

# Russia's gas challenge: the consequences for China, Central Asia, Europe and the USA\*

John Roberts\*\*

## ABSTRACT

Russia is posing a series of challenges to gas consumers and gas producers alike. But the effectiveness of these challenges remains a matter of considerable debate. Overall, prospective Russian actions and policies have profound implications for the development of the European gas market in general, and thus for potential US LNG exports to Europe.

Moreover, underlying all this is the most worrisome question of all: do Russia's policies and actions enable gas consumers—and indeed, some Central Asian gas producers—to regard Russia as a reliable energy partner?

This article therefore addresses:

- Prospects for the full implementation of the Russia–China gas accords;
- Prospects for Turkmen gas supply to both Russia and China;
- Prospects for the development of both Gazprom's Turkish Stream project and the EU-backed Southern Gas Corridor;
- Prospects for US LNG in Europe;
- The potential challenge that a change in Russian gas export policies could pose to European gas prices.

The article also seeks to answer the question as to whether Russia can be considered a reliable partner, particularly in connection with long-term deliveries to Europe.

## 1. INTRODUCTION

Russia is posing a series of challenges to gas consumers and gas producers alike. But the effectiveness of these challenges remains a matter of considerable debate. For example, how much should the agreements signed by Russia and China in May and November 2014 for the provision of 63 billion cubic metres a year (bcm/y) of Russian gas to China be regarded as firm contracts that will deliver what they promise? Or should at least one key element, the development of the Altai pipeline, be regarded as an aspiration rather than an assured commitment?

In regional terms, the Russia–China accords can scarcely be considered in isolation from such major external factors as China's drive to secure 65 bcm/y of gas from Turkmenistan, and Russia's own continuing import of gas from Kazakhstan, Uzbekistan and Turkmenistan.

\* AIPN Boulos Lecture

\*\* John Roberts, Methinks Ltd. Email: john.roberts@methinks.org.uk. This article is based on a presentation given by John Roberts to the Association of Independent Petroleum Negotiators in Houston on 1 September 2015. There are no significant elements in the original AIPN presentation that are not also covered in this article.

In financial terms, the Russia–China accords, and Moscow's aspiration to develop a gas pipeline system that would enable it to dispatch gas from Siberia to either Far Eastern or European markets, will cost Russia much more than implementation of its current plans to supply gas to Europe through its new Turkish Stream project. Yet all these projects have to be completed at a time of financial stringency. Russia may be posing some tough challenges to its consumers, but it also faces some hard choices itself.

In Europe, the Turkish Stream project unveiled by President Putin in December 2014 clearly has implications for European customers in terms of both the continuation of contracted deliveries of Russian gas to Central European customers and the potential to curb further development of non-Russian gas deliveries via the EU-backed Southern Gas Corridor. It also, of course, has serious consequences for the future of gas transit across Ukraine.

## 2. RUSSIA'S OVERALL POSITION: GAS FINANCES AND INFRASTRUCTURE

The Russian economy is not doing well. In August, the World Bank recorded that GDP fell 4.6 per cent on a year-on-year basis in the second quarter of 2015, well up on the 2.2 per cent contraction rate recorded in the first quarter.<sup>1</sup> In June, the bank had anticipated that real GDP would contract by 2.7 per cent in 2015, followed by a modest recovery in 2016 with growth of 0.7 per cent and anticipated growth of about 2.5 per cent in 2017.<sup>2</sup> Moreover, it should be noted that these figures are based on average oil prices of \$58/bbl in 2015 and \$63.6/bbl in 2016. No oil price was cited for 2017. As of 23 September, West Texas Intermediate, a benchmark for world crude prices was trading at just under \$45/barrel.

There are even more pessimistic prognostications. A year ago, former Finance Minister Alexei Kudrin anticipated: 'There will be stagnation, like now. There could be recession. We will be balancing on the edge of recession all the time.'<sup>3</sup> Kudrin expected 1 per cent negative growth for next three years and added: 'Today the decline of Russian economic growth is not so much the result of sanctions as of the lack of reform of the economic system, at a time when the oil price is not rising but falling. We need another economic model.'<sup>4</sup> (Kudrin, Moscow 22 September 2014).

The combined effect of sanctions and the slide in the oil price has had a significant negative impact on the Russian economy. One recent commentary on the Russian economy, by Louis Skyner of the London law firm Clifford Chance, included the following points:

- Lower export revenues, increased capital outflow, and an interruption in international lending have caused a liquidity crisis in foreign exchange and a sharp decline in the Russian Rouble (RUB).
- Capital outflow was USD 151.5 billion in 2014 and \$ 52.5 billion for the first six months of 2015.
- The Ministry of Finance, which suggests the crisis may now be past its peak, anticipates the 2015 outflow to be around \$70–\$80 billion while the Central Bank, which spent \$86.5 billion of its foreign currency reserves in 2014 whilst trying to slow the devaluation of the Rouble, anticipates around \$90 billion.
- Finance Minister Anton Siluanov estimated in November 2014 that the decline in oil prices had cost the Russian economy USD 90–100 billion, whilst sanctions caused a loss of a further USD 40 billion. But the impact, however, is greater as the slowdown is structural: even with a stable oil price Russia no longer benefited from rising terms of trade which previously fuelled domestic demand. And if the focus is placed on financing, investment, and consumption, the outlook is darker.

1 <<http://pubdocs.worldbank.org/pubdocs/publicdoc/2015/8/645981439915137488/Russia-Monthly-Economic-Developments-August-2015-final.pdf>>.

2 World Bank. Press Release 2015/ECA/083, 1 June 2015.

3 Kudrin. <<http://www.reuters.com/article/2014/09/22/us-ukraine-crisis-russia-kudrin-idUSKCN0HH1VO20140922>>.

4 *ibid.*

- Russia is also witnessing a banking crisis catalysed by the interruption in international lending. The lack of financing has contributed to a significant reduction in both investment and consumer spending, the former falling 4.8 per cent in April year—on year, the latter falling 9.8 per cent.<sup>5</sup>

What these figures mean is that, as Skyner pointed out, 'Forecasting, let alone policy choices, became almost impossible amid high uncertainty: predictions about the future oil price and its impact Russian economic growth made by the Central Bank, the Ministries of Finance and Economy, international credit rating agencies, and the World Bank were revised on an almost daily basis in response to key events, e.g. the decision of Organisation of Petroleum Exporting Countries (OPEC) on 26 November 2014 not to cut production.'<sup>6</sup>

### Gazprom's problems

Gazprom, in particular, faces constraints in financing upstream and infrastructure development. It is producing less, yet it is also wasting money. In the first half of 2015, Gazprom produced 205 bcm, 13 per cent down on the 235 bcm produced in IH 2014.<sup>7</sup> And 2014 was not a good year, with full year production totalling just 44 bcm, the lowest for 15 years and well below the previous low of 461 bcm recorded in 2009. It has also wasted money. When President Putin announced in Ankara on 1 December 2014 that Turkish Stream would replace South Stream, he was putting forward a plan that, in immediate construction terms, simply involved switching landfall for the projected 900-km pipeline from just north of the Turkey–Bulgaria border to just south of it. In practice, the 'new' Turkish Stream project for Black Sea gas transit would largely be able to utilize existing South Stream contracts for actual project implementation. With at least €4bn in contracts for goods and services at stake, including those for physical pipe that had already been delivered, this was a perfectly reasonable approach.

But one aspiration proved to be a false dawn, that actual pipe-laying would start by mid-2015. To this end, at a cost of around \$1.8 million a day, a pipe-laying fleet that consisted primarily of two major vessels, the massive *Saipem 7000*, the world's second largest crane vessel and the *Castoro Sei*, remained on standby off Bulgaria until it was unexpectedly stood down on 8 July 2015, less than 48-hours after most of the fleet had arrived at the Russian port of Anapa to start actual pipe-laying.<sup>8</sup> Thus Gazprom incurred around \$400 million in unnecessary costs, without any regard to contract cancellation fees.

Yet Gazprom is supposed to be saving money. Theoretically, the Russian state behemoth remains subject to a 10 per cent annual reduction in expenditures over a five-year period imposed by the Ministry of Economic Development on 10 December 2013.<sup>9</sup> That's a 41 per cent cut from 2014 to 2018. In practice, however, the Russian state wants to pursue its grand designs. Since it falls to Gazprom to carry out much of the project implementation, the cost cutting exercises would appear to be aimed more at saving on domestic operations than on export-oriented projects. In December 2013, just before the 10 per cent cut was announced, Gazprom said it was shelving \$3.5 billion on pipeline repairs.<sup>10</sup> But export projects appeared protected in the wake of a suggestion made in November 2013 by Prime Minister Dmitri Medvedev that the National Prosperity Fund, set up in 2008 to stabilize the Russian pension system, should be used to pay for infrastructure projects.<sup>11</sup> Fund assets then stood at some 2.85 trillion roubles (\$88.5 billion). One initial

5 Source: Louis Skyner, 'Clifford Chance, London. The Impact of Sanctions: The Future of Russian Oil and Gas Production and Energy Relations across of Eurasia' Presentation for Chatham House, 30 June 2015.

6 *ibid.*

7 <<http://reports.seenews.com/reports/gazprombank-russia-equity-daily-jul-29-2015-oil-gas-486295>>.

8 \$1.8m/day. Diplomatic source to the author.

9 <<http://www.vedomosti.ru/var/bansrc/2013/e0bd94.html#!http://www.vedomosti.ru/companies/news/19900441/yuzhnyj-koridor-podorozhal-na-45>>.

10 <<https://www.rt.com/business/state-monopoly-10-costs-637/>>.

11 <<http://www.themoscowtimes.com/business/article/medvedev-expands-investment-options-for-national-prosperity-fund/489106.html>>.

