

REBALANCING THE EU-RUSSIA-UKRAINE GAS RELATIONSHIP

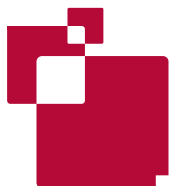
AGATA ŁOSKOT-STRACHOTA AND GEORG ZACHMANN

Highlights

- The October 2014 agreement on gas supplies between Russia, Ukraine and the European Union did not resolve the Ukraine-Russia conflict over gas. The differences between parties in terms of objectives, growing mistrust and legacy issues make it unlikely that a long-term stable arrangement will be achieved without further escalation. The lack of an EU strategy on the gas relationship with Russia and Ukraine is not helpful. Without EU pressure and support, Ukraine might enter a new unfavourable gas arrangement with Russia, which could have repercussions beyond the energy sector.
- To reduce prices and increase the security of imports, the EU as a bloc should redefine its gas relationship with Russia and Ukraine. Otherwise, the diverging interests of EU member states on second-order issues will preclude achievement of joint energy policy objectives. Implementation of a joint strategy rests on enforcement of EU competition and gas market rules, a strengthened role for the Energy Community and the establishment of a market-based instrument for supply security.
- For Ukraine, the EU should serve as an anchor for comprehensive gas sector reform. Contingent on Ukraine's efforts, EU financial and technical assistance, the enabling of reverse flows and pressure on Gazprom, should eventually enable Ukraine to obtain a sustainable gas-supply contract with Russia. This should make a sustainable and mutually beneficial Russia-Ukraine-EU gas relationship possible. However, during the transition, the EU should be prepared for possible frictions.

Telephone
+32 2 227 4210
info@bruegel.org

www.bruegel.org



Agata Łoskot-Strachota (agata.loskot@osw.waw.pl) is a Senior Fellow at the Centre for Eastern Studies (Osrodek Studiów Wschodnich), Warsaw. Georg Zachmann (georg.zachmann@bruegel.org) is a Research Fellow at Bruegel. The authors thank Marek Dabrowski for many helpful comments on an earlier draft.

REBALANCING THE EU-RUSSIA-UKRAINE GAS RELATIONSHIP

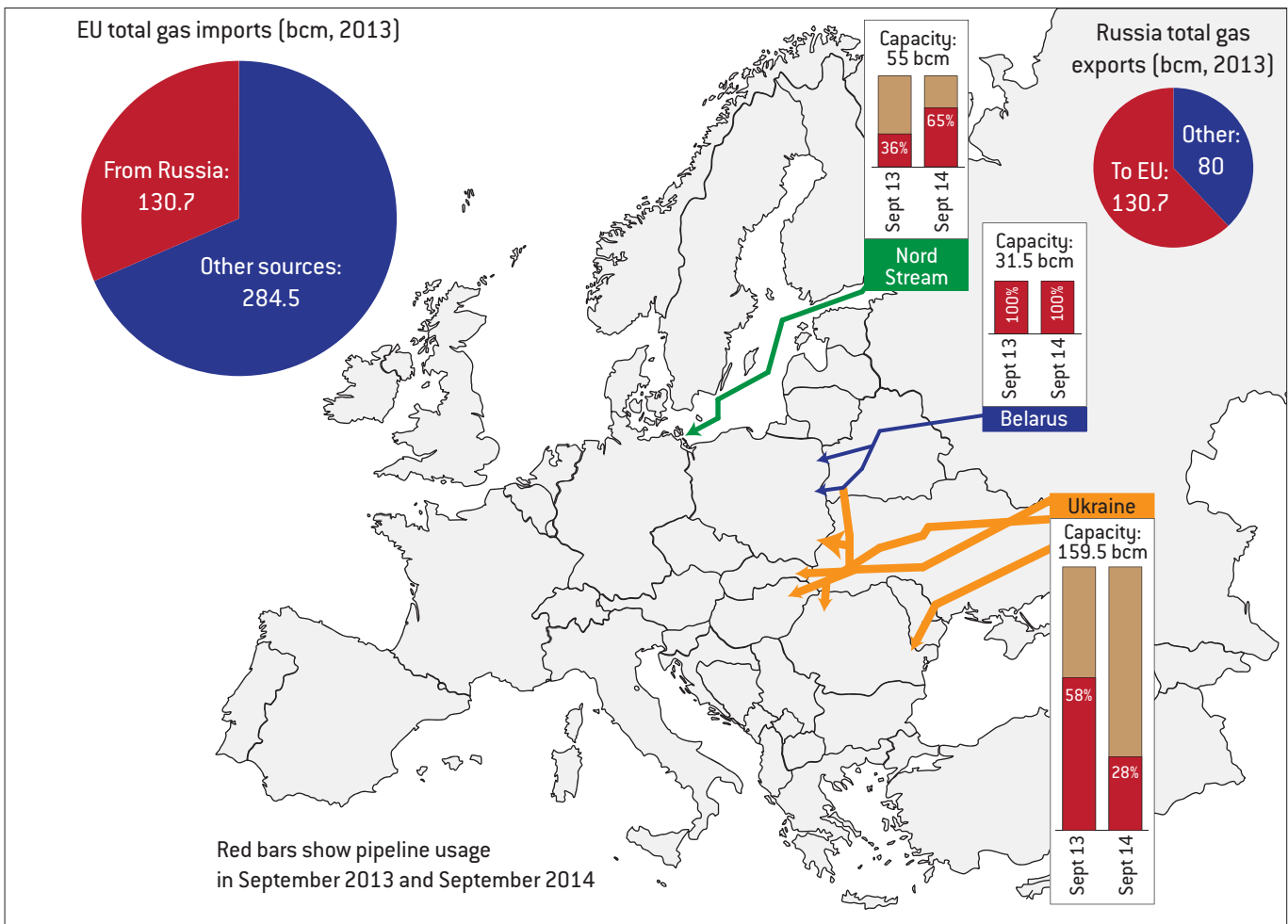
AGATA ŁOSKOT-STRACHOTA AND GEORG ZACHMANN, DECEMBER 2014

THE RELATIONSHIP between Russia and Ukraine over gas supplies has been difficult since the early 1990s. The interim deal of 30 October 2014 was primarily meant to guarantee stable supplies to the European Union during winter 2014-15 after Russia stopped supplies to Ukraine in June (see Box 1 on page 3). The deal does not address the underlying causes of the Ukraine-Russia gas conflict which go deeper than a disagreement about prices and debt. Also at issue are the scope for revisions to long-term gas supply and transit contracts, the admissibility of reverse flows from

the EU to Ukraine and, more generally, the future structure of the Russia-Ukraine-EU relationship.

