not underpinned by more extensive and robust political or economic ties, which raises questions about the sustainability and reliability of these kinds of deals in the longer-term.

The Impact of Economic and Legal Trends on the Russian Gas Sector

Faced with slowed economic growth and limited growth of the hydrocarbon tax base in the near term as well as a need to stimulate additional gas production, the government must carefully orchestrate a solution that balances a tax system able to feed government budgetary needs while incentivizing production at new, more difficult and remote fields. The solution appears to be one that rebalances the tax system to increase overall tax take but favors a broader range of producers by incentivizing more difficult projects. Meanwhile, these changes are due to come into effect at a time when producers are trying to defend oil-linked pricing in export contracts, which has been

a particular benefit to Gazprom, given the period of sustained high oil prices on the global market.

The government and producers alike are likely to hold out and continue advocating for higher return, oil-linked pricing agreements to offset expensive production and transportation costs. However, a transition to gas-on-gas pricing in the longer term may be inevitable. Meanwhile, any benefits to producers likely will continue to exist on a project-by-project basis rather than more comprehensive reform to the sector; this risks hindering Russia's ability to adapt to changing market conditions in a timely fashion.

Budget Needs and Tax Regime Changes

The Russian budget is nearly 50 percent dependent on oil and gas revenues, and while the dependence is far greater on the oil sector, the recent push by oil companies into more challenging plays, including tight oil and the Arctic, has required significant tax concessions from the government. By default, heavier burden has been transferred to the gas industry and expressed in the form of MET hikes to prevent a significant blow to budget revenues.

The Finance Ministry has proposed changing the formula for calculating MET on gas producers in order to address imbalances in the current tax regime. In 2012, Russia adopted a new ladder for overall MET rate increases that went into effect in 2013, increasing MET rates across the board with additional increases expected in 2014 and 2015. Under this system, Gazprom's MET rate jumped from around $15.72/1,000cm to about $18/1,000cm, while Novatek saw a more moderate increase from about $7.76/1,000 cm to about $8.19/1,000 cm, a result of the more difficult nature of some of its assets. The adjustment is part of Russia's current strategy to increase MET rates both for Gazprom and independent producers in order to rebalance the existing tax regime so companies developing more remote, expensive, and difficult-to-develop fields would pay less tax on these projects.

The exact impact of this new tax system on various producers remains unclear, but the early expectation is that the proposal will increase overall MET take from Gazprom, while reducing the overall burden on Novatek. While Gazprom already pays higher MET rates, this is offset by

its export monopoly, which generates more profits for the company than domestic gas sales. Meanwhile, Novatek had been limited to marketing its gas domestically until recently, but now stands to gain from market liberalization and from the zero MET rates for Yamal and the Gydan Peninsula and the lower MET rates that will be applied to a number of the company's deeper gas deposits.

Raising the tax burden on Russian gas companies across the board through the higher MET rates put in place this year should provide some additional budget revenues from tax payments. Meanwhile, rebalancing the current tax regime by introducing this new proposed formula should also stimulate the development of new gas output and make the tax system more equitable among producers. The decision to raise MET rates also undermines Gazprom's traditionally privileged position and serves the growing trend of greater competition on the domestic market and export liberalization.

Sales Contracts and Pricing

In a period of sustained, high oil prices, Russia has continued to benefit from oil-linked pricing. However, as Russia's key consumers are faced with the prospects of new, cheaper, and more competitive options coming online, Gazprom has come under heat for its contract terms and faces the option of either adjusting its approach or losing market share. With a number of long-term contracts expiring at the turn of the decade, Gazprom has begun to demonstrate early signs of increased flexibility on some issues in an effort to defend its consumer base. In 2012, Gazprom's retroactive payments to European customers, including Eni and GDF Suez, reached $3 billion to cover earlier overpayments for long-term contract gas. In June 2013, an international arbitration court ordered Gazprom to include an unspecified element of gas indexation in its 8–9 bcm contract with Germany's RWE, a move that sets a precedent and provides other large European utilities with leverage in future price reviews. Gazprom may be forced to continue cutting prices in existing contracts where prices are indexed to oil, which could benefit both Eni and GDF Suez, among others.

