

German-Russian gas relations: a special relationship in troubled waters

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German-Russian Gas Relations

A Special Relationship in Troubled Waters

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German-Russian Gas Relations A Special Relationship in Troubled Waters

In the context of the security crisis in and over Ukraine, natural gas imports from Russia have become a source of debate in Germany and the European Union (EU). The large gas-import volumes – and especially an expansion of natural gas relations in the context of Nord Stream 2 – have been questioned in the political realm. The discourse reflects the concern that a more assertive Russia is projecting its power onto Germany and the EU – and that activities in the natural gas sector represent just one part of this strategy. Thus, the strategic German-Russian natural gas relationship is perceived as stemming from the past. Russian gas supplies are under scrutiny as being an antagonist to 1) a more sustainable energy system, 2) a norm-based liberal political and economic order, and 3) as a major challenge to the process of EU integration. Geopolitics seem to prevail over commercial principles.

We aim at explaining the nature and texture of the gas relations. In order to achieve a better understanding, we analyze the political framing and the natural gas relations to grasp the (historical) paths, patterns, and drivers behind them. Natural gas relations are conducted within the political, institutional, legal, and regulatory framework(s) and are composed of the social-technical assemblages, infrastructure, commercial transactions, and contractual relations.

Historically, the Soviet-German gas-for-pipes deal was embedded into the German *Ostpolitik*. Concrete cooperation in the economic sphere was perceived as a major element of détente and “change through rapprochement” (*Wandel durch Annäherung*). Following German reunification and acknowledging Moscow’s key role, a strategic partnership was proclaimed in the early 1990s. In the 2000s, a “new *Ostpolitik*” succeeded the idea of “rapprochement through interdependence” (*Annäherung durch Verflechtung*). In 2008, a Modernization Partnership supplemented this Strategic Partnership, also in the energy field. Yet, disappointment and alienation crept into the relationship. As of 2009 at the latest, German-Russian natural gas relations cannot be analyzed without including the EU, because this is when the Third Energy Package was introduced. Brussels has become a factor of change. Moreover, the EU enlargement of 2004 brought with it a more critical view of these relations, as did the Russian-Ukrain-

ian gas disputes in 2006 and 2009. Finally, external energy governance has shifted from the policy initiatives influenced by the idea of a common European market from Lisbon to Vladivostok to the export of the EU *acquis communautaire* to the neighborhood.

Commercial gas relations have undergone a grand transformation as well. This is why the impression of ongoing “business as usual” is misleading. During the first phase, from the 1970s till the 1990s, gas trade was developed and supported politically to have positive spillover effects. In the 1990s the relationship transformed into a commercial and business-driven relationship, which covered the whole value chain and resulted in vertically integrated, bilateral monopolies and a kind of special reciprocity. The big change came with the creation of the EU’s internal gas market and a gas glut that affected the business models of companies’ gas undertakings and led to the loss of clear prospects. A low-price buyers’ market since 2009/2010 and a gas supply surplus have fundamentally changed the behaviors of gas traders’ and consumers.

It can be argued that the crisis in and over Ukraine has initiated a new phase. There have been overlaps of German and Russian political and economic interests in conducting gas relations in the past. A disconnect between political framing and economic interests has been growing, and the main paradigm of German foreign policy has been “containment and cooperation.” Gas trade has remained a part of the second pillar of a dual strategy of containment and cooperation, but particular activities in the energy field have been sanctioned by the EU.

For the Soviet Union, the natural gas industry became a centerpiece of its economic development in the 1970s and emerged as an issue of national pride and prestige. The spatial dimension established after the construction of an integrated Soviet pipeline system replicated and ensured the political and economic integration of the Soviet republics, and later the Council for Mutual Economic Assistance (COMECON) countries. The pattern of building up the trade in natural gas and infrastructure ties was reproduced with Western European countries – the Federal Republic of Germany (FRG) among them. Maximizing the revenues from resource wealth is in the DNA of any hydrocarbon producer. Thus, the approach of putting national sovereignty over natural resources – as well as using this lever for generating economic growth – has been Russia’s strategy since the beginning. Natural gas exports have been key to supplying domestic Russian consumers at subsidized and regulated prices. This

explains why the gas industry has been, and remains, a vital and strategic sector. Moreover, especially under President Vladimir Putin’s terms in office, natural gas exports have been seen as a means to restoring foreign power and repositioning Russia in international affairs. However, the global gas glut since 2009 has hit Russia hard. Moscow had invested in gas fields in a different price environment and under the expectation fueled by the EU that gas demand would grow in Europe. Yet, while Germany’s relative importance as a market for Gazprom is increasing, its gas demand is flattening, at best. With respect to bilateral relations, the major takeaway is that a common idea, vision, and understanding of how future gas relations will look are lacking. The incongruence of Russian-German developments is evident in their current natural gas relationship.

We argue that commercial relations have become more complicated, instable, and uncertain than in the past. This weakens the stabilizing effect and may heighten the exposure to geopolitical instrumentalization. Moreover, the number of potentially intervening (f)actors – such as legal actions and regulatory changes in the EU, or the new U.S. sanctions regime in force since August 2017 – limits the German government’s room for maneuver.

If German-Russian gas relations are to be preserved as part of the economic cooperation, dialogue is essential in order to navigate the troubled waters. They should be supported by smaller, innovative lighthouse projects that are mutually attractive and beneficial (such as the use of bio/synthetic gas, gas in transport, cooperation to fight methane leakage, and agreement on improving efficiency in gas use). It is important to adapt gas relations to a low-carbon future and more integrated and liquid gas markets in the EU (and especially in Central European member states). Both have to look for new models of cooperation and, possibly, for new partnerships and new stakeholders (independent gas producers, power generators, municipalities, startups), both in Russia and Germany. It is thus highly problematic that German-Russian gas relations are being overshadowed by the Nord Stream 2 issue.

With regard to the political framing in Germany, adopting a pragmatic attitude seems to be the right way forward – Germany should not have high expectations about positive spillovers into the security realm, but rather emphasize the value of economic cooperation as one pillar of a dual strategy of containment and cooperation. With regard to Russia, any moves and rhetoric to let geopolitics prevail over commercial logic will heighten the level of sensitivity, also in Germany.

Framing the Topic of German-Russian Gas Relations

Guiding Questions and the Analytical Approach

For more than 40 years, German-Russian natural gas relations have been embedded into a broader relationship,¹ in which détente, confidence, and trust-building were perceived as a function of economic interdependence, and the gas-for-pipes deal became part of the *Ostpolitik*.² Thus, traditionally, German-Russian natural gas relations have had a certain political significance and been entangled within the economic, political, and social ties.

Our focus on a partnership of “longue durée” aims to grasp the density, patterns, and dynamics of the relationship. Our hypothesis is that the relationship has been subject to dynamic changes, not only via gas market regulations in the EU, but also the German *Energiewende* and rapidly changing global markets, which will continue to transform German-Russian gas relations. We argue that, even prior to the crisis in and over Ukraine, natural gas relations have become more complicated. This research paper is about German-Russian gas relations, but we believe the EU is a major factor, as it has had a fundamental impact on the legal and regulatory frameworks as well as the market structures, and it has also influenced the political framing. We take note of studies arguing that Russia has used energy as a tool in the former Soviet Union and in the former COMECON.³ Since the crisis in and over Ukraine foreign policy, geopolitical considerations seem to (at least periodically) prevail over market-based transactions – this is an observation that can be backed by the 2014 statement of the Kremlin to by-

pass Ukraine and disengage in EU downstream markets, but also by the moves of the EU to promote diversification and to not rely so heavily on Russia (see the section “Qualifying and Quantifying the Impact of the Crisis in and over Ukraine” on pp. 33ff.). Moreover, concerns are frequently raised that natural gas supplies into Germany could be a means of “divide and rule” policies toward EU member states, undermine the EU Energy Union – not opportune in the given political situation of the severe security crisis over Ukraine – and also increase the vulnerability of Germany itself to Russian pressure.⁴

We believe that, in the past, political and economic interests converged on both sides, even during the Cold War. This raises the question of how the crisis in and over Ukraine will play out between Germany and Russia vis-à-vis natural gas relations and whether political frictions will manifest. Larsson states in his often cited study that “Russia’s political reliability as an energy supplier depends on time perspective, the receiver and the context.”⁵ He concludes that “[p]receded by a severe political crisis, the risk for partial and/or short-duration cut-offs [...] increases.”⁶ In order to get a better understanding about the substance and density of German-Russian gas relations, we take a long-term focus.

Against the background of the dramatic political changes in 2014 concerning the crisis in and over Ukraine, it is timely and relevant to analyze the major drivers, motivations, and patterns of German-Russian gas relations. We focus on the main structures and

1 This Research Paper was prepared over the course of 2016/2017 as part of a project financed by the German Federal Foreign Office. We want to thank the participants of the project for extensive and interesting discussions. The project was led by Kirsten Westphal and co-chaired by Tatiana Mitrova.

2 Per Högselius, *Red Gas. Russia and the Origins of European Energy Dependence* (New York: Palgrave Macmillan, 2013), 105–34.

3 See e.g.: Robert L. Larsson, *Russian Energy Policy: Security Dimensions and Russia’s Reliability as an Energy Supplier* (Stockholm: Swedish Defense Research Agency [FOI], 2006); Gabriel Collins, *Russia’s Use of the ‘Energy Weapon’ in Europe*, Issue Brief no. 07.18.17 (Houston: Rice University’s, Baker Institute for Public Policy, 2017).

4 See e.g.: “Estland warnt vor Folgen von Nord Stream 2. Außenminister kritisiert geplante Pipeline und wirbt für Verhandlungen der EU mit Moskau” [Estonia Warns about the Consequences of Nord Stream 2. The Foreign Minister Criticizes the Planned Pipeline and Touts for Negotiations between the EU and Moscow], *Tagesspiegel*, 18 July 2017; Reinhard Bütikofer, “Keine neue Pipeline in der Ostsee” [No New Pipeline in the Baltic Sea], *Die Welt*, 14 July 2017; Ilya Zaslavsky, *The Kremlin’s Gas Games in Europe: Implications for Policy Makers*, Issue Brief May 2017 (Washington, D.C.: Atlantic Council Dinu Patriciu Eurasia Center/Free Russia, 2017); Larsson, *Russian Energy Policy* (see note 3); Collins, *Russia’s Use of the ‘Energy Weapon’ in Europe* (see note 3), 6–7.

5 Larsson, *Russian Energy Policy* (see note 3), 3.

6 Ibid.

actors, their patterns, and the interactions that comprise the web of these gas relations during different phases. The first phase is from the start of sending gas exports to Germany in the 1970s till Germany's reunification and the dissolution of the Soviet Union in 1989/1991. The second phase is defined as starting with the new political environment following the fall of the Berlin wall through to the publication of the Third Energy Package of the EU, which fundamentally impacted EU natural gas markets (1990–2008). The beginning of the next phase is marked by the implementation of the Third Energy Package in 2009, the gas glut following the fracking revolution in the United States, and the German *Energiewende*. We argue that these three factors have shaken up the gas relationship. The crisis in and over Ukraine since 2014 and the growing rift between Moscow and the West come on top of these other developments. For each of the three phases, which we look into in more detail, we analyze: 1) the development of infrastructure, 2) trade, 3) business-to-business relations and commercial issues, and 4) legal and regulatory issues. At the beginning of each phase, we start with a description of the political and institutional contexts.

Conceptualization and Terminology

As is shown in the following sections, natural gas relations with Russia are often analyzed either through the prism of commercial and market-based transactions or that of foreign policy and geopolitics.⁷ In many cases, Russian actions are associated primarily with geopolitics, whereas Germany and the EU are perceived as market actors.⁸ We do not share this assessment; our underlying assumption is that elements of both can be found on either side, and that it is necessary to closely analyze the substance, density, and patterns of German-Russian natural gas relations.

Against this background, a clarification of the terminology is needed. We define a “geopolitical approach” as being when energy is subject to foreign and security policy considerations. Energy then is (intended to be) used as a tool and means to influence political outcomes, achieve foreign policy goals, and as a lever to project power. We believe that the strong

connection often found between geopolitics and energy reveals an important fact: territory, geology, and geography are inherent to energy relations;⁹ gas production, trade, and the necessary infrastructure depend on location and geography. The integrated natural gas infrastructure constructed over the past decades can be viewed as an “infrastructured” geography of “long durée” that has outlasted the Cold War, countries, and political systems, and that shapes spaces and even creates its own “ecology” and topography.¹⁰ Shaping such a space has gone hand in hand with the creation of a political, legal, and economic space – in the case of the (former) Soviet Union – and an economic, legal, and contractual space with regard to the COMECON countries.¹¹

With respect to the projection of power, it is not easy to distinguish the use of a dominant market position from geopolitics in those cases where economic and political interests converge. Hence, the analysis of energy policies may oscillate between “geo-economics” and geopolitics,¹² as the boundaries between the two concepts are increasingly blurred. In a broader definition, “(g)eo-economics encompasses both the conversion of economic assets into political influence and the mobilisation of political power to achieve economic goals through a mix of competition and cooperation.”¹³ With respect to the different political and legal spaces emerging in Europe and Eurasia, this is closely connected to the issue of who defines the rules of the “gas game” in the “infrastructured” space.

⁹ See: Ellen Scholl and Kirsten Westphal, *European Energy Security Reimagined. Mapping the Risks, Challenges and Opportunities of Changing Energy Geographies*, SWP Research Paper 4/2017 (Berlin: Stiftung Wissenschaft und Politik, March 2017).

¹⁰ Högselius, *Red Gas* (see note 2), 234–35.

¹¹ See also” Katja Yafimava’s concept of four spaces: *The Transit Dimension of EU Energy Security* (Oxford: Oxford Institute for Energy Studies [OIES], and Oxford University Press, 2011).

¹² How diverse Russian gas policies are analyzed is exemplified by two studies: Szymon Kardas, *The Tug of War. Russia’s Response to Changes on the European Gas Market*, OSW Studies (Warsaw: Ośrodek Studiów Wschodnich [OSW; Centre for Eastern Studies], 11 September 2014), and Ralf Dickel, Elham Hassanzadeh, James Henderson, Anouk Honoré, Laura El-Katiri, Simon Pirani, Howard Rogers, Jonathan Stern, and Katja Yafimava, *Reducing European Dependence on Russian Gas: Distinguishing Natural Gas Security from Geopolitics*, OIES Paper NG 92 (Oxford: OIES, October 2014).

¹³ Giovanni Grevi, “Geo-economics and Global Governance”, in *Challenges for European Policy in 2012: What Kind of Geo-economic Europe?*, ed. Ana Martinigui and Richard Youngs (Madrid: FRIDE, 2011), 27–36, in particular 28.

⁷ See for this argument: Tatiana Romanova, “Is Russian Energy Policy towards the EU Only about Geopolitics? The Case of the Third Liberalisation Package”, *Geopolitics* 21, no. 4 (2016): 857–79.

⁸ Ibid.

In a norm-based liberal market order, energy is primarily treated as a commodity (or a service) that is traded on the basis of transparent rules, market principles, and clearly defined institutions.¹⁴ Gas trade that follows commercial principles is driven by price signals and contractual relations and determined by infrastructure. Decisions are primarily taken by companies to maintain and defend market share and maximize revenues. Governments act as transparent rule-providers and guarantors of a market framework and ensure a level playing field, whereas governments and state interests dominate energy trade with ad hoc and specific arrangements under a geopolitical approach.¹⁵

A major concept guiding energy policy in Germany and the EU is energy security. Energy security is defined by the strategic energy triangle, which is composed of the three objectives to have secure, competitive, and sustainable energy supplies.¹⁶ Daniel Yergin's definition of energy security – "adequate, reliable supplies of energy at reasonable prices in ways that do not jeopardize major national values and objectives"¹⁷ – explains why energy security has moved to the forefront during the crisis over Ukraine. Whether energy deliveries can be used as a political tool in times of political conflict and security crises has become a source of debate. This preoccupation corresponds with Larsson's thesis that the risks of partial, short-term cuts increase during times of geopolitical crises.¹⁸ When energy deliveries from external suppliers are framed as a security threat or risk to independence and national sovereignty, energy is then beyond being an issue that is dealt with using established market mechanisms – this is because of the spillover effects of energy into other arenas.¹⁹ This "securitization" opens ways for dealing with energy supplies using other means.²⁰

¹⁴ Romanova, "Is Russian Energy Policy towards the EU Only about Geopolitics?" (see note 7), 858.

¹⁵ Ibid., 859.

¹⁶ *Energy Strategy and Energy Union*, <https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union>.

¹⁷ Daniel Yergin, "Energy Security in the 1990s", *Foreign Affairs* 67, no. 1 (1988): 110–32 (111).

¹⁸ Larsson, *Russian Energy Policy* (see note 3), 3.

¹⁹ Odysseas Christou and Constantinos Adamides, "Energy Securitization and Desecuritization in the New Middle East", *Security Dialogue* 44, nos. 5–6 (2013): 507–22.

²⁰ Barry Buzan and Ole Waever, *Regions and Powers* (Cambridge: Cambridge University Press, 2003), 491; Holger Strizel, "Towards a Theory of Securitization: Copenhagen and Beyond", *European Journal of International Relations* 13, no. 3 (2007): 357–83.

The flip side of supply security is demand predictability, from a supplier's point of view. For Russia, energy security is based on "securing" Germany and the EU as a strategic and vital market. "Security of exports [...] includes economic, political and social aspects of energy."²¹ Gas export revenues have a socio-economic value for Russia and contribute to the federal budget, the gross domestic product (GDP), and serve as an income source. This allows for the domestic gas system to be developed and for internal supplies to be delivered at subsidized – and later regulated – prices. This is why national sovereignty over energy resources is a political paradigm. The political value stems from Russia's role as a key energy supplier and contributes to its role as a strategic partner.²² For Russia – as for any other gas supplier that has to make long-term, financially intensive investments – long-term price developments and commitments²³ are essential to ensuring security of exports. We show that the delicate balance of energy security between the supplier (Russia) and the consumer (Germany) is off kilter.

Setting the Scene: Gas As a Component in the Bilateral Relationship

Economic Background

Germany primarily exports mechanical engineering products, vehicles, electrical and electronic goods, and chemical products, whereas Russia exports raw materials, especially oil and gas, metal goods, and petrochemical products (see Figures 1 and 2, p. 10). According to the Committee on Eastern European Economic Relations (a lobbying group representing businesses), 300,000 German jobs depend on trade with Russia, 6,200 companies with German owners are active in Russia,²⁴ and German companies have invested €15.8 billion there.²⁵ In 2016, Russia ranked

²¹ Jack D. Sharples, "Russian Approaches to Energy Security and Climate Change: Russian Gas Exports to the EU", *Environmental Politics* 22, no. 4 (2013): 683–700 (686).