The 30 October deal allowed all these crucial issues to be kept open (Box 1). In parallel to the Ukrainian-Russian gas crisis, there also is a European-Russian crisis. Russia and the EU have disagreed for several years on the rules of their gas relationship. These disagreements are manifested in disputes about the regulatory treatment of the South Stream project¹ and the OPAL pipeline², an investigation by European competition authorities

Figure 1: EU-Russia gas connections



Sources: Bruegel based on IEA Gas Trade Flows in Europe; Nord Stream website.

of the possible anticompetitive behaviour of Gazprom in the EU gas market and discussions about the legality of European gas exports to Ukraine (so called reverse flows³). In most of these conflicts, different EU member states take very different position, based on widely diverging interests. Finally, there is also an EU-Ukrainian dimension to the crisis. Ukraine has used its pivotal role for gas transit in the past irrespective of the EU's interests. And the opacity of the Ukrainian gas sector fuels persistent doubt about the credibility of Ukrainian commitments.

In the next section we describe Russia's, the EU's and Ukraine's goals and the instruments at their disposal. We then describe three possible scenarios for the development of the trilateral gas relationship and suggest some steps to be taken in order to secure the more positive outcome.

WHO WANTS TO ACHIEVE WHAT?

In the trilateral gas negotiations, longer-term objectives largely determined the tactical positions of Ukraine and Russia, while the EU was mostly preoccupied with the short-term challenge of ensuring gas supply security this winter.

BOX 1: A SHORT HISTORY OF THE RECENT GAS DISPUTE

The difficult Russia-Ukraine relationship over gas has at least twice resulted in gas crises that affected the stability of gas transit to the EU (in 2006 and 2009)⁴. The current gas conflict started when Russia in April 2014 (1) withdrew the politically-motivated gas price discount granted to Ukraine under Viktor Yanukovich in December 2013⁵, (2) cancelled the reduction in gas-export duties granted for hosting the Russian Black Sea fleet in Crimea⁶ and (3) asked for the repayment of Ukraine's huge gas debts (earlier postponed several times). Ukraine did not accept a return to the 2009 price formula – which implied a hike in the gas price from \$268.50 to \$485 per thousand cubic metres (tcm). The parties started to negotiate both the gas price and conditions of debt repayment and in parallel filed suits against each other at the Stockholm International Arbitration Court. The negotiations continued largely thanks to the EU's engagement but finally failed in June 2014. Subsequently Russia stopped exporting gas to Ukraine. Until the end of October 2014 several rounds of negotiations were held in which the energy ministers of Ukraine and Russia, the heads of Gazprom and Naftogaz and the EU Energy Commissioner were involved.

There are three major points of conflict:

- 1 Ukraine's debts arising from past gas deliveries: Ukraine acknowledges \$3.1 billion; Russia claims at least⁷ \$5.3 billion. The differences stem from different prices acknowledged for past deliveries.
- 2 The nature of the price agreement: Ukraine wants to revise the 2009 supply contract it claims was only signed under huge pressure and because of substantial changes in market conditions, while Russia wants longer-term confirmation of the contracted price formula and agrees only to discretionary and thus reversible reductions in export taxes.
- 3 Conditions of gas transit via Ukraine: Russia wants Ukraine to provide gas and storage facilities to ensure a smooth gas transit and to stick to the terms of the 2009 transit contract, while Ukraine wants to treat gas storage as a separate service, and aims to renegotiate its gas transit agreement with Russia and align it to EU law.

In essence, Ukraine wanted to use the negotiations in 2014 to modify the 2009 gas contract that required it to buy excessive volumes (contractual minimum offtake is 41.6 billion cubic metres (bcm)⁸, while 2013 import demand was 29 bcm) at excessive prices from Gazprom.

The 30 October interim agreement allowed Ukraine to restart imports of Russian gas during the winter at a price of \$385/tcm, on condition of \$3.1bn in debt repayment and prepayments for future supplies⁹. The revision of the 2009 contract and the debt settlement was de facto shifted to the Stockholm court. But we expect that the court will encourage renegotiations instead of prescribing a compromise. So the conflict over these issues will be opened up again no later than after the Stockholm settlement. In fact, because of already visible misunderstandings¹⁰ and the diverging long-term interests of the parties, the deal might not even survive the 2014-15 winter.

Russia

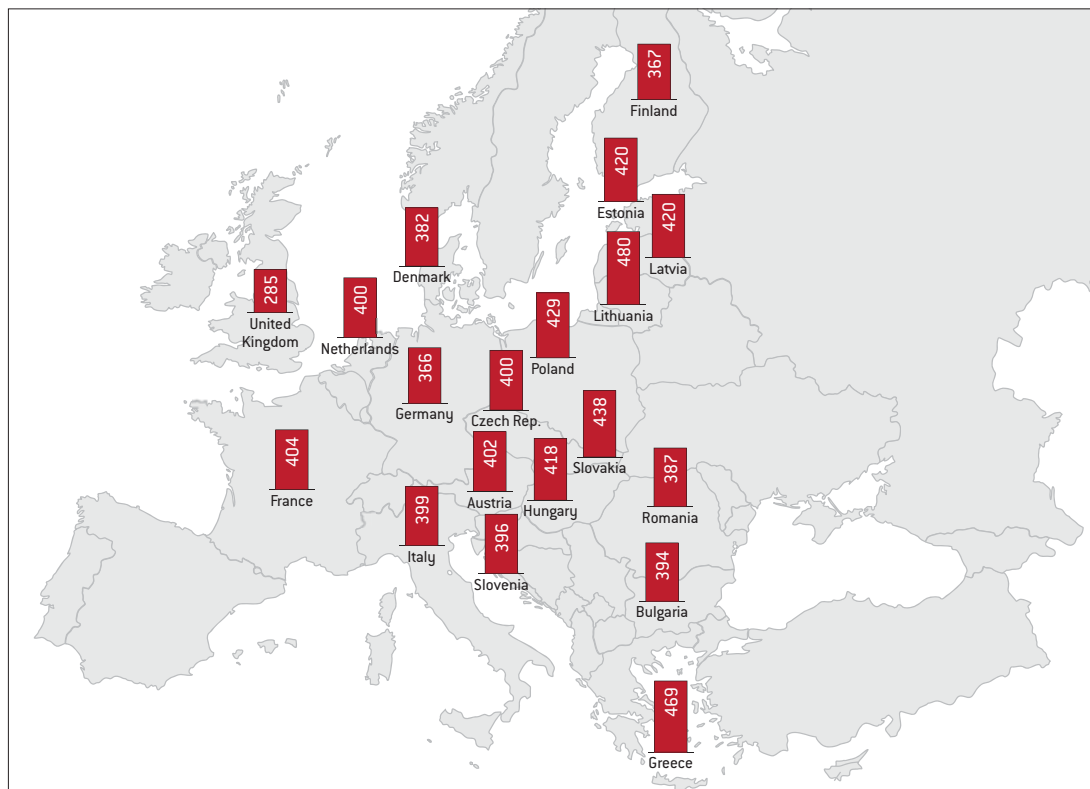
Russia's gas-related goals are both economic and political. As the world's largest gas exporter and thanks to its huge untapped reserves¹¹ gas will remain an important economic factor for Russia. In 2013, gas accounted for 14 percent of the country's total exports. Consequently, the main economic interest of Russia is to ensure sustainably high gas exports at a price as high as possible.