**Table 1. Gazprom Investment—Theoretical and Actual (in RUB bn).**

<b>A: Gazprom Investment Approvals</b>						
	<i>For 2013</i>		<i>For 2014</i>		<i>For 2015</i>	
	<i>Dec 2012</i>	<i>Oct '13</i>	<i>Dec '13</i>	<i>Oct '14</i>	<i>Dec '15</i>	<i>Oct '15</i>
Total Investment	705.4	1,026.1	806.0	1,026.2	840.3	1,043.0
Capital Investment	658.45	782.1	701.1	816.6	733.1	n/a
External fin. borrowings	90.0	229.2	90.0	90.0	90.0	227.5
<b>B: Actual Capital Expenditures:</b>						
<i>2012</i>	<i>2013</i>		<i>2014</i>			
1,200.5	1,131.0		1,084.8			

Source: Gazprom Press Releases 21 October 2014, 23 December 2014 and 20 October 2015.

saving, a delay to the start of construction of the Power of Siberia line in the absence of a final agreement with China on the price of gas to be supplied, would have helped Gazprom in 2014. But it came at a cost in 2015 when Gazprom announced in April 2015 that it would be planning to invest an additional \$4 billion to speed up its plans for projects in Asia.<sup>12</sup>

In terms of its investment plans, the bottom line is that Gazprom, while commonly announcing projected investment plans, has in practice modestly reduced its actual investment approvals in Russian Rouble terms. Moreover, as a result of the depreciation of the Rouble, this implies a severe contraction when translated into dollars or euros, since the Rouble has lost more than half its value against the dollar since 2012 and almost half its value against the Euro in that timeframe (Table 1).<sup>13</sup>

### Gazprom's commitments

In principle, Gazprom is committed to the following major expenditures:

#### **EAST:**

- \$55 billion for development of the 4,000-km Power of Siberia gas line and upstream costs of the Vostok project, notably the Chayanda gas field in Yakutia (albeit with a \$25 billion upfront Chinese loan).
- \$18.5 billion for the Altai Pipeline.

#### **WEST:**

- €9.9 billion (c. \$11 billion) for Nord Stream 2.
- \$22.5 billion for Russia's Southern Corridor.
- In 2014, \$22.5 billion for a 63 bcm/y South Stream (four string offshore) and twin-pipe onshore line to Tarvisio in northeastern Italy and/or Baumgarten in Austria (estimated at €16–17 billion

12 <<http://www.bloomberg.com/news/articles/2015-04-14/russia-to-press-ahead-with-china-gas-deal-as-europe-snubs-link>>.

13 Sources: <<http://www.ozforex.com.au/forex-tools/historical-rate-tools/yearly-average-rates>> for average yearly rates and [xe.com](http://xe.com) for current rates. On average, in 2012, one US Dollar was worth 31.08 Roubles and one Euro was worth 39.93 Roubles; in 2013, one US Dollar was worth 31.86 Roubles and one Euro was worth 42.34 Roubles; in 2014, one US Dollar was worth 38.51 Roubles and one Euro was worth 50.9 Roubles. So far in 2015, one US Dollar has been worth 59.4 Roubles and one Euro worth 66.26 Roubles. As of 24 September 2015, one US dollar was worth 66.45 roubles and one Euro was worth 74.48 Roubles.

in 2013); In 2015, c. \$10 billion for a 31 bcm/y Turkish Stream (two string offshore) and single pipe onshore line to the Turkish–Greek border at Ipsala/Kipoi.

In practice, none of these projects can be taken at face value. The development of a new generation of gas connections to both east and west remains highly uncertain, and subject to political as well as commercial changes of fortune.

### 3. RUSSIA'S PIVOT TO CHINA, AND THE CONSEQUENCES OF RUSSIAN POLICY CHALLENGES FOR CHINA

#### Russia's ambition

Russia has considerable ambitions to ensure that gas sales to the Far East assume at least as great a role in its export portfolio as gas sales to Europe. In 2011, Deputy Energy Minister Anatoly Yanovsky announced Gazprom's planned pivot to China with a declaration to the International Energy Agency in Paris in which he declared: 'Now Gazprom does not find itself to be a primary supplier of gas to Europe due to the stance of some of our European partners.'<sup>14</sup>

Both the Russian state and Gazprom itself have exerted considerable efforts to develop various major projects that would ensure large scale supplies of gas to markets in the Far East—primarily by pipeline to China but also in the form of liquefied natural gas (LNG) to other Asia-Pacific markets. The core plan involved the development of the 4,000-km Power of Siberia pipeline, a two-string, 60 bcm/y system that would ensure new gas field developments in western, central and eastern Siberia would be able both to pipe gas to China and to supply feedstock for an LNG liquefaction plant at Nakhodka, on Russia's Pacific coast near Vladivostok. As of 2014, Power of Siberia was due to connect the gas fields of Yakutia, notably Chayanda, with Vladivostok in 2017. Construction costs were put at \$38 billion, with average costs of no less than \$8–\$9 million per kilometre, well up on estimated costs for major European projects, such as the Southern Gas Corridor from Azerbaijan to Italy of around \$5 million–\$6 million per kilometre.<sup>15</sup>

On 21 May 2014, Russia and China signed an agreement in Beijing which focussed on Russia delivering gas to China from 2019, starting at a rate of 12 bcm/y and eventually rising to 38 bcm/y. At the time, the accord was dubbed the \$400 billion deal, based on approximations of the total volumes to be supplied—and estimates concerning the price. President Putin announced that the project would cost \$55 billion, while China agreed in principle to provide some \$25 billion in project-related finance.<sup>16</sup> Within a year, on 2 May 2015, the timetable was amended as President Putin ratified the agreement, but with initial deliveries, still at a level of 12 bcm/y, not starting until 2020. This, in itself, appeared over-optimistic, with Vitaly Markelov, the Deputy Chairman of the Management Committee of Gazprom, saying in an interview with Gazprom's own corporate magazine published on 15 May 2015 that capacity in 2020 would be a little less than that envisaged in the ratification.<sup>17</sup> Markelov said Gazprom's goal was to bring the first major element of the Power of Siberia pipeline online by the end of 2018. This would consist of a 2,240-km stretch of line, powered by a single compressor station, with a limited initial capacity of 5 bcm/y. Additional compression could raise capacity to 10 bcm/y in 2020, to 15 bcm/y in 2021, to 22 bcm/y in 2022, and to 30 bcm/y per year in 2023. He said final project capacity of 38 bcm/y was scheduled to be reached between 2024 and 2031. On Altai, Markelov said that if a commercial contract were signed in 2015, then the first gas 'may be supplied via the Altai gas

14 Yanovsky. Paris, 18 October 2011.

15 <<http://siberiantimes.com/business/investment/news/gazprom-unveils-major-38-billion-siberian-gas-development-in-asian-export-drive/>>. It should be noted that initial expectations of the Power of Siberia's cost were put at around \$20 billion and that in July 2014 President Putin's Chief of Staff Sergei Ivanov put the cost at \$60–70 billion (<<http://www.themoscowtimes.com/business/article/gazproms-gas-pipeline-to-china-to-cost-up-to-70bln-kremlin-says/503199.html>>).

16 <<http://www.reuters.com/article/2014/05/23/us-gas-russia-china-pipeline-factbox-idUSBREA4M0AE20140523>>.

17 <<http://www.gazprom.com/press/reports/2015/gazprom-wide/>> NOTE: The website carries an erroneous 15 May 2014 date. It should read 15 May 2015.

pipeline after 2020 and the full design capacity of 30 billion cubic meters will be reached within six years'.<sup>18</sup> A few days later, on 19 May, Markelov further indicated that so far Gazprom had only managed to lay 15 kms of the Power of Siberia line, and that the target for such construction was just 50 kms in 2015, strong indications that his earlier projected dates for line completion and capacity may be off by several years.<sup>19</sup>

Moreover, little if any further progress was made in 2015 on either implementation of the Inter-Governmental Agreement concerning the Eastern route via Blagoveshchensk or on concluding a gas sale and purchase agreement for eastern route deliveries via Altai. When President Putin visited Beijing on 3 September 2015, despite considerable advance speculation that Russia would secure Chinese approval for implementation of the western Altai route ahead of development of the eastern route, there were no public statements concerning practical implementation of either route. Instead, the next day—and in a somewhat surprising and seemingly inappropriate venue, the great Russian Pacific port of Vladivostok—Gazprom demonstrated the continued centrality of Europe in its export thinking with a major declaration concerning the expansion of the Nord Stream pipeline to Germany.<sup>20</sup>

The most likely reasons for Moscow's failure to finalize contract implementation with Beijing almost certainly relate to three key issues. The first is pricing. The two sides do not yet appear to have reached an agreement on the twin issues that involve pricing, the base price used for calculations for the gas price formula and the formula itself. At a time of falling gas prices globally, they may still be at odds at one, or the other, or both. When Russia and China signed their eastern gas agreement in Beijing in May 2014, the price of oil, to which Russia routinely links its gas prices, was around \$105 a barrel (Brent). By the time of the Beijing summit on 3 September 2015, it had fallen to below \$50. The second reason concerns the *quid pro quo* for Chinese finance for gas-related development within Russia. China would like to secure a direct stake in upstream development; Russia wants all field development required in connection with pipeline exports (it has a different attitude with regard to LNG-related facilities) to be carried out by Russian companies. The third is that Russia wants to prioritize development of exports via the western, Altai pipeline, since this would enable it to utilize fields that are already in service, in contrast to the eastern route which requires major investment in new fields. Moreover, the fields from which the Altai line would be supplied are already linked to pipelines serving European markets, ensuring an element of arbitrage and thus giving Russia a lever to ensure that China paid a competitive price for Russian gas.

China wants to prioritize this eastern line, on which CNPC reported in June 2015 the official start of actual construction.<sup>21</sup> Initially, and probably for several years, reliance on the eastern route would mean that Russia would have to supply gas to China from fields that would lack connections to any other significant market. China would certainly be the principal (and probably the only) export market, thus giving Beijing an advantage when negotiating prices. The eastern line also works better for China since it would have to lay far less pipe on Chinese soil (or sand!) than if the Altai line were chosen, since Altai would require the construction of extensive additions to the main West-East trunkline system as well a new connections to the West-East line.

