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European Energy Security and the Role of Russian Gas: Assessing the Feasibility and the Rationale of Reducing Dependence

by Katja Yafimava

ABSTRACT

In the aftermath of the 2014 Ukraine crisis, the geopolitical argument that Russia may use the “gas weapon” towards Europe (i.e. reduce or cut off supplies to force compliance with political and strategic aims) has gained ground and led to renewed calls for Europe to reduce its dependence on Russian gas. However, given the impossibility of ascertaining whether such threat is genuine or only *perceived* as such, European policies, developed *only* on the assumption that it is genuine and without due regard to commercial realities, might undermine European gas (and energy) security. Commercial realities suggest that while highly dependent small European markets can significantly reduce (and in some cases eliminate) their dependence on Russian gas by 2020 – albeit at a cost which would need to be met by European taxpayers – there is limited scope for significantly reducing *overall* European dependence on Russian gas at least until the mid-2020s. Therefore, European policies should reflect the necessity of continuing EU-Russia gas relationship and develop the means for its adequate management.

European Union | Energy security | Natural gas | Russia



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by Katja Yafimava*

Introduction

A sharp deterioration in the EU-Russia political relationship resulting from the 2014 Ukraine crisis was bound to cast a significant shadow over the EU-Russia gas relationship. The EU (once again) began to question *political* acceptability of Russian gas, equating a higher share of its imports with a higher degree of insecurity. Given that Russian gas constitutes around one third of European demand, and that Russia is the only gas supplier to the Baltic region and the only or dominant supplier to the majority of central and south-east European countries, the EU perceives its dependence on Russian gas as “a problem.” This has led to renewed calls, especially from the Baltic and central European countries, for Europe to reduce its dependence on Russian gas.

This paper, which *inter alia* utilises the conclusions of the Oxford Institute for Energy Studies (OIES) research paper (co-authored by this author with other colleagues),¹ assesses the *feasibility* of such reductions in the 2020 and 2030 time frames, while also offering differing perspectives on *desirability* and *necessity* (or a lack thereof) of such reductions for Europe overall and for individual highly dependent European countries. The paper contrasts the factual data on import dependence on Russian gas (and its dynamics over time) and perceptions of such dependence as a geopolitical “threat,” depending on the relative strength of various European countries’ competitive positions vis-à-vis Russian Gazprom and

¹ Ralf Dickel et al., “Reducing European Dependence on Russian Gas: Distinguishing Natural Gas Security from Geopolitics”, in *OIES Working Papers*, No. NG 92 (October 2014), <http://www.oxfordenergy.org/tag/ng92>.

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their historical attitudes towards Russia in general and Russian gas in particular. The paper deconstructs the geopolitical argument that Russia might be using its gas exports as a “weapon” – that is, reducing or cutting off supplies to European countries in order to force compliance with its political and strategic aims – and finds no evidence of Russia having used the “gas weapon” on European countries, but acknowledges that Russia used it on Ukraine in the 1990s. It also draws attention to the existence of overwhelming evidence in support of a commercial argument: that much of Gazprom’s behaviour towards all European countries could be explained by its desire to extract maximum revenues rather than political concessions.

The paper warns that given that it is impossible to ascertain whether the threat of Russia potentially using the “gas weapon” on Europe is genuine or only perceived as such, European policies developed on the assumption that the threat is real and without due regard to commercial realities, which might contribute towards undermining European gas supply security instead of safeguarding it. Commercial realities are such that there is limited scope for significantly reducing overall European dependence on Russian gas – unless Europe wants to phase out gas from its energy balance – but the Baltic States and south-east European countries could substantially reduce (and even eliminate) their dependence on Russian gas by the early 2020s and central European countries and Turkey could reduce (but not eliminate) theirs, replacing it with LNG and Azeri gas. It is argued that the development of competitive markets and strengthening of competitive positions of those European countries that are highly dependent on Russian gas (e.g. by investing in new infrastructure enabling access to alternative gas supplies) would render the “gas weapon” largely irrelevant, as Gazprom would not be able to charge a price *higher* than that available on the market, irrespective of Russia’s political motives (perceived or real). However this would necessitate significant investment in new infrastructure, with no assurance that alternative supplies would be less expensive than Russian gas.

1. European dependence on Russian gas: facts, figures, perceptions and policies

1.1 European dependence on Russian gas: facts and figures

Russia is the largest single supplier of gas to Europe. In volume terms its exports increased steadily from the 1990s and reached their highest-ever level in 2005-8 with annual average of 168.4 bcm.² Exports decreased significantly during the 2008-12 period to an annual average of 155.5 bcm (partly due to the post-2008 economic

² Jonathan Stern, “Russian Responses to Commercial Change in European Gas Markets”, in James Henderson and Simon Pirani (eds.), *The Russian Gas Matrix: How Markets Are Driving Change*, Oxford, Oxford University Press for the Oxford Institute for Energy Studies, 2014, p. 50-81.

recession and its impact on European demand and partly due to changes in the structure of European energy markets and Gazprom's reaction to pricing trends).³ They recovered in 2013 to their highest levels since 2008, reaching around 166 bcm (partly due to a protracted spell of unusually cold weather in the early spring of 2013 and partly due to Gazprom's increased pricing flexibility), but fell back to 156.5 bcm in 2014. Importantly the European buyers are obliged to import at least 115 bcma until the mid-2020s under their long-term supply contracts (LTSCs) with Gazprom, with obligations decreasing to 65 bcma by 2030.