Gazprom¹² and its monopoly on pipeline¹³ gas exports has been for many years a key instrument enabling Russia to achieve this. Gazprom tries to maximise revenues by discriminating between customers. Those customers that have sufficient alternative suppliers (eg in north-western Europe) are granted much lower prices than those that have no alternatives (eg central and eastern Europe). One of Russia's main objectives in Europe is to defend this very profitable strategy. Maintaining market segmentation requires preventing cheap gas from the competitive markets from flooding the monopolistic markets. Hence, Gazprom does everything it can to control the use of corresponding infrastructure to prevent such

flows. This includes buying corresponding assets¹⁴, excluding competitors from using them¹⁵ and securing capacity with long-term contracts.

On the downstream side, Gazprom tries to conclude contracts that essentially lock-in its dominant role. Clauses that prevent re-export ('destination clauses') do not need to be explicit in the contracts, because EU downstream companies are well aware that not playing by Gazprom's rules might undermine their position in the next round of negotiations¹⁶. Long term take-or-pay contracts make it unattractive for countries in which Gazprom currently enjoys a dominant position to diversify, because the contracted volumes would still have to be paid for, even if diversification allows imports to be reduced. Additionally Gazprom, because of its production costs, scale of operation and established position on the EU gas market, is able to reduce gas prices in order to limit possibilities for newcomers entering the market¹⁷. Furthermore, Gazprom actively lobbies within the EU to prevent legislation that would reduce its ability to separate markets¹⁸. Finally, Gazprom moves down the value chain in the EU and establishes cross-ownership with large European incumbents.

Figure 2: Average price for Russian gas in 2013 in EU member states, \$/tcm*



Source: Bruegel based on Henderson and Pirani (2014). Note: * thousand cubic metres.

This helps Gazprom to better understand its main export market, and gives it some leverage in legislative discussions and increases the flexibility of Gazprom to re-route transit, separate markets and increase its market power.

To bring gas to Europe, Gazprom has still to rely on transit countries. This dependence reduces Gazprom's profits because transit states want to share them. In addition, transit exposes Russian exports to technical, legal or political problems with transit states. This was the reason for Gazprom pursuing the strategy of diversification of its export routes – building the Yamal-Europe gas pipeline through Belarus, Blue Stream through the Black Sea to Turkey, Nord Stream through the Baltic Sea to Germany and planning to build South Stream through the Black Sea (and possibly Turkey) to the EU. The plans announced by President Putin in December 2014 to replace the South Stream project by pipelines through Turkey are also in line with this diversification strategy¹⁹.

In parallel, Gazprom has been trying to increase its control over traditional gas export pipelines (via Ukraine and Belarus). It bought the Belarussian transit pipelines²⁰ and has for years been trying to gain operational control over Ukrainian pipelines. Despite not achieving that, it succeeded at unbundling its supply agreements with Ukraine from transit arrangements. Besides cutting out 'rent-seeking' transit countries, the direct pipelines also give Gazprom greater flexibility to discriminate between customers (within and outside the EU) by bringing the desired volumes to the desired customers.

Beyond profit maximisation from gas sales, Russia uses gas exports as an instrument to achieve political goals. Altering gas prices is quite convenient, because corresponding 'incentives' can be quickly granted and withdrawn by a unilateral political decision and thus is helpful to maintain control over the recipient. The discount for the Yanukovych administration in Ukraine after it did not sign the EU association agreement in 2013 is one of many examples. This only works if the benefits can be targeted to individual parties or countries. This requires that Russia keeps political control over its gas sector and hence does not fully liberalise it. Using gas as a political instru-

ment is facilitated by opaque design of the gas sector in Russia and the 'targeted' countries. In fact, well-functioning gas markets with non-subsidised prices would result in a substantial reduction in gas demand in most Commonwealth of Independent States countries that import Russian gas. This (together with introducing effective institutions and rule of law) might go so far as to reduce the political dependence of these countries on Russia. Hence, one might argue that Russia would be interested in maintaining opaque and politicised gas sectors in its neighbourhood.

That is clearly visible in terms of Russia's intentions towards Ukraine. Russia's priority goal remains to keep Ukraine in its 'sphere of influence'. The gas relationship seems to be one of the key instruments to achieve that²¹. This requires preventing physical diversification and preventing Ukraine from becoming a part of the EU internal gas market. If Russia is successful it would ensure continued political leverage and Gazprom's monopolistic position on Ukrainian gas market.

In the short term, Russia seems to have significant leverage as a reduction in (or even cut of) gas supplies to Ukraine and the EU would incur a significant economic and social cost for the EU and Ukraine. And Russia indeed in 2014 stopped gas supplies to Ukraine and implicitly threatened a partial supply stop to the EU²². Recent episodes of below-expected gas flows to Poland²³, Slovakia²⁴ and Austria²⁵ might be interpreted as 'warning shots' to remind the countries engaged in enabling 'reverse flows' to Ukraine of the pivotal role of Russia for their energy supplies²⁶, even though cuts and decreases are usually subject to contractually foreseen compensation or penalties.

Apart from the threat of short-term supply disruptions, Russia can also harm some EU member states by partly bypassing their gas transit systems. The Slovakian Transmission System Operator Eustream for example earned about €300 million²⁷ in 2013 by transiting 52.5 bcm of gas. Given the existing excess pipeline capacities, rerouting of large volumes of gas is feasible and is taking place²⁸. Should South Stream be completed, Gazprom could essentially empty each individual line at convenience.

On a similar timescale, Russia can seek to reduce its reliance on exports to the EU by establishing alternative export markets, namely China. The deal signed between China and Russia in May 2014 does, however, reveal the weakness of this approach²⁹. The high capital cost³⁰ will be difficult to be recoup from the agreed low gas price of \$350/tcm³¹, which is below what Poland or Ukraine are paying.