Four years on from Yanovsky's Paris declaration, it is still far from clear just when Russia will be in a position to achieve its ambitions to develop new markets in the Asia-Pacific region for prospective pipeline or LNG exports. As of late 2015, it would seem that while Russia's pivot to Asia remains a sensible objective in theory, in practice it is only likely to be accomplished on largely Chinese terms. And, as of October 2015, Russia does not seem ready to accept such terms (Figure 1).

18 Markelov. <<http://www.gazprom.com/press/reports/2015/gazprom-wide/>>.

19 <<http://sputniknews.com/business/20150519/1022308242.html>>.

20 <<http://www.nord-stream2.com/press-info/news/gazprom-basf-e-on-engie-omv-and-shell-sign-shareholders-agreement-on-the-nord-stream-2-project-2/>>.

21 <<http://www.cnpc.com.cn/en/nr2015/201506/e95714f5bcf94ebeacfa2060a996adf0.shtml>>.

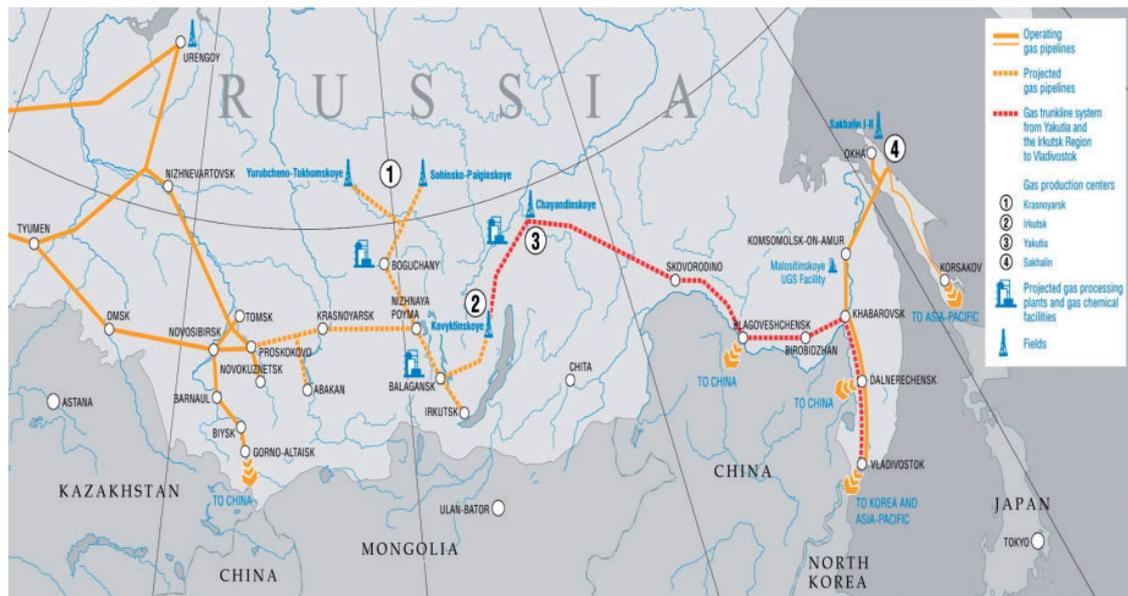


Figure 1. Russia's planned gas pipelines to China and the Pacific Source: Gazprom.

#### 4. CENTRAL ASIA: CHINA FILLS THE VACUUM LEFT BY RUSSIA

Once upon a time Russia used to import cheap gas from Central Asia in order to export cheap gas to Ukraine and other favoured Commonwealth of Independent States (CIS) states. But whereas these volumes once totalled as much as 40–50 bcm/y, as exports to favoured countries (especially Ukraine, which is no longer a favoured neighbour) have collapsed, so, too, has the need to import cheap gas, particularly since the providers of that gas had previously secured price reviews that ensured their gas was purchased at rates that in some way reflected (with due allowance for differential transport costs) European prices. In October 2014, Russia signalled that this arrangement, in decline since 2009, was coming to an end. Vsevolod Cherepanov, head of Gazprom's Department of Gas, Gas Condensate, and Oil Production, disclosed at the St. Petersburg Gas Forum that talks were under way to end Moscow's gas purchase agreements with Ashkhabad and Tashkent, whilst indicating this would not take place until 2016.<sup>22</sup>

However, although Gazprom continued to import Turkmen gas in 2015, there have been two major changes. Firstly, it announced in early 2015 that it would be reducing its imports from Turkmenistan to just 4 bcm in 2015.<sup>23</sup> This prompted a furious response from Turkmenistan, with state-owned Turkmengaz publishing a commentary which termed Russia an 'unreliable partner' before stating that Gazprom and its affiliates 'periodically violate agreements at interstate, intergovernmental and interdepartmental levels'.<sup>24</sup>

But there was worse to come. Russia then seems to have decided to would not pay for whatever gas it did continue to import from Turkmenistan. On 8 July 2015, Turkmenistan's Oil and Gas Ministry issued a statement saying: 'Since the beginning of 2015, OAO Gazprom has not paid for its debts to state concern Turkmengaz for the shipped volumes of Turkmen natural gas.'<sup>25</sup> It added: 'Russian company Gazprom has

22 Cherepanov's comments were reported in various Central Asian media, which generally cited Interfax. I have not been able to trace the original Interfax report. See: <<http://www.angi.ru/news.shtml?oid=2817680>>; <<http://enews.fergananews.com/news.php?id=2857>>; and <<http://ca-news.org/news/1126747>>.

23 <<http://www.azernews.az/region/77018.html>>.

24 <<http://www.eurasianet.org/node/72121>>.

25 <<http://uk.reuters.com/article/2015/07/08/gas-turkmenistan-gazprom-idUKL8N0ZO30Q20150708>>.

become insolvent on its natural gas purchase-and-sale contracts due to the continued global economic crisis and economic sanctions imposed by Western nations on Russia.<sup>26</sup>

Amid current uncertainties, it thus looks highly likely that Russia will cease to import Turkmen—and Uzbek—gas from next year onwards, leaving only Kazakhstan as a residual Central Asian gas supplier to Russia—and that largely reflects circumstances that are quite specific to Kazakhstan. One issue is that Kazakhstan's still-incomplete set of domestic infrastructure means that it is still exporting gas to Russia from the northwest of the country, whilst having to import gas from Russia in the northeast. The second is that the gas exported from the northwest comes primarily from the giant Karachaganak field, and the processing of that gas is carried out at Orenburg, a facility just across the border from Karachaganak, in Russia.

There may also be some political considerations. Kazakhstan's President Nursultan Nazarbayev still enjoys as reputation as an elder statesman in many former Soviet republics and has implemented policies that while opening the country to both Western and Chinese commerce and investment has carefully promoted a strong political and trade relationship with Russia.

In contrast, China is moving steadily forward in terms of securing increased energy supplies from Central Asia. In just five-and-a half years, from 17 May 2004 to 14 December 2009, China designed, constructed and began to utilize two massive pipeline systems, one which currently carries oil from Kazakhstan's Caspian shores to Shanghai; the other which brings gas all the way from Turkmenistan to Hong Kong. The two lines were not only key to the original diversification of Chinese imports (and Central Asian exports) but, as of late 2015, are still in the process of extensive further expansion. The biggest ongoing development concerns the Trans Asia Gas Pipeline, which carries Turkmen, Uzbek and Kazakh gas to China. The first string, Line A, line opened in December 2009 and was followed by the construction of two more lines along the same route through Uzbekistan and Kazakhstan to Chinese Xinjiang, entering China at Khorgos, to the northwest of Urumchi. This system now has a 65 bcm/y capacity and, as of late 2015, is expected to deliver close to 35 bcm of Turkmen gas to China in 2015 together with some relatively modest supplies from Uzbekistan and Kazakhstan. At the same time, however, construction work has started on line D, which would take a far more southerly route through Uzbekistan, Tajikistan and Kyrgyzstan and enter China due west of Urumchi.

By 2020, Turkmenistan expects to be exporting some 65 bcm/y to China. In principle, Uzbekistan and Kazakhstan also should each be exporting around 10 bcm/y to China at that stage. However Uzbekistan has a major domestic requirement for gas and it is far from clear that it will be in a position to export this much. Kazakhstan is probably in a better position—at one stage in the early 2000s it was considering the export of as much as 30 bcm/y to China. However, its current export policy is essentially limited to seeing whether there is any gas left over for export now that, as a result of the construction of a Chinese-financed gas pipeline across Central Kazakhstan, the country can use its own gas, produced in western and northwestern Kazakhstan, to supply its own industrial markets in southeastern Kazakhstan.

In theory, this means Central Asia and Russia are in competition for the Chinese gas market. Thus in 2011 the International Energy Agency (IEA) envisaged the possibility that by 2020 Russia would be exporting some 13 bcm/y to China and Central Asia some 37 bcm/y—but with Russia then moving to overtake Central Asia by 2025, by which time the IEA anticipated Russia might supply as much as 75 bcm/y to China against 57 bcm/y coming from Central Asian suppliers (see Table 2, The IEA View).<sup>27</sup>

In practice, there is no competition. China's state-owned China National Petroleum Corporation (CNPC) is itself largely responsible for development of the gas resources it wishes to import from Central Asia, since these largely originate in Turkmenistan where China has a major onshore production agreement to develop a cluster of fields at Bagtyyarylyk in the north, a major role in developing the first 30 bcm/y phase of the supergiant Galkynysh field in the centre (Galkynysh is the world's largest onshore gas field), and the sole responsibility, albeit on a service contract basis, for development of the second 30 bcm/y phase at

<sup>26</sup> *ibid.*

<sup>27</sup> International Energy Agency, *World Energy Outlook 2011*, Table 9.