Spot market pricing and greater competition pose a challenging scenario for Moscow, given the high costs associated with transporting gas to Europe. Until recently, Moscow was able to

continue with its oil-based pricing because so many European consumers were bound to Russia by long-term contracts, but these contracts have begun to expire. Now, a system that had worked well for Russia for so long in Europe is becoming increasingly problematic, and not just in Europe, but with Asian buyers as well.

In Asia, Gazprom's insistence on oil-linked pricing has undermined its ability to ink lucrative deals with key Asian consumers, particularly in China, which are unwilling to pay the high prices seen on European markets. China does not have the same immediate need for Russian gas that it has for Russian oil, so until or unless Russia yields on the pricing issue, it will find few takers. One possible way around this issue that could be amenable to both parties would be to charge higher prices, but grant Chinese companies, particularly CNPC, the right to purchase equity stakes in fields supplying pipeline gas to China. However, given the rampant resource nationalism that continues to permeate Russia's hydrocarbon industry and policymaking, the opportunities for Asian companies remain limited to minority stakes in certain projects, and these stakes are not likely to be adequately enticing to justify paying sustained higher prices for Russian gas.

The stalemate on gas contract negotiations between Russia and China has dragged on for the better part of a decade, and meanwhile, Beijing has made inroads with alternative suppliers, including via pipelines to Central Asia. Furthermore, China's LNG terminal projects currently under construction or consideration could nearly make up for all the gas Russia has proposed shipping via its eastern pipeline. The other factor that could foil Russia's Asian gas ambitions is if CNPC and Sinopec, with the help of their foreign partners, push ahead with shale gas development sooner than anticipated.

Despite this somewhat tight timeline for Russia, it does not appear to be making a truly serious commitment to expanding its presence in China and the rest of Asia. Gazprom plans to spend around $15 billion from 2013–2014 to develop its Yamal Peninsula reserves, but only a measly $1.9 billion by comparison to develop all its East Siberian assets over this same period. This seems to suggest Russia is pursuing a strategy whereby it will try to market the same gas sources to European and Asian consumers to see in which market it can seize a better price, which would

be disadvantageous to both consumers because it would help sustain a higher price environment. Chinese consumers would clearly favor a supply route that sources gas from stranded East Siberian fields situated in much closer proximity to China and, therefore, would essentially be dedicated to supplying Asian end-users.

The final decision rests with the Kremlin and the extent to which it allows for export market liberalization, in particular whether Novatek is granted a license to export from Yamal. This decision will send a strong signal about Russia's intentions and the possibility for revisions to contract pricing mechanisms. Global LNG trade is expected to grow by a third over the next five years, led by a significant rise in production from both the United States and Australia, and this will place Russia under increasing pressure to consider pricing revisions. Particularly with the seemingly irreversible failure of the attempted Gas Exporting Countries Forum (GECF) gas cartel, more flexible pricing in global markets seems inevitable, and Russia's continued insistence on oil-linked pricing will only become more damaging with time.

Russia is faced with some very difficult choices if it wants to truly remain competitive, but it has various tools at its disposal—it can revise its pricing mechanism, tap into still more of the country's vast conventional gas reserves, and devise innovative agreements with the Chinese, including exchanges of upfront payments for long-term gas supplies or allowing Chinese companies to purchase sufficiently sized equity stakes in Russian upstream projects to offset losses from domestic price controls.

Liberalization of Russia's gas market could help facilitate changes in contract pricing mechanisms. While full liberalization is not expected any time soon, the government has certainly made initial strides. On the domestic front, growth in gas demand should support increased competition among domestic producers. On the international market, the push to liberalize exports could help Russia retain market share in Europe by providing alternative supplier options for European consumers, among whom Gazprom's reputation has been compromised.

Conclusion: Scenarios

Based on these findings, a handful of things need to happen for Russia to be a competitive gas producer and exporter under shifting market conditions. Russia must allow for at least partial liberalization of its export market, offer sufficiently enticing stakes in new upstream projects—especially in the Far East and Arctic to Asian investors who, in turn, would sign on to long-term contracts—and reconsider both its tax take and oil-linked pricing insistence, both of which are making gas producers increasingly less competitive. While it is unlikely Russia would realize this full slate of reforms, a scenario that allows for limited liberalization and limited opportunities for foreign investors to take upstream assets is plausible. Under these conditions, Russia would likely maintain European market share (with gradual losses possible a decade out) and sign a handful of supply deals with Asian consumers, but the opportunities for dramatic production growth and a sharp uptick in export opportunities would be limited.