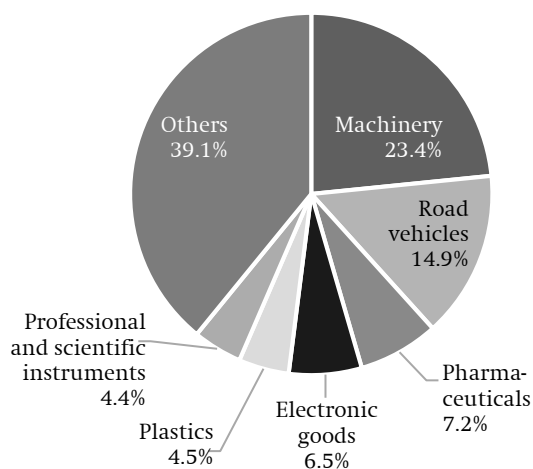
²² Ibid.

²³ Maria Belova, Interview 2011 in *ibid.*, 685.

²⁴ "German Firms in Russia: Lovers, Not Fighters", *The Economist*, 15 March 2014, <https://www.economist.com/news/business/21599034-german-exporters-are-pushing-back-against-economic-sanctions-russia-lovers-not-fighters>.

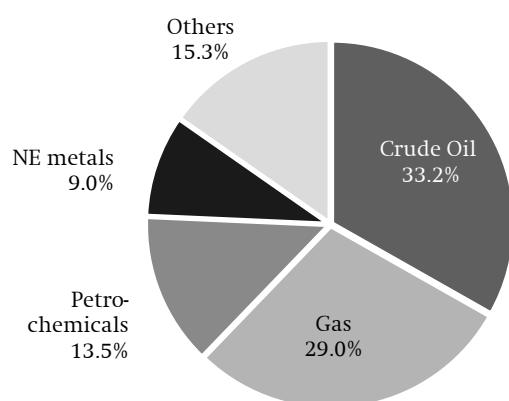
²⁵ http://www.gtai.de/GTAI/Content/DE/Trade/Fachdaten/MKT/2016/11/mkt201611222008_159230_wirtschaftsdaten-kompakt-russland.pdf?v=3.

Figure 1
Structure of German exports to Russia
in 2016 (SITC), €21.6 bn.



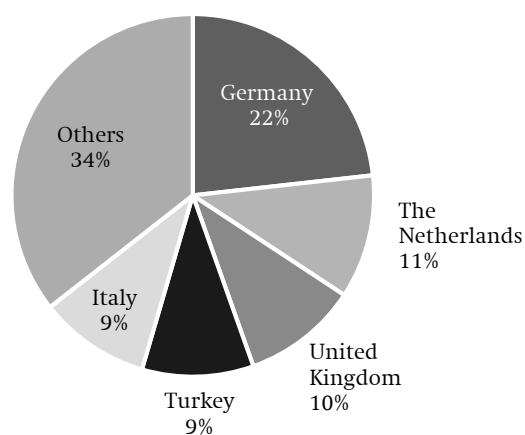
Source: Destatis.

Figure 2
Structure of German imports from Russia
in 2016 (SITC), €26.4 bn.



Source: Destatis.

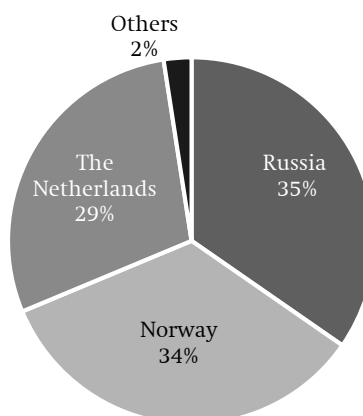
Figure 3
Russian gas exports – Gazprom Group's sales of natural
gas to world in 2016*, 261.5 bcm



* without Russia.

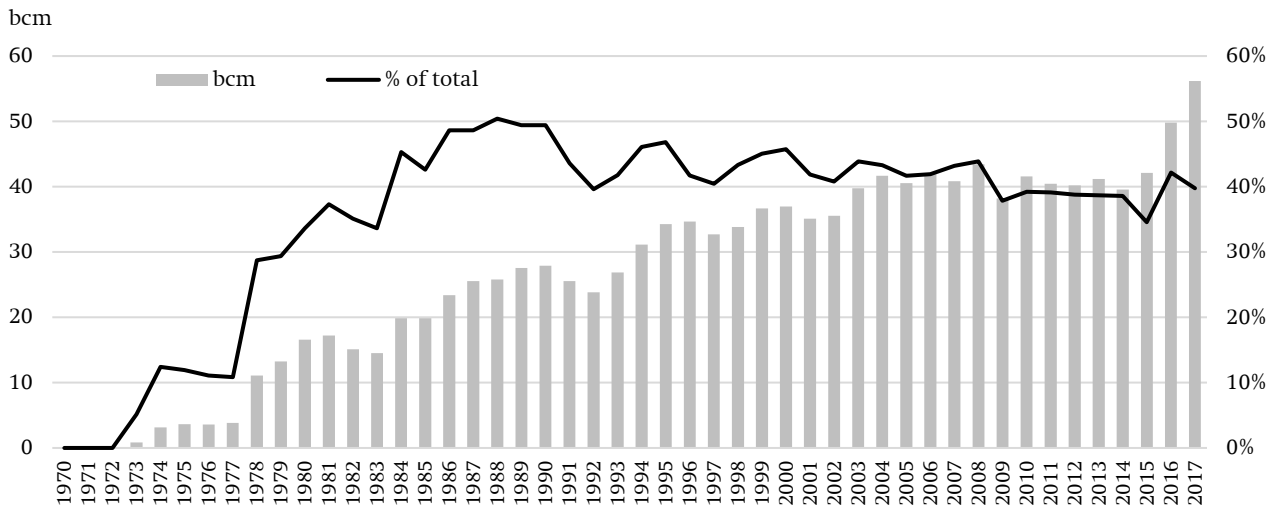
Source: Gazprom.

Figure 4
German gas imports in 2016, 121.8 bcm



Source: Bundesministerium für Wirtschaft und Energie (BMWi), *Energiedaten: Gesamtausgabe* [Energy Data: Complete Edition] (Berlin, October 2017), 31, http://www.bmwi.de/Redaktion/DE/Downloads/Energiedaten/energiedaten-gesamt-pdf-grafiken.pdf?__blob=publicationFile&v=22.

Figure 5
German gas imports from USSR/Russia 1970–2017*



* Estimates.

Source: International Energy Agency; since 1999 Bundesamt für Wirtschaft und Ausfuhrkontrolle.

as Germany's 16th-largest trading partner in foreign trade (exports).²⁶ Apart from EU member states, Russia was Germany's third-largest trading partner in 2016, after the United States and China, with significantly lower volumes, though.²⁷

Energy represents a major factor in this relationship (see Figure 2). Russia and Germany enjoy deep interaction and cooperation with each other in this area – the Russian Federation remains Germany's leading energy supplier, while Germany is one of the main export markets, trading partners, and investors for Russia. For Russia, Germany is the single-largest export market, representing 22.1 percent of total gas exports from Russia in 2016 (see Figure 3). With gas supplies to the Former Soviet Union diminishing and gas sales on the Russian market shrinking, Germany has become the major destination for Russian gas and a key market for Gazprom. Almost 35 percent of Germany's gas imports came from Russia (see Figure 4). Germany is the biggest importer of Russian gas in the

EU in total volume, but in relative terms it maintains a diversified import portfolio. The gas trade developed over time as volumes increased steadily (see Figure 5).

According to the Federal Ministry for Economic Affairs and Energy (BMWi) and AG Energiebilanzen e.V., natural gas represented 22.6 percent of Germany's primary energy consumption in 2016.²⁸ Approximately 90 percent of the consumed gas is imported through pipelines. A major consumer inside Germany is industry –accounting for almost 35 percent of overall consumption. The tertiary sector accounts for around 28 percent, and consumption in the transport sector is negligible. The biggest share of gas consumption is private households, with almost 37 percent,²⁹ as natural gas provides around 50 percent of fuel for all heating systems in Germany. This is an important factor, as natural gas is a major energy source for protected customers (e.g., private households), thus implying a special responsibility of the government. Hence, according to the German Law on Energy Industry (*Energierechtsgesetz*), supply security is primarily the task of private companies, but the government has a special role in case of emergencies. This legal background is important for the following discussion on the development of the German-Russian gas relationship.

²⁶ Statistisches Bundesamt (Destatis), *Außenhandel: Reihenfolge der Handelspartner im Außenhandel der Bundesrepublik Deutschland* [External Trade: Ranking of Trade Partners in External Trade of German Federal Republic] (Berlin, 24 October 2017), 2, https://www.destatis.de/DE/ZahlenFakten/Gesamtwirtschaft/Umwelt/Aussenhandel/Tabellen/RangfolgeHandelspartner.pdf?__blob=publicationFile.

²⁷ http://www.gtai.de/GTAI/Content/DE/Trade/Fachdaten/MKT/2016/11/mkt201611222008_159230_wirtschaftsdaten-kompakt-russland.pdf?v=3 (page 5).

²⁸ Arbeitsgemeinschaft Energiebilanzen (AGEB), *Energieverbrauch 2016* [Energy Consumption 2016], Pressedienst 1 (2017), 4.

²⁹ AGEB, *Auswertungstabellen zur Energiebilanz Deutschland 1990–2015* [Evaluation Tables on Energy Balance in Germany 1990–2015] (Berlin and Cologne, July 2016), 18–20.

Retrospective: German-Russian Gas Relations

Development of the Gas Relationship between the USSR and the Federal Republic of Germany till the 1990s

Political Background

The *Erdgas-Röhren-Geschäft* (gas-for-pipes deal) became part of a New Eastern Policy of Federal Republic of Germany,³⁰ initiated by Willy Brandt and his close advisor, Egon Bahr. Foreign Minister Brandt identified the economy as being the main instrument in the Eastern policy. Natural gas imports – in combination with large-scale exports of German steel and pipes – were seen as being a unique opportunity for concrete cooperation projects.³¹ A Social Democrat, Willy Brandt was elected Chancellor in 1969. He launched the *Ostpolitik*, which led to the abandonment of the Hallstein Doctrine³² and to questions concerning the unity of the German nation. In the context of rapprochement between the FRG and the German Democratic Republic (GDR), German businesspeople again took up the issue of gas imports from the Soviet Union, an issue that had been first articulated by Bavaria to reduce dependence on coal from northern Germany.³³ An Austrian-Soviet gas deal was signed in 1968. The Soviet leadership was extremely interested in the monetization of its vast gas resources recently discovered and in expanding the flow of hard cur-

rency, which was needed to sustain the country's economy, which had started to suffer from the rigidity of the administrative system and unsustainable spending on the arms race. The gas-for-pipes deal³⁴ linked together the Deutsche Bank, Ruhrgas, and Soyuzgas-export – Gazprom's forerunner. In order to resolve the issues related to the US ban on large-diameter steel pipe exports from West Germany to the Soviet Union, Foreign Minister Andrey Gromiko offered a new model of economic cooperation with West Germany in 1969. Germany had historically been the main supplier of equipment and technologies since the 1930s. Therefore, Germany was always regarded as a key partner in Europe, and the gas-for-pipes deal reinforced this perception. Gromiko's concept foresaw pipes and other equipment being imported in exchange for gas exports.

Despite American opposition, the German economic affairs minister, Karl Schiller, and his Soviet counterpart, Nikolai S. Patolichev, signed a contract in 1970. Such a contract was a strong incentive for other European Community member states to sign supply agreements with the USSR in order to establish connections with German infrastructure suppliers³⁵ and to diversify gas imports in order to be less dependent on Dutch gas.

Developing Infrastructure and Trade

The 1970s saw the development of a flourishing business. The first gas supplies from the USSR to West Germany began in October 1973, with the company Ruhrgas serving as the buyer. Earlier that year, on May 1, natural gas supplies started getting shipped from the USSR to East Germany, according to the inter-governmental agreement signed in 1968.³⁶

³⁰ This section primarily focuses on the development of West Germany's gas relations with Russia, because the market structures of East Germany – the German Democratic Republic – were quickly adapted and harmonized after unification.

³¹ Högselius, *Red Gas* (see note 2), 106–7.

³² The doctrine is based on the concept of “*Alleinvertretungsanspruch*” (exclusive mandate). The doctrine had a key role in the foreign policy of the FRG after 1955. It prohibited the establishment of diplomatic relations with the GDR and with all states that had recognized the latter – the traditional policy of the Christian Democrats of the CDU.

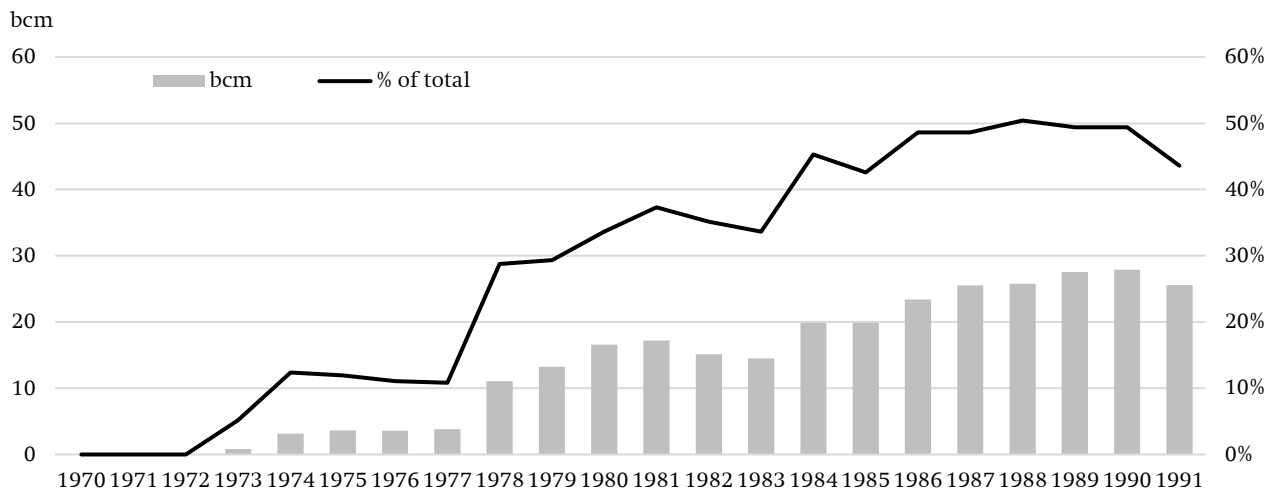
³³ Inside Germany, the state of Bavaria lost its “leading role” as the initiator of German-Russian gas ties to the large North Rhine-Westphalian industrial giants of Ruhrgas, Mannesmann, and Thyssen. Even though Bayerngas did not become part of the deal, the arrangement found the support of then-Minister President of Bavaria, Franz Josef Strauss, who was looking into economic cooperation with the GDR. See: Högselius, *Red Gas* (see note 2), 67–88.

³⁴ Susanne Nies, *Gaz et pétrole vers l'Europe, perspectives pour les infrastructures* [Gas and Oil for Europe, Prospects for Infrastructure] (Paris: Institut Français des Relations Internationales [IFRI], 2008).

³⁵ Susanne Nies, *An Overview of Existing and Planned Infrastructures* [Gas and Oil in Europe, Prospects for the Infrastructure], New Edition (Paris: IFRI, 2011).

³⁶ Aurélie Bros, PhD thesis, *Good Bye Ukraine! How Does Gazprom Aim to Ensure the Security of Demand in a Context Where Europe Is Reshaping Its Energy Architecture?*, October 2014.

Figure 6
Development of natural gas imports from USSR 1970–1991*



* To West Germany till reunification. Supplies to the GDR made up 3.2 bcm in 1974 and 6.2 bcm in 1985 (Joachim Kahlert, *Die Kernenergiepolitik in der DDR. Zur Geschichte uneingelöster Fortschrittshoffnungen* [Nuclear Energy Policy in the GDR. On the History of Unredeemed Hopes of Progress] [Cologne: Verlag Wissenschaft und Politik, 1988], 39).

Source: International Energy Agency.

In the decade after 1973, deliveries of Soviet gas to West Germany increased from 1.1 billion cubic meters (bcm) to more than 15 bcm (see Figure 6). In exchange, the USSR received 1.2 million tons of piping manufactured by Mannesmann and a loan of 1.2 billion Deutsche Marks. This agreement was advantageous to both sides – the USSR received Western currency and technology, and West Germany benefited from gas prices lower than those of the Netherlands as well as from the expanding market for German pipe producers and steelmakers.

Scientific technological cooperation on gas issues was developed, too – the help of German experts was necessary for the development of the biggest Soviet projects on gas extraction and transport. In 1974 an “Orenburgskoye agreement” was signed; engineers and constructors were to participate in the development of Orenburgskoye field and in the construction of the gas pipeline “Orenburg-Western border of the USSR,” later renamed “Soyuz.” From 1985 to 1987, a similar agreement, the “Yamburgskoye agreement,” was signed to develop the Yamburgskoye field. Until 1989 the Verbundnetz Gas Company was receiving Russian gas in exchange for the construction of units and the supply of equipment and pipes from East Germany – used for the construction of the gas pipe-

line “Yamburg–Western border of the USSR,” among other projects.³⁷

Transport projects were at the heart of the cooperation; massive infrastructure construction formed the major part of the gas-for-pipes deal in order to bring hydrocarbons from Western Siberia to Western Europe. The pipeline from Urengoy-Pomary to Uzhgorod/Velke Kapusani, which has been at the heart of pipeline politics since the crisis in and over Ukraine, was built against strong US opposition. The outcome was an “infrastructured” energy space shaping the energy geography and creating fixed and long-standing interdependencies through an integrated gas system. In both blocs – in COMECON and in the European Community – gas trade promoted integration. This is why it can be argued that the deals drove development and integration of the gas systems in the two blocs as well as across them.³⁸ In Europe, the gas markets became increasingly interconnected between Germany and France and also Germany and Austria as well as with Italy. Complementarity was created through the fact that the Soviet Union aimed to further develop its

³⁷ “40 Years in the German Market”, Gazprom, 10 October 2013, <http://www.gazprom.ru/about/history/events/germany40/>.

³⁸ See for an excellent analysis: Högselius, *Red Gas* (see note 2).

hydrocarbon sector and energy infrastructure. For the then Soviet Union, the exports were key for the development of the natural gas industry.

In parallel to gas-import deals, Germany gradually built up large underground storage facilities. The first was built in 1955, but a significant increase followed the gas-for-pipes deal with the Soviet Union as part of an energy security strategy and insurance against supply shortages. Storage facilities were filled in summer and used in winter, when the Soviet Union itself experienced a higher demand in gas. By 1990 the total capacity was at 8 bcm of working gas.³⁹ Underground storage facilities were part of the insurance policy pursued by Germany (as well as the other West European importers).

Commercial Relations

The first receiver of gas was the East German company Verbundnetz Gas. Partners on the USSR side were enterprises belonging to the Ministry of Construction of Facilities in the Gas Industry of the USSR (Soyuzintergazstroj) and the Soviet Agency for Gas Exports (Soyuzgasexport). The Ministry of Gas Industry (Mingazprom) – the predecessor of OAO (open shareholding company) Gazprom – did not have the right to lead any export activities. Ruhrgas became the importer in West Germany.

In fact, the gas relations that were initiated in the early 1960s were comprised of much more than mere trade interactions.⁴⁰ They resulted in a close relationship between an exporter and an importer starting from complementary positions. Long-term contractual arrangements were the result. The institutional setting “bridged” and connected two markets with differing internal market structures – a centrally planned economy with a regionally monopolized gas market. The contractual relationship was designed for the long-term and based on a bilateral political and commercial consensus.