Gazprom could also try to increase gas prices for its European consumers. This would, however, have a significant down-side for Gazprom because many European customers would then switch to other sources³². In 2012 for example, when Gazprom's prices were relatively high, Norway became the largest exporter to the EU. Only after Gazprom agreed to renegotiate prices in its long-term contracts with many EU utilities³³, did it regain its pole position. In practice, Gazprom could only establish higher prices for customers that for technical reasons do not have access to other sources, by blocking the ongoing renegotiations on existing long-term contracts or by gaming the spot market.

Another instrument Russia can use and is using to affect member states' energy policies is not directly related deals. A prominent example has been the deal to build and finance the extension of the Paks nuclear power plant in Hungary by Russian state-owned company Rosatom³⁴. This seemingly favourable deal makes it more difficult for the Hungarian government to act against with Russian energy interests in the EU³⁵, as anecdotal evidence about the Hungarian stop of reverse flows to Ukraine in September 2014 suggests.

There has also been discussion on whether Gazprom might use the infrastructure it acquired in the EU³⁶ (gas storage and pipelines) to exercise pressure on EU policymakers. DIW (2014) argues that the impact would be limited and third party access (TPA) provisions would make it legally difficult for Gazprom to use those to cut off consumers. In any case, infrastructure assets such as

German pipelines or Latvian storage, long-term transit contracts and exemptions from EU regulations (as for the Gazelle or OPAL pipelines) provide Gazprom with substantial influence over the gas market.

Russia is and has been using very much the same instruments over the past decade to influence Ukraine's energy policy. Given the contractual arrangements and the strong reliance of Ukraine on Russian gas, Russia is much more flexible with respect to altering gas prices. Given the energy intensity of the country and the existing subsidy schemes, this has a huge immediate impact on the government budget and on socio-economic development. Given abandoned reforms in the sector, inefficient institutions, corruption and the lack of transparency that have prevailed so far in the Ukrainian gas sector, a whole range of additional instruments have been used (personal ties, shadow businesses etc) to benefit Russian interests. Side-dealings with influential Ukrainian oligarchs such as Dmytry Firtasch, who was allowed to buy Russian gas at discount prices, gave Russia additional leverage in the Ukrainian political system³⁷.

In the longer-term, however, the effectiveness of Russia's instruments might be reduced should Ukraine diversify its imports, reduce consumption, increase domestic production³⁸ and deeply reform its gas sector.

The European Union

The EU is one of the world's largest consumers of natural gas³⁹ and it is interested in low prices and secure supply. To this end it devised two major policies: (i) integrating member-state sectors into a single European energy market⁴⁰ and (ii) encouraging a reduction of dependence on Russian gas imports. The internal market should allow member states to more efficiently use the existing infrastructure (eg share pipelines and storage) and encourage competition at all stages of the value chain in order to bring down the price. Having alter-

'Russia can seek to reduce its reliance on gas exports to the EU by establishing alternative export markets, namely China. The May 2014 deal between China and Russia, however, reveals a weakness: the high capital cost will be difficult to be recoup from the agreed low gas price.'

natives to Russian gas should not only make supply more secure, but would also increase competitive pressure on Gazprom and hence allow lower prices. For this and other reasons, the EU as a whole and its member states support a whole array of alternatives to Russian gas, from reduced energy consumption (ie energy efficiency measures), to use of alternative fuels such as renewables, to alternative gas sources (eg liquid natural gas, Nabucco and domestic shale gas). However, there are difficult energy policy trade-offs. For example phasing-out of nuclear in Germany and encouraging the switch from coal to gas for climate policy reasons lead to an increase in Europe's gas demand.

But the member states are not only partners, they are also competing with each other for the cheapest and most secure energy supply. Consequently, some member states (eg Germany) that already enjoy a diversified supply portfolio are not unhappy with Gazprom's ability to differentiate prices contrary to the interests of other member states (eg Poland). This also holds for some European companies with which Gazprom has privileged relationships and which are aware that full integration and completion of the EU internal gas market will increase downstream competition and consecutively align gas prices, thus also hurting their interests.

Some EU member states are also important trading and/or transit countries for Russian gas. Slovakia is a major gas transit country, Austria benefits from the Baumgarten trading hub and Hungary has been hoping to benefit from South Stream. Hence, these member states prefer legislation that increases the value of their special assets/position. These interests are often in line with Gazprom's desire for greater flexibility in supplying the EU market, enabling preferential treatment of some of Gazprom's customers. Based on their sector structure, member states differ widely in terms of their preferred gas market organisation. Important factors include the role of national policymakers or the way costs are shared between different user groups. Member states also differ when it comes to their assessment of the Russian-Ukrainian conflict, which is related to difficulties in agreeing a common position on EU short-term policy towards Russia (sanctions,

impact on gas cooperation) and Ukraine (scale and scope of EU engagement, also in the gas sector).

The EU and its member states have multiple instruments to pursue their interests. They might reject buying Russian gas in the short term, which could imply a substantial loss of revenues for Gazprom and the Russian budget. This would, however, only work if it would not trigger contractual penalties (eg by referring to 'force majeure')⁴¹ and it would impose substantial costs on European gas consumers that would be forced to look for alternative sources in the short term. As the costs borne by different consumers would differ, this would require concrete compensation schemes. In the longer term Europe might enable alternative supply routes and reduce its gas consumption. Making Gazprom's market share contestable will force them to accept lower prices. It would increase security of supply even if Gazprom's actual market share stays high because of competitive prices. In this respect, the US-born unconventional gas revolution – largely thanks to shale gas, US gas production in the last decade increased by 40 percent – and increased liquidity of LNG markets are transforming the natural gas market in Europe's favour. The corresponding investments might, however, not be privately beneficial. So some administrative mechanism⁴² might be needed to make such socially-beneficial projects attractive to private investors.

In addition, Europe can use and has used its internal energy market and competition policy to undermine Gazprom's selective pricing strategy in Europe. Additional internal infrastructure such as 'reverse flow' capacities have been introduced since 2009, and increasing the physical interconnectedness further is a priority of Europe's energy security strategy⁴³. This also entails the enforcement of third-party access to Gazprom's European infrastructure. Beyond granting network access, competition policy is also a potentially sharp sword. In September 2012, the European Commission in its competition role opened proceedings against Gazprom arguing that its (i) dividing of gas markets, (ii) preventing diversification of supplies and (iii) linking the price of gas to oil prices⁴⁴ might be illegal. A settlement decision could require

Gazprom to alter its core business model and practices. The EU can also (as it has started to do) increase the role of EU regulations and competition rules in its neighbourhood through an increasing role for the instruments and rule-enforcement mechanisms of the Energy Community.