**Table 2. The IEA View:**

	2010*	2020	2035
<i>Caspian net exports</i>	42	100	135
• to China	3	37	57
<i>Russia net exports (b)</i>	190	214	328
• to China	1	13	75

Source: IEA.

Galkynysh. Moreover, China's commitment to practical development of Central Asian energy resources is also demonstrated by its habit of concluding major trade, investment and loan agreements with key countries—and then actually implementing these agreements.

As a result, there is a radical difference in terms of actual implementation of gas supply agreements between Russian and Central Asian suppliers to China. By December 2014 Turkmenistan had already supplied China with some 100 bcm, starting from scratch and building up to a supply of around 30 bcm in 2014.<sup>28</sup> And in 2015, five years before the IEA's anticipated 37 bcm supply of Caspian (which in this context means Central Asian) gas to China, Turkmenistan alone was expected to deliver close to 35 bcm/y, while modest amounts from Uzbekistan could take overall Central Asian supplies over this 37 bcm mark.<sup>29</sup>

Russia's performance, in contrast, has been one of continued promises but little delivery. Russia first proposed supplying China with 68 bcm/y in 2006, and then signed further agreements in 2014 that were supposed to lead to actual deliveries in 2019. But in 2015 Russia was acknowledging that deliveries via the 38 bcm/y eastern route could not be expected until 2020 and via the western route until later in the 2020s.<sup>30</sup> It is true that Russia has started construction of the key Power of Siberia line, the core of the eastern route system, and that China has started to lay a connecting pipeline for the eastern route, but Russian progress on Power of Siberia is not clear and, as yet and as noted earlier, there are still a number of issues to be resolved before it becomes clear just when, or even whether, Russian gas will start flowing to China.

## 5. CONSEQUENCES FOR EUROPE

Europe remains Russia's biggest export gas market. However, whereas in the past it was necessary to distinguish between sales to hard cash European customers and those delivered on preferential terms to fellow members of the Commonwealth of Independent States, today the differentiation is between customers within the EU and those who are not. The principal differences concern Turkey and Ukraine. Whereas the Member States of the European Union are moving towards an Energy Union, with the European Commission's Third Energy Package already ensuring that external suppliers have to relinquish control of their gas at the point of entry into the EU, Turkey and Ukraine constitute two glaring exceptions to this. They are thus treated differently by Russia, which places a much greater focus on the strategic issues involved in gas relations with these two countries than it does with its trade with the EU (where energy-related strategic issues generally relate to its relations with EU as a whole, rather than with individual Member States). Of course, Turkey and Ukraine were viewed in quite different ways: the former – at least until October 2015 when Turkey began accusing Russian Syrian-based warplanes of flying over Turkish territory – was generally viewed quite positively, the latter negatively. The situation is mildly complicated by the existence of the European Energy Community, which effectively extends EU Energy Directives to various states in the Balkans and which will, in time, also extend them to two of the countries with which Russia has generally adversarial relations: Ukraine and Georgia.

28 <[http://www.china.org.cn/business/2014-11/14/content\\_34056195.htm](http://www.china.org.cn/business/2014-11/14/content_34056195.htm)>.

29 <<http://www.platts.com/latest-news/natural-gas/singapore/chinese-cnpcs-current-turkmenistan-gas-imports-26993230>>.

30 Markelov (n 18).

But for the time being Moscow can consider Ukraine and Turkey separately from the EU, and its gas supply policies reflect this. Thus Gazprom intends that from 2020 onwards it will no longer deliver gas to European customers via Ukraine, hitherto the main artery for Russian gas supplies to Europe. In order to provide a replacement delivery system, Gazprom has reached agreements with major Western companies, notably Shell, to double the existing Nord Stream pipeline system from Russian terminals in the Gulf of Bothnia to Germany and is still officially wedded to a commitment to construct a new pipeline across the Black Sea to Turkey. However, while progress is being made on Nord Stream 2, Turkish Stream is certainly stalled and may well be at risk of outright cancellation.

Russia effectively confirmed Nord Stream's primacy in its efforts to replace Ukrainian transit routes for gas exports to Europe when Gazprom signed an agreement on Vladivostok on 4 September 2015 setting out the shareholding arrangements for the project to build a new 55 bcm/y system across the Baltic. The shareholders' agreement was significant because of the quality of the parties involved. The new company—imaginatively called the New European Pipeline AG—would be majority owned by Gazprom, Russia's state-owned gas behemoth, with a 51 per cent stake. But four key European concerns—Royal Dutch Shell, Germany's E.On, Austria's OMV and Germany's BASF/Wintershall, are each to have a 10 per cent stake while France's ENGIE (The former GDF Suez) will take 9 per cent. These are serious investors who expect both tangible commercial returns on the initially estimated €9.9 billion cost of laying a pair of 1,220 km-long pipelines and, in many cases, regard this as part of a portfolio of Russian-related energy assets or opportunities.

This striking declaration of commercial faith in Russia's ability to deliver a profit-making partnership with European companies stands in sharp contrast to the political tensions between Russia and many European governments stemming from its occupation of the Crimea and ongoing support for separatist forces in eastern Ukraine.

Russia is currently subject to considerable international sanctions, while the European Union is host to a major political endeavour to reduce European dependence on Russian gas by developing infrastructure that would enable Member States to import gas from new suppliers, either by pipeline or in the form of liquefied natural gas (LNG).

Gazprom itself may not be subject to EU sanctions—although it is included in US sanctions, while its Gazpromneft oil subsidiary is on the EU sanctions list—but Russia's gas giant is in trouble with the European Commission, the European Union's executive body, and with several individual EU Member States concerning its alleged abuse of dominance on Central and Eastern European gas supply markets. In theory, the Commission's anti-trust case could result in Gazprom being fined up to 10 per cent of its annual turnover, which would total around €15, but one major analyst, Dr Alan Riley of London's City University, considers the Commission is more likely to seek to fine Gazprom between €0.5 billion and €3.0 billion.<sup>31</sup>

The strong European corporate support for Nord Stream 2 is one reason why this project is likely to go ahead, despite objections from senior US officials. Another is that Gazprom appears to have reconciled itself to the fact that, under EU regulations, it will not be able to control the resale of gas once it reaches Germany.

Moreover, with some 90 per cent of throughput expected to be dispatched to the major Austrian trading hub at Baumgarten via the Ostsee-Pipeline-Anbindungsleitung (OPAL) pipeline through eastern Germany, Gazprom will be able to argue that this gas will enable it to continue to supply customers in central Europe, notable Slovakia, the Czech Republic and Hungary, which currently rely on deliveries transiting Ukraine (Figure 2).<sup>32</sup>

The Nord Stream 2 shareholders' agreement not only emphasizes Russian determination to bypass Ukraine, but almost certainly ensures that, for the foreseeable future, implementation of the Turkish Stream project will be not only delayed, but stunted. Turkish Stream was announced by President Putin on

31 <<http://www.naturalgaseurope.com/gazprom-european-commission-antitrust-23635>>.

32 Diplomatic sources are the origin of the statement that 90% of Nordstream 2 throughput would be forwarded via OPAL.



Figure 2. Nordstream 2 and OPAL.

Note: This is a map of the original Nord Stream pipelines laid from 2010 to 2012. Nord Stream 2 is expected to follow essentially the same route but possibly with an additional landfall in Germany to Greifswald. Source: Wikipedia.

1 December 2014 as a replacement for the previous South Stream project for a new gas export system to link Russia with Southern and Central Europe. Gazprom subsequently stated that it was intended to convey some 16 bcm/y of gas to Turkey and 47 bcm/y of gas to European customers currently served via Ukraine.<sup>33</sup>

However, the weakness of Turkish Stream is that it only allows for perhaps 10 or 12 bcm/y to be delivered to Gazprom's European customers—apart from Turkey—unless extensive and expensive new pipelines are built from the Turkish-Greek border onwards to carry the gas to these customers. And even the 10 or 12 bcm/y that it could deliver would have to rely on the Russian giant managing to secure access to the Trans-Adriatic Pipeline, currently under development as a means of transporting non-Russian gas from Azerbaijan to southern Europe, notably Italy. It thus looks likely that if Gazprom does proceed with Turkish Stream—and the cancellation of the initial pipe laying contract on 8 July means the project is at least being delayed, if not scrapped—it is only likely to be developed as a 15.75 bcm/y or 31.5 bcm/y system and not, as Mr Putin announced, as a 63 bcm/y four-pipe project (Figure 3).

Both Turkish Stream and its South Stream predecessor were predicated on Gazprom's development of its 'Southern Corridor' project. In July 2015, there were reports that whilst the shorter, western, line had been completed, there were problems concerning the much longer, eastern, line.<sup>34</sup> Problems on the southern corridor would obviously have a knock-on effect on Turkish Stream. But it can also be argued that if Turkish Stream was itself in trouble, as a result of Russian difficulties in concluding agreements on such key issues as the price of Russian gas to be sold to Turkey and the role of Turkish companies in developing the onshore section of Turkish stream, then there is less incentive to proceed rapidly with the Southern Corridor project. Indeed, were Turkish Stream to be abandoned, then there would be major questions as to the extent of Gazprom's continuing interest in developing the Southern Corridor (Figure 4).

33 <<http://www.gazpromexport.ru/en/projects/6/>>.

34 <<http://latestnewsresource.com/en/news/gazprom-zamorozil-rasshirenie-moschnostej-pod-turetskij-potok>>.



**Figure 3.** Turkish stream

Source: Gazprom.