Besides complementary economic structures and interests as well as the integrated gas infrastructure, the cooperation between the Soviet Union/Russia and West Europe built upon matching market structures

and corresponding business models.⁴¹ The market structures matched perfectly: An importing company received gas at the border from a producing company. Ruhrgas was West Germany’s preeminent importing and transmission company. Last but not least, the business models of both sides were based on long-term, oil-indexed delivery contracts, with terms of 20, 25, or 30 years, including a minimum take-or-pay obligation to purchase at least 75 to 85 percent of the named quantity. These obligations represented a counterweight to the supplier’s duty to maintain the necessary level of production.⁴² In that sense, the business model allowed the two parties to balance the price and volume risks: The producer bore the price risk, whereas the importer bore the risk of failing to sell the full quantity of the contracted gas. The contracts included provisions for adjusting prices to changing market conditions at regular intervals. “Demarcation” at the border was clear; gas was delivered to the “flange” at the border.

The netback principle was adopted in Western Europe.⁴³ This enabled the Soviet Union to generate maximum revenues over the long term. This netback principle made natural gas competitive enough to capture market share from other fuels, as the formula allowed for prices that were slightly below those of competing fuels (e.g., fuel oil for heating) in the destination market. With COMECON, gas trade was part of the coordinated central planning process and based on the cost-plus principle.⁴⁴

Summing Up the First Phase

To summarize, throughout the Cold War, political and economic interests converged on both sides. As described above, political support was a given, as the

³⁹ “Untertage-Gasspeicherung in Deutschland” [Underground Storage of Natural Gas in Germany], *Erdöl, Erdgas, Kohle* 130, no. 11 (2014): 402–12 (405). No authors indicated by the source is Landesamt für Bergbau, Energie und Geologie (LBEG).

⁴⁰ See in all detail: Högselius, *Red Gas* (see note 2).

⁴¹ Kirsten Westphal, “Institutional Change in European Natural Gas Markets and Implications for Energy Security: Lessons from the German Case”, *Energy Policy* 74 (2014): 35–43.

⁴² *Putting a Price on Energy, International Pricing Mechanisms for Oil and Gas* (Brussels: Energy Charter Secretariat, 2007), 143–73, in particular 146–63.

⁴³ The cost-plus principle implies a pricing method in which the prices are generated by the costs for production, processing, and transmission, etc., plus certain profits to be generated. Netback prices are defined at the destination minus the costs for transport, etc.

⁴⁴ This is why we do not go into detail here on the GDR, because the West German gas market served as a model, and the dynamics in the German gas market fundamentally changed in the 1990s (see next section).

deals were part and parcel of the *Ostpolitik*, rapprochement, and détente. West Germany looked for diversification. For the Soviet Union, West Germany was a vehicle to develop its own gas reserves and transport system and to integrate the Soviet and COMECON spaces. This is an example of geopolitical motivation and less about the bilateral relationship, which was based on pragmatism with win-win logic for both sides. The market and contract structures, as well as the business model, were designed to serve both ends of the pipeline and provided the basis for long-term, stable relations. Gas trade volumes grew over time, and an integrated natural gas infrastructure was created. At the same time, the gas companies developed close personal ties between them. Gas was supplied and contract obligations were fulfilled, which created the narrative of Russia's reliability as a gas supplier in Germany across all parties.

The Next Phase (1990–2009): Joint Ventures and Package Deals along the Whole Value Chain

Political Background

The phase between 1989 and 2009 is marked by German reunification and the integration of the East German gas market into the northwestern European gas market as well as by the adoption of the Third Energy Package in 2009.

The deep belief in interdependence and the fundamental experience of rapprochement, mutual trust, and confidence-building that characterized this phase also had their roots in the reunification of Germany. The key role of Moscow is deeply built into the history of unified Germany. This resulted in the proclamation of a strategic partnership in the early 1990s. The idea(l) of rapprochement through interdependence drove political decision-making in the 1990s and the first half of the 2000s: A whole set of institutions and fora were created on the bilateral level to support natural gas relations. The idea – echoed by Germany – was to overcome existing divisions and create an overarching energy market from Lisbon to Vladivostok.⁴⁵

The political hope in Germany with regard to interdependence was for Russia to gradually adopt European norms and values (e.g., in the Partnership and

Cooperation Agreement of the EU with Russia that came into force in 1997 and the “four common spaces” of the St. Petersburg Summit in 2003). This hope was also nourished by ongoing general market reforms in Russia; these, however, did not extend to the gas sector, which remained monopolized till the early 2000s.

Moreover, the trajectories drifted further apart. What became ever more visible was a very distinct understanding of interdependence.⁴⁶ Whereas Germany and its EU partners had perceived regime-building to be the basis for economic cooperation to minimize transaction costs and create level playing fields, Russia increasingly resisted supporting this rule- and norm-based understanding of interdependence. Moreover, national sovereignty over natural resources remained paramount in Russia, given its role for the Russian economy and the Russian budget.

Starting in the 2000s, the energy relationship involved initiatives for a deepening and diversification of activities – energy efficiency, for example. In 2004, Russia and Germany agreed to expand economic ties and enhance cooperation in the energy field. In the 2000s the “New *Ostpolitik*” culminated in a Modernization Partnership in 2008, which aimed an intensification of cooperation in law, health policy, demography,⁴⁷ and also energy efficiency, among other things, by 2008. In 2007, the Russian-German Chamber of Commerce was established. In July 2009 Russia and Germany concluded an agreement on scientific and technical cooperation and signed a Joint Declaration of the Energy Minister of Russian Federation and the Federal Minister of Economics and Technology of Germany, which encompassed practically all spheres of cooperation in the energy sector. A number of initiatives were designed to fill the modernization concept with substance: In March 2008 a Subgroup on Energy Savings was created. One pilot project of the subgroup's activities was the conception of energy-efficiency improvement, developed for the city of Ekate-

⁴⁶ See: Alexander Libman, Susan Stewart, and Kirsten Westphal, “Mit Unterschieden umgehen: Die Rolle von Interdependenz in der Beziehung zu Russland” [Dealing with Differences: The Role of Interdependency in Relations with Russia], in *Ausblick 2016: Begriffe und Realitäten internationaler Politik*, ed. Volker Perthes (Berlin: Stiftung Wissenschaft und Politik, January 2016), 18–22.

⁴⁷ See also: Susan Stewart, *Prämissen hinterfragen. Plädoyer für eine Neugestaltung der deutschen Russlandpolitik* [Questioning Premises. A Plea for the Reshaping of German Russia-Policy], SWP-Aktuell 50/2012 (Berlin: Stiftung Wissenschaft und Politik, August 2012).

⁴⁵ This idea is reflected in the European Energy Charter of 1991 and the European Energy Charter Treaty of 1994. See: <http://www.energycharter.org/process/overview/>.

rinburg (with participation of Siemens SE). Moreover, at the eighth session of the “Petersburg Dialogue” in September–October 2008, Russia and Germany initiated the establishment of the Russian-German Energy Agency (RUDEA), which began operations in the summer of 2009. Yet, these initiatives did not deliver the hoped-for results and created some disappointment, especially in the 2010s. RUDEA, which was perceived in Germany to be an opportunity to defend its know-how in the sector of energy savings while opening up the possibility of exporting its production to Russia, was dissolved in February 2013.

To sum up, energy (including natural gas) became part of the dialogue mechanisms between Germany and Russia, mechanisms that expanded and deepened after the end of the Soviet Union. They were formalized at the bilateral level, including the political sphere, the economy, and civil society, with the goal of gradual but linear rapprochement. Concurrent with the bilateral dialogue, the EU Commission launched the EU-Russia dialogue when the president of the EU Commission, Romano Prodi, announced plans to double imports from Russia.⁴⁸ Indeed, as will be shown, the enlarged EU emerged as a major intervening factor.

Expansion of Infrastructure and Trade

During this phase, Russia’s traditional approach toward an integrated natural gas system was advanced with a direct link to the biggest continental market. Given the dependency of Russian companies on long-distance transport to generate revenues, the control of infrastructure was (and remains) paramount.

In the aftermath of the fall of the Berlin Wall, the collapse of the Soviet system, and COMECON, the most tangible change was the emergence of “independent” transit countries. Moreover, the number of bilateral agreements in the gas business increased

⁴⁸ Prodi plan, September 2000, according to which gas imports from Russia would be doubled by 2020. “This [project] corresponds to the interests of both the EU and Russia.”

“For the EU it is a question of diversifying its long-term energy sources” (Jacques Chirac).

“We have been involved in energy discussions in the framework of our strategic partnership.”

“It will be necessary to mobilize big economic resources for possible investment projects in Russia” (Romano Prodi); see: <http://old.themoscowtimes.com/sitemap/free/2000/10/article/putins-paris-talks-focus-on-gas-war/257737.html/>.

between 1990 and the early 2000s. Russian-German gas trade developed accordingly (see Figure 7).

A major development was the expansion of gas transport infrastructure in the 1990s to and within Germany. Gazprom’s desire to bypass Ukrainian territory grew over time.⁴⁹

The Yamal pipeline was finalized in 1999 and started running at full capacity around 2006. It connects the Urengoy gas field in Western Siberia with Germany and crosses Belarus and Poland (see map 1, p. 28). It was the first major project built for the purpose of circumventing Ukraine. Inside Russia, the pipeline Northern Lights was built.

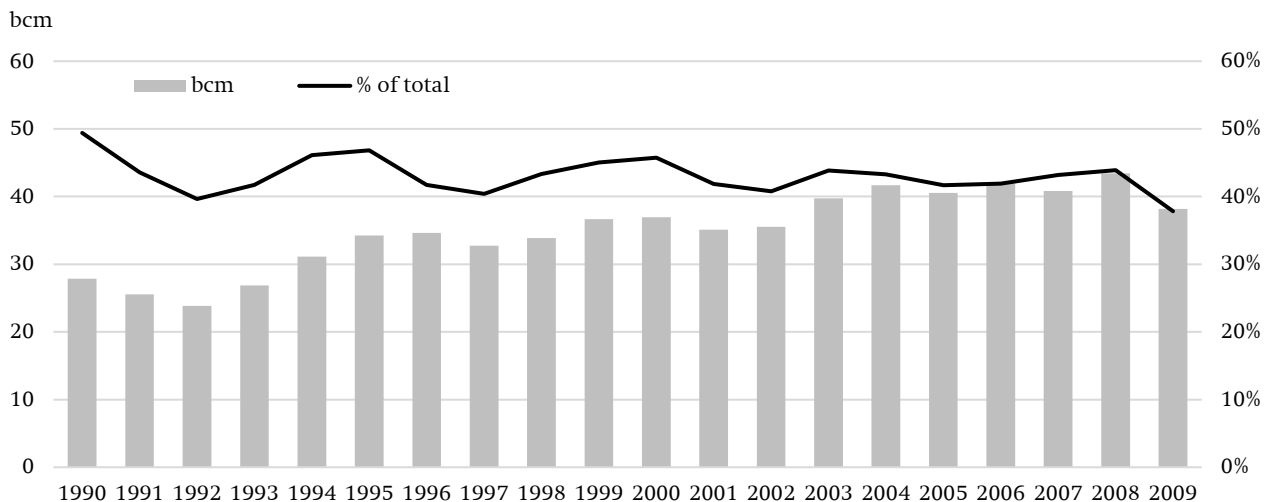
The next step to diversify was the gas pipeline through the Baltic Sea, which was first discussed in the late 1990s. In 2005, the Nord Stream 1 pipeline agreement was signed, with both President Putin and Chancellor Gerhard Schröder of Germany present. Initially, this project was called the North European Gas Pipeline and was planned to run through Finland and Sweden. Nord Stream 1 runs through the Baltic Sea: from Vyborg, Russia, to Lubmin, which is near Greifswald, Germany. With the argument that the project strengthens the EU energy market and reinforces security of supply, it was included in the Trans-European Network for Energy⁵⁰ guidelines before being designated as a project of “European interest” by the European Parliament and the Council in 2006. The German companies Wintershall and E.ON Ruhrgas were initially the only European shareholders, holding 24.5 percent each. Later, Nord Stream AG, which built and operates the pipelines, was joined by N.V. Nederlands Gasunie and the French company GDF (now Engie). The two 1,224-kilometer offshore pipelines, with a total capacity of 55 bcm annually, form a direct connection between Russia’s vast gas reserves and its biggest gas client, Germany, without transiting through a third country.⁵¹

⁴⁹ Ukraine is an example of a combination of energy policy and geopolitics. The aim to diversify resulted on the one hand from the obsolescent state of the Ukrainian gas network and its poor maintenance. On the other hand, bilateral negotiations about gas deliveries, transit volumes, and gas prices became intertwined with political issues such as the Black Sea fleet, nuclear weapons, etc., resulting in opaque political and economic package deals.

⁵⁰ European Commission, *Trans-European Energy Networks, TEN-E Priority Projects* (Brussels: European Commission, DG Energy and Transport, 2004), 26.

⁵¹ The route crosses the Exclusive Economic Zones of Russia, Finland, Sweden, Denmark, and Germany, as well as the territorial waters of Russia, Denmark, and Germany.

Figure 7
German gas imports from USSR/Russia 1990–2009



Source: International Energy Agency; since 1999 Bundesamt für Wirtschaft und Ausfuhrkontrolle

Because of the publicity of signing the agreement with President Putin and Chancellor Schröder present, as well as the pivotal roles of BASF Wintershall and E.ON, the project became a symbol of German-Russian gas relationship, which came under increased criticism from other EU member states. Primarily Poland and the Baltic states lamented the very specific German-Russian nature of the project and the bypassing of EU member states.⁵² These reactions reflect the old East-West divide⁵³ and uneven geographies of vulnerability. The pipeline isolated countries south of the Baltic Sea, which are highly dependent on Russian gas imports. The heightened sensitivity of energy security in the EU is a consequence of EU eastern enlargement in 2004, but also of the Russian-Ukrainian transit crisis in 2006.

Originally, Nord Stream 1 was to connect the Shtokman field in the Barents Sea via pipelines to the EU market. Shtokman's exploration, however, was postponed due to oversupply resulting from the shale gas revolution in the United States.

⁵² Poland's then-foreign minister went so far as to compare it to the 1939 Molotov-Ribbentrop pact ("Eastern Europe to Confront Berlin over New Russian Gas Pipeline", *Financial Times*, 29 October 2015, <https://www.ft.com/content/eb1ebca8-9514-11e5-ac15-0f7f7945adba> [accessed 24 July 2017]).

⁵³ Aurélie Bros, *There Will Be Gas: Gazprom's Transport Strategy in Europe*, Russie Nei Report no. 21 (Paris: IFRI, October 2015), <https://www.ifri.org/fr/publications/enotes/russieneireports/there-will-be-gas-gazproms-transport-strategy-europe>.

Commercial Relations: Mutual Interdependence and Package Deals

The First Gas Market Transformation in Germany

Before turning to bilateral commercial relations, it is necessary to examine the German gas market because its structures provide a very special case within the EU.⁵⁴ The German gas market was characterized by a three-tier structure, with six big producing and five importing companies at the first level (which sold gas to 10 regional transmission companies – second tier), which in turn transported and sold gas to around 700 regional and municipal distribution companies.⁵⁵ In contrast to other national gas markets in the EU, where one state-owned monopoly/company dominated, the German gas market structure was formed by different private companies with cross-ownership and some municipal shareholders. The dominant players were the importing companies – with Ruhrgas being the most genuine German player – but all were interconnected through ownership and gas sales contracts.⁵⁶ The vertically integrated business models of the companies relied on regional horizontal demarcation and gas grids.

⁵⁴ See Heiko Lohmann, *The German Path to Natural Gas Liberalisation: Is It a Special Case?*, NG 14/2016 (Oxford: OIES, 2006).

⁵⁵ Ibid.

⁵⁶ Ibid., 14.

The Russian gas industry was formed under the roof of “Gazprom” in 1992, and Gazprom Export – the fully owned subsidiary of Gazprom – became the monopoly for gas exports from Russia.

Before the start of the liberalization process in Europe, Gazprom was only enabled to sell gas to dedicated consumers on the wholesale market at the “flange” at the border. From a commercial point of view, gas trade remained a bilateral enterprise, insofar as gas trade bound Gazprom Export and German companies. Both remained contractually linked for a relatively long period. The long-term oil-indexed contracts allowed them to share the risks among the partners through the whole value chain. Gazprom bore the price risk and German importing companies the risk of volumes, because they agreed to take or pay a fixed amount of gas under these contracts – gas that they were to resell to their customers inside Germany. These predictable, long-term price developments and commitments⁵⁷ were essential to ensuring the security of exports, as Russia – as with any other gas supplier – has to make long-term financial investments. For Germany, these contracts secured defined supplies.

A key asset for the territorial demarcations and regional monopolies inside Germany was control over (access to) pipelines, as natural gas is largely grid-bound. Consequently, in the 1990s, Gazprom and Wintershall started to build their own gas network in order to compete with Ruhrgas’s network, bypass its monopoly, and provide large German companies with cheap gas. The MIDAL–RHG–STEGAL–JAGAL–WEDAL pipeline network offered Gazprom direct access to the German gas market. The Yamal pipeline hooked into the gas network.

By building their own gas network (see map 1, p. 28), Gazprom and Wintershall not only managed to boost gas transmission capacities in Germany, but Gazprom was also able to start selling gas to Wingas, in addition to Ruhrgas. From a Russian perspective, this was a means of diversifying purchasers while gaining direct access to the German gas market. For Gazprom, it was also an opportunity to gain a better understanding of downstream costs, and therefore put an end to the asymmetry of information during negotiations with the incumbent, Ruhrgas.

Moreover, “direct” competition between Russian and Norwegian gas was the consequence. Gazprom

and Wintershall challenged the regional monopoly of Ruhrgas and successfully introduced more competition prior to the adoption of the 1998 EU Directive on common rules in an internal gas market,⁵⁸ the exact purpose of which was to put an end to incumbents.

As a consequence, Wingas, the joint venture of Gazprom and BASF Wintershall, was the only exception in the 1990s and was not part of the “family clusters” of the gas industry. However, the aggressive competitor repeated the vertically integrated business model, and in doing so it became part of the club.⁵⁹ The oligopolistic structure of external supplies from the Netherlands, Russia, and Norway complemented the picture. Given the perceived plurality of gas endeavors in Germany, there was reluctance in Germany to liberalize the market, both in the government as well as the industry. Consequently, Germany was the only “old” EU member state to opt for negotiated third-party access to pipelines (instead of regulated access) under the first gas market directive of 1998,⁶⁰ and the last to establish a national regulator.

Russia’s Strategy – Interdependence and Package Deals

Gazprom Germania GmbH was created in 1990. Based in Berlin, it is a 100 percent subsidiary of Gazprom Export, which, over time, has acquired shares in different companies and joint ventures and created subsidiaries such as Gazprom Marketing and Trading Ltd., based in London, in 1999. As described above, for the German market, the closer a company comes to the final consumer, the greater its profitability.