"West" European countries account for more than three-quarters of Russian imports and for all of the total increase in volume since the early 1990s (most of the increase came from the UK and Turkey).⁴ "East" European countries have decreased their consumption, as in total they imported less Russian gas in 2013 than they did in the early 1990s.⁵ The current levels of individual European countries' dependence on Russian gas reflect both political and economic realities of the cold war, when the majority of "west" European countries followed the normal commercial practice of diversification and observed the political (albeit informal) restrictions, limiting the share of Soviet gas in their imports to 30 percent. "East" European countries were unable to pursue the policy of diversification, as all non-Soviet gas would have been significantly more expensive and there was no infrastructure to bring it in, and the USSR would have vetoed such arrangements anyway.

The share of Russian gas imports as part of European demand has remained relatively steady in the post-Soviet period at around 25 percent, until 2013 when it approached 30 percent, thus suggesting that Europe as a whole is well diversified.⁶ However, central and south-east European countries as well as the Baltic States remained wholly (Estonia, Latvia, Lithuania, Finland), overwhelmingly (Slovakia, Bulgaria, Serbia, FYROM, Bosnia and Herzegovina) or mainly (Romania, Hungary, the Czech Republic) dependent on Russian gas in 2013. More sophisticated country-specific criteria such as resilience against interruptions (the N-1 standard) and a supplier concentration index (SCI)⁷ demonstrate the failure of five EU member states (Bulgaria, Greece, Lithuania, Estonia and Slovenia) to have met the N-1 standard related to their dependence on Russian gas in 2013. In 2012 the SCI was above 30 percent for eleven EU member states (Austria, Hungary, Poland, Slovakia,

³ Ibid., p. 50.

⁴ Those European countries that were NATO members during the Cold War are denoted as "west" European whereas those European countries that were Warsaw Pact/COMECON members and the three Baltic countries (formerly Soviet Baltic republics) are denoted as "east" European.

⁵ Jonathan Stern and Katja Yafimava, "Russian Gas Exports to Europe: Unravelling the Misconceptions", in *Oxford Energy Forum*, No. 97 (August 2014), p. 12-14, <http://www.oxfordenergy.org/2014/09/oxford-energy-forum-issue-97>.

⁶ Ralf Dickel et al., "Reducing European Dependence on Russian Gas", cit., p. 7.

⁷ These two criteria were used by the European Commission in its European Energy Security Strategy. See European Commission, *In-depth Study of European Energy Security*, Commission Staff Working Document (SWD/2014/330/3), 2 July 2014, <https://ec.europa.eu/energy/en/content/depth-study-european-energy-security-swd2014330>.

the Czech Republic, Bulgaria, Greece, Finland, Estonia, Lithuania and Latvia), all of which were highly dependent on Russian gas.⁸ In 2013, the SCI was above 30 percent for four non-EU European countries (Bosnia and Herzegovina, FYROM, Serbia and Turkey). At the same time all of Gazprom's largest markets in north-west Europe (Germany, Italy, France and the UK) have maintained relatively low supply concentration levels (SCI ~4-18).

Thus the European dependence on Russian gas, as outlined above, can be characterised as follows:⁹ a) Europe overall depends on Russian gas for some 25-8 percent of its demand which, from a commercial point of view, constitutes a reasonable level of diversification and dependence; b) "west" European countries, which account for more than three-quarters of Russian gas exports to Europe, maintain relatively low levels of supply concentration and meet the N-1 standard; c) "east" European countries, while accounting for less than a quarter of Russian gas exports, remain highly dependent and vulnerable to supply interruptions, which is signified by a high SCI (in respect of Russian gas) and the inability (of some) to meet the N-1 standard.

There are two ways of analysing the European dependence on Russian gas: from commercial and geopolitical points of view. From a commercial point of view the first two characteristics of dependence do not appear to present a problem either for Europe as a whole or for "west" European countries, whereas the third characteristic presents a problem for "east" European countries, as their high level of supply concentration and inability to meet the N-1 standard can potentially make them subject to discriminatory and monopolist behaviour on the part of Gazprom (i.e. charging higher prices compared with what they might have been had they been able to access alternative supplies).¹⁰ From a geopolitical point of view, all three characteristics could be seen as presenting a problem, with the argument running that even 25-8 percent dependence on Russian gas, while perfectly reasonable from a commercial point of view, may constrain Europe's freedom of action in foreign and security policies towards Russia, as the latter may exercise its "gas weapon" (defined as reducing or cutting off supplies to European countries in order to force compliance with its political and strategic aims).¹¹ If one accepts this argument, the third characteristic would appear especially problematic, as "east" European countries, being most vulnerable and least resilient, could become subject to Russia's political blackmail, understood as potential extraction of foreign and security policy concessions in return for gas supplies.

⁸ Ralf Dickel et al., "Reducing European Dependence on Russian Gas", cit., p. 9.

⁹ It should be noted through that this description is somewhat simplified as among both "west" and "east" European countries there are countries, the dependence of which on Russian gas and the resilience to its interruption, differs from other countries in their "group."

¹⁰ See Jonathan P. Stern and Christopher Allsopp, "The Future of Gas: What Are the Analytical Issues Relating to Pricing?", in Jonathan P. Stern (ed.), *The Pricing of Internationally Traded Gas*, Oxford, Oxford University Press for the Oxford Institute for Energy Studies, 2012, p. 10-39.

¹¹ For an overview of (variations of) this argument see Ralf Dickel et al., "Reducing European Dependence on Russian Gas", cit, p. 68-70.