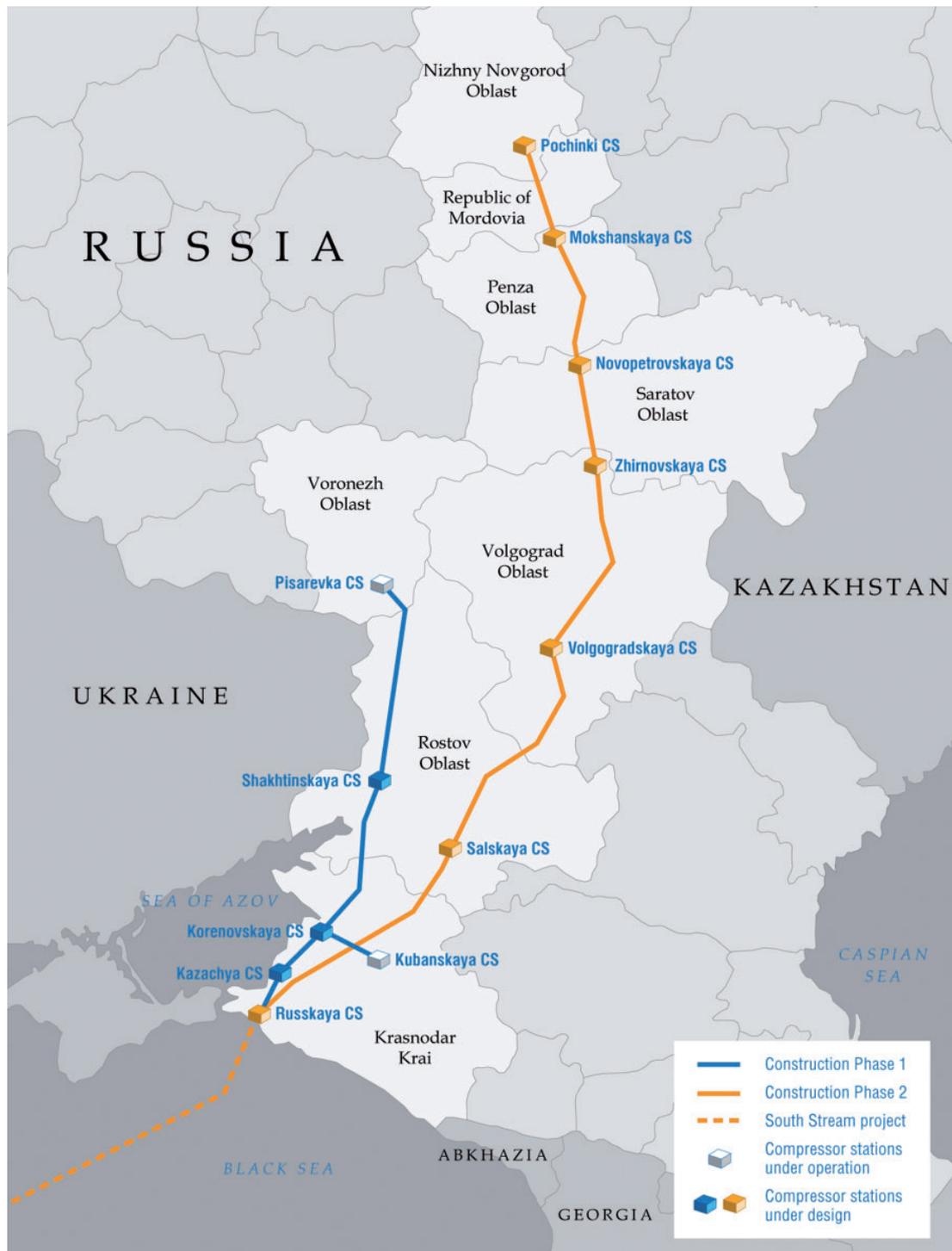
In the meantime the European Commission is working to reduce the intense levels of dependency on Russian gas imports of countries in central and southern Europe. It is doing this in several ways. These include promotion of new, alternative supply sources, notably through development of LNG import terminals and through promotion of the Southern Gas Corridor which will start bringing some 6 bcm/y of Azerbaijani gas to Turkey in 2019 and a further 10 bcm/y to European countries beyond Turkey, notably Italy, in 2020. It is also promoting the development of new interconnectors within the European Union and states associated with the EU through the European Energy Community. These will help alleviate extreme dependency on Russia by easing the way for non-Russian gas to enter markets now largely or wholly served by Gazprom, not least by giving them access to LNG delivered to Europe by sea from a variety of suppliers from the Persian Gulf to Trinidad at present and from 2016 onwards, quite possibly, from the USA as well.

Thirdly, it is promoting programmes to enable existing pipelines to operate in reverse mode, notably to help Ukraine secure gas for delivery to Western Europe by enabling it then to flow eastward into Ukraine. Ironically, the vast bulk of this gas originates in Russia, but it has entered the EU under agreements which are far more commercial than the existing bilateral agreements between Gazprom and Ukrainy Naftogaz, thus ensuring a considerable saving on the extremely strained Ukrainian finances (Figure 5).

## 6. RUSSIA—GAS PRICING AND THE CONSEQUENCES FOR THE USA

In energy, Russian actions to date constitute a relatively minor factor in terms of the development of oil and gas in the USA. The role of other oil producers in general (not only OPEC), and Saudi Arabia in particular, are of much greater importance than Russia. However, there is one specific area in which the US has a particular interest in Russian energy policy—gas pricing.

Price determines to a great extent the levels of both production and consumption, and, obviously, is particularly important in terms of the balance of production between shale oil and shale gas. US natural gas



**Figure 4.** Russia's Southern gas corridor  
*Source:* Gazprom 2011.

producers, if only to a limited extent, are looking at Europe as a possible destination for LNG exports (their prime objective being the Asia-Pacific market). However, much will depend on the relative prices of US-delivered LNG and Russian pipeline gas.

Traditionally, Gazprom has been able to utilize its role as a monopolistic supplier and the lack of alternative delivery systems to maximize prices paid by a number of European customers. Thus at one stage in early

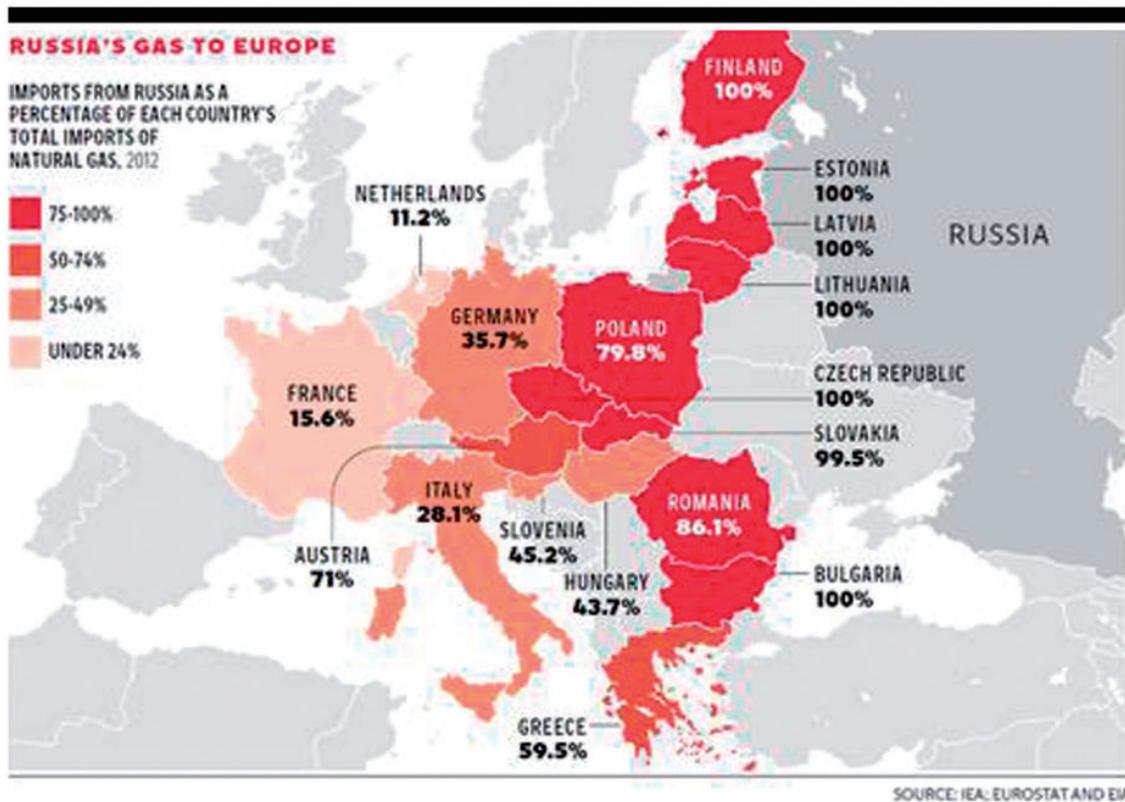


Figure 5. Russian Gas Sales to Europe

2013, Macedonia was paying \$564 per thousand cubic metres whereas the comparable price for Germany, located at a similar distance from Russia's main gasfields, but with a plethora of alternative suppliers, was just \$379 (see Figure 6).<sup>35</sup>

In theory, Gazprom sells gas at a fixed price; in practice, by offering rebates, an increasing proportion of its gas price formulae in Europe winds up being based on gas-on-gas pricing—in other words, on market rates. As market forces play an increasingly important role in Russian gas sales to Europe, so it becomes possible to envisage a radical change in Russian thinking on price, with Russia choosing to adopt the role of being the absolute lowest-price supplier of gas to Europe.

Were Russia to adopt such a policy, there would be several key consequences. From an overall Russian perspective, the benefits would be considerable. Russia could flood the European market by taking advantage of its position as a relatively low cost producer of gas—and a producer, to boot, that has considerable spare production capacity.

As to whether Russia would want to switch to competition based on price, much depends on whether such a move would be initiated by Gazprom itself—unlikely, given the conglomerate's innate conservatism—or by the Kremlin, which deeply believes in policies based on surprising and wrong-footing those it considers to be antagonists—or even enemies. Moreover, such a policy would suit the requirements of Russia's so-called independent gas producers, since their production, which currently possesses only a limited access to markets, would have to be granted full access to the current Gazprom-controlled export pipeline system to maximize the potential of such a new policy.