Ukraine

Ukraine should be interested in low gas import prices, high transit revenues, developing its domestic gas resources⁴⁵ and an efficient domestic gas sector. To achieve this, Ukraine would have to (i) reduce its reliance on Russian gas by encouraging diversification and energy efficiency⁴⁶, (ii) maintain its pivotal transit role by concluding stable transit arrangements with its neighbours and last but not least (iii) reform its gas sector. But, despite repeated announcements, implementation has been held back by (i) fear of losing the support of the electorate and influential interest groups over the necessary adjustment of gas tariffs (households pay about \$50/tcm), (ii) the unwillingness to undo this rent-generating machine (cross-subsidies amount to the order of 6 percent of GDP⁴⁷) and (iii) openly obstructive policies from Russia⁴⁸. One constant impediment to forward-looking reforms has been the uncertainty over the gas supply contract with Russia. The contract has hindered diversification and demand reduction, given the high volumes Ukraine has to pay for up to 2019 (see Box 1). However, continued over-focusing on the contract issue paralyses all structural reform.

The Ukrainian focus is again on revising the contract. This is somewhat dangerous, because it is unclear if Ukraine already has the regulatory and physical preconditions for getting a significantly better deal. Without political support and physical reverse flows from the EU, Ukraine is certainly not in a position to escape its dilemma.

Ukraine has one major leverage over the EU and Russia – gas transit. Only 60 percent of Russian exports to the EU can bypass the Ukraine gas tran-

sit system through either the Nord Stream pipeline or Belarus⁴⁹. Hence, Ukraine can block a substantial fraction of gas deliveries to the countries to its west. Blocking transit might lose effect should South Stream, new pipelines through Turkey and/or Nord Stream 3&4 allow Ukraine to be bypassed entirely, or it might become more difficult when transit is operated by an independent operator. Naftogaz's substantial legacy debt forms a minor monetary leverage because Russia might find it difficult to enforce the repayment if no agreement acceptable for Ukraine is found.

On the other hand Ukraine might offer access to its gas assets. For at least several months it has been doing just that by (i) making information on gas flows and storage publicly available on European transparency platforms, (ii) offering EU companies easy access to its storage facilities, (iii) encouraging participation in infrastructure privatisation and (iv) presenting itself in the longer term as possibly an important gas hub in an integrated European gas market. Access to Ukraine's storage facilities and its potential to produce gas is valuable in a longer-term perspective to both the EU and Russia as part of their strategies related to European gas market development. Ukraine remains also an important gas consumer and – once it succeeds in completely reforming its internal gas prices – export market⁵⁰.

Conclusions

In general terms, we conclude that Russia in its gas relationship with Ukraine has a well-defined objective: keeping Ukraine in its sphere of influence both for political reasons and, in the medium to long term, in order to maximise its gas revenues. Its objectives for the EU are to maximise profits and maintain some leverage, especially by maintaining strong bilateral relations with specific member states.

Ukraine seeks to reduce its gas-dependency on Russia, to regain political control over its gas sector and to benefit more from its transit assets

'Russia aims to keep Ukraine in its sphere of influence for political reasons and to maximise gas revenues. Its objectives for the EU are to maximise profits and maintain some leverage, especially by maintaining bilateral relations with specific member states.'

and gas resources. The necessary structural shifts are difficult to implement because most political attention is currently focused on the short-term. The required long-term commitment is barely credible in Ukraine. Integration with the EU energy market is the only credible anchor that would enable the difficult reforms and facilitate the necessary investments⁵¹.

The EU still needs to define its strategic goals for its energy relationships with Ukraine and Russia. So far it has been trying to muddle through by supporting Russia's position on securing stable transit, while helping Ukraine to reduce its reliance on Russia.

In summary, each side has advantages over the others. While Russia has comparatively strong leverage over Ukraine and the EU in the short term, its advantage quickly wears off. Ukraine's main instrument – blocking gas transit – is also set to become irrelevant quickly. The EU is vulnerable in the short-term, but in the long-term, global gas market developments seem to run in its favour. It will, however, require political action for the EU to translate these developments into lower gas import prices, a more resilient energy supply and more efficient gas markets.

THREE POSSIBLE OUTCOMES

Given the state of affairs we have described, we will describe three different outcomes.

In the default scenario, the EU would remain split over its gas policy towards third countries. This implies business-as-usual with Russia and no prospect for Ukraine to join the EU energy market. Without a European commitment to provide this anchor for regulatory reform in Ukraine, corresponding reforms are not credible. Each Ukrainian government will be faced with the choice of some short-term benefits in terms of low Russian gas prices and high transit revenues, even if it perpetuates the addiction to Russian gas (and in a wider sense allows Russia to continue to set the rules of the game). This will preclude a deep reform of the sector. Abundant volume take-or-pay contracts with Gazprom make access of new exporters to the Ukrainian market difficult and discourage most physical diversification projects. With the EU agreeing to bypass pipelines or not guaranteeing reverse flows, Ukraine will be deprived of any advantages in negotiations with Russia. Without its strategic value, it is then possible that Ukraine will at some point render the control of the gas transit system to Gazprom. This might impede access to the gas transmission system for companies seeking to produce gas in Ukraine⁵². Together with the poor regulatory environment, this will make increases in domestic production (which could reduce Ukraine's import dependency⁵³) much more difficult.

The effect on Ukraine certainly extends beyond the gas sector. Without EU support, Russia is likely to regain a significant leverage over Ukraine's politics. The effects would be felt in the entire EU

Table 1: EU, Russia and Ukraine, summary of instruments available, their cost and effect

	Russia over the EU	EU over Russia	Russia over Ukraine	Ukraine over Russia
Short-term (<1y)	Supply disruptions	Reduce imports	Supply disruptions	Block transit
	Strategic use of Gazprom's EU infrastructure	Use competition and internal market rules, Energy Community	'Buy' Ukrainian policymakers/key market participants	Default on debt
	Non-gas related carrots and sticks		Adapt prices	
Med. to long term (>1y)	Adapt prices and conditions of supply	Advance the IEM, export it to neighbourhood	Transit by-pass	Reform the energy sector
	Different export destinations	Reduce gas imports from Russia	Non-gas related carrots and sticks	Reduce gas imports from Russia
		Reduce role of gas in energy mix	Adapt prices	Offer Russia (EU) share in its gas market and assets
		Unify EU energy policy	Different export destinations	

Source: Bruegel. Note: cost and effect are classified high, medium and low. Upper flash in each box shows cost; lower flash shows effect. Red = high, yellow = medium, green = low.

neighbourhood as a failure of the EU to defend its own rules (and in consequence would limit the effectiveness of EU foreign policy).