Given that the high vulnerability and low resilience of “east” European countries present a problem, irrespective of whether one subscribes to a commercial or geopolitical point of view, it should be addressed both at national and EU level as a matter of priority. As for whether Europe as a whole needs to decrease its overall dependence on Russian gas – thus suggesting that “west” European countries also reduce their dependence on Russian gas – the answer depends on whether these countries find the geopolitical argument more convincing than the commercial one (which at present does not appear to be the case). The paper assesses the feasibility of these options in Section 2.

1.2 European dependence on Russian gas: perceptions and policies

It is not surprising that in the wake of the 2014 Ukraine crisis the geopolitical argument that Russia may exercise its gas weapon has gained ground, especially in the Baltic States and central Europe. However, the validity of this argument is difficult to prove or disprove because it is impossible to ascertain whether the threat of Russia using the gas weapon is genuine or only perceived as such. Yet it is the ability to distinguish between the two that is crucial, as it enables the development of adequate policies. If the threat is not real but the policies are developed on the assumption that it is, these policies might undermine European energy security instead of strengthening it.

The threat could only be considered genuine if both capacity and intention to use the gas weapon exist.¹² Although Russia has the capacity to exercise the threat (as it is capable of reducing gas supplies to individual European buyers), this capacity is limited by the high cost of exercising the threat (it would mean Gazprom reneging on its existing LTSCs with liquidated damages of billions of euros).¹³ An intention to do so is difficult to verify. There is no evidence at present that Gazprom cut or reduced supplies in the past to those European countries that were paying for their gas imports in full and on time at a price specified in their contracts, which makes the assertion that Russia has used the gas weapon towards European countries problematic. But Russia did indeed use the gas weapon towards Ukraine in the early 1990s, when it attempted to trade the latter’s gas debt for the Black Sea fleet, combined with a threat to cut off gas supplies completely if a deal was not reached.¹⁴ This attempt was unsuccessful, and amply demonstrated the gas weapon’s crudeness and futility. Russia did not use the gas weapon towards Ukraine during the January 2006 and January 2009 Ukraine gas crises, as on both occasions there was no contractual (or any other legal) basis under which gas could continue to

¹² Katja Yafimava, *The Transit Dimension of EU Energy Security: Russian Gas Transit across Ukraine, Belarus and Moldova*, Oxford, Oxford University Press for the Oxford Institute for Energy Studies, 2011, p. 16-18.

¹³ *Ibid.*, p. 20-23.

¹⁴ *Ibid.*, p. 142-143.

be supplied to Ukraine, whereas the Ukrainian national gas company, Naftogaz, refused to conclude new contracts despite the offered prices being lower than those paid to Gazprom by European buyers at the time.¹⁵ It would also be analytically problematic to argue that Russia used the gas weapon towards Ukraine in April 2014 when a gas price discount was cancelled (as the Black Sea fleet agreement, which together with a contractual addendum formalised the discount, was abrogated), as Russia immediately offered to reinstate the discount in full by means of export duty relief, which Ukraine refused to accept. Furthermore, although limiting availability of “reverse flow” gas to Ukraine might have been one of the reasons why Gazprom reduced (within contractual limits) its deliveries to European buyers during the September 2014-March 2015 period (a desire to support European hub prices at the time of their sharp decline might have been another reason), this action should not be seen as application of the gas weapon either towards Ukraine or towards European countries, as it was aimed at securing commercial benefits (rather than political and security concessions, as would have to be the case for the gas weapon definition to be met).

An argument frequently made to support the assertion that Gazprom has used the gas weapon against both Ukraine and “east” European countries is that even if it has never cut supplies when a contract was in place and the payments were made in line with it, the prices themselves at which gas was sold (or offered to be sold) might have been “political,” meaning that they might have reflected those countries’ differing political relations with Russia and were related to decisions on other non-gas bilateral issues. The existence of price differentials, where central and especially south-east European countries appear to have been paying higher prices than the prices paid by north and west European countries, is mentioned in support of this view.

However the fact that different European countries have different gas prices does not necessarily mean that the pricing is “political.” Several commercial explanations have been offered as to why gas prices might differ within Europe and why they appear to be higher in “east” European countries: a) these countries do not have (or have very limited) alternative gas supplies (partly because of the lack of infrastructure via which such supplies could be accessed), which weakens their commercial negotiating position,¹⁶ b) southern European countries are located further away from Russia, thus price includes a higher transportation charge, c) some of these countries continue to replace oil products with imported gas and are

¹⁵ Jonathan Stern, “The Russian-Ukrainian Gas Crisis of January 2006”, in *OIES Working Papers*, January 2006, <http://www.oxfordenergy.org/2006/01/the-russian-ukrainian-gas-crisis-of-january-2006>; Simon Pirani, Jonathan Stern and Katja Yafimava, “The Russo-Ukrainian Gas Dispute of January 2009: a Comprehensive Assessment”, in *OIES Working Papers*, No. NG 27 (February 2009), <http://www.oxfordenergy.org/tag/ng27>; Katja Yafimava, *The Transit Dimension of EU Energy Security*, cit.

¹⁶ Notably, Gazprom has been willing to make price concessions to those “east” European countries, which demonstrated their ability to access alternative supplies (e.g. Lithuania after it had built its FSRU, see Section 2.2).

therefore constrained in their ability to request spot indexation in their contracts with 100 percent oil indexed prices, as is increasingly the case with north-west European buyers.¹⁷ Thus Gazprom's behaviour might be best understood as application of commercial pressure and maximisation of "commercial position in countries without alternative gas supplies, which is exactly what would be expected from a revenue-maximising discriminating monopolist."¹⁸ By definition commercial pressure is always commercially driven. Thus any country with no (or limited) alternative supply sources might find itself in a situation when its supplier could apply commercial pressure, irrespectively of whether the country's political relationship with a supplier's country is good or bad. It is only in addition to being commercially driven that commercial pressure could also be politically driven; that is, applied with a view of securing political and security concessions or "punishing" for a refusal to make such concessions. However, a supplier would not be able to charge a price higher than the price defined by competition unless it is prepared to lose its market share. It could, however, charge a lower price if non-gas concessions are made, but a country unwilling to make such concessions must be prepared to accept a price which is defined by competitive situation in its market or else switch to different fuel.