For consumers, the flooding of Europe with Russian gas sold at record low prices would prompt an increasing focus on diversification of gas imports for security reasons at exactly the same time as Russian

35 <<http://izvestia.ru/news/544100>>.

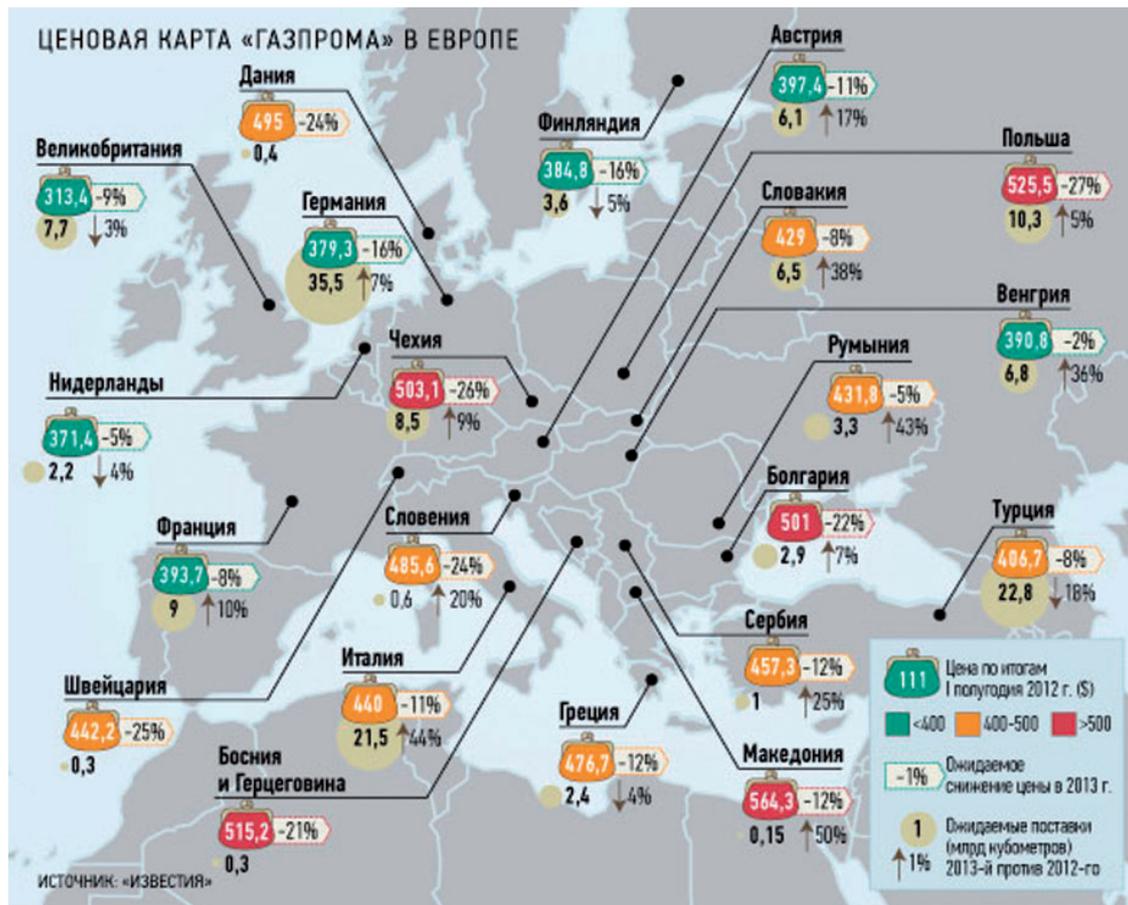


Figure 6. The price of Russian gas in European markets  
 Source: *Izvestia*, 1 February 2013.

moves on price would make such diversification ever more costly. For producers such as Turkmenistan, Azerbaijan, Iran or the Eastern Mediterranean, they would have to consider the daunting prospect of finding buyers in a market in which Russia might well be prepared to undercut any price they might care to offer for the next generation of gas through the Southern Gas Corridor.

At present, such a move is largely speculation, but such speculation is not necessarily unfounded. 'Russia can compete on price, if it chooses to', Simon Pirani, of the Oxford Institute for Energy Studies, told the TUROGE 2015 conference in Ankara in March 2015.<sup>36</sup> Moreover, Russia has already started to change its gas export policy in one major respect: it is increasingly seeking to deliver gas to long-term customers on an interruptible basis, whereas previously it routinely supplied gas on a non-interruptible basis. The difference between these two modes is that if gas is delivered on an interruptible basis, which means that promised monthly or annual volumes can be delivered on a variable daily, or monthly basis, consumers need to boost storage and/or alternative supply options to cover such interruptions to their mainstream supply. Russia's move to deliver supplies to Europe on an interruptible basis, a direct result of the ongoing Ukraine crisis, will cause ongoing problems for importing countries and companies—and for rival producers.

To compete on price, Gazprom and other Russian producers would have to undercut all other gas imports, present and future. It would thus have to compete with potential US LNG imports, which are expected to enter the European market from 2016 onwards. In October 2014 one US LNG developer, Cheniere, considered that it could deliver gas to Europe at just \$9.10 per million Btu. Noting this, Chris Wheaton of

36 Pirani. Author's notes. TUROGE 2015 (Turkish Oil and Gas Exhibition and Conference) 18 March 2015.

Allianz Global investors postulated that in general a price of \$10/mcf (equivalent to \$9.80 per million Btu or to \$283 per thousand bcm) would be necessary to drag US LNG into the European market.<sup>37</sup>

In other words, Russia would have to be prepared to cut prices to below \$280 per thousand bcm. But if it did so, it would set the price basis for the European gas market, and in the process reserve most of the market for itself with little or no reason for European consumers to complain, since it would constitute market dominance based on price, not on monopolistic supply by source, or physical control of delivery systems within the EU.

And Russia has, in relatively recent times, come close to doing just that. By fourth quarter of 2013, Pirani noted, Gazprom prices were within 5% of the UK's NBP (National Balancing Point, a leading European market-based reference price), adding 'this is the major reason why Gazprom sales increased in 2013' when long-term contract sales to Europe rose from 139.9 to 166.0 bcm. Indeed, as Pirani noted, in the first quarter of 2014, Gazprom prices reached parity with the NBP, although, following the collapse in European prices, they were 17 per cent higher in second quarter of 2014.<sup>38</sup> This led, in turn, to a fall in long-term contract deliveries to 150.5 bcm in 2014. This equalization of prices may well have been one of the reasons why Gazprom began experimenting in September 2015 with the sale of limited volumes of gas by auction.<sup>39</sup>

Gazprom's ambivalence where price formation is concerned was shown in its negotiations with Turkish customers in 2015, with Gazprom holding out against further demands for price reductions from its main customer, Turkey's state-owned gas transit and distribution company Botaş, whilst showing flexibility in dealing with private customers.

Just what is at stake in Gazprom's negotiations with Botaş, which accounted for more than 17 bcm of the 27.3 bcm of Russian gas supplies to Turkey in 2014, is hard to quantify exactly. The nominal price to be paid by Turkey's Botaş for the bulk of Turkish imports in early 2014 was understood to be \$435 per thousand cubic metres (\$435/000 cm), although the Turkish state importer may actually have been paying less than this in reality.<sup>40</sup> In February 2013, *Izvestia* reported the price of gas to Turkey as being \$406.7/000 cm.<sup>41</sup> Since early 2014, however, there have been no firm indications concerning the actual, as opposed to the nominal, prices paid by Botaş for Gazprom's deliveries. In February 2015, after requesting a 15 per cent discount, it was understood to have agreed a discount of 10.25 per cent.<sup>42</sup>

What constitutes the base price for any such discounts has not been stated in any of the multitude of reports concerning Turkish price negotiations in 2015. It does seem unlikely, however, that would have been based on a \$435/000 cm starting point since by May Gazprom Deputy CEO Alexander Medvedev was saying that the company anticipated an average 2015 price for gas supplies to the EU and Turkey of between \$240 and \$245 per 1,000 cubic metres.<sup>43</sup> Moreover, the way the discount would be calculated remained in dispute with Botaş apparently seeking to ensure that whatever discounts were agreed should be structured using the base price rather than the current contract price, since that would yield much greater savings, while Gazprom wanted them applied only to the current price for contracted deliveries. In the event, no final agreement was reached and on 26 October, Botaş formally told Gazprom that it was seeking arbitration of the issue at the International Chamber of Commerce.<sup>44</sup> This failure to conclude a price agreement for gas deliveries to its

37 Wheaton; address to London Oil and Gas Forum 10 October 2014. Author's notes.

38 Pirani (n 36).

39 <[http://rbth.com/business/2015/09/18/gazprom\\_sells\\_123\\_billion\\_cubic\\_meters\\_at\\_first\\_gas\\_auction\\_49385.html](http://rbth.com/business/2015/09/18/gazprom_sells_123_billion_cubic_meters_at_first_gas_auction_49385.html)>.

40 Gulmira Rzayeva, 'Natural Gas in the Turkish Domestic Energy Market: Policies and Challenges' Oies Paper: NG 82. Oxford Institute for Energy Studies, February 2014.

41 *Izvestia* (n 35) (see map).

42 <<http://www.icis.com/resources/news/2015/02/27/9864841/gazprom-reduces-import-price-for-turkey-s-Botaş-but-uncertainty-lingers-for-private-gas-sector/>>.

43 <<http://uk.reuters.com/article/2015/06/09/russia-gazprom-supplies-idUKL5N0YV2EK20150609>>.

44 <<http://uk.reuters.com/article/2015/10/27/russia-turkey-gas-idUKL8N12R1RX20151027>>.

main Turkish customer almost certainly contributed to the delay (and possible demise) of the Turkish Stream project.