The impact on the EU gas sector of this scenario might be limited, though if Russia can fully control Ukrainian gas infrastructure (both pipelines and storage) it might be even better able to game the central and east European markets⁵⁴ and so preserve current market segmentation and hamper completion of the EU internal gas market. It would also mean a significant limitation of the EU's external energy policy instruments, specifically by making the 'Energy Community' redundant.

A less likely scenario would be that the EU takes a common stance to assist Ukraine with gas-sector reforms, to support it by preventing South Stream, to help settle Ukraine's contractual and debt issues with Russia and to guarantee reverse flows (we think the EU could mobilise the necessary financial and political capital). If support is granted without enforcing deep reforms in Ukraine, such a strategy would risk making the EU dependent on transit through Ukraine (and Ukraine's willingness to pay its gas bills to western suppliers). Ukrainian policymakers might feel tempted to avoid committing to a difficult reform agenda, and to alternately seek short-term benefits from both sides. At worst, the persistence of a murky gas sector in Ukraine might allow European support to be captured by private interests. As the corresponding transfers by the EU would barely be politically sustainable, it would essentially be an expensive detour for getting to the first scenario.

In the final scenario, the EU – if united and determined – would be able to set the rules of Russia-Ukraine-EU gas relations. For this, Europe would first need to redefine its gas relationship with Russia. The global shift in market power from suppliers to buyers needs to be properly reflected in the EU. This should allow lower European gas prices and more flexibility in setting its own rules (irrespective of the interests of suppliers). The main problem on the EU side is the diverging inter-

ests of its members, which so far have prevented a redefinition of the gas relationship. The case must be made that shared strategic objectives outweigh individual countries' short-term benefits. In some cases, partial compensation for extreme cases must be possible⁵⁵. The second issue is that Russia will exercise its instruments to prevent this redefinition of the gas relationship. This would require the EU to credibly demonstrate closeness through tangible rules on solidarity between member states. Finally, it has to be decided which redesign Europe wants to achieve. We see four important areas:

- 1 Enforcing the present competition and internal market rules against all market participants, including Gazprom.
- 2 Refocusing the EU security of supply strategy from reducing dependence on Russian gas to reducing EU vulnerability to import dependency. The ultimate goal should be to guarantee EU access to cheap Russian gas supplies on non-discriminatory, free-trade basis. Reducing the negative consequences of over-reliance on Russian gas is needed in central and eastern European countries and the Balkans, but not for the EU as a whole.
- 3 An enlarged and unified European gas market could increase European bargaining power on global gas markets. Hence the EU should beef up the 'Energy Community' to make it an instrument that provides its non-EU members with an anchor for implementing European energy market rules. This is contingent on the prospect of access to all obligations and benefits of the internal energy market – including solidarity.
- 4 The current energy market design falls short in delivering efficient investment and usage of energy infrastructure. It would for example require a mechanism that ensures for all customers energy security that does not rely on national energy policies⁵⁶. So a reform of the internal energy market's design and governance is necessary. As Energy Community members will have to follow these rules, they should be represented in this process.

'The global shift in market power from suppliers to buyers should give the EU access to lower gas prices and more flexibility to set its own rules, irrespective of supplier's interests. But the main problem for the EU is the diverging interests of its members.'

If there is no cooperative approach from Russia, the EU should prepare for a prolonged period of uncertainty in energy relations with Russia. In such a scenario the EU-Russia gas relationship will continue on a case-by-case basis, but only in accordance with EU rules. This is only credible if the EU is always prepared for a disruption or cuts in gas supplies from Russia (total stop of Russian gas transit via Ukraine seems possible in case of prolonged problems in Ukraine's and the EU's relationships with Russia).

In its relationship with Ukraine, Europe should serve as an anchor for reforming the Ukrainian gas sector – it should lend Ukraine its regulatory framework and enforcement mechanisms. Without such an anchor, Ukraine will be locked-in to short-termism and will likely spiral back into the Russian orbit. We propose the following five steps:

- 1 Ukraine and the EU need to come up with a firm timetable to implement EU gas sector regulation in Ukraine. Early steps should include implementing full transparency of Ukrainian gas sector operations, organising non-discriminatory access to Ukrainian transit and storage⁵⁷, an ambitious schedule for cancelling gas price subsidies⁵⁸ and improving the monitoring of gas flows. This requires significant technical assistance.
- 2 Ukraine should buy option contracts for gas from the west (maybe with some EU guarantees) to demonstrate to Russia its ability to live without Russian gas for the next winter.
- 3 Ukraine should deeply restructure its gas sector. One option is allowing for the bankruptcy of the state-owned incumbent Naftogaz. This might allow Ukraine to fully dissolve this deeply corrupt company and dissociate the state from Naftogaz's obligations, while retaining control over the pipeline system which was only leased to Naftogaz. The implications of such a radical step would need to be carefully assessed because potentially endless legal battles that might arise could weigh heavily on the attractiveness of the sector to investors.
- 4 To speed up the restructuring process, Europe might pre-privatise the pipeline system. That, is a European agent (such as the European Bank for Reconstruction and Development) could buy a significant share of the pipeline system and lead the reorganisation with its own management team. The shares of the European agent and Ukraine could be sold to the market at a later stage – when the market value of the company has hopefully increased. This should also increase the incentives for regulatory reform.
- 5 Renegotiation of the 2009 contract with Russia can only be successful when the EU promises to step in if Russia does not want to cooperate. Such a commitment from the EU would only be sensible after Ukraine's reforms reach a point of no return.

NOTES

- 1 President Putin said on 1 December 2014 that Russia would stop the construction of the South Stream gas pipeline because of EU regulatory hurdles.
- 2 Gazprom and its partners seek full exemption from the third-party access rule to limit the access of competitors to OPAL – a pipeline that brings gas from the Nord Stream pipeline to central and eastern Europe and southern Germany.
- 3 Ukraine has been importing small quantities of gas via connections with Poland and Hungary since 2012. Reverse flow capacities and supplies increased after the cut in Russian gas supplies in mid-2014; presently capacities available via Poland, Hungary and most importantly Slovakia account to about 40 mcm/day.
- 4 For an analysis of the complicated Russia-Ukraine gas relationship see Balmaceda (2013) and Hafner (2012); on gas supply disruptions in 2005-06 and 2008-09 see Stern (2006), Pirani *et al* (2009) and Łoskot-Strachota (2009).
- 5 After Yanukovich resigned from signing the Association Agreement with the EU during the Eastern Partnership Summit in Vilnius, November 2013.
- 6 In April 2014, Russia canceled the Kharkov agreement of 2010 that implied a \$100/tcm export tax discount in return for the prolongation (2017-2042) of the agreement on the lease of the Crimean port of Sevastopol to the Russian Black Sea fleet.
- 7 In addition, Gazprom claims debts of up to \$18.5 billion for unpaid take-or-pay obligations; see TASS (2014).