EU competition law serves as a major constraint in ensuring that commercial pressure does not constitute abuse of a dominant position. In September 2012 the European Commission Competition Directorate (DG COMP) opened formal proceedings against Gazprom for possible abuse of a dominant position on three grounds, one of them being that Gazprom might have imposed unfair prices in central and eastern European countries.¹⁹ Notably, in its Statement of Objections, sent to Gazprom in April 2015, the DG COMP did "not take issue with the fact that gas prices are different in different countries" as "[c]ompetitive conditions may vary in Member States."²⁰ However its preliminary conclusion was that Gazprom "has charged unfair prices" in Bulgaria, Poland, Lithuania, Latvia and Estonia, and that its specific price formulae (i.e. "oil indexation") "have contributed to the unfairness."²¹ Gazprom has denied the charges.²² If the DG COMP is right, this would mean that Gazprom was abusing its dominant position in these markets, but it would not prove that such abuse was politically motivated. Importantly this

¹⁷ Jonathan Stern, "Russian Responses to Commercial Change in European Gas Markets", cit., p. 58-66.

¹⁸ Ibid., p. 97.

¹⁹ European Commission, *Antitrust: Commission opens proceedings against Gazprom*, Brussels, 4 September 2012, http://europa.eu/rapid/press-release_IP-12-937_en.htm.

²⁰ European Commission, *Antitrust: Commission sends Statement of Objections to Gazprom - Factsheet*, Brussels, 22 April 2015, http://europa.eu/rapid/press-release_MEMO-15-4829_en.htm. See also European Commission, *Antitrust: Commission sends Statement of Objections to Gazprom for alleged abuse of dominance on Central and East European gas supply markets*, Brussels, 22 April 2015, http://europa.eu/rapid/press-release_IP-15-4828_en.htm.

²¹ European Commission, *Antitrust: Commission sends Statement of Objections to Gazprom - Factsheet*, cit.

²² Elena Mazneva, "Gazprom Seeks EU Deal With No Admission of Antitrust Breach", in *Bloomberg*, 29 September 2015, <http://bloom.bg/1VnXLAy>.

investigation demonstrates that EU competition law is an extremely powerful tool, which can be used to limit the dominant supplier's commercial pressure (whether or not such pressure was politically motivated) should it be found to be amounting to abuse of a dominant position, thus providing defence against the gas weapon.

Overall this analysis suggests that the geopolitical argument cannot be proven conclusively, whereas there is overwhelming evidence in support of the commercial argument, suggesting that much of Gazprom's behaviour could be explained by its desire "to extract maximum revenues rather than political concessions."²³ Thus the threat that Russia may be using the gas weapon towards Europe appears exaggerated and may not be real. However, the point relevant for this paper is that the perception of such a threat as real has strengthened in the aftermath of the 2014 Ukraine crisis. While not being shared by all European countries, this perception might affect EU energy policy in ways that are not necessarily conducive to the EU's overall energy security.

2. Feasibility of reducing European dependence on Russian gas: what is possible and how much will it cost?²⁴

2.1 European demand and import requirements

After 2005 European gas demand plateaued, and then declined following the 2008 economic crisis. According to the International Energy Agency (IEA), the OECD Europe demand is expected to reach 531 bcm in 2020 and 572 bcm in 2030 (thus recovering to the 2010 level of 569 bcm).²⁵ For assessment of gas volumes that would be needed in order to replace Russian gas in European countries that are highly dependent on Russian gas, the total demand of the Baltic States and south-east European countries has been projected at 17.9 bcm in 2020 and 19.3 bcm in 2030; whereas the total demand of central European countries is significantly higher, being projected at 49.3 bcm in 2020 and 55.6 bcm in 2030. No increase in overall "eastern" European gas demand is expected by 2020, whereas a 7 bcm increase is expected by 2030 (most of which would come from central Europe).²⁶

²³ Jonathan Stern, "Gazprom: A Long March to Market-Based Pricing in Europe?", in *Oxford Energy Forum*, No. 101 (August 2015), p. 11, <http://www.oxfordenergy.org/2015/09/oxford-energy-forum-issue-101>.

²⁴ This section summarises the findings of Ralf Dickel et al., "Reducing European Dependence on Russian Gas", cit.

²⁵ International Energy Agency, *World Energy Outlook 2014*, Paris, OECD/IEA, 2014, p. 139.

²⁶ Ralf Dickel et al., "Reducing European Dependence on Russian Gas", cit., p. 10. For demand projections see Anouk Honoré, "The Outlook for Natural Gas Demand in Europe", in *OIES Working Papers*, No. NG 87 (June 2014), <http://www.oxfordenergy.org/tag/ng87>.