Stagnation

In this scenario, the political scene remains unchanged with strong central authority and insufficient public backing for opposition figures. The Russian economy continues to be undiversified with minimal growth, leaving the budget still heavily dependent on oil and gas revenues. Slow economic growth means little domestic demand growth, forcing producers to market excess gas volumes overseas, where they will be unable to capture the kind of prices needed both to cover costs and invest heavily in new projects, particularly in expansion of LNG capacity. This would have negative consequences in Asia, where alternative suppliers would surpass Russia and lock in long-term, more competitively priced contracts. The continued prioritization of the oil sector comes at the expense of gas companies, which would continue to see incrementally higher tax take in the coming years that proceeds into the longer term. This would heavily discourage investment into new projects, including LNG, meaning producers would likely fall short of the government's more ambitious production growth targets. Europe would remain Russia's main export market because of preexisting infrastructure to the European market, but even some of this share would gradually diminish as Russia loses some share to more competitively priced gas.

Liberalization

A more investor-friendly Russia understands that resource nationalist policies have taken a toll on Russian production growth and competitiveness, so the government approves the law allowing for some liberalization of the gas export market. The increased role of Rosneft and independent producers such as Novatek would mean producers were competing to lock in export deals, incentivizing them to introduce more competitive pricing into contracts. Furthermore, some liberalization would encourage the continued presence of foreign investors and inflow of foreign capital into Russia. The combined presence of foreign IOCs and Asian investors would mean Russia had both the technological know-how and capacity and capital commitments to develop key upstream assets, particularly Arctic LNG projects. This scenario would support a growing presence in Asian markets and likely more competitive pricing (eventually gas-on-gas pricing terms would be adopted). European supplies would remain at existing levels, and companies would be less burdened by the government tax regime.

Resurgence

The least likely outcome, this scenario offers by far the most dramatically optimistic outlook for Russia. Export market liberalization and more extensive opening up of upstream assets to foreign investors means that Russia has both competitively priced gas and heavy interest from especially Asian consumers, who would aggressively buy up shares in Russian gas projects, especially Arctic LNG, in exchange for long-term purchase agreements. Russia-China energy partnerships would expand dramatically, and both the Power of Siberia pipeline and extensive LNG export capacity would be constructed. With all the inflow of capital and abundance of expertise to develop Russian gas assets, Russia would proceed with South Stream and manage to outcompete the Southern Gas Corridor to maintain and grow European market share. Russia would be a dominant global supplier of competitively priced gas. To relinquish sufficient share in strategic upstream assets to foreign investors, Russia would have to become less dependent on hydrocarbon revenues and more trusting of foreign partners, which would likely imply further economic diversification and a thawing of relations, especially with the West; these two factors make this scenario more implausible.

Collapse

The most doomsday scenario for the Russian gas sector would see an aggressive resurgence of resource nationalism and ongoing heavy dependence on hydrocarbon revenues to bolster the budget. Export liberalization would not take hold, and independents would lose any competitive edge, gradually being bought up by state companies. The scenario would be unenticing for foreign investors, who would likely exit, choosing instead to focus their attention on alternative upstream investment opportunities with Russia's competitors in a play to lock in long-term contracts. This would leave Russia outplayed on foreign markets by the Southern Gas Corridor and emerging LNG opportunities in Europe as well as extensive LNG options in Asia-Pacific. Russia would gradually lose European market share and would miss out on its opportunity to lock in long-term contracts with Asian consumers. Russia's gas sector would be dependent on Gazprom and increasingly on Rosneft's production as well, with the latter likely buying up additional gas assets, including independents that were locked out of the market. This would eventually result in a Gazprom-Rosneft war for influence and export market share, particularly to Europe. This could create some competition on the pricing front, but the lack of foreign investment in the sector and the continued state dominance would leave both companies with inadequate capital inflows or expertise to develop some of its most lucrative opportunities, especially LNG assets.