Despite Gazprom’s outspoken criticism of the EU’s regulation of gas markets starting in 1998, Gazprom also benefited from the liberalization of the European energy market, because national markets were opened.⁶¹ Gazprom even functioned as a frontrunner with Wintershall in challenging the incumbent in Germany – Ruhrgas – in the 1990s. The penetration of the European gas value chain has been achieved

⁵⁷ Maria Belova, Interview 2011 in Sharples, “Russian Approaches to Energy Security and Climate Change” (see note 21), 685.

⁵⁸ “Directive 98/30/EC of the European Parliament and of the Council of 22 June 1998 Concerning Common Rules for the Internal Market in Natural Gas”, *Official Journal* L 204, 21 July 1998, 0001–0012.

⁵⁹ See Lohmann, *The German Path to Natural Gas Liberalisation* (see note 54), 17.

⁶⁰ *Ibid.*, 25ff.

⁶¹ Aurélie Bros, *Gazprom in Europe: A Business Doomed to Fail?*, *Russie Nei Report* N° 18 (Paris: IFRI, July 2014), <https://www.ifri.org/fr/publications/enotes/russieneireports/gazprom-europe-business-doomed-fail>.

through acquisitions of existing assets and the creation of subsidiaries, which have allowed the company to gain as much access as possible to end-consumers and to be active in distribution, transport, and storage activities, as described below. The company has also embarked on marketing activities and the trading of gas through the development of regional and national trading hubs, which offer utilities the possibility to place gas on the market outside the long-term contract framework, should the need arise.⁶² Last but not least, the Russian company has tried (with limited success) to develop niches in markets, such as the use of gas in the transport sector – a step that would curb greenhouse gas emissions in one of the major emitting sectors in the EU.

The business model of ever closer alliances along the entire transnational natural gas value chain and in bilateral monopolies was viewed as a materialization of the concept of mutual interdependence. Gazprom's acquisitions in Germany took place through *quid pro quos* and package deals, which covered large infrastructure projects as well as asset swaps. While Gazprom received access to mid- and downstream activities in Germany (that is transporting, trading, and marketing, mainly to business customers), German companies gained access to the Russian upstream sector (exploration and production). This fueled the hope of a certain reciprocity in liberalization, even though the asymmetry in the relationship was already evident: although Russia and Gazprom could offer a series of production licenses, BASF's shares in the (joint) subsidiaries were limited, putting an automatic end to the *quid pro quo* deals.

These projects were realized on the territories of both Germany and Russia, in particular by the following companies: RAO "Gazprom," E.ON, BASF SE, Wintershall Holding SE, Wingas GmbH, and VNG SE (see boxes 1–3, pp. 20f.).

Summing Up the Second Phase

Between 1980 and 1991 and then from 1991 to the early 2000s, the expansion of gas relations in both directions and the permeation of borders through joint activities were driven by commercial interests, which corresponded with the political interest in a close energy partnership. The expansion of the infrastructure and the gas grid were again part and parcel

of the bilateral relationship. Yet, the relations became more commercial-based and business-driven than in the past. A new model of mutual interdependence emerged, and a series of German-Russian joint ventures were created along the whole value chain. Aside from supplies of Russian gas to Germany and German equipment to Russia, active cooperation of Russian and German companies began to expand along the whole value chain and included projects on joint gas extraction, transport, sales, processing, deposits, and storage. The liberalization that fundamentally transformed the German gas sector was also mirrored in Russia through the opening of Russian production to foreign companies, which opened up new areas for cooperation. This phase was dominated by a "market-approach."

At that time, members of the German government, primarily Chancellor Schröder, built their policies on the premise that the security of Europe – not only in the energy field – could only be ensured by working with Russia. For the period up till 2009, the dominant impression on the German side was as follows: A strategic partnership in the long-term could be one of the best forms of cooperation for these two countries, and it could be achieved while facilitating the emergence of a market economy in Russia. For Russia, the economic aspect was the most important part of the relationship. During this period, Germany was identified as the strongest supporter of Russia in Europe, and this was backed by strong personal ties.

The political energy dialogue that emerged over this period constantly oscillated between bilateralism (Germany-Russia) and multilateral frameworks (EU-Russia). The commercially driven gas trade relations were supported by political initiatives founded on the big hope of building a common gas market from Lisbon to Vladivostok, as mirrored in the Energy Charter Process, for example. These multilateral governance initiatives encompass the space of the integrated gas network. As described below, however, the impetus for such an overarching regime faded after EU enlargement to the east and the reaching out to the European neighborhood (Russia was not a part of it, but was offered a special initiative of the "four common spaces").

⁶² Ibid.

Box 1: Wintershall and Gazprom

In 1990, business relations began between Gazprom and Wintershall, a 100 percent subsidiary of BASF^a that had been operating in the oil and natural gas sectors for more than 80 years. The two companies set up the Wintershall Erdgas Handelshaus (WIEH) joint venture in November, which was responsible for selling, transporting, and storing natural gas in Europe. BASF had a dominant position in Germany, and BASF wanted to become more independent from its supplier, Ruhrgas, and negotiate purchases directly with the Russian company without interference from any other energy companies. In November 1991, both Gazprom and Wintershall agreed on gas deliveries (5.9 bcm) to the eastern part of the recently united Germany. In 1993, Wintershall Holding AG and Gazprom came to an agreement and established Wingas GmbH, which had the responsibility of marketing natural gas in Germany. At a later stage, the joint ventures WIEH, WIEE (Wintershall Erdgas Handelshaus Zug AG), and Wingas also started selling natural gas in the European market; cooperation began in the gas transmission and storage sectors. BASF managed to introduce competition in the German market to the benefit of both parties. Part of the strategy to improving their own market position was to cut into natural gas supplies to VNG in order to pressure the company to accept higher prices.^b This anecdote is important, as it did not affect the German perception of Russia being a reliable supplier – this step has been seen through an economic lens and understood as being the imposition of a new pricing regime.

a BASF is one of the largest chemical companies in the world. Its portfolio includes chemicals, synthetics, petroleum derivatives, plant protection products, oil, and gas.

b Heinz-Günther Kemmer, “Die Großkonzerne Ruhrgas und BASF streiten um Gaslieferungen nach Ostdeutschland” [Major Corporations Ruhrgas and BASF Fight over the Gas Supplies to East Germany], *Die Zeit*, 1 November 1991, <http://www.zeit.de/1991/45/machtkampf-der-monopole/> (accessed 10 May 2017).

BASF Wintershall was the first foreign company to produce natural gas jointly with Gazprom in Siberia. In the 1990s and 2000s, the two companies formed an interdependent partnership that develops the Yuzhno-Russkoye and Urengoysskoye fields (Achimov formation) in the Yamal-Nenets Autonomous Okrug. For the latter purpose, JVCAO Achimgas was created as a 50:50 joint venture. These fields are proving to be among the most profitable production sites for Wintershall and E.ON (Uniper) to date. At the end of 2007, Gazprom and Wintershall commenced production at the Yuzhno Russkoye gas field, which provides the resource base for the Nord Stream gas pipeline with its designed annual production capacity of 25 bcm. Operating the field is Severneftegazprom, shares of which are split among Gazprom, BASF, and E.ON Ruhrgas. The reservoir, which is located in the autonomous region of Yamalo-Nenets, contains reserves that amount to 833.5 bcm of gas, making it one of the world’s largest gas fields.

In 2007 Gazprom and BASF AG made an asset-swap deal enabling Gazprom Group to increase its stake in the authorized capital of Wingas GmbH up to 50 percent minus one share. Meanwhile, BASF AG acquired 25 percent minus three ordinary registered shares plus three preference non-voting shares in the authorized capital of Severneftegazprom. Gazprom Group also acquired a 49 percent stake in the authorized capital of Wintershall AG (license holder for hydrocarbon development and production in Libya under concession agreements).^c

c “Yuzhno-Russkoye Field”, Gazprom, <http://www.gazprom.com/about/production/projects/deposits/yrm/>.

Box 2: Ruhrgas, E.ON, Uniper, and Gazprom

Starting in the early 2000s, the German company Ruhrgas had been deliberately increasing its shareholdings in Gazprom; in 2003 it became the largest foreign shareholder in Gazprom, owning about 6.5 percent of the company.^a After the merger of Ruhrgas with E.ON in 2002, E.ON Ruhrgas and Gazprom similarly re-adapted their partnership by using asset swaps. However, Ruhrgas/E.ON Ruhrgas denied Gazprom from acquiring its own shares in Ruhrgas/E.ON Ruhrgas.

In 2007 E.ON SE acquired 76.1 percent of the stocks in PAO “OGK-4,” a Russian power-generating company that had the biggest sales volumes in Russia and was one of the biggest gas consumers in the country. In October 2009, Gazprom and E.ON AG closed an asset-swap deal. As a result of the deal, E.ON AG acquired a 25 percent stake, minus three ordinary registered shares plus three preference non-voting shares in Severneftegazprom. As a result of the asset swaps, Gazprom bought back its own shares from E.ON.

a E.ON Ruhrgas AG (until 1 July 2004 Ruhrgas AG) since February 2003 has been the subsidiary of E.ON AG and responsible for the group’s gas business in Europe, including production, sales, transport, and storage of natural gas.

Box 3: VNG and Gazprom

The cooperation between Gazprom and Verbundnetz Gas AG (VNG AG),^a the former GDR gas company, at first covered the operational management of gas flows. The broad cooperation includes a program for further scientific and technical cooperation to implement joint gas storage projects, the use of high-pressure gas pipelines, and the automation of industrial processes.^b

a Created in 1969, VNG AG was initially a natural gas supplier in Eastern Germany and East Berlin.

b “Gazprom i VNG AG podpisali Soglasheniye o nauchno-technicheskoy sotrudnichestve” [Gazprom and VNG AG Signed Scientific and Technical Cooperation Agreement], Gazprom Press-Center, 9 January 2013, <http://www.gazprom.ru/press/news/2013/january/article153710/>.

Since 2009: A Big Transformation of European Gas Markets and the Effects on the German-Russian Gas Relationship

There are three takeaways for the present phase that have had an impact on German-Russian natural gas relations. The specific structure of the German gas market (described above, see pp. 17f.) paved the way for the creation of bilateral monopolies across the delivery chain up to the distribution level. A close partnership with Gazprom provided a basis to consolidate its own position in the German and EU markets. These close business alliances contradicted the idea(l) of the EU's single-market policy driven by competition and liberalization. Finally, it is worth mentioning the specific relationship between the German gas business and the German government: In "the old times," industry had a significant knowledge and informational advantage over governments.⁶³ Regulations and market monitoring were something that had not yet been adopted or adapted by German authorities during this phase.

Indeed, the most radical and accelerating changes in bilateral gas relations have occurred since 2009. The EU's market reforms have not only transformed the market, business models, and undertakings, but they have also affected policies as well as relations between companies, governments, and Brussels, with respect to roles and responsibilities. Since 2009, three major factors have structurally changed the German-Russian gas relationship and are analyzed in more detail below: the EU's internal market policies; the shale gas revolution and the subsequent expansion of liquefied natural gas (LNG) trade; as well as the *Energiewende*⁶⁴ and the integrated climate and energy policies of the EU. The climate and energy policies have turned demand prospects upside-down: from the prospect of growing demand (that had driven the long-term relationship since the beginning) to uncertainty and unpredictability. The shale and LNG

revolutions supplement the oligopoly of external gas suppliers through more diversified LNG supplies till 2025. This has offered flexibility and the option to switch and has had a profound effect on natural gas undertakings, their business models, and commercial transactions. Finally, Brussels has emerged as a major factor.

Then came the Russian-Ukrainian gas crises in 2006 and 2009 and the transit interruption through Ukraine in 2009. These events have destroyed trust concerning the reliability and security of Russian gas supplies and created more negative public attitudes in the EU toward any cooperation with Russia. Moreover, domestic gas competition inside Russia has increased. This has put mounting pressure on Gazprom to deliver impressive results in terms of European exports in order to be able to protect its export monopoly. The Kremlin has developed a strong interest in maintaining the market share for Russian gas in the EU.

Political Background – EU's Internal Market Policy and the German *Energiewende*

The EU As a Factor in German-Russian Relations

The EU Commission started its own EU-Russia energy dialogue in 2000 to deepen energy ties with Russia. For Germany, Brussels and EU member states have emerged as a major intervening factor since 1998. The EU eastern enlargement of 2004 integrated countries with different historical experiences with Russia and diverse experiences in energy trade as well. This resulted in more skepticism vis-à-vis Russia. Since 2006/2007, controversial issues concerning Gazprom have been more vigorously debated, and the EU has begun looking more closely at the nature of the energy relationship, making an argument for reciprocity and asking Russia to open its gas markets, too. Moreover, the EU gradually moved away – as did Russia – from multilateral governance initiatives, for example the Energy Charter Treaty and related processes.⁶⁵ The EU

⁶³ Ibid., 174.

⁶⁴ The Energy Concept of 2011 laid the basis for the *Energiewende*. It has three pillars: the nuclear phase-out, expansion of renewables, and energy efficiency. There is also a long-term energy and climate strategy, which started in the 1990s. It requires structural changes in the German energy sector by facilitating a transformation of the power sector and moving progressively towards renewable energy and a low-carbon economy. It should not be confused with the *Atomausstieg*.

⁶⁵ Kirsten Westphal, *The Energy Charter Treaty Revisited. The Russian Proposal for an International Energy Convention and the Energy*

started to export its *acquis communautaire* into the neighborhood via the Energy Community. This approach aims at integrating these markets into a common energy market by taking over the EU's rules in national legislation.⁶⁶

The EU Commission has become the major agent of change. It started to push for a competitive and integrated internal market for gas. It also initialized a sensitive transition that, since then, has covered policies, market structures, companies, and commercial transactions. Thereafter, German-Russian gas relations came into focus. There are good reasons to argue that the specifics of the German gas market (described in the previous section) contributed to Brussels' attention to the bilateral relationship.

The EU-Russia Partnership for Modernization, as part of the broader relationship, faced serious setbacks. Despite more complicated relations, the EU and Russia adopted a roadmap in 2013. The "Roadmap EU-Russia cooperation until 2050" was supposed to open up new and interesting prospects from Germany's point of view. The production of highly specialized goods remains part of Germany's export model. To a certain extent, this roadmap laid down a common vision, despite the fact that the overall energy and general relationship was deteriorating. With the crisis in and over Ukraine, it seems that the commitment to – and belief in – this vision is lost, if it was ever real across the EU.

The Impact of the Third Energy Package

When the EU Commission started to address long-term delivery contracts and "bundled" business models with the Energy Packages of 2003 and 2009, the market structures and business models changed fundamentally. In particular, the Third Energy Package of 2009 to implement a really competitive, functioning, and integrated EU market for electricity and natural gas by 2011 has transformed consecutive bilateral energy relations on different levels.⁶⁷

Several provisions impacted on the relationship: A major focal point were the natural monopolies of the pipelines and the operators, which were identified as a major obstacle to competition. Regulation (EC) No. 715/2009 on conditions for access to the natural

gas transmission networks and Directive 2009/73/EC concerning common rules for the internal market in natural gas are particularly significant for changing the conditions in that regard. Both are part of the Third Internal Market Package. Under Directive 2009/73/EC, vertically integrated gas suppliers must relinquish their transmission systems, thus separating the latter from production, import, and distribution (Article 15). Implementing the unbundling requirements and certifying independent pipeline operators (not involved in upstream business) is the responsibility of the member states and the respective national regulator.⁶⁸ In the case of certification of pipeline operators, the Commission provides only an opinion on the certification procedure. Third-party access to pipelines (Article 13) is regulated through so-called network codes governing the allocation of transport capacities, modalities for cross-border operations, and procedures for setting tariffs and congestion management. The network codes are prepared by the European Network of Transmission System Operators for Gas (ENTSOG) on the basis of the framework guidelines of the Agency for the Cooperation of Energy Regulators (ACER), approved by the Commission and implemented by the national regulatory authorities. According to the Third Energy Package, exemptions from the third-party access can be granted for major infrastructure projects (interconnectors, LNG terminals, storage) in certain cases. Exemptions may be granted by national regulators in the interest of competition and security of supply, but must also be confirmed by the Commission.

The Third Energy Package affected the German-Russian gas partnership on many levels. The first aspect here is the internal dimension: As these internal market rules defined the respective radius of action enjoyed by Brussels and the member states, the room for maneuver of member states became more constrained in this important realm. Moreover, the Lisbon Treaty has an impact here as well. Until the ratification of the Lisbon Treaty in 2009, the EU had no juridical status and no real competences allowing institutions to become significantly involved in this area. Since then, energy policy falls under shared competence (Article 194 of the Treaty of the Functioning of the European Union). While EU member states possess

Charter Treaty, SWP Comments 8/2011 (Berlin: Stiftung Wissenschaft und Politik, March 2011).

⁶⁶ See in more detail: Scholl and Westphal, *European Energy Security Reimagined* (see note 9).

⁶⁷ See in more detail in: Westphal, "Institutional Change in European Natural Gas Markets" (see note 41), 35–43.

⁶⁸ Deutscher Bundestag, Unterabteilung Europa, Fachbereich Europa, *Ausarbeitung: Nord Stream 2 – Vorgaben des europäischen Energierechts* [Draft: Nord Stream 2 – Guidelines of the European Energy Law], PE 6-3000-27/16 (March 2016), 7.

national sovereignty over their energy mix, the Union establishes norms designed to ensure a functioning energy market and security of supply through the legislative procedure. Important issues require approval or notification from Brussels, also according to the Third Energy Package.

Secondly, the new legal and regulatory provisions affected Gazprom's corporate strategy and business models in a number of ways.⁶⁹ The Third Energy Package focused on infrastructure projects that have been at the heart of the companies'⁷⁰ bundled approach to supply and transmission. The most contentious issues emerged from newly built or planned pipelines as well as from Gazprom's market dominance in eastern EU member states. Gazprom's ownership of pipelines was not challenged in Germany (unlike in Lithuania), but the use of pipelines and limitations to construct new pipelines have affected the Russian company's business in Germany since then, as exemplified by the Ostsee-Pipeline-Anbindungsleitung (OPAL), which connects the Nord Stream 1 pipeline to the Czech border.⁷¹ The above-described provisions of reserving transmission capacities for alternative gas suppliers played out in the case of the OPAL pipeline (see in more detail below, p. 34). As in the case of the South Stream pipeline, the plans to construct Nord Stream 2 again face disputes over the legal and regulatory provisions and their applicability.

In sum, the conservative approach of Gazprom to the gas market is evident, as the business case and economics for Gazprom's infrastructure projects changed under the Third Energy Package, because it necessitated unbundling the transmission system operator (which cannot be the gas supplier) and it stipulated that third-party access must be offered in the EU territory to all shippers in case no exemption is granted. Furthermore, Russia had raised concerns that – with the full operation of network codes under the Third Energy Package from 2015 to 2016 and onwards – a contractual mismatch of transmission and long-term gas supply projects, a potential loss of capacity, and

the problem of booking additional capacity may hamper its gas trade.⁷²

With respect to the network codes, Gazprom's concerns about transmission capacities of *existing* pipelines were mostly considered: Long transitional periods are provided for transport capacities set in pre-existing, long-term contracts; the network code for capacity allocation, which came into effect on 1 November 2015, permits large capacities to be booked up to 15 years in advance. On these aspects, the EU made concessions to gas exporters such as Gazprom.