Despite the fact that European gas demand is not expected to increase greatly during the 2013-30 period, this may not affect the volume of Russian gas which Europe will need to import owing to negative (and worsening) dynamics in European domestic gas production and the limited availability of non-Russian (pipeline) gas supplies. According to OIES, "European conventional gas production is expected to fall by 110 bcm/year (or 40 per cent) in the period 2013-2030, the actual figures being very dependent on the three main producers – Norway, Netherlands, and the UK" which all have reached maturity and in the case of the UK and the Netherlands are declining. "No significant unconventional [...] gas production is likely prior to 2020, and less than 20 bcm of production from those sources by 2030. The outlook for (renewable) biogas is more optimistic with a possible increase from 14 bcm in 2012 to 28 bcm in 2020, and perhaps to 50 bcm in 2030, although problems of subsidy make the larger figures uncertain. It therefore seems likely that Europe will only be able to replace at most around half of the decline in conventional gas with unconventional renewable production, and much of this would not be available until the second half of the 2020s." The study concluded that "the requirement for gas imports will increase – although not substantially."²⁷ Whether, how and when this import requirement could be fulfilled by non-Russian gas is described below.

2.2 Alternative gas supplies and infrastructure constraints: pipeline gas and LNG

According to the OIES, the main alternative source of gas for Europe would be LNG from a variety of sources, with its availability to be determined by US export availability and Asian (especially Chinese) demand.²⁸ In (what is expected to be) a surplus global LNG market during 2015-20, Europe could be receiving substantial LNG supplies, which have the potential to displace large volumes of Russian gas, thus reducing dependence on the latter in the late 2010s – if Gazprom fails to compete; but this phenomenon would be time limited, because when Asia needs LNG it will go to the Asian (premium) market.

As noted earlier, European buyers are obliged to import at least 115 bcma until the mid-2020s under their LTSCs with Gazprom, with obligations decreasing to 65 bcma by 2030 (Section 1). The modelling demonstrated that even if these LTSCs were to disappear, Europe would still require between 85 and 225 bcma by 2025 and between 100 and 240 bcma of Russian gas by 2030, depending on the scenario.²⁹ Although imports of Russian gas could fall to 85 bcm by 2020 under a scenario of low Chinese demand and low (lower than the base case) European demand, such would only be possible if Gazprom were to maintain a higher hub price, whereas the opposite behaviour is much more likely, that is, targeting a lower hub price during

²⁷ Ralf Dickel et al., "Reducing European Dependence on Russian Gas", cit., p. 71.

²⁸ Ibid. p. 72.

²⁹ Howard Rogers, "The Impact of Lower Gas and Oil Prices on Global Gas and LNG Markets", in *OIES Working Papers*, No. NG 99 (July 2015), <http://www.oxfordenergy.org/tag/ng99>.

the 2017-18 period to discourage final investment decisions of new LNG plants which, if approved, could start exporting in the early 2020s. If this discouragement is delayed or insufficient, thus leading to new LNG plants being built, Gazprom could be expected to engage in a price war in Europe to avoid a reduction in its export volumes to below 100 bcm. It must be noted that as Russian gas exports to Europe will be highly competitive with all other pipeline gas and LNG supplies throughout the period to 2030, Gazprom's power to impact European hub prices may be considerable.

According to the OIES, non-Russian pipeline gas options are limited, and by 2020 "the main increase will be from Azerbaijan (16 bcm of additional gas is firmly contracted) counterbalanced by a decline of 6 bcm from North Africa due to lack of production capacity, rapidly rising domestic consumption, and political instability," whereas projections for 2030 are "extremely speculative and show that, compared with 2020 levels, an additional 20-40 bcm of pipeline gas could be available from Iran, Iraq, and Azerbaijan," with a caveat that each of these sources has "its own specific combination of geological, policy, and geopolitical risk factors." Turkey is likely to be "the main beneficiary" of additional pipeline gas and "could be importing 35 bcm (from the Middle East and Caspian region) by 2030;" this would help it to reduce the share of Russian gas in its balance, but volumes of Russian gas imports are likely to remain unchanged and may increase. South-east European countries could also benefit, certainly Greece and Bulgaria (which have each contracted 1 bcm of Azeri gas); but this is less certain in respect of the Balkan countries.³⁰

In addition to the availability and affordability of alternative gas supplies, and the location, capacity and interconnectivity of infrastructure, allowing access to these supplies is an important factor in determining whether and when these supplies will reach their markets. North-west and south-west European countries have a high level of interconnection and massive LNG regasification capacity (179.8 bcm in 2013), which allows them access to global LNG supplies. However, most of the gas infrastructure in the Baltic countries and central and south-east Europe was built with the purpose of delivering (the then Soviet) Russian gas, with existing interconnection points between individual countries only allowing for unidirectional (westward) flow. Thus the region has been characterised by the near absence of LNG terminals³¹ and a lack of interconnection with the rest of Europe. This only began to change slowly in the early to mid-2010s with construction of several bidirectional interconnectors in the region, a new floating storage and regasification (FSRU) unit in Lithuania³² and an LNG import terminal in Poland.³³ This was mostly prompted by the January 2009 Ukraine crisis, which exposed the region's vulnerability and led to the adoption of new EU legislation, introducing the legally binding obligation of reverse flow between member states (by 3 December

³⁰ Ralf Dickel et al., "Reducing European Dependence on Russian Gas", cit., p. 72.

³¹ Greece is the only country in this group that had an LNG terminal (5.3 bcm) in 2013.

³² Capacity 4 bcm, started commercial operations in 2015.

³³ Capacity 5 bcm, expected to start commercial operations in mid-2016.