At the same time, however, Gazprom has shown flexibility in its dealings with Turkey's private sector. Turkish companies importing gas from Russia for use in the Istanbul region secured a substantial reduction in prices in early May as a result of their agreements with Gazprom. The Turkish press, citing Russia's *Kommersant* newspaper, anticipated that the four private companies serving Istanbul with gas delivered via the trans-Balkan pipeline, and which account for around 10 bcm of Turkey's annual imports from Russia, secured an agreement under which the price set for their purchases from Gazprom in the first quarter of the year was just \$300/000 cm, with the price for the second quarter set at just \$260/000 cm.<sup>45</sup> If confirmed, this would constitute a 40 per cent drop on the \$374/000 cm price set in 2014 year for 2015 deliveries.

The most important element here is not so much the figures themselves, since the opaque nature of Turkish gas import prices makes precise comparisons impossible, but the sheer scale of the price cut.

But while Gazprom may—at least in this instance—have turned out to be a surprisingly flexible on price setting, it still remains a tough negotiator when the totality of its arrangements are considered. At the start of 2014, when Turkish private companies previously demanded a price discount, Gazprom agreed. But at the same time Gazprom secured the removal of a key penalty clause concerning non-interruptability of its gas deliveries. The companies agreed, thinking Gazprom would never halt deliveries to hard cash customers. In October 2014 they were proved wrong—and again in December and, a third time, in March 2015 as well. And this put the private companies, which include the Gazprom-owned Bosphorus Gas, in actual or potential breach of contract to their customers in the Istanbul region.

Overall, it seems reasonable to argue that were Russia to focus on regaining market share, it might well move a long way towards compensating for lower gas prices through increased exports—and perhaps even make a net financial gain. Were Russia to adopt such a policy in the next year or so, it would position itself nicely for an era, post-2020, when supplies of its great rival, Norway, to the European market are expected to start declining.

#### 7. CAN RUSSIA BE CONSIDERED A RELIABLE PARTNER?

Attempting to forecast just what Russia will do in terms of its future gas relations with China, Central Asia and Europe, and the possible consequences for US gas export development, depend overwhelmingly on whether Russia can be considered a reliable energy partner.

There are two very different ways of looking at Russia's role as a gas supplier to Europe. The first relates to its role as inheritor of the major Soviet export gas contracts of the 1980s to supply Western Europe with gas; the second concerns the way in which Russia has handled specific relations with gas suppliers and consumers in the last decade or so. The first is characterized by reliability and the principle of honouring commitments; the second, it's opposite.

This dichotomy is not new. Ever since the collapse of the Soviet Union in 1990–91, Moscow has adopted very different policies with regard to its energy relations with Western Europe, including to a large extent countries that were formerly members of the Warsaw Pact) and its energy relations with CIS countries. The Swedish scholar Robert Larsson has identified some 50 instances of Russia using energy as a weapon in its relations with other Former Soviet Union (FSU) states, notably the Baltic nations of Lithuania, Latvia and Estonia.

But since 2006 or thereabouts, there has been a signal change. Russia has resorted to a policy in which force is used to secure objectives on a much broader stage, sometimes specifically related to energy, sometimes in pursuit of much larger objectives that have specific energy consequences.

45 <<http://www.kommersant.ru/doc/2721108>>.

Russia's twin approach is characterized by two key elements: recognition of power and deniability. The stability of its energy relationship with Germany reflects Russian determination not to damage its overall relationship with Germany. It has achieved this in two ways. Firstly, by maintaining a largely uninterrupted flow of gas to Germany over four decades, despite various vicissitudes (the issue of the Ukrainian disruptions of 2006 and 2009 is discussed further below); and secondly, by prioritizing the development of the Nord Stream pipeline across the Baltic to ensure a direct supply to German customers via the Russian loading terminal at Vyborg in the Gulf of Finland and Greifswald on Germany's Baltic coast. In essence, Russia has done everything it could to insulate German customers from the direct consequences of any problems that might arise as a result of its energy actions or disputes.

These actions underscore Moscow's recognition of the power of Germany, and its determination to promote high-level cooperation with Germany, epitomized by the appointment of former German Chancellor Gerhard Schröder as Chairman of the Nord Stream Shareholders' Committee, where, curiously, he has had to work with the group's Managing Director, Matthias Warnig, who, back in the 1980s, was an East German Stasi agent at the same time as a then somewhat obscure secret service official, Vladimir Putin, was learning his trade as a KGB officer in East Germany.<sup>46</sup>

Despite a considerable cooling in Russian–German relations in the latter years of Mrs Merkel's chancellorship, Russia's success in securing its energy relations with Germany was further demonstrated by the continuing assertions of German importers of Russian gas who, in the wake of President Putin's annexation of Crimea, argued forcefully that Russia should continue to be regarded as a reliable supplier of gas.<sup>47</sup>

In assessing Russia's reliability as an energy partner it is particularly worth considering various incidents in which Russia has either demonstrated directly its preparedness to go well beyond what western governments or western-based international energy companies would consider to be the normal rules of business or in which it would appear to be implicated in such behaviour.

### Three explosive episodes

Three episodes warrant particular attention.

- The 23 January 2006 explosions on the Russian side of the Russia–Georgia border;
- The 5–6 August 2008 attack on Block Valve Station 30 on the Baku–Tbilisi–Ceyhan (BTC) oil pipeline;
- The 9 April 2009 explosion at Km 487 on the Central Asia–Centre pipeline in Turkmenistan near the Uzbek border.

In the first incident, at 0300 on 23 January 2006, during what Georgians described as the coldest winter in 20 years, twin explosions in the Russian Caucasus province of North Ossetia briefly severed both the main pipeline and the reserve line of the TransCaucasus Pipeline, Russia's main gas artery to Georgia and Armenia. A few hours later, a second pair of explosions halted Russian electricity deliveries to central Georgia. As a result, Georgia, which relies overwhelmingly on imported gas for domestic and industrial consumption, briefly lost all its gas import supply and about a quarter of its electricity supply. Georgian President Mikhail Saakashvili described the attacks as pre-planned actions orchestrated by Russia. Saakashvili told the BBC that the attacks took place in 'an area fully under Russian control . . . with a heavy presence of Russian border guards' and where there were no local insurgents.<sup>48</sup>

46 Warnig and Putin, see Karen Dawisha, *Putin's Kleptocracy: Who Owns Russia?* (Simon and Schuster 2015).

47 Discussions in Prague on 26 March 2014 during Eurogas conference on 'Internal gas market: How will Central and Eastern European markets catch up?'

48 <<http://news.bbc.co.uk/1/hi/world/europe/4637034.stm>>.

For its part, Russia acknowledged there was an emergency but vehemently denied any official role in the blasts, implying—though apparently not stating directly—that it might have been the work of Chechen separatists, since these had attacked regional infrastructure previously.<sup>49</sup> The problem with this argument was that Chechen separatist attacks were against facilities serving Russian troops or Russian-controlled centres; there seemed to be no logical reason for Chechen separatists to target energy deliveries to a neighbouring state, particularly one that did not enjoy good relations with Moscow.

In the second incident, on 5–6 August 2008, Block Valve station 30 on the Baku Tbilisi Ceyhan oil pipeline (BTC) line at Refahiye, near Erzincan, in north-central Turkey was blown up in what BP subsequently termed 'an act of terrorism'.<sup>50</sup> The blast was major. It took five days to extinguish the fire and two weeks before line flow could restart on 20 August. But what was really significant was that the attack took place less than 48 hours before the outbreak of war between Russia and Georgia. At the time, the initial assumption was that the line had been blown up by Kurdish PKK separatists, not least since there was a very quick claim of responsibility for the incident by the PKK. But there were doubts from the very start, not least since the attack happened in a district a long way away from areas that had previously sustained PKK attacks—while the PKK had never previously launched a successful attack on the BTC line, although it had threatened to do so. Immediate investigations into the incident were not helped by the fact that Turkey's Botaş pipeline company insisted that the incident was merely an accident: a claim that would help it avoid culpability for failure to fulfil its duty to provide security for the Turkish section of the BTC line.<sup>51</sup>

In the weeks and months after the incident, diplomatic and military sources told the author that the attack was far more technically complex than any associated with the PKK and that it bore the hallmarks of a classic *Spetsnaz* operation, a reference to Russian Special Forces.<sup>52</sup> However, at the time there was no corroboration of this thesis, although concern about the implications of the incident should it turn out to have been a Russian or Russian-backed operation, were raised by the author in UK parliamentary testimony in May 2009.<sup>53</sup>

In December 2014, however, Bloomberg published the results of an extensive enquiry which concluded that Block Valve Station 30 was indeed; the target of a very sophisticated attack one carried out with computers, rather than explosives.<sup>54</sup> There seems no reason to doubt now that it was a cyber-attack. This rules out the PKK, and makes Russia the obvious suspect, since only one country possessed both the highly-trained specialized Special Forces and the motive to carry out such an attack. Moreover, the outbreak of ground warfare with Georgia on 7 August was accompanied by a Russian cyber attack which, according to a report by the US Cyber-Consequences Unit, disabled 54 Georgian websites in banking, communications and media with the apparent aim of reducing Georgia's capability of responding to Russian military actions.<sup>55</sup>

On the assumption that Russian Special Forces were indeed responsible for the attack on Block Valve Station 30 on the night of 5/6 August 2006—an assumption the author sees no reason to doubt—two principal conclusions can be drawn:

The first is geopolitical: it provides further evidence that Russia, rather than Georgia, was primarily responsible for starting the war, with planning in the cyber sphere particularly requiring a great degree of

49 <<http://news.bbc.co.uk/1/hi/world/europe/4654632.stm>>.