This was done together with the general criticism that the legal and regulatory changes had been made without sufficient consultation from the beginning. Thus, Russia and the EU were on a confrontation course regarding sensitive matters even before the crisis in and over Ukraine.⁷³ Transition and regulatory changes carry far-reaching risks, in particular in times of geopolitical tensions. Structural changes in the relationship have resulted in growing misperceptions, misunderstandings, and increasing levels of mistrust.

Yet, thirdly, the Third Energy Package – aside from the gas glut and the *Energiewende* – has had an impact on German partner companies, because their bundled business model of importing, transmitting, and merchandising gas has become unstable and partly obsolete.⁷⁴ Inside Germany, the role of the government in the gas sector was transformed from the previous period: from providing a framework and mechanisms for the “family clusters” of the gas industry and dependence on the information provided by the gas family, toward active regulation as well as enabling competition and monitoring market transactions and price formations.

The German *Energiewende* – Another Shake-up for the Relationship

What came on top of these structural changes were the policy changes introduced through climate and energy policies. In particular, the “German Energy Concept” of 2011 laid the basis for the *Energiewende*

⁶⁹ See Romanova, “Is Russian Energy Policy towards the EU Only about Geopolitics?” (see note 7), 863.

⁷⁰ For a comprehensive discussion, see: Kai-Olaf Lang and Kirsten Westphal, *Nord Stream 2: A Political and Economic Contextualisation*, SWP Research Paper 3/2017 (Berlin: Stiftung Wissenschaft und Politik, March 2017).

⁷¹ For more detail, see: Katja Yafimava, *The OPAL Exemption Decision: Past, Present, Future*, OIES Paper NG 117 (Oxford: OIES, January 2017).

⁷² Jonathan Stern, “The Role of Russia in European Gas Supply”, presentation at E-World Conference, Essen, 12 February 2014.

⁷³ Jonathan Stern, quoted in: Heiko Lohmann, “Thema des Monats: Viel Gas für Europa (und Deutschland)?” [Topic of the Month: A Lot of Gas for Europe (and Germany)?], *energate Gasmarkt*, no. 3 (2014): 4–6 (6).

⁷⁴ Jonathan Stern and Howard V. Rogers, *The Dynamics of a Liberalised European Gas Market: Key Determinants of Hub Prices, and Roles and Risks of Major Players*, OIES Paper NG 94 (Oxford: OIES, December 2014), 75.

and was composed of deploying renewable energy, phasing out nuclear energy, and increasing energy efficiency. Since then, the market conditions as well as the political and regulatory framework have changed inside Germany as well as in the EU. The position of natural gas in the *Energiewende* has not yet been formulated, despite the fact that it is the “cleanest” fossil fuel and could serve as a bridge to decarbonization. Still, natural gas is an energy source “by default” – not by design – in the German and EU energy mix. To put it succinctly: Natural gas relations were deprived of having long-term prospects because the level of demand is no longer predictable.

The German government also started to face the *Energiewende* dilemma of steering an energy transition while letting market forces work. Natural gas consumption in Germany, in particular in the power sector, has gotten squeezed between the expansion of renewables and coal. The combination of weak carbon prices and high gas prices in Europe over the past few years has led to a decline in the competitiveness of existing gas-fired plants – some of them are being taken offline. The use of coal versus natural gas-fired power generation was a function of relative price developments.⁷⁵ A decommissioning of old coal plants is under discussion, but it is challenging from a socio-political perspective in Germany. According to projections, gas consumption is forecasted to decrease in the next decade.⁷⁶ For Gazprom and Russia, the implications are far-reaching, touching upon the Russian understanding of energy security as security of demand.

Russia's policy toward the sector successively changed in the 2000s. For the Putin administration, the view that energy security should not be treated as a purely economic issue became predominant,⁷⁷ as security/political stakes were weighed as being as important as economic ones. A persistent issue for any resource-rich country is sovereignty over natural resources and the maximization of rents. With the grip of Russian elites on the energy sector strengthening,

Russian “state capitalism” became a reason why geo-economics and geopolitics are closely intertwined and function together. A dominant market position is to be exploited for business and commercial reasons, but it also offers the opportunity to exert influence politically.

In fact, Russia's role as a major energy supplier was indeed a means to regain international power and reposition itself in the world as an “energy superpower” in the early 2000s. Vis-à-vis the EU, Russia's role as the major energy supplier provided the basis for an eye-to-eye relationship. On the one hand, it made Russia even more dependent on the development and evolution of EU laws. On the other hand, when energy markets turned into sellers' markets after 2003, Russia increasingly resisted a rapprochement with the EU. In 2007, the negotiations for a new EU-Russian Partnership and Cooperation Agreement failed. Russia no longer wanted to perceive itself as a taker of rules defined by an external power, the EU. This was viewed as an attempt to intervene in Russia's internal regulations. Moreover, it touches on the gas sector, which is at the heart of the Russian economy and a driver for growth and social inclusion. Any weakening is a threat to the long-term prospects of the Russian economy as well as the Russian political system.

For Gazprom, maintaining market share in the EU is vital in order to defend its pipeline export monopoly against competitors on the Russian market and in LNG exports; here, Gazprom faces strong competition, especially from Rosneft and Novatek. In Germany, this has been mostly understood under the portents of economic interest, whereas in Eastern Europe, Russian gas supplies were not only seen by individual countries in the context of market dominance but also perceived as making those countries and the EU vulnerable to political pressures. The instrumentalization of the dominant market position has been viewed as being connected to geopolitics. Cause and effect as well as the motivations behind Russian moves were thus controversially discussed in the EU. Eastern enlargement of the EU changed the tonality of the discussions. The antitrust case against Gazprom offered evidence in this respect in Eastern Europe,⁷⁸ but no cases were presented in Germany or the liberalized northwestern European gas market.

⁷⁵ For more details, see: Kerstin Appunn et al., *Germany's Energy Consumption and Power Mix in Charts*, 1 August, 2017, <https://www.cleanenergywire.org/factsheets/germanys-energy-consumption-and-power-mix-charts> (accessed 8 May 2017).

⁷⁶ FNB Gas/Prognos, *Konsultationsdokument. Szenariorahmen für den Netzentwicklungsplan Gas 2018–2028 der Fernleitungsnetzbetreiber* [Consultative Document. Scenario Framework for the Gas Network Development Plan 2018–2028 of Transmission System Operators] (Berlin: FNB/Prognos, 19 June 2017), 20.

⁷⁷ Romanova, “Is Russian Energy Policy towards the EU Only about Geopolitics?” (see note 7).

⁷⁸ See Lang and Westphal, *Nord Stream 2* (see note 70), 22ff.

Trade and Infrastructure – Amid the Gas Glut, a Direct Link into Germany

The gas glut since 2009 has changed the supply and demand balance in Europe, turning the EU market into a buyers' market. This promoted the fast implementation of the Third Energy Package, as competition over market share happened at different levels of the European and German gas markets. Moreover, the large additional LNG volumes available on the spot markets accelerated competition in the EU market. As a consequence, the imported volumes have fluctuated, reflecting price movements.

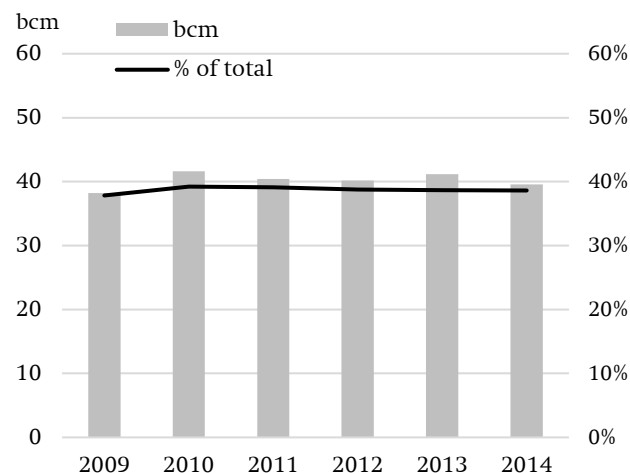
When Nord Stream 1's first pipeline was completed in June 2011, the Third Energy Package was approved and the gas glut went into full swing (see next section). The transportation of gas through Line 1 began in mid-November 2011. Construction of Line 2, which runs parallel to Line 1, began in May 2011 and was completed in April 2012. It is said that the pipeline is an affordable means to transport gas into Europe, as the costs were comparable with Ukrainian transit fees.⁷⁹ Gas transport through the second line began in October 2012. The new situation of the Third Energy Package in place resulted in quarrels around the on-shore pipeline connections. The "Nordeuropäische Gasleitung" (NEL) runs from Lubmin to Rehden (where huge storage facilities are located) and connects the Nord Stream pipeline with the Hamburg-Rehden and the MIDAL pipeline. It is fully regulated. The OPAL pipeline became a source of contention between Russia, Germany, and the EU (see next section). The pipeline is an interconnector within the EU, and this categorization implies a Third Energy Package obligation, but it also offers options for an exemption from the rules.

Volumes sent through Ukraine decreased after the construction of Nord Stream 1, whereas the transit volumes through Yamal were unaffected (see Figure 9). An attempt to put together a Ukrainian-Russian-German consortium for the renovation of the Ukrainian pipeline system in 2002 never materialized due to the failure to clearly define tasks and roles.⁸⁰

⁷⁹ According to a grey source, transit was estimated at €2.5/1,000 cubic meter/100 km in 2012 (excluding fuel costs) – a competitive price in comparison with transit through Ukraine.

⁸⁰ Roland Götz, *The North European Pipeline. Increasing Energy Security or Political Pressure?*, SWP Comments 42/2005 (Berlin: Stiftung Wissenschaft und Politik, September 2005), 3.

Figure 8
German gas imports from Russia 2009–2014

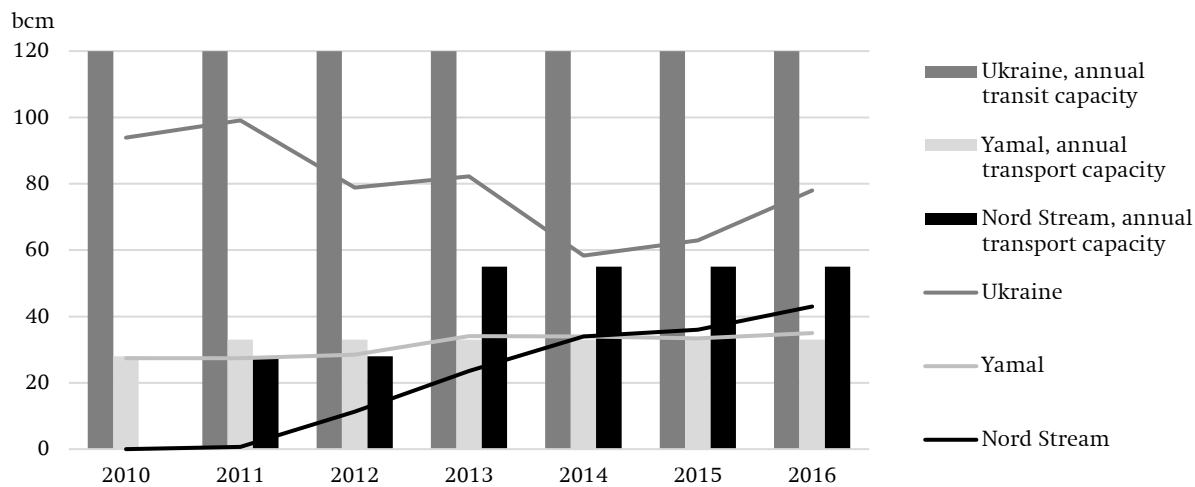


Source: Bundesamt für Wirtschaft und Ausfuhrkontrolle.

The existing infrastructure of gas pipelines is a major asset to maintain close German-Russian gas trade relations as costs sink. Gas pipelines into Germany have been developed over time (see map 1, p. 28). As a primary supplier, Gazprom is in a comfortable position, as its deliveries are under (revised) long-term contracts. Beyond the desire to control the exports and corridors, Gazprom has also managed to make significant inroads into the German gas market. It has expanded downstream into the former intermediary segment, into storage and downstream marketing, and into trading in EU markets (see Figure 9). The company is active along the whole value chain and able to collect information at all stages of the value chain in Germany.

Gazprom owns and uses underground storage facilities (see Figure 10, p. 29). Its important position in the segment of storage after the takeover of Astora has raised some debates in Germany. Germany has the fourth-largest gas storage facilities in the world and the largest in the EU, with a total working capacity of 24.1 bcm.⁸¹ The positioning of the company in Germany's (and the EU's) storage system proved that even though Gazprom had the possibility of storing gas in underground gas storage facilities controlled by other energy companies, it started building its own facilities

⁸¹ BMWI, *Instrumente zur Sicherung der Gasversorgung* [Instruments for Securing Gas Supply], <http://www.bmwi.de/Redaktion/DE/Artikel/Energie/gas-instrumente-zur-sicherung-der-versorgung.html>.

Figure 9**Russian gas transport capacities and exports to the EU, 2010–2016 (billion cubic meters per annum)**

Sources: “Gas Trade Flows in Europe, in Bcm”, International Energy Agency (IEA) website, 2016, <http://www.iea.org/gtf/index.asp> (accessed 18 October 2017); IEA, *Gas: Medium Term Market Report 2015: Market Analysis and Forecasts to 2020* (Paris, 2015), 106; IEA *Natural Gas Information 2017* (Paris, 2017) VI.58.

inside Germany. Geographical distances separating Russian gas fields and consumer markets form a particular business environment. It takes almost a week for gas from Western Siberia to reach the German border. Moreover, the seasonality of gas demand requires a forward-looking stockpiling in the summer months for the wintertime. More investments in storage facilities have also been required to compensate for the loss of flexibility due to the progressive decline of European gas production and the loss of any control over the Ukrainian underground storage facilities, reflecting a very forward-looking approach by the company. At the same time, this gives the company a strong position on the market and an opportunity to play with volumes.

Commercial and Contractual Relations – A Fundamental Change

The price slump at the wholesale level started to impact on the actual gas trade inside Germany. The above-described three-tier structure, the horizontal demarcations, and the vertical segmentation had prevented competitive gas trade. The large suppliers on the first tier passed the price developments of their long-term contracts, for example with Russia, on to the next level via long-term contracts. The family clusters prevented hostile competitive sales arrangements

until 2006. Then, the German cartel office decided to limit the volumes of downstream long-term contracts temporarily, till 2010.⁸² The new rules did not result in more competition because oversupply capacities did not exist until the shale gas boom and the LNG glut materialized. With spot market prices half those of the cross-border price in Germany and with overcapacities available, suddenly a competitive gas market materialized. The number of market areas⁸³ was also reduced: from 19 to 2, until October 2011.⁸⁴ The diversity of gas undertakings is high in Germany, and the concentration ratios of the three biggest companies with the largest market shares have decreased over time. The three biggest companies own more

⁸² See: Ralf Dickel and Kirsten Westphal, *EU-Russland Gasbeziehungen. Über die Bewältigung von neuen Unsicherheiten und Ungleichgewichten* [EU-Russia Gas Relations. Overcoming New Insecurities and Imbalances], SWP-Aktuell 30/2012 (Berlin: Stiftung Wissenschaft und Politik, May 2012), 4.

⁸³ The two market areas are Gaspool and NetConnect Germany. Both provide virtual trading hubs. The operator ensures that demand and supply are always balanced within a market area.

⁸⁴ Bundesnetzagentur, *Marktgebiete und Kooperationsvereinbarung Gas (KoV)* [Market Areas and the Gas Cooperation Agreement], 4 May 2017, https://www.bundesnetzagentur.de/DE/Sachgebiete/ElektrizitaetundGas/Unternehmen_Institutionen/HandelundVertrieb/MarktgebieteGas_KOV/marktgebietegas.html (accessed 8 May 2017).