2013) and infrastructure standard N-1 (by 3 December 2014), with a regular EU budget established under the Connecting Europe Facility (CEF) for co-financing infrastructure in line with these requirements. In 2015, the Commission launched a new initiative on central eastern and south-eastern European gas connectivity (CESEC), which includes fifteen EU and Energy Community Treaty (EnCT) countries, aimed at construction of new and optimal utilisation of existing infrastructure.³⁴

In 2013 Lithuania, Latvia, Estonia and Finland met their gas requirements exclusively through Russian pipeline imports, whereas Poland covered more than half of its requirements with Russian gas (the rest being domestic production).³⁵ The Lithuanian FSRU would be sufficient to cover all the country's import requirements up to 2030, while also having some spare capacity for imports to Latvia and Estonia.³⁶ Increased interconnection between the countries would allow the three Baltic countries and Finland (with total demand of 8.6 bcm in 2013) to reduce their combined dependence on Russian gas to one third of import requirements, thus bringing it to the average European level.³⁷ With two more new LNG terminals, this group of countries could reduce and possibly phase out Russian gas by the early 2020s, replacing it with LNG. This outcome could be achieved at lowest cost if the countries could agree to share capacity and create interconnections, rather than each building national facilities, and the Commission has repeatedly called for increased regional cooperation as a condition for these facilities to receive financial support from the EU. As for Poland, given its high demand (18.3 bcm in 2013), it would be more difficult for it to eliminate its dependence on Russian gas. Its new LNG terminal would be sufficient to cover slightly less than one third of the country's projected demand by 2020 and one quarter by 2030. Expansion of LNG capacity and interconnection with the Baltic terminals could make a significant contribution.

In 2013 Bulgaria, Serbia, Bosnia and Herzegovina, FYROM and Slovakia covered almost all of their import requirements with Russian gas (transiting via Ukraine), whereas Hungary, Slovenia and Greece covered around two-thirds of their import requirements with Russian gas. The Greek LNG terminal (Revithoussa, 5.3 bcm) is the main relevant existing infrastructure for reducing the dependence of south-east European countries on Russian gas, and if this is expanded to reach 7.3 bcm it will have sufficient capacity to cover demand from Greece and Bulgaria (especially as both should be importing 1 bcm each of Azeri gas by 2020), though upgrades might be required on the Bulgarian and Greek domestic networks to enable the gas to be brought to Bulgaria. The two planned FSRU facilities in northern Greece

³⁴ European Commission, *Energy: Central Eastern and South Eastern European countries join forces to create an integrated gas market*, Dubrovnik, 10 July 2015, http://europa.eu/rapid/press-release_IP-15-5343_en.htm.

³⁵ But Poland is able to import gas from Germany and the Czech Republic from April 2014 due to implementation of physical reverse flow on the Yamal Europe pipeline.

³⁶ Ralf Dickel et al., "Reducing European Dependence on Russian Gas", cit., p. 38.

³⁷ Thus bringing it on the same level as that of overall Europe.

would make supply to Bulgaria logistically easier, but it is doubtful that both the Revithoussa expansion and both FSRU facilities will go ahead. South-east Europe, particularly the Balkans, could benefit from the (yet to be built) Croatian FSRU, via which small quantities of LNG could be sourced. South-east Europe could also strengthen its access to LNG by using Italy's significant LNG regasification capacity. However for these LNG facilities to have an impact in terms of increasing the region's ability to source LNG – especially for "inner" countries such as Serbia, FYROM and Bosnia and Herzegovina – significant investment would be needed to increase interconnection capacities and upgrade domestic pipelines in the region; the same is true in respect of accessing Azeri gas, arriving in south-east Europe by 2020.

It is difficult to make a judgement on the ability and extent to which additional LNG deliveries to the north-west European LNG terminals could flow eastwards, but it would be limited by the continuing existence of infrastructure bottlenecks. LNG flows eastwards would become even more difficult if there was a crisis, as it would place additional limitations during periods of high demand and require the simultaneous maximisation of all remaining import sources and storage use across Europe.

2.3 Non-gas alternatives: fuel substitution, conservation and efficiency

Europe could reduce its need for gas imports by cutting gas consumption and substituting non-gas alternatives, either by utilising other energy sources or through conservation and efficiency. In respect of oil product substations (in the industry and power sector), according to the OIES, in the majority of countries there is limited scope for doing this and it "would be surprising" if Europe could replace more than 20 bcm of Russian gas with oil products (in industry and power generation). This would only be sustainable for a few months and the costs would be substantial; furthermore, it is argued that such switching potential "will have declined significantly" by 2020 "and will probably disappear by 2030." The potential for switching to coal is much greater, with an estimate being that it could replace 14 and 20 bcm of Russian gas in 2020 and 2030 respectively; but realising such potential would be dependent on "acceptance of CO2 emission increases, and failure to meet standards imposed by EU Directives" (which limit coal burning without carbon capture and storages). Furthermore, construction of new coal and nuclear plants has become more difficult inter alia because of stricter environmental regulations in respect of coal and strong public opposition towards nuclear. Europe has already substituted gas by (subsidised) renewables on a massive scale, with the latter having taken a significant market share away from gas in power generation, but this process would be limited in the future by the need for back-up when these renewable (and necessarily intermittent) sources are not available. In respect of cutting gas consumption by means of increased efficiency, the 20 percent improvement by 2020 appears to be "beyond reach" in many countries, and the EU projection that energy efficiency gains could result in a reduction of 40 percent of

gas imports is believed to be significantly overstated.³⁸ In short, although Europe could decrease its gas consumption by means of fuel substations, conservation and efficiency, significant increases in carbon emissions, with all the attendant negative consequences for meeting the climate change goals, would be inevitable. But even if Europe decides to forfeit its climate goals, gas consumption cuts that would materially affect its need for Russian gas would not be possible until 2030.