- 8 Unless consensually agreed differently: contract documents posted by *Ukrainskaya Pravda* (2014) suggest that Naftogaz could seek to agree with Gazprom six months in advance of each year up to 20 percent lower volumes.
- 9 For details, see Kardas, Kononczuk, Łoskot-Strachota (2014).
- 10 See Gazprom's demands that Ukraine prepays for November gas supplies (2 bcm) rejected by Ukraine (Naftogaz claiming it will order Russian gas and prepay for it only if and when needed) and Gazprom saying that risk to transit security is at a critical level in November 2014 because of insufficient gas stored in Ukraine for transit stability reasons; see eg RIA Novosti (2014).
- 11 According to ENI (2014) it can continue to produce at current pace for more than 75 years.
- 12 It is very difficult to clearly distinguish between the objectives of Russia (ie its government) and Gazprom. To be consistent, we will see Gazprom as a tool of Russia, that has the main objective of generating income, but that can also be used for political purposes.
- 13 Liquefied natural gas (LNG) can be exported by Novatek and Rosneft (Kardas, 2013) and these two companies might also be allowed to conduct exports (in particular to the Asian market) in the future.
- 14 This can be illustrated by the asset-swap deal with German Wintershall which gave Gazprom's subsidiary Wingas full ownership of several gas pipelines (Gascade) and shares in storage facilities.
- 15 Gazprom and its partners have asked the European Commission to grant a full exemption (according to Article 36 Directive 2009/73/EC) from third-party access for the OPAL pipeline and for South Stream to not be bound by EU law at all. If allowed, this would give the consortia full control of modes of use of these pipelines.
- 16 Yet depressed demand and lasting problems of the EU gas industry plus changes on the EU gas market have led many EU companies to take on this risk.
- 17 Gazprom granted, for example, refused for a long time a price reduction for Lithuania after it advanced the work on its LNG terminal (see WSJ, 2014).
- 18 See eg arguments by Konoplyanik (2014), an advisor to the CEO of Gazprom Export, made during the Russia-EU Informal Consultations on 3rd Energy Package, July 2014.
- 19 The head of Gazprom told Russia 24 on 6 December 2014 that "*once the new pipeline becomes operational, the role of Ukraine as a transit country will be reduced to zero*".
- 20 Accomplished after construction of Nord Stream which allowed Gazprom to by-pass Belarussian pipelines. After transit volumes through Belarus were reduced, Belarus finally sold the pipeline to Gazprom, which than started to shift volumes from the Ukraine transit system to the Belarus transit system. In 2011, about 32 percent of the gas to Poland and Slovakia flowed via Belarus; from Nov 2011-Jan 2012 this decreased to 27-29 percent and after rose to 44 percent (IEA).
- 21 Other economic instruments used for Georgia and Moldova are blocking remittances and free trade.
- 22 See eg Reuters (2014).
- 23 From 8 September; see Gaz-System (2014).
- 24 From 10 September; see Ministry of Economy of Slovak Republic (2014).
- 25 See eg WSJ (2014a).
- 26 For more see eg Łoskot-Strachota (2014).
- 27 Eustreams net profits were €319 million and it claims that 90 percent of its business is international gas transmission.
- 28 Gas flows via the Ukraine-Slovakia route in September 2014 were 29.7 percent of September 2013 volumes, while in the same month via Nord Stream they were 179 percent of 2013 volumes. See IEA data for Gas Trade Flows in Europe.
- 29 It is not clear if this agreement is just another deal in a series of memorandums of understanding between Russia and China concluded since 2004, or if it is the final breakthrough. On 10 October 2014, Gazprom announced that an intergovernmental agreement for Russian gas supply to China will be ready soon – indicating that it does still need to be concluded; see Gazprom (2014).
- 30 The envisaged 'Power of Siberia' project involves exploring the new Chayandinskoye field and building a 4,000 km pipeline. For details see eg Kardas (2014).
- 31 For example, Fortune (2014).
- 32 As they already do when gas prices are higher than energy from renewable sources or coal.
- 33 For example, GDF SUEZ, Wingas GmbH, SPP, Sinergie Italiane, and Econgaz and E.on renegotiated their long-term Gazprom contracts in 2011-12.
- 34 See Bloomberg (2014) or Sadecki and Kardas (2014).
- 35 An important nuclear deal has also been made with Rosatom by Finland. Slovakia is presently in a quite difficult situation because it is renegotiating not only a gas supply agreement but also oil supply and transit contracts with Russian companies.
- 36 For a summary see DIW (2014).
- 37 See for example Reuters (2014a).
- 38 For a list of options see Zachmann and Naumenko (2014).

- 39 In 2012 the EU consumed 463 bcm which made it second after the US (710 bcm) but ahead of Russia (461 bcm) and China (142 bcm); see ENI (2014).
- 40 Earlier attempts to also open up the gas sectors of foreign producers such as Russia for somewhat 'fair' competition in exploration and production (see WTO and Energy Charter) have essentially stopped because Russia was not interested in ceding the benefits of a state monopoly on gas exports.
- 41 OIES (2014, p4) points out that there are "significant limitations on the options to reduce the volumes in these contracts, or to terminate contracts before expiry".
- 42 See Zachmann (2014, p6).
- 43 See European Commission (2014).
- 44 See European Commission (2012).
- 45 Ukraine might be essentially self-sufficient in terms of gas supplies. Its proven reserves could cover its excessive 2012 consumption for 19 years (source: ENI, 2014).
- 46 For options see Zachmann and Naumenko (2014).
- 47 See Radeke *et al* (2012).
- 48 See, for example, the legal and media campaign against Ukrainian shale gas development.
- 49 And that share is lower in periods of peak demand (winter), when more gas needs to be shipped to the EU not only by 100 percent filled by-pass pipelines but also Ukraine.
- 50 At least in medium term until its internal production rises.
- 51 See for example Ruester and Zachmann (2014).
- 52 Shell and Chevron have, for example, signed product-sharing agreements with Ukraine.
- 53 Or even allow Ukraine to be self-sufficient in gas in about a decade.
- 54 It has to be noted that market separation and replacing a chain of monopolies by a single monopoly might on aggregate even increase consumers' welfare in the short term. But the price at which it comes – no internal market and reinforcing the dominant position of Russia – might be substantial in the long term.
- 55 An indicative example could be the use of European funds for infrastructure investments in the countries that are at risk of losing transit revenues (eg Slovakia) or those unable to attract private funds to strategically important diversification projects (eg south-east Europe).
- 56 One example of such a mechanism is the downstream suppliers' reserve obligations proposed in Zachmann (2014, p6).
- 57 According to EU rules ('entry-exit') already being partly introduced; see eg Verkhovna Rada of Ukraine (2014).
- 58 The current schedule agreed with the International Monetary Fund will not result in market-based gas prices. The recent gas tariff increases were largely eaten up by the devaluation of the hryvnia (as import gas is traded in US dollars).