Map 1
Gas pipelines system between Russia and Germany

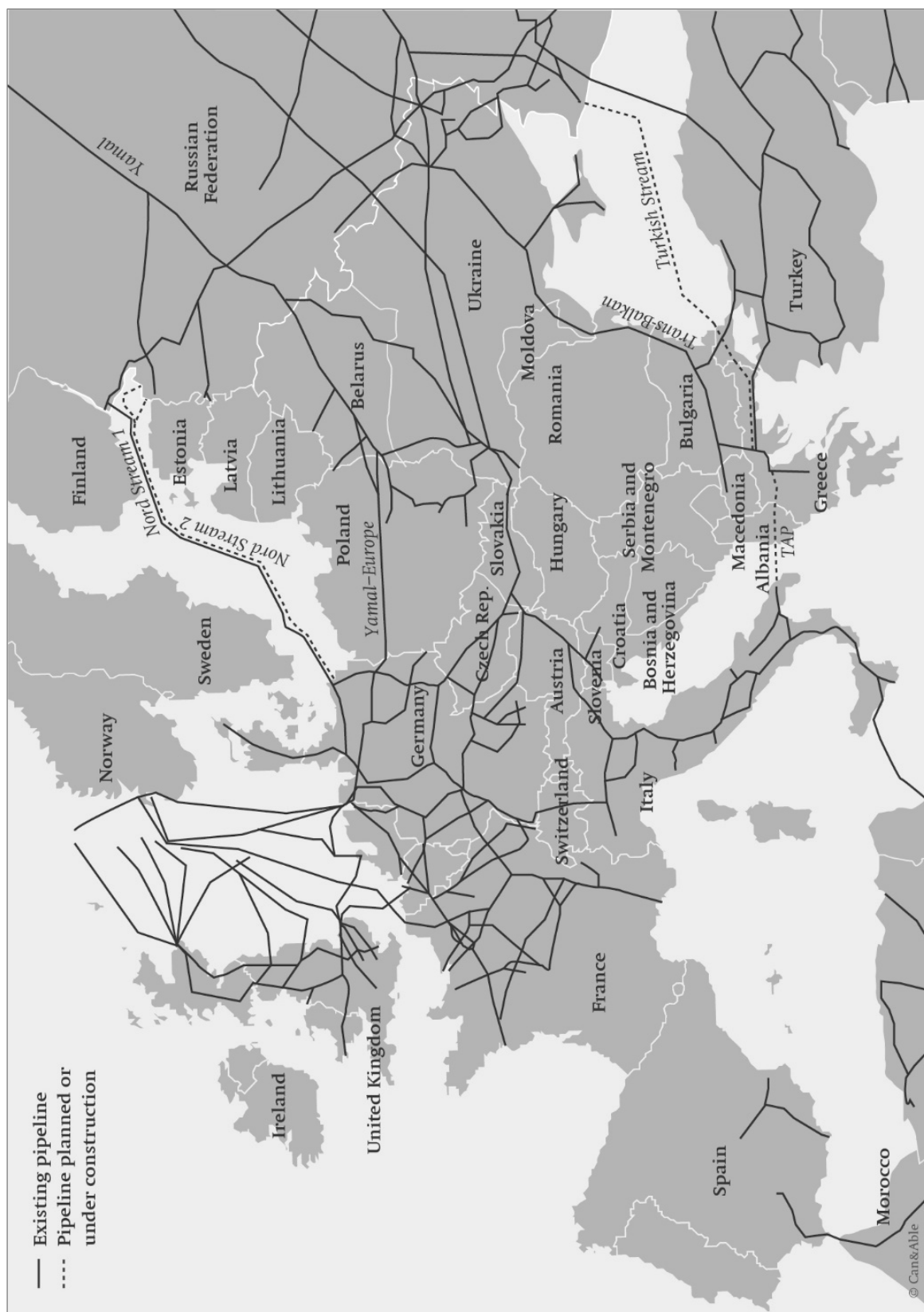
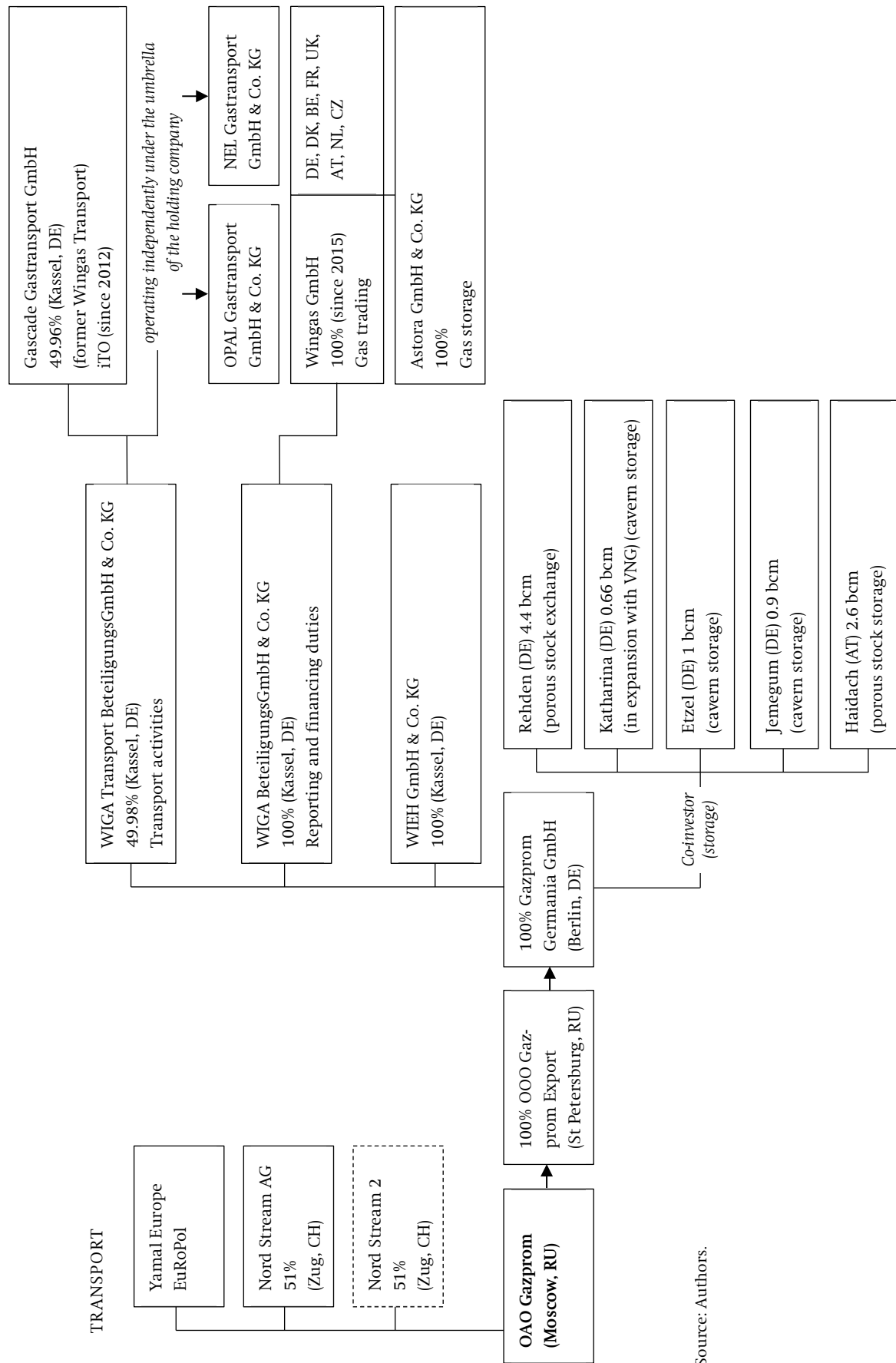


Figure 10
Gazprom's activities in Germany in a nutshell



than 75 percent of all storage capacity,⁸⁵ but they supply to only 32 percent of big industrial customers and 22 percent of all private households.⁸⁶ These figures are far below any critical index of market concentration. The vast majority of gas consumers can select their supplier from among more than 50 companies.⁸⁷ Germany has 17 transmission system operators.

The fact that competition has increased over the past eight years has had a huge impact on the German partners of Gazprom. Their business models were completely destroyed: 1) Their vertical integration was split through unbundling, 2) they could no longer pass on prices downstream and were locked into more expensive and long-term oil-indexed contracts with large take-or-pay obligations, 3) and most importantly, they suddenly had to compete with others over their previously captive customer base.⁸⁸ The companies found themselves bearing the price and volume risks. Moreover, the value of their role as “market aggregators” – that is, managing a long-term import portfolio and bringing together substantial volumes of demand – is unclear and less inherent in the new competitive markets. In the competitive markets, the number of hubs and short-term transactions increase and producers, traders, local distribution companies, etc., are free to make their own contractual arrangements.⁸⁹ The sudden erosion of their business model had significant implications for their relationship with Gazprom as well. The complementarity in their relationship became less clear-cut and evident, implying a redefinition of roles and balancing of interests. The most obvious rupture is the different time frames: Whereas Gazprom still requires a long-term perspective, German importers became short-term oriented in order to frequently adapt their portfolios to changing market situations. Their long-term contracts became part of a management portfolio of commodity traders. Finally, their relative position vis-à-vis Gazprom weakened, increasing the responsibility for the German government to monitor the market.

⁸⁵ Bundesnetzagentur and Bundeskartellamt, *Monitoringbericht 2015 gemäß § 63 Abs. 3 i.V. § 35 EnWG und § 48 Abs 3 i.V. § 53 Abs. 3 GWB* [Monitoring Report 2015 According to § 63 par. 3 in Conjunction with §35 of Energy Industry Law and § 43 par. 3 in Conjunction with §53 of the Act against Restraints of Competition], 10 October 2015 (Editorial Amendments, 21 March 2016), 253.

⁸⁶ Ibid., 254.

⁸⁷ Ibid., 301.

⁸⁸ Stern and Rogers, *The Dynamics of a Liberalised European Gas Market* (see note 74), 62.

⁸⁹ Ibid.

The *Energiewende* impacted the corporate level as well. The transformation that started with the creation of an internal market continued. In the beginning was the merger in 2002 between E.ON and Ruhrgas to create a national energy champion during the Chancellorship of Gerhard Schröder. Later on, Ruhrgas was taken over by E.ON and the gas business was managed under the roof – and through the lens of – an electricity company. In April 2016 Uniper was created, uniting conventional power generation (water, coal, and gas), global trade, and, for example, foreign engagement in Russia’s power sector and natural gas production under its roof. Moreover, the utility company EnBW is also the major shareholder of VNG.

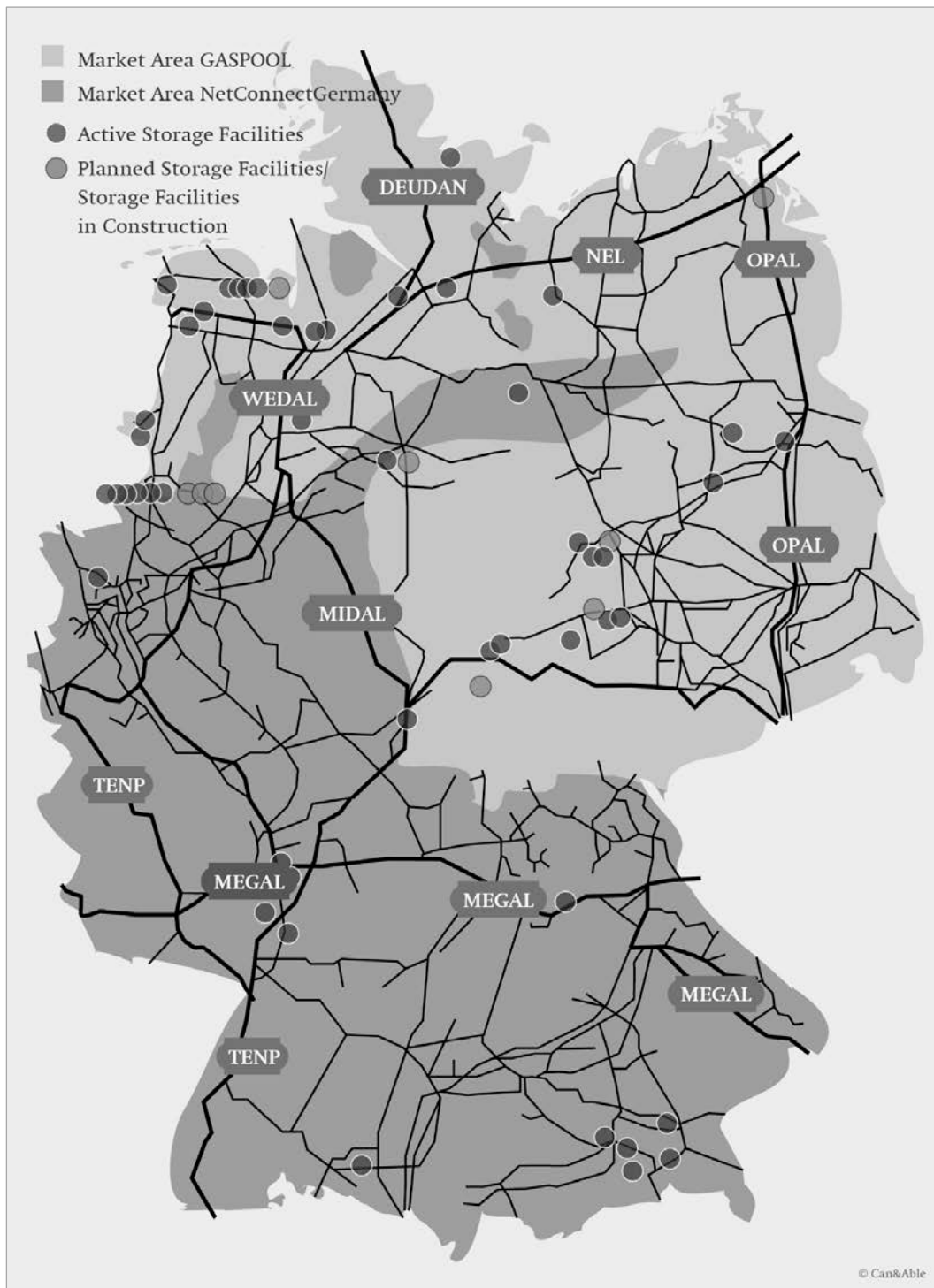
On the Russian side of the chain, competition increased, and Gazprom came under pressure from Rosneft and Novatek, in particular. So far, Gazprom has managed to maintain its pipeline export monopoly. Nevertheless, it seems that the Kremlin has started to closely observe the company’s record in maintaining and defending a substantive market share in Germany (and Europe) to sell Russian gas. In 2012, Novatek managed to strike a deal with EnBW to supply the German electricity company – based in the state of Baden-Württemberg – with 21 billion kilowatt hours of gas per year.⁹⁰ The 10-year contract supplies a third of EnBW’s gas demand.⁹¹ The modalities of the contract were not very clear, but given Gazprom’s export monopoly, Novatek markets Gazprom gas most likely on a swap basis.

Gazprom’s opportunities and challenges in Germany are of two distinct natures. Whereas most of them have a European nature (structural trends across Europe), the others have a very German nature, such as the *Energiewende*, which is also pushed at the EU level. The transitional situation in the EU gas markets as well as the gas glut on the global gas markets have contributed to increasing levels of uncertainty and diverging interpretations and expectations. Moreover, natural gas prices have to be seen in relation to other fuel prices. Finally, weak carbon prices (according to experts, a price above €30 is necessary for the scheme to have an effect on companies) did not spur a substi-

⁹⁰ “EnBW bezieht Gas von Novatek” [EnBW gets Gas from Novatek], *Energate Messenger*, 12 July 2012, <http://www.energate-messenger.de/news/124516/enbw-bezieht-gas-von-novatek>.

⁹¹ “Russischer EnBW-Partner Novatek mit US-Sanktionen belegt” [Russian EnBW-Partner Novatek is Subject to Sanctions], *Wirtschaftswoche*, 26 July 2014, <http://www.wiwo.de/unternehmen/energie/unternehmen-russischer-enbw-partner-novatek-mit-us-sanktionen-belegt/10251388.html>.

Map 2
German Network and Storage Sites



tution of coal with natural gas in power generation till 2016/2017.

As regards bilateral corporate relations, concerns within the commercial sphere have increased. The

renegotiation of price formulas and take-or-pay volumes for Russian gas were a major issue. Gazprom tried to retain oil indexation, whereas spot- and hub-based pricing have increased their share in the EU,

making Europe “the battleground” of gas pricing in recent years.⁹² German companies were among the first to receive retroactive rebates. Moreover, price formulas have obviously been continually adapted to price developments at the hubs. With E.ON the contract was revised in 2009 and 2012; VNG received retroactive discounts in 2011; and the contracts with WIEH and Wingas were also adapted in 2009 and 2012 at a very early stage.⁹³

What came on top of the structural changes was a simple human factor that had provided continuity in the past: Generational change in the companies came into effect, with the pioneers and veterans of the gas-for-pipes deal retiring and a new generation of workers with different backgrounds coming into management positions.⁹⁴

Oil indexation is decreasing, whereas the gas-on-gas competition has become increasingly important. From 2010 until 2012, the situation was tricky: Importers asked for a renegotiation of the calculation formula in order to include partial spot indexation. This situation often led to arbitrage procedures. The gas glut of rising LNG trade (deliveries (redirected) from the United States) has had a huge effect here. Europe has become the market of last resort for global LNG supplies.

What adds to this complicated picture is that future EU gas demand is highly uncertain and has recently flattened in the EU-28. A rebound is very uncertain, as it depends on the overall energy mix, the share of renewable energy, and, even more importantly, on coal and the price difference between coal and gas. Long-term predictability of demand is lacking, which is needed for any natural gas exporter. Yet, the effects on Russian gas exports are “cushioned” by existing long-term contracts.

⁹² Anthony Melling, *Natural Gas Pricing and Its Future: Europe as the Battleground*, Carnegie Endowment Report (Washington, D.C.: Carnegie Endowment for International Peace, 12 October 2010).

⁹³ Tatiana Mitrova, Vyacheslav Kulagin, and Anna Galkina, *The Transformation of Russia's Gas Export Policy in Europe*, Proceedings of the Institution of Civil Engineers – Energy, vol. 168/1, February 2015, 1–11.

⁹⁴ Based on own observation. The pioneering spirit that made up a special relationship among German and Russian engineers is, e.g., reflected in common song books and is part of anecdotal common history.

Qualifying and Quantifying the Impact of the Crisis in and over Ukraine

Political Framing and Security

Up until the crisis in and over Ukraine, the political framing of the gas relationship in Germany had been overwhelmingly positive; ever-deeper cooperation was embraced or simply regarded as business-as-usual. However, the crisis in and over Ukraine was a breaking point – it was a shock impacting at different scales on many levels. Political relations between Germany and Russia significantly deteriorated, even though the decline began some time before the crisis in and over Ukraine unfolded in March 2014.⁹⁵ Most importantly, the “multi-layered architecture of Russia-EU political dialogue” established over the last decades crumbled, resulting in the end of EU-Russia energy strategic partnership established in 2011 and a stalled EU-Russia energy dialogue.

Germany and France have taken the lead in the crisis by invoking the Normandy format and brokering the Minsk Agreements. As the EU introduced a firm sanctions regime, the member states gave primacy to politics over economics.

The perception of the “weaponization of gas,” which identifies the threat of natural gas deliveries as a tool to promote foreign policy interests, gained ground in the aftermath of the 2014 crisis, especially in Eastern Europe.⁹⁶ The publication of the EU Energy Union strategy concept in February 2015⁹⁷ was driven by security of supply concerns in the context of the Ukrainian-Russian crisis. The EU Energy Union, for its part, was designed in early 2014 by then-President

Donald Tusk to diversify the EU’s gas supplies and to curb import dependency on Russia.⁹⁸ Since then, the Commission’s policy has more or less followed this impetus. The security of gas supply moved to the top of the agenda in the EU, which conducted stress tests at the national and EU levels in 2014, leading to a revised Security of Supply Regulation in autumn 2017.⁹⁹ These steps reflect gradual shifts away from a market-based approach toward EU energy security.

The “securitization” of natural gas issues is also revealed by the fact that future activities to construct the Nord Stream 2 pipeline through the Baltic Sea have been met with a lot of concern in the security and military communities of some member states.¹⁰⁰ The context in which gas relations are analyzed has been expanded into other policy areas, stretching from economics to trade, politics, and security. On the Russian side, Nord Stream 2 has been deliberately linked by Gazprom and the Kremlin to the attempt to bypass Ukraine, and is thus embedded in the bigger security conflict in Europe. At the height of the crisis over Ukraine in 2014, the Kremlin and Gazprom headquarters both called for a complete end to Ukrainian transit.¹⁰¹ It is thus highly problematic that German/EU-Russian gas relations boiled down to Nord Stream 2 overshadowing day-to-day gas business.

⁹⁵ Hannes Adomeit, *German-Russian Relations: Change of Paradigm versus “Business as Usual”* (Paris: IFRI, February 2015), 5 http://www.ifri.org/sites/default/files/atoms/files/ndc_120_adomeit_en_0.pdf.

⁹⁶ See e.g.: Atlantic Council, “Disarm Russia’s Gas Weapon: Call Russia’s Bluff and Stem Ukraine’s Corruption. Europe Should Demand That Russia Sell Its Gas at One Basic Price for All EU States”, 18 June 2014, <http://www.atlanticcouncil.org/blogs/new-atlanticist/disarm-russia-s-gas-weapon-call-russia-s-bluff-and-stem-ukraine-s-corruption>.

⁹⁷ European Commission, *Energy Union Package: A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy* (Brussels, 25 February 2015), http://eur-lex.europa.eu/resource.html?uri=cellar:1bd46c90-bdd4-11e4-bbe1-01aa75ed71a1.0001.03/DOC_1&format=PDF.

⁹⁸ Donald Tusk, “A United Europe Can End Russia’s Energy Stranglehold. An Energy Union Could Restore Competition”, *Financial Times*, 21 April 2014, <https://www.ft.com/content/91508464-c661-11e3-ba0e-00144feabdc0>.

⁹⁹ European Union, *Regulation of the European Parliament and of the Council Concerning Measures to Safeguard the Security of Gas Supply and Repealing Regulation (EU) No 994/2010* (Brussels, 20 September 2017), <http://data.consilium.europa.eu/doc/document/PE-22-2017-INIT/en/pdf>.