3. Russian gas exports to Europe: the need for continued gas relationship and a dialogue

The previous section demonstrated that although some highly dependent European countries would be able to reduce their dependence on Russian gas, there is limited scope for significantly reducing overall European dependence at least until the mid-2020s and likely beyond. This means that the EU-Russia gas relationship will continue to be necessary and hence needs to be adequately managed under the auspices of the EU-Russia Energy Dialogue with assistance from the Gas Advisory Council.³⁹ Signature of the EU-Russia Energy Cooperation Roadmap 2050 in March 2013 was an important example of such management, with the Roadmap setting out the tasks to be completed by parties by specified dates, with the major (albeit not legally binding) recommendation for 2020 being “the mitigation of supply-demand, infrastructure/regulatory, and political risks.”⁴⁰ According to the Roadmap 2050,⁴¹ the risks are the followings:

Supply/demand risks:

- That the decline in EU gas demand in the post-2008 period is a permanent, rather than a temporary, phenomenon and that despite the anticipated decline in domestic gas production, EU demand for gas will not increase from 2009-12 levels even in the period up to 2030 and will decline thereafter;
- That the market share of Russian gas could be influenced by the competition from other suppliers and other commodities and energy sources;
- That the EU will need more Russian gas than it currently anticipates and will have put in place commercial, regulatory or political measures that translate into a disincentive for receiving sufficient future supplies.

³⁸ Ralf Dickel et al., “Reducing European Dependence on Russian Gas”, cit., p. 73.

³⁹ The EU-Russia Dialogue was established in 2000 and the Gas Advisory Council was established in 2011, tasked with a provision of recommendations to the Heads of the Dialogue on gas issues.

⁴⁰ Jonathan Stern, “The Impact of European Regulation and Policy on Russian Gas Exports and Pipelines”, in James Henderson and Simon Pirani (eds.), *The Russian Gas Matrix: How Markets Are Driving Change*, Oxford, Oxford University Press for the Oxford Institute for Energy Studies, 2014, p. 82.

⁴¹ EU-Russia Energy Dialogue, *Roadmap EU-Russia Energy Cooperation until 2050*, March 2013, p. 13-14, https://ec.europa.eu/energy/sites/ener/files/documents/2013_03_eu_russia_roadmap_2050_signed.pdf.

Infrastructure and regulatory risks:

- That the Russian side will not be able to deliver gas to its EU customers, notably under existing and new long term supply contracts, in the volumes and according to provisions specified in those contracts;
- That the transportation of Russian gas under existing contracts will cost more under a new regulatory framework than under the current one;
- That the environment for large scale investments in gas infrastructure will remain too uncertain, and that some infrastructure investments may become "stranded;"
- That possible new EU imports need could not be accommodated by existing infrastructures and that sufficient new infrastructure is not built.

Political risks:

- That the internal energy policies of the Parties could be insufficiently predictable because of uncertainty of economic costs, technological development, and the environmental acceptability of different policy options, aggravated with external political factors;
- That the strategic Russia-EU energy cooperation policy could be insufficiently consistent and forward-looking in such an uncertain environment.

However, the 2014 Ukraine crisis and the consequent deterioration of the EU-Russia political relationship resulted in reluctance on the part of the EU to conduct any dialogue with Russia on energy, thus calling implementation of the Roadmap into question.⁴² Furthermore, the EU has adopted several energy policy initiatives, including the European Energy Security Strategy⁴³ and the Energy Union Package,⁴⁴ which made it clear that it was no longer considering its gas relationship with Russia as strategic, with Russian gas becoming politically unwelcome. These initiatives appear to have ignored the fact that, although no longer deemed strategic, the EU-Russia commercial gas relationship remained (and will continue to remain) significant. Worryingly, the EU provided no indication of how it envisaged this relationship going forward, apart from a passing note in the Energy Union Package that stated the EU "will consider reframing the energy relationship with Russia [...] for the mutual benefit of both sides [...] when the conditions are right."⁴⁵

This paper argues that while the EU's desire to reinforce its energy diplomacy and establish new gas relationships with alternative suppliers is reasonable and welcome, its reluctance to manage the existing gas relationship with its biggest supplier, Russia (which will remain significant owing to limited alternatives) and

⁴² Ralf Dickel et al., "Reducing European Dependence on Russian Gas", cit.

⁴³ European Commission, *European Energy Security Strategy* (COM/2014/330), 28 May 2014, <http://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52014DC0330>; European Commission, *In-depth Study of European Energy Security*, cit.

⁴⁴ European Commission, *A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy* (COM/2015/80), 25 February 2015, <http://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52015DC0080>.

⁴⁵ Ibid., p. 7.

resolve urgent issues – including Ukrainian transit, the OPAL exemption and regulatory treatment of new capacity under the Third Energy Package (TEP) – might endanger European security of supply. Evidently, political, regulatory and supply/demand risks outlined in the EU-Russia Roadmap have only increased since the 2014 Ukraine crisis both for Europe and Russia, thus making the Roadmap's main recommendation of risks mitigation even more important.