50 See J Marriott and M Minio-Paluello, *The Oil Road: Travels from the Caspian to the City* (Verso 2012) 207–15.

51 Repeated statements by Botaş officials to the author and at meetings attended by the author.

52 Briefings given to the author in Baku, Tbilisi and Istanbul, in 2H 2008 and throughout 2009.

53 John Roberts: Testimony to UK House of Commons Defence Committee, 6 March 2009. <<http://www.publications.parliament.uk/pa/cm200809/cmselect/cmdfence/memo/russia/ucm1402.htm>>.

54 <<http://www.bloomberg.com/news/articles/2014-12-10/mysterious-08-turkey-pipeline-blast-opened-new-cyberwar>>.

55 The US Armed Forces Communications and Electronics Association (AFCEA) published in May 2012 a report entitled *The Russo-Georgian War 2008: The Role of the cyber attacks in the conflict* which can be found at: <<http://www.afcea.org/committees/cyber/documents/TheRusso-GeorgianWar2008.pdf>>. See also Ronald D Asmus, *A Little War that Shook the World: Georgia, Russia and the Future of the West* (Palgrave Macmillan 2010) 166–68.

coordination. Other evidence includes the extensive logistical build-up required for the very rapid deployment of Russian forces within Georgia once the ground conflict began. In the immediate aftermath of the conflict, much of the blame for starting the war was put on Georgian President Mikhail Saakashvili, who on 7 August ordered Georgian forces to occupy Tskhinvali, the capital of the breakaway Georgian region of South Ossetia. In this formulation, Saakashvili's folly in launching his assault on South Ossetia prompted the Russians to come in to save South Ossetians. Yet Russian planning for war now looks to have long preceded the outbreak of actual fighting and, in the attack on the BTC line on 5/6 August, there is an extremely worrisome similarity between this operation and the use by Russia of covert *Spetsnaz* forces in Crimea and Donetsk in 2014.

The second specifically concerns the geopolitics of energy. The result of the line being closed before war broke out between Georgia and Russia was that the oil market discounted the closure of an oil pipeline carrying something like 600 to 700 thousand barrels of oil a day to global markets before it happened. Had the invasion taken place while the BTC line was functioning, there might well have been panic on oil markets because the invasion could easily have been interpreted by energy analysts as a direct Russian assault on energy transit. After all, Russia had persistently opposed the construction of the BTC line which it viewed uncomfortably as a way of transitting oil from one part of the former Soviet Union, Azerbaijan, without reliance on existing pipeline systems that flowed through Russia and which, of course, also served to give Azerbaijan a considerable degree of real economic independence.

But by having a convenient 'accident' as the Turks initially described it—for legal reasons—or as a PKK assault, which was the other immediate assumption, the Russians would appear to have disposed of a very worrisome potential problem. In the event, the Russian forces that invaded Georgia did not advance sufficiently far as to cut the BTC line, but their aircraft conducted bombing raids that narrowly missed—possibly deliberately—the BTC line and that severed the railway line used to carry oil being exported from Baku via the Georgian ports of Poti and Batumi.

They also secured theoretical control of a two-kilometre section of the 140,000 b/d capacity Baku-Supsa oil pipeline in an area where this stretch of line, whilst running parallel and just a few hundred metres away from the main highway connecting Tbilisi to the Black Sea, actually runs a few metres inside the boundary of the breakaway Georgian province of South Ossetia. This was not an immediate problem as Russian troops did not appear interested in this stretch of line, but it became a focus of great interest in July 2015 when Russian troops began erecting fencing along the actual line of the South Ossetian boundary with the rest of Georgia. Ironically, BP had been planning in 2013 to bypass this section by building a new stretch of line within territory controlled by the Republic of Georgia.<sup>56</sup> However, this modest project was not carried out, an apparent victim of cost savings imposed as a result of collapsing energy prices in 2014 and 2015.<sup>57</sup>

The third incident, on 9 April 2009, concerns an explosion that Russia deliberately engineered in order to halt its own imports of gas from Turkmenistan. In 2008 Turkmenistan had successfully negotiated a considerable improvement in the terms under which it was selling gas to Russia. In effect, allowing for the cost of pipeline transit, the Turkmen secured a pricing system that was at least comparable to the prices Gazprom was getting for its gas sales to hard cash European customers. But in early 2009, Gazprom faced a major squeeze as export volumes and prices both slumped. Russia's net exports fell from 185.7 bcm in 2008 to 138.1 bcm in 2009 while average German import prices fell from an average of \$11.56 per MMBTU in 2008 to \$8.52/MMBTU in 2009.<sup>58</sup> Russia's response was not to request a fresh round of negotiations concerning potentially unnecessary imports from Turkmenistan, then running at more than 40 bcm/y, but to deliver a demarche on 7 April. Russia gave Turkmenistan just 12 hours' notice that Gazprom's engineers at Km 487

56 Author's notes from discussion with senior BP official, Baku December 2013.

57 <<http://www.bbc.co.uk/news/world-europe-33549462>>.

58 Both net export capacity and average German import prices are derived or taken from the BP Statistical Review of World Energy, June 2015.

**Table 3. Turkmenistan: Fallout from the 9 April 2009 Cutoff****A: Gas Balances (in bcm)**

<b>Turkmenistan</b>									
	2001	2007	2008	2009	2010	2011	2013	2013	2014
Production	46.4	65.4	66.1	36.4	42.4	59.5	62.3	62.3	69.3
Consumption	12.5	21.3	21.4	19.7	22.6	23.5	26.3	22.9	27.7
Net export availability	33.9	44.1	44.5	16.7	19.8	36.0	36.0	39.4	41.6

Source: BP Statistical Review 2012 and 2015

**B: Key facets of Turkmenistan's cash balance in 2010**

Gas exports to:

	Volume bcm	Price per '000 cm	Revenue \$ bn
Russia	10.5	\$180-190	1.9 - 2.0
China	4.3	\$140-190	0.6 - 0.8
Iran	7-8	\$115-125	0.8 - 1.0
Total	22	-	3.3 - 3.8

Source: Methinks Ltd.

on the main set of the Central Asia Centre pipeline system would close the valves through which Turkmen gas flowed northwards to Russia.<sup>59</sup> The Turkmen immediately notified Gazprom that it would take 72 hours to effect an orderly shutdown of the fields serving the CAC system. Gazprom declined to extend the deadline, the valve was closed, gas began building up under pressure behind the closed valve, and—despite heroic efforts by Turkmen gas engineers to shut in the majority of their fields—in the early hours of 9 April the build-up of gas forced a massive explosion, rupturing the line. This immediately terminated some 92 per cent of all Turkmen gas exports to Russia (the other 8 per cent was supplied via a separate line, CAC-3, which runs near Turkmenistan's Caspian coast).

Turkmenistan accused Russia of being 'reckless and irresponsible' in engineering the incident with one senior Turkmen energy official saying the impact of the blast was like a vacuum bomb.<sup>60</sup> Russia never acknowledged responsibility but, at least in practice, treated the incident as if it were an act of *force majeure*. Even though the Turkmen were able to repair the line within a few days, exports through this main branch of the CAC did not resume until the following January. And when they did resume, it was at a rate of just 10–11 bcm/y, well short of Turkmen hopes that arose when they had mistakenly assumed that the agreement concluded in late 2009 for exports to be resumed at a level of up to 30 bcm/y would actually ensure exports of close to 30 bcm/y.

The financial consequences of the explosion were massive. The rupture cost Turkmenistan 92 per cent of its gas exports to Russia at a time when Russia accounted for three-quarters of all Turkmenistan exports (Table 3).

59 The best contemporary account of this engineered explosion is to be found at <<http://www.newscentralasia.net/moreNews.php?nID=396>>. newsCentralasia (nCa) clearly had access to considerable information from Turkmen officials. The author was able to corroborate the main nCa findings in his own subsequent discussions and contacts with Turkmen officials.

60 For 'reckless and irresponsible' see <[http://www.rferl.org/content/Pipeline\\_Explosion\\_Stokes\\_Tensions\\_Between\\_Turkmenistan\\_Russia/1608633.html](http://www.rferl.org/content/Pipeline_Explosion_Stokes_Tensions_Between_Turkmenistan_Russia/1608633.html)>. Turkmenistan's chief geologist, Odek Odekov, likened the blast to a vacuum bomb at a presentation in Paris on 28 May 2009 attended—and reported—by the author.

## 8. CONCLUSION

Russia's resort to explosions—whether kinetic, cyber or engineered—in its management of complex energy issues means that it cannot be considered a reliable partner for international companies and countries in most of the rest of the world. These are practices that run counter to peacetime commercial practice. This does not necessarily mean that companies cannot or should not trade with Russia or that governments should not seek to secure energy trade agreements. It does mean that both companies and governments have to accept that Russia and its state-controlled energy firms (and probably some of its so-called 'independent' energy companies) will not always feel themselves bound by whatever agreements they have signed up to. If the rules do not suit them, Russia will find a way to flout, break, ignore, change or evade them. In sum, Russian observance of whatever agreements the nation or its major energy companies may sign will be strictly dependent on the power of the other party or parties to enforce the original agreement.

This puts both China and the European Commission's Directorate General for Competition in a strong position when it comes to enforcing whatever final agreements are reached for the import of Russian gas to China or the conduct of Gazprom activities within the European Union. Both China and DG Comp possess real power in the form of practical leverage, backed by a will to use such leverage. If Russia does distinguish between these two it may be that while it undoubtedly recognizes Chinese power, perhaps it does not, as yet, fully comprehend the determination of DG Comp to use its powers in the event of Gazprom failing to settle the Commission's grievances.

In sum, while Western companies and governments can have energy and trade agreements with Russia, these do not constitute partnerships. There can be no assumption that these agreements are secure, even if bound by law, and that they will deliver reliable supplies because Russia, in practice, does not abide by the same principles concerning energy agreements as European and North American countries. In practice, what this means is that the rest of the world can do as much business with Russia as it pleases, but it does need to ensure that it has effective insurance policies in place.