¹⁰⁰ Lang and Westphal, *Nord Stream 2* (see note 70), 26; European Parliament, *The Quest for Natural Gas Pipelines. EU and Eastern Partner Energy Policies: Security versus Transit Benefits*, Study. European Parliamentary Research Service and Directorate-General for External Policies. Authors: Konur Alp Kocak and Pasquale De Micco with the contribution of Faustine Felici (July 2016), [http://www.europarl.europa.eu/RegData/etudes/STUD/2016/586626/EPRS_STU\(2016\)586626_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2016/586626/EPRS_STU(2016)586626_EN.pdf).

¹⁰¹ “Miller: Rol’ Ukrainy v kachestve transitera svedetsya k nulyu” [Miller: Ukraine’s Role in Transit Will Fall to Zero], *Vzglyad*, 6 December 2014, <http://vz.ru/news/2014/12/6/719045.html> (accessed 19 December 2014).

The project has come under close scrutiny by the European Commission, the Parliament, and many member states, and it has created dissent in the European Union. Overall, the debate is politically loaded.¹⁰² Thus, the impact of the project (from a European perspective) goes well beyond legal dimensions and has centered on the applicability of EU regulations on the offshore pipeline through the Baltic Sea.¹⁰³ The applicability of the Third Energy Package was rejected by the legal service of the Commission. The attempt by the Commission to get a negotiation mandate from the Council for “a coherent regulatory framework” was also scrapped by the legal service of the Commission.¹⁰⁴ At the time of writing (November 2017), the Commission had proposed an amendment to the EU’s gas regulations to include interconnectors from third countries into the Directive.¹⁰⁵

Through the lens of the EU Energy Union, Germany’s close gas relations with Russia came under even more criticism from Brussels and certain member states. The project is seen in light of the crisis over Ukraine and the challenge to the security order in Europe. Thus, security concerns and military considerations surround the planned construction through the Baltic Sea.¹⁰⁶ Sweden is alert because Russian military activity has increased in the Baltic Sea since 2014. Therefore, the country, together with its neighbor Denmark, requested at the end of January 2017 that the European Commission assess the legal and

political dimensions of Nord Stream 2, which was the initial spark for the Commission to seeking a mandate for negotiations with Russia on a framework for the offshore pipeline.¹⁰⁷ Denmark passed a law at the end of November 2017 that amends the regulatory framework and would allow for the blocking of Nord Stream 2 construction through Danish waters for security and foreign policy reasons.¹⁰⁸ Among the most fierce critics are the Eastern and Central European member states, and Poland, in particular. The commercial deal of creating a multinational consortium was obstructed in summer 2016 by the Polish antimonopoly authority UOKiK.¹⁰⁹ The fact that the shareholder deal met persistent resistance, especially in Poland, led to the financing agreement in April 2017, whereby the European partner companies committed themselves to finance 50 percent of the total cost.¹¹⁰ In sum, EU-Russian gas relations have developed within a very fluid and volatile geopolitical environment, as displayed by Russia’s turning away from Europe in 2014 and the pragmatic rebalancing that has occurred since mid-2015. Besides Nord Stream 2, the exemption for the connecting OPAL pipeline from Greifswald to the Czech Republic became a bone of contention, too.¹¹¹ Poland brought the case at the end of 2016 to the European Court of Justice and achieved a temporary halt to the auctions.¹¹² Since August 2017, the OPAL pipeline can be used, but the final court decision is still pending.

In fact, the number of intervening factors has increased substantially and has made the conducting of German-Russian gas relations more volatile and unpredictable.

102 Peter Müller, Christoph Schult, and Jonas Weyrosta, “Projekt des Teufels” [Devil’s Project], *Der Spiegel*, 1 July 2017, 48–49.

103 See Lang and Westphal, *Nord Stream 2* (see note 70); Katja Yafimava, *The Council Legal Service’s Assessment of the European Commission’s Negotiating Mandate and What It Means for Nord Stream 2*, Energy Insight (Oxford: Oxford Institute for Energy Studies, October 2017); Severin Fischer, *Lost in Regulation: The EU and Nord Stream 2*, Policy Perspectives, vol. 5/5 (Zurich: ETH Zurich, Center for Security Studies [CSS], November 2017), <http://www.css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/PP5-5.pdf>.

104 Yafimava, *The Council Legal Service’s Assessment of the European Commission’s Negotiating Mandate* (see note 103); Fischer, *Lost in Regulation* (see note 103).

105 EU Commission, *Proposal for a Directive of the European Parliament and of the Council Amending Directive 2009/73/EC Concerning Common Rules for the Internal Market in Natural Gas* (Brussels, 2017), https://ec.europa.eu/energy/sites/ener/files/documents/act_-_gas_dir_amendment_-_final.pdf.

106 “Sweden Drops Objections to Port Striking Nord Stream Deal”, *Reuters*, 30 January 2017, <http://www.reuters.com/article/us-sweden-nordstream-idUSKBN15E1RI> (accessed 28 February 2017).

107 Letter of 25 January 2017 of the Danish Ministry of Energy, Utilities and Climate and the Prime Minister’s Office Sweden to the Vice President of the Commission and the Commissioner for Climate Action and Energy.

108 “Denmark passes law that could ban Russian pipeline from going through its waters”, *Reuters*, 30 November 2017, <https://www.reuters.com/article/us-denmark-pipeline/denmark-passes-law-that-could-ban-russian-pipeline-from-going-through-its-waters-idUSKBN1DU19L> (accessed 6 December 2017).

109 Lang and Westphal, *Nord Stream 2* (see note 70), 32.

110 Nord Stream 2 AG, “Nord Stream 2 AG and European Energy Companies Sign Financing Agreements”, 24 April 2017, <https://www.nord-stream2.com/media-info/news-events/nord-stream-2-ag-and-european-energy-companies-sign-financing-agreements-47/>.

111 Yafimava, *The OPAL Exemption Decision* (see note 71).

112 *Ibid.*; Lang and Westphal, *Nord Stream 2* (see note 70), 31, 32.

Sanctions against Russia

As a reaction to the Russia-Ukraine conflict in and over Ukraine, the United States and the EU agreed on a wide range of measures sanctioning the Russian Federation.¹¹³ Australia, Canada, Japan, New Zealand, Norway, and Ukraine, among others, have joined in as well. Since March 2014, sanctions have been renewed and extended regularly. Primary sanctions can be split into individual, financial, and sectoral sanctions.

The gas sector has not been a target of EU sanctions so far, but it is indirectly affected by the individual and financial sanctions, as well as the sanctions on dual-use and deep-water offshore oil production. Basically, sanctions (e.g., asset-freezing, travel bans, etc.) are applied against individual businesses and officials from both the Russian Federation and Ukraine that are generally involved – directly or indirectly – in the conflict in eastern Ukraine and/or in backing separatist groups. Nevertheless, a distinction must be made between US and EU sanctions. Individuals and entities tracked by both the United States and the EU have not always been consistent. For example, Gennady N. Timchenko's (a businessman allegedly close to Vladimir V. Putin) investment holding, Volga Group, and himself, have been included on the US Specially Designated Nationals list because of the close relationship the group's main shareholder has with the Russian leadership. OAO Novatek is on the US Sectoral Sanctions Identifications list and, as a consequence, is subject to US capital market restrictions.¹¹⁴

Sanctions are also imposed on investment restrictions (e.g., limited access to new long-term debt) and include technology export bans as well as technical assistance restrictions. Germany has continued to back the EU's sanctions regime.

So far, sanctions have covered primarily oil projects, with the goal of hampering Russia's ability to renew its hydrocarbon resources. Natural gas trade and companies related to this business have not been directly sanctioned. Yet, the Russian gas business is

indirectly affected by Western sanctions, and Russian gas companies have adapted to these new realities. For example, Novatek has mastered the financing of Yamal LNG¹¹⁵ and seems to be well-positioned to attract investors for future projects, despite sanctions. Novatek is drawing up plans to build a second plant, known as Arctic LNG 2.¹¹⁶

Business and trade have become more complicated with respect to dual-use provisions; moreover, clarity was missing in some of the selected elements. For Russian companies, the financial sanctions (with the risk of US secondary sanctions, i.e., sanctions applying to non-US persons/entities doing business with sanctioned Russian individuals and entities, when this occurs outside US jurisdiction) are an issue. Germany has been central in maintaining a consensus among EU member states. Over the course of 2016 and 2017, divisions seem to have arisen between Europeans, with some politicians questioning the full application of the Minsk Agreements and appearing to be in support of holding elections in eastern Ukraine. Yet, the situation in Syria changed the overall mood in favor for keeping sanctions. The approval of new sanctions on Russia by Washington in August 2017 – in reaction to “cyber intrusions” among “other aggressive activities of the Russian Federation”¹¹⁷ – not only ends transatlantic coordination of sanctions, but it marks a “rupture” between the United States and the EU. The bill was also viewed by the German government as dealing a blow to German energy security and Nord Stream 2.¹¹⁸

In any case, the discretionary sanctions of section 232¹¹⁹ on pipelines opens a large grey zone¹²⁰ for pipe-

113 “EU Sanctions against Russia over Ukraine Crisis”, *EU Newsroom*, 16 March 2017, http://europa.eu/newsroom/highlights/special-coverage/eu_sanctions/index_en.htm#1.

114 For more details, see: Aurélie Bros, *Low Oil Prices, Sanctions and Structural Problems: The Tribulations of Russia's Oil and Gas Sector*, Recherches & Documents no. 05/2017 (Paris: Fondation pour la Recherche Stratégique [FRS], July 2017), <https://www.frstrategie.org/en/publications/recherches-et-documents/low-oil-prices-sanctions-and-structural-problems-the-tribulations-of-russia-s-oil-and-gas-sector-05-2017>.

115 Aurélie Bros and Tatiana Mitrova, *Yamal LNG: An Economic Project under Political Pressure*, Note de la FRS no. 17/2016 (Paris: FRS, August 2016), <http://www.frstrategie.org/publications/notes/yamal-lng-an-economic-project-under-political-pressure-17-2016>.

116 “‘Novatek’ mozhет zapustit ‘Arktik SPG-2’ do 2024 goda” [“Novatek” May Launch “Arctic LNG-2” by 2024], *Vedomosti*, 29 March, 2017, <https://www.vedomosti.ru/business/news/2017/03/29/683219-mihelson-novatek>.

117 *Ibid.*, 1.

118 “US Sanktionen gegen Russland empören Gabriel” [U.S. sanctions against Russia shock Gabriel], *Süddeutsche Zeitung*, 15 June 2017, <http://www.sueddeutsche.de/politik/transatlantische-beziehungen-us-sanktionen-gegen-russland-emporen-gabriel-1.3546281>.

119 U.S. Congress, *An Act to Provide Congressional Review and to Counter Aggression by the Governments of Iran, the Russian Federation, and North Korea, and for Other Purposes*, H.R.3364 – 115th Congress (2017–2018), 2 August 2017, <https://www.congress.gov>.

lines originating in Russia, as renovation, upgrading, and new construction may be sanctioned. Moreover, it is not clearly defined in the text where an export pipeline really ends – endangering connecting pipelines as well. On 31 October 2017, the US State Department and the Office of Foreign Assets Control published public guidelines, according to which the administration will “work with the European Union member states and European institutions to promote energy security through developing diversified and liberalized energy markets”.¹²¹ Moreover, investments and loans made prior to 2 August 2017 would not be subject to US sanctions.¹²²

Economic Slowdown in Russia and a Turn to Eurasia

German business in Russia has been suffering more from economic slowdown than sanctions, in contrast to some EU member state companies, such as France’s Total SA, which is developing projects in the oil and LNG sectors with companies on the sanctions list.¹²³ Russia’s macroeconomic performance has deteriorated. Since 2014, low oil prices have ravaged all of Russia’s key economic indicators. Demand for durable goods shrank by almost half, imports plummeted by 35 percent, trade turnover in rubles fell almost 12 percent, and foreign investment – which had fallen to almost zero in 2014 – was nonexistent in 2015. Inflation increased to at least 15 percent in 2015¹²⁴ but has significantly fallen since then, with an estimated low of 3–4 percent in 2017.¹²⁵ So, after the 6–8 percent GDP

growth rates observed in the 2004–2008 period – according to official statements of the Russian Ministry of Economic Development – in 2015 annual GDP contracted by 2.8 percent, followed by stagnation in 2016 and a slight recovery in 2017.¹²⁶

Actually, the economic slowdown started as early as 2012 amid high oil prices, record-low unemployment, and above-target inflation. The ruble came under severe pressure at the end of 2014, reflecting balance of payment shocks from lower oil prices, limited access to international capital markets, increased capital flight, and concerns about large external debt payments. This led to large net-capital outflows (\$154 billion, or about 8 percent of GDP, the highest level since 1999–2000) and a significant decline in foreign-exchange reserves. Additionally, in November 2014, inflation accelerated sharply following the exchange-rate depreciation and Russia’s countersanctions against the West (primarily a ban on the import of certain food products from Europe, the United States, Canada, Australia, and Norway, introduced in August 2014, as well as against Ukraine, and Turkey in 2015¹²⁷).¹²⁸

Despite the prevailing panic and criticism, the authorities have managed to take some effective steps to stabilize the financial system and the economy. The Central Bank of Russia allowed the exchange rate to float, tightened monetary policy significantly, and expanded its foreign-exchange liquidity facilities. The government introduced an anti-crisis plan – including a bank capital support program on the scale of 2 percent of GDP – and revised its 2015 budget to reallocate spending to priority sectors. It should also be noted that against all the risks and uncertainties mentioned, Russia could rely on large buffers against economic headwinds, including a large net international investment position – equivalent to 18 percent of GDP – an account surplus of 4.5 percent of GDP in 2015, low public debt,¹²⁹ and no need to access international markets for government financing in the short term due to the reserve fund buffer (of which 68 percent remained by the end of 2015, compared to January 1,

gov/bill/115th-congress/house-bill/3364/text#toc-HF881C924248D48AC84B172F50F13A34E.

120 Kirsten Westphal, “Kollateralschaden in Europa: Die neuen US-Sanktionen gegen Russland gefährden Europas Energiesicherheit” [Collateral Damage in Europe: The New US-Sanctions against Russia Compromise Europe’s Energy Security], *Süddeutsche Zeitung*, 1 August 2017, <http://www.sueddeutsche.de/politik/aussenansicht-kollateralschaden-in-europa-1.3611832>.

121 Ost-Ausschuss der Deutschen Wirtschaft, *Ausführungsbestimmungen der US-Regierung zu den neuen US-Sanktionen gegen Russland* (Berlin, 1 November 2017), 11.

122 Ibid., p. 12.

123 For more details, see: Bros and Mitrova, *Yamal LNG: An Economic Project under Political Pressure* (see note 115).

124 Andrey Movchan, *What’s in Store for the Russian Economy in 2016?* (Moscow: Carnegie Moscow Center, 4 January 2016).

125 <https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?end=2016&locations=RU&start=1993&view=chart> and www.gks.ru/free_doc/new_site/prices/potr/L_ipc.xlsx (accessed 6 December 2017).

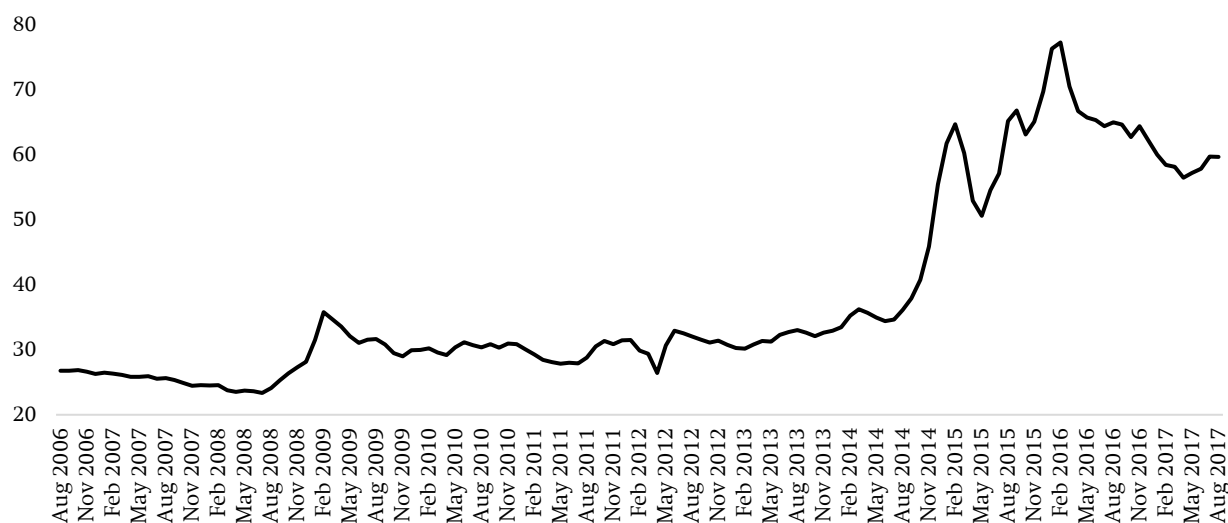
126 <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=RU> (accessed 6 December 2017).

127 The sanctions against Turkey have been abolished.

128 International Monetary Fund (IMF), *Russian Federation. 2015 Article IV Consultation – Press Release, and Staff Report*, IMF Country Report No. 15/211 (Washington, D.C., August 2015), <http://www.imf.org/external/pubs/ft/scr/2015/cr15211.pdf>.

129 Ibid.

Figure 11
Dollar to ruble exchange rate



Source: International Monetary Fund, *Financial Statistics* (accessed 18 October 2017); http://www.cbr.ru/currency_base/.

2014),¹³⁰ which has steadily shrunk since then. One might assume that there could be a long period of low or even negative economic growth, but the country's economy is quite resilient and is not going to collapse. Moreover, compared to the early 1990s, when Russian GDP contracted by 40 percent – or even 2009, when the drop was 8 percent – the current reduction of 4 percent is not as dramatic.

Nevertheless, this macroeconomic background has created a number of threats and insecurities, also for German companies active in Russia, and in particular for those involved in the gas business. First, the oil-price-driven development of the Russian economy is questioned. Second, risks related to macroeconomic slowdown and currency depreciation are prevalent. Consequences of low economic growth – 60 percent ruble devaluation (Figure 11) – are the strongest factors negatively affecting German business in Russia. For the companies engaged in gas business, weakening the ruble is not a price advantage as it is for the other export-oriented industries, as Gazprom holds an export monopoly, and German companies can sell gas only on the Russian domestic market for rubles. Third,

the risks of nationalization cannot be completely discarded. From the Russian side, there is no strong political opposition or criticism concerning involvement of German companies, though. There was some negative feedbacks regarding the E.ON-Russia accident at Berezovskaya GRES, but generally the authorities gave a quite clear message in 2014, namely that they are not going to press German businesses, create any “black lists,” or nationalize any of them.¹³¹

Sanctions and the collapse of the national currency have decreased the attractiveness of the Russian market.¹³² Potential changes in Russia domestic gas pricing and taxation policies, driven by budgetary problems and fears of social instability, also challenge the profits of the German investors active in the market.