The question of how Russian gas will be transported to Europe after 2019, when the existing contract providing Gazprom with a right to transit gas across Ukraine expires, is one of the most urgent questions. The Russian position appears to be that of significantly reducing (if not eliminating) transit across Ukraine by 2020 by means of rerouting gas flows through new export pipelines such as (the now cancelled) South Stream, Turkish Stream⁴⁶ and/or Nord Stream 2. The Commission, on its part, wants to prevent these pipelines from being built, so that Ukraine can continue receiving transit revenue and access "reverse flow" gas, provided that it reforms its gas sector in line with EU rules. Thus the Commission position appears to be that Gazprom must meet its contractual obligations towards European buyers while only using existing export pipelines across Ukraine and Belarus, a pipeline to Finland and Nord Stream 1 (while also limiting usage of the latter's onshore extension, OPAL, to 50 percent).⁴⁷ This approach has already resulted in the cancellation of the South Stream project by Russia after the Commission declared the intergovernmental agreements (IGAs) underpinning the project as incompatible with the TEP (although it was somewhat disingenuous of the Commission to insist that South Stream had to conform to the TEP, given that the latter does not contain a procedure, as opposed to general rules, as to how new pipelines are to be built and utilised, which suggests that a compromise solution was possible from a legal/regulatory point of view).⁴⁸ Similarly, the Commission could delay (if not block completely) the Nord Stream 2 project and limit Gazprom's access to its onshore sections.

However, such a position by the Commission is tenable only if the Commission can guarantee that the Ukraine transit corridor remains secure, because if transit is halted for any reason, the combined capacity of other export routes would be insufficient for Gazprom to meet its existing contractual obligations in full, thus endangering Europe's gas supply security. Notably, according to the Commission "stress" test assessment, a transit disruption in Ukraine would have "a substantial impact in the

⁴⁶ The Russian-Turkish negotiations on Turkish Stream have progressed at a glacial pace since the project was announced in late 2014 due to commercial and regulatory disagreements, further delays are likely following the Turkey's downing of the Russian military jet in November 2015 and subsequent sharp deterioration of the Russia-Turkey political relationship, a cancellation could not be ruled out.

⁴⁷ For an explanation of the OPAL situation, see Jonathan Stern, Simon Pirani and Katja Yafimava, "Does the Cancellation of South Stream Signal a Fundamental Reorientation of Russian Gas Export Policy?", in *Oxford Energy Comments*, January 2015, p. 3, <http://www.oxfordenergy.org/2015/01/cancellation-south-stream-signal-fundamental-reorientation-russian-gas-export-policy>.

⁴⁸ *Ibid.*, p.4-5.

EU, with the Eastern EU Member States and the Energy Community countries being affected most.⁴⁹ Therefore as long as security of the Ukrainian corridor cannot be assured, the EU and Russia will need to find a regulatory solution for new export pipeline(s), allowing Gazprom to access capacity sufficient for delivering under its existing contracts (in the event of transit across Ukraine becoming fully or partially halted). However such a solution would need to be inclusive of Ukraine, and ensure that it continue to play a transit role (albeit reduced) after 2019.

Conclusion

The 2014 Ukraine crisis and the Russian reaction to it, as manifested by events in Crimea and eastern Ukraine, provoked the most serious crisis in the EU-Russia political relationship since the end of the cold war. The geopolitical argument that Russia may exercise its gas weapon (defined as reducing or cutting off supplies in order to force compliance with political and strategic aims) has gained ground, especially in the Baltic States and central European countries, and led to renewed calls for Europe to reduce its dependence on Russian gas. The problem with this argument is that its validity is impossible to prove, as it is impossible to ascertain whether the threat is genuine or only perceived as such. Therefore if policies are adopted on the premise that the threat is genuine, whereas in reality this is only a perception, these policies might undermine rather than strengthen European gas (and energy) security.

The Baltic States and central European countries' calls to reduce dependence on Russian gas are mostly based on their perceptions, which stem from their memories of Soviet dominance, recently awakened by the Ukraine crisis, which was viewed as Russia's attempt to re-establish its dominance. While the emotional component of this premise is understandable, the factual component is questionable given the lack of conclusive evidence that Russia used the gas weapon against these countries or against any other European country. At the same time, there is abundant evidence of Gazprom attempting to maximise its commercial position in all European countries, and certainly in the Baltic States and central and south-east European countries where it has remained the only (or the dominant) supplier because of a lack of competitive pressure. Gazprom has been able to retain such a position because these countries did little to diversify their gas supplies between the early 1990s and the early 2010s, because alternative supplies were more expensive and construction of new infrastructure to access them was costly; new infrastructure only began to be built in the early 2010s once the Commission had established a dedicated source of financing. As such infrastructure becomes operational, the Baltic States and south-east European countries will be able to reduce (and even eliminate) their dependence on Russian gas by 2020, whereas central European

⁴⁹ European Commission, *On the short-term resilience of the European gas system* (COM/2014/654), 16 October 2014, p. 15, <http://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52014DC0654>.

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countries will be able to reduce (albeit not eliminate) it. While there is no assurance that alternative supplies will be less expensive than Russian gas, Gazprom will not be able to charge a price higher than that defined by competition from alternative suppliers without losing its market share. As gas markets in these countries become more competitive, it becomes less relevant whether the threat of the gas weapon is genuine or not, as its potential impact would be minimal.

While highly dependent and vulnerable European countries can significantly reduce (and in some cases eliminate) their dependence on Russian gas by 2020 – albeit at a cost which would need to be met by European taxpayers – there is limited scope for significantly reducing overall European dependence on Russian gas at least until the mid-2020s and likely beyond. Therefore, even if the political relationship between the EU and Russia does not improve quickly and there is limited scope for dialogue between the two sides on many issues, the energy – and specifically the gas – dialogue needs to continue. Although in practice it is impossible to isolate the gas relationship from the political relationship, a renewed dialogue on gas (where both parties have significant commercial interests) and the potential resolution of at least some of the important gas issues listed above would not only improve European gas security but also contribute towards improvements in the broader political relationship, and ultimately towards peace and security in Europe.

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