REFERENCES

- Balmaceda, M. (2013) *Politics of Energy Dependency. Ukraine, Belarus and Lithuania between domestic oligarchs and Russian pressure*, University of Toronto Press
- Dickel, R., XHassanzadeh, E., Henderson J., Honoré, A., El-Katiri, L., Pirani, S., Rogers, H., Stern, J. and Yafimava, K. (2014) 'Reducing European Dependence on Russian Gas – distinguishing natural gas security from geopolitics', OIES paper No.92, Oxford Institute for Energy Studies
- Downs E., (2014) 'In China-Russia gas deal, why China wins more', *Fortune*, 20 June
- ENI (2014) *O&G – World Oil and Gas Review*
- European Commission (2012) 'Antitrust: Commission opens proceedings against Gazprom', press release, 4 September
- European Commission (2014) *European Energy Security Strategy. Communication from the commission to the European Parliament and the Council*, SWD(2014) 330 final
- Gazprom (2014) 'Intergovernmental Agreement for Russian gas supply to China to be ready soon', 10 October
- Gaz-System (2014) 'Information of PGNiG SA and GAZ-SYSTEM S.A. on gas supply to Poland', 14 November
- Grey, S., Bergin, T., Musaieva, S. and Anin R. (2014) 'Special Report: Putin's allies channelled billions to Ukraine oligarch', *Reuters*, 'Comrade Capitalism' series, 26 November
- Hafner, M. (2012) 'Russian Strategy on Infrastructure and Gas Flows to Europe', *Working Paper no.73*, POLINARES
- Henderson, J. and Pirani, S. (2014) (eds) *The Russian Gas Matrix: How Markets are Driving Change*, Oxford University Press

- Holz, F., Engerer, H., Kemfert, C., Richter, P.M., and von Hirschhausen, C. (2014) 'European Natural Gas Infrastructure: The Role of Gazprom in European Natural Gas Supplies', DIW Berlin
- Hovland, K. M. (2014) 'Gas Terminal Plans Helped Lithuania Negotiate Lower Price From Gazprom', *Wall Street Journal*, 28 May
- IEA (2014) *Gas Trade Flows in Europe*, accessed on 21 November 2014
- IMF (2014) IMF Country Report No. 14/106, Ukraine
- Kardas S. (2014) 'The 'eastern' partnership of gas. Gazprom and CNPC strike a deal on gas supplies to China', OSW [Osrodek Studiów Wschodnich], June
- Kardas, S. (2013) 'A feigned liberalisation: Russia is restricting Gazprom's monopoly on exports', OSW [Osrodek Studiów Wschodnich], November
- Kardas, S., Kononczuk, W. and Łoskot-Strachota A. (2014) 'Success? The Russia/Ukraine/EU gas agreement', OSW [Osrodek Studiów Wschodnich], November
- Konoplyanik, A. and Orlova E. (2014) 'Gas Transportation Infrastructure Density in the EU: CEE vs. NWE', presented at 20th Round of Informal Russia-EU Consultations on EU Regulatory Topics & 13th meeting of the EU-Russia Gas Advisory Council's Work Stream on Internal Market Issues in Vienna, July
- Łoskot-Strachota, A. (2014) 'Reverse flows and supply disruption', *Special Report: Keeping out Cold. Europe's Winter Gas Supply Security*, Interfax Energy, November
- Łoskot-Strachota, A. (2009) 'The complexity of Russian-Ukrainian energy relations', EU ISS, February
- Lundeen, N. and Carney, S. (2014a) 'Russian gas supplies to Central Europe still falling', *Wall Street Journal*, 22 September
- Ministry of Economy of the Slovak Republic (2014) 'Ruský minister energetiky prisľúbil intervenciu za obnovenie dodávok plynu na zmluvnej úrovni', 23 October
- Pirani, S., Stern, J. and Yafimova, K. (2009) 'The Russo-Ukrainian gas dispute of January 2009: a comprehensive assessment', OIES paper No.27, Oxford Institute for Energy Studies
- Radeke J., Giucci, R. and Naumenko, D. (2012) 'Adjusting gas prices to unlock Ukraine's economic potential', *Policy Paper Series* [PP/02/2012], German Advisory Group, Institute for Economic Research and Policy Consulting
- Reuters (2014) 'Russia's Putin threatens to reduce Europe gas supplies', 16 October
- RIA Novosti (2014), Газпром: риск транзита газа через Украину вырос до критического уровня, 14 November
- Ruester, S. and Zachmann, G. (2014) 'Improving gas transmission network regulation in Ukraine by implementing Energy Community rules – a tailor-made proposal', *Policy Paper Series* [PP/03/2014]
- Sadecki, K. (2014) 'Russian-Hungarian nuclear agreement', OSW [Osrodek Studiów Wschodnich], 15 January
- Simon, Z. (2014) 'Putin's \$14 billion nuclear deal wins Orban alliance', *Bloomberg*, 15 January
- Stern, J. (2006) *The Russian-Ukrainian gas crisis of January 2006*, The Oxford Institute for Energy Studies, January
- TASS (2014) 'Naftogaz of Ukraine refuses to recognize debt under take-or-pay contract', 1 May
- Ukrainskaya Pravda (2009) Газовое соглашение Тимошенко-Путина. Полный текст, 22 January
- Verkhovna Rada of Ukraine (2014) ПОСТАНОВА Про вдосконалення державної політики у сфері регулювання діяльності з транспортування природного газу магістральними трубопроводами територією України, Government of Ukraine, 3 September
- Zachmann, G. (2014) 'Elements of Europe's energy union', *Policy Brief* 2014/05, Bruegel
- Zachmann, G. and Naumenko, D. (2014) 'Evaluating the options to diversify gas supply in Ukraine', *Policy Paper Series* [PP/01/2014]