As a reaction to the rift with the West, Russia has strived for a pivot to Asia, also in energy matters. However, projects building gas pipelines to China are slowly proceeding. Last but not least, Russia has pushed the

¹³⁰ Finance Ministry of Russia, “Informacionnoye soobshcheniye ot 01.01.2016” [Statement on 1 January 2017], 1 January 2016, <http://www.minfin.ru/ru/performance/reservefund/statistics/volume/index.php>.

¹³¹ “Ulyukayev iskluchil vozmozhnost nacionalizacii aktivov inostrannih company” [Ulyukayev Ruled Out the Possibility of Nationalizing the Assets of Foreign Companies], RBC, 26 November 2014, <http://www.rbc.ru/economics/26/11/2014/54756f37cbb20fb40db3c931>.

¹³² Olga Gulina, “Uidet li nemeckii biznes iz Rossii? Tri szenariya” [Will the German Business Leave Russia? Three Scenarios], RBC, 5 May 2015, <http://www.rbc.ru/opinions/business/05/05/2015/553dbc6e9a7947536b06903d>.

Eurasian Economic Union, which was created on 1 January 2015. A common gas market is to be established by 2025.

German-Russian Gas Relations in the Context of the Security Crisis over Ukraine

Bilateral Gas Relations between Commercial Logic and Foreign Policy Considerations

Energy relations became subject to foreign policy considerations when the crisis in and over Ukraine enveloped both sides.

On the Russian side, a prevalence of geopolitics in 2014/2015 seemed to be behind some very volatile and contradictory corporate policy shifts by Gazprom: On 7 October 2014, the CEO of Gazprom, Aleksey Miller, announced that “Gazprom is analysing and examining its own strategies which guided the company lately. The company is re-evaluating whether it is worth being everywhere on the value chain in Europe e.g. from production to retail. [...] Gazprom may be more selective in pursuing projects it already planned because reaching end users in Europe doesn’t necessarily work.”¹³³ In December 2014, Gazprom did not renew its application for a compromise¹³⁴ that had been achieved between the Bundesnetzagentur and the Gazprom joint venture OPAL Gastransport. The compromise had not received the necessary approval from the EU Commission in 2014 (despite Commission representatives being present at the negotiations). Then, the 100 percent takeover of Wingas¹³⁵ by Gazprom – already in process – was cancelled. Last but not least,

Gazprom’s supplies to EU countries were reduced over the winter period between October 2014 and March 2015¹³⁶ without explanation (see Figure 12). Commercial reasons for this move, for example to maintain a certain price level, are less plausible than strategic considerations related to the reverse flows from the EU into Ukraine. As Gazprom had complained about these deliveries, this may well have been an attempt to complicate the West-East trade of natural gas into Ukraine. However, because of well-supplied markets, these cuts into deliveries had almost no effect.

With respect to the Ukraine conflict, Gazprom and the Kremlin repeatedly announced they would not extend the gas transit contract with Ukraine beyond 2019.¹³⁷ At the beginning of December 2014, Gazprom stated it would abandon South Stream in favor of Turkish Stream at the beginning of December 2014.¹³⁸

A rebalancing toward Europe began after June 2015, when a Memorandum of Intent to build the Nord Stream 2 pipeline was signed. In September of the same year, Gazprom (50 percent), BASF/Wintershall (10 percent), Engie SA (10 percent), Uniper (10 percent), OMV AG (10 percent), and Royal Dutch Shell (10 percent) signed the Shareholder Agreement to build Nord Stream 2,¹³⁹ creating a storm of fierce protests that has not settled down since then.

The fallout of the severe security crisis in Europe and the preeminence of the Nord Stream 2 issue has had repercussions inside Germany as well. Regardless of the fact that the crisis in and over Ukraine has not resulted in a gas supply crisis, Russia’s reliability as a gas supplier has been questioned, even in Germany, by raising concerns about geopolitics prevailing in the Kremlin over economic rationality. First, the German-Russian gas relationship has been scrutinized in terms of vulnerabilities and potential political instrumental-

¹³³ Aleksey Miller, “Vy’stuplenie Alekseya Millera o prognozach i problemakh mirovoj gazovoj otrasli na IV Peterburgskom mezhdunarodnom gazovom forume” [Statement of Alexey Miller on Perspectives and Problems of the Global Gas Industry at the 4th St. Petersburg International Gas Forum], 7 October 2014, <http://www.gazprom.ru/press/miller-journal/706409/> (accessed 10 February 2015).

¹³⁴ “Gazprom verzichtet auf volle OPAL Nutzung” [Gazprom Refrains from Full Exploitation of OPAL], *Energate Messenger*, 15 December 2014, <http://www.energate-messenger.de/news/150258> (accessed 19 December 2014).

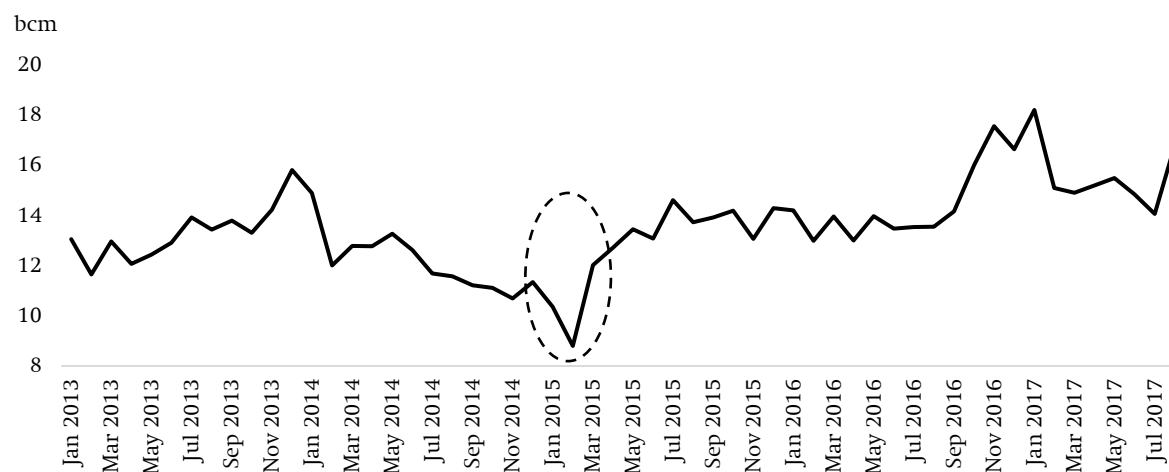
¹³⁵ In December 2014, BASF and Gazprom decided to scrap an asset swap, which would have given Gazprom full control of a jointly operated European gas trading and storage business, including the biggest underground gas facility in Western Europe. Chris Bryant and Jack Farchy, “BASF and Gazprom Scrap Energy Asset Swap”, *Financial Times*, 18 December 2014, <http://www.ft.com/intl/cms/s/0/6ed4660a-86f3-11e4-982e-00144feabdc0.html> (accessed 19 December 2014).

¹³⁶ Data available at ENTSOG Transparency Platform.

¹³⁷ “Miller: Rol’ Ukrainy v kachestve transitera svedetsya k nulyu” [Miller: Role of Ukraine As a Transit-Country Will Be Diminished to Zero], *Vzglyad*, 6 December 2014, <http://vz.ru/news/2014/12/6/719045.html> (accessed 19 December 2014).

¹³⁸ See for more detail: Grigoriy Vygon, Vitalij Ermakov, Maria Belova, and Ekaterina Kolbikova, “Turetskiy Potok”: Stsenarii obkhoda ukrainy i bar’erov evropejskoy komissii [“Turkish Stream”: Scenarios to Bypass Ukraine and Barriers of the European Commission] (Moscow, June 2015), http://vygon.consulting/upload/iblock/313/vygon_consulting_turkish_stream.pdf (accessed 20 August 2015).

¹³⁹ “Gazprom, BASF, E.ON, ENGIE, OMV and Shell Sign Shareholders Agreement on Nord Stream 2 Project”, *Gazprom News*, 4 September 2015, <http://www.gazprom.com/press/news/2015/sepember/article245837/>.

Figure 12**Russian monthly gas exports to Europe (bcm)**

Source: IEA Gas Trade Flows in Europe, <https://www.iea.org/gtf/>.

ization.¹⁴⁰ As a consequence, the positive notion of mutual interdependence has been questioned. This

140 See, e.g., the inquiries from the Bundestag to the Government: “Kleine Anfrage der Abgeordneten Oliver Krischer, Kerstin Andreae, Dr. Julia Verlinden, Jürgen Trittin, Marieluise Beck (Bremen), Katharina Dröge, Annalena Baerbock, Dr. Thomas Gambke, Matthias Gastel, Anja Hajduk, Bärbel Höhn, Dieter Janecek, Stephan Kühn (Dresden), Peter Meiwald, Dr. Wolfgang Strengmann-Kuhn, Markus Tressel und der Fraktion Bündnis 90/Die Grünen, *Position der Bundesregierung zu Energierohstoffimporten aus Russland*” [A Small Inquiry from the Deputies Oliver Krischer [... and others] and from the Green Fraction, *Position of the Federal Government Regarding the Imports of Energy Resources from Russia*], Printed Document 18/961, 1 April 2014, <http://dip21.bundestag.de/dip21/btd/18/009/1800961.pdf>; “Kleine Anfrage der Abgeordneten Oliver Krischer, Annalena Baerbock, Marieluise Beck (Bremen), Manuel Sarrazin, Dr. Julia Verlinden, Jürgen Trittin, Bärbel Höhn, Sylvia Kotting-Uhl, Christian Kühn (Tübingen), Steffi Lemke, Peter Meiwald und der Fraktion Bündnis 90/Die Grünen, *Geplanter Asset-Tausch zwischen BASF bzw. Wintershall und Gazprom*” [A Small Inquiry from the Deputies Oliver Krischer [... and others] and from the Green Fraction, *The Planned Exchange of Assets between BASF or Wintershall and Gazprom*], Printed Document 18/6349, 30 September 2015, <http://dip21.bundestag.de/dip21/btd/18/063/1806349.pdf>; “Kleine Anfrage der Abgeordneten Thomas Lutze, Herbert Behrens, Klaus Ernst, Susanna Karawanskij, Kerstin Kassner, Jutta Krellmann, Birgit Menz, Thomas Nord, Richard Pitterle, Michael Schlecht, Dr. Kirsten Tackmann, Dr. Axel Troost, Hubertus Zdebel und der Fraktion Die Linke, *Das Nordstream-2-Projekt vor dem Hintergrund der Energiesicherheit und Sanktionspolitik gegen Russland*” [A Small Inquiry from the Deputies Thomas Lutze [... and others] and from The Left Fraction, *The Nord Stream 2*

change in the political framing has led to a certain disconnect between the political perceptions of gas imports and market realities, because the markets have been functioning smoothly and prices have been relatively low (see below). This is explainable due to the well-supplied markets to a large extent. Yet, on the side of the gas importers and traders, this is also rooted in the belief that Russia is, and will be, acting rationally and not risking one of its major income sources.

Second, conducting business-as-usual gas relations as a value and an asset in times of a security crisis is overshadowed by Nord Stream 2. The German government was given short notice of the project in summer 2015. Germany quickly took a pragmatic approach in reference to the legal situation. Vice Chancellor Sigmar Gabriel (SPD) was soon accused of “Schroederisation”¹⁴¹ when he pointed out that the project was in Germany’s interest and that German authorities would closely follow the legal/regulatory processes to reduce “external interference.”¹⁴² The position of the German

Project in the Context of Energy Security and Sanctions against Russia], Printed Document 18/7789, 24 February 2016, <http://dip21.bundestag.de/dip21/btd/18/077/1807789.pdf>.

141 Julia Smirnova, “Gabriel spielt in Moskau den Gerhard Schröder” [Gabriel Plays against Gerhard Schröder in Moscow], *Die Welt*, 29 October 2015, <http://www.welt.de/politik/ausland/article148156440/Gabriel-spielt-in-Moskau-den-Gerhard-Schroeder.html>.

142 Simon Pirani and Katja Yafimava, *Russian Gas Transit*

government vis-à-vis the mélange and multitude of criticisms is based on legal and economic grounds – in reference to the legal situation as the landfall state and clear application procedures, as well as to the commercial nature of the project – and can thus be seen as a fallback position. The political framing of German-Russian relations by the two SPD-led ministries – the Ministry of Economic Affairs and Energy as well as the Foreign Office¹⁴³ – relied on the traditional dual strategy of containment/cooperation and deterrence/dialogue. Economic ties are thus an added value for maintaining cooperation, and the costs would be high if the relationship deteriorates. Handling the Nord Stream 2 project routinely can be understood as a strong signal to maintain cooperation and to keep doors open.

Since the crisis in and over Ukraine, the debate about German-Russian gas relations is directly linked to the security issues in Europe and centers on Nord Stream 2. The German political discourse about natural gas imports from Russia were also influenced in 2016 by the diverging positions over Syria and cyber threats attributed to Russia. Opposition to the project was raised in the Bundestag across political parties and even within the “grand coalition.”¹⁴⁴ The “appropriateness” of expanding ties with Russia in the current situation of the crisis in and over Ukraine and diverging geopolitical positions on Syria have become sources of debate. Concerns and doubts about an expansion of German-Russian gas ties via the Nord Stream 2 pipeline project have been expressed regularly by parliamentarians in the Bundestag and the

EU Parliament.^{145/146} Norbert Röttgen (Christian Democrat) and Reinhard Bütikofer (Green Party) argued that Nord Stream 2 “should be scrapped on moral and political grounds.”¹⁴⁷ Moreover, building a big new natural gas pipeline was criticized in the context of climate mitigation. The necessity for large investments into hydrocarbon infrastructure was questioned,¹⁴⁸ especially if Germany is to move away from fossil fuels. These debates extended into the German election campaign in 2017, with leading liberal democrats arguing for a dialogue with Putin.¹⁴⁹

across Ukraine Post-2019: Pipeline Scenarios, Gas Flow Consequences, and Regulatory Constraints (Oxford: OIES, February 2016), <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2016/02/Russian-Gas-Transit-Across-Ukraine-Post-2019-NG-105.pdf>.

143 “Steinmeier kritisiert ‘Säbelrasseln’ gegenüber Russland” [Steinmeier Criticizes Saber-rattling towards Russia], *Süddeutsche Zeitung*, 18 June 2016, <http://www.sueddeutsche.de/politik/nato-in-osteuropa-steinmeier-kritisiert-saebelrasseln-gegenueber-russland-1.3040243>.

144 “Koalition streitet über Gasleitung. Die SPD verteidigt die geplante neue Pipeline mit Russland. Die CDU sträubt sich” [Coalition Argues about the Gas Pipeline. The SPD Defends the Newly Planned Pipeline with Russia. The CDU Is Reluctant], *Frankfurter Allgemeine Sonntagszeitung*, 20 December 2015; “‘Russischer Energieexport finanziert russischen Kriegsexport’. Wachsende Kritik am Pipelineprojekt Nord Stream 2 und am früheren Kanzler Schröder” [Growing Criticism of the Pipeline Project Nord Stream 2 and of the Former Chancellor Schröder], *Frankfurter Allgemeine Zeitung*, 2 November 2016.

145 “Kleine Anfrage der Abgeordneten Thomas Lutze [...] und der Fraktion Die Linke, *Das Nordstream-2-Projekt*”, Printed Document 18/7789 (see note 140); “Kleine Anfrage der Abgeordneten Annalena Baerbock, Oliver Krischer, Dr. Julia Verlinden, Jürgen Trittin, Bärbel Höhn, Sylvia Kotting-Uhl, Christian Kühn (Tübingen), Steffi Lemke, Peter Meiwald und der Fraktion Bündnis 90/Die Grünen, *Mögliche Folgekosten durch die Erweiterung der Erdgas-Ostseepipeline Nord Stream 2*” [A Small Inquiry from the Deputies Annalena Baerbock [... and others] and from The Green Fraction, *Possible Consequential Costs of the Baltic Gas Pipeline Extension*], Printed Document 18/7952, 17 March 2016, <http://dip21.bundestag.de/dip21/btd/18/079/1807952.pdf>; “Kleine Anfrage der Abgeordneten Annalena Baerbock, Oliver Krischer, Marieluise Beck (Bremen), Jürgen Trittin, Bärbel Höhn, Matthias Gastel, Sylvia Kotting-Uhl, Christian Kühn (Tübingen), Steffi Lemke, Peter Meiwald, Dr. Julia Verlinden und der Fraktion Bündnis 90/Die Grünen, *Fortgang der russischen Ostsee-Pipeline Nord Stream 2*” [A Small Inquiry from the Deputies Annalena Baerbock [... and others] and from The Green Fraction, *Progress of the Russian Baltic Pipeline Nord Stream 2*], Printed Document 18/13083, 29 June 2017, <http://dip21.bundestag.de/dip21/btd/18/130/1813083.pdf>.

146 “Unions-Außenpolitiker kritisieren deutsche Pipeline-Pläne” [Politicians of the Christian Democratic Union Criticize German Pipeline Plans], *Spiegel Online*, 19 December 2015, <http://www.spiegel.de/wirtschaft/soziales/nordstream-2-cdu-aussenpolitiker-kritisiert-pipeline-plaene-a-1068744.html>, Benjamin Bidder, “Nord Stream Pipeline: Worum es im Gasstreit wirklich geht” [The Nord Stream Pipeline: What the Gas Dispute Is Actually About], *Spiegel Online*, 17 June 2017, <http://www.spiegel.de/wirtschaft/unternehmen/russland-was-steckt-hinter-dem-gas-streit-a-1152643.html>; “Norbert Röttgen fordert Stopp von Russlandpipeline” [Norbert Röttgen Demands the Stop of the Russian Pipeline], *Zeit Online*, 18 October 2016, <http://www.zeit.de/politik/2016-10/nord-stream-2-gaspipeline-norbert-roettgen-fordert-stopp-russland>.

147 “Widerstand gegen Putins Pipeline wächst” [Resistance to Putin’s Pipeline Is Increasing], *Frankfurter Allgemeine Zeitung*, 17 November 2016.

148 Michael Bauchmüller, “Das dicke Ende von Nord Stream” [The Worst Part of the Nord Stream], *Süddeutsche Zeitung*, 8 April 2016.

149 Alexander Graf Lambsdorff, “Reden! Auch mit Putin” [Talk! Also with Putin], *Standpunkte, Wirtschaftswoche*, 11 August 2017.

The German executive branch and administration have maintained a low-key and objective course, looking to the Wingas asset swap and to Nord Stream 2 from a purely legal and liberal viewpoint.¹⁵⁰ BASF Wintershall and Gazprom concluded the Wingas asset swap on 30 September 2015, with Gazprom increasing its share in Wingas, WIEH, and WIEE to 100 percent as well as receiving a 50 percent stake in Wintershall Noordzee B.V.¹⁵¹ For its turn, Wintershall obtained 25.01 percent in the project for developing Blocks 4A and 5A in the Achimov deposits of the Urengoykoye field.¹⁵² For Gazprom, this was a move to continue its downstream engagement in Germany. The asset swap was silently organized – mostly under the radar of the public,¹⁵³ even though the strong position of Gazprom's subsidiary Astora in the storage sector was a source of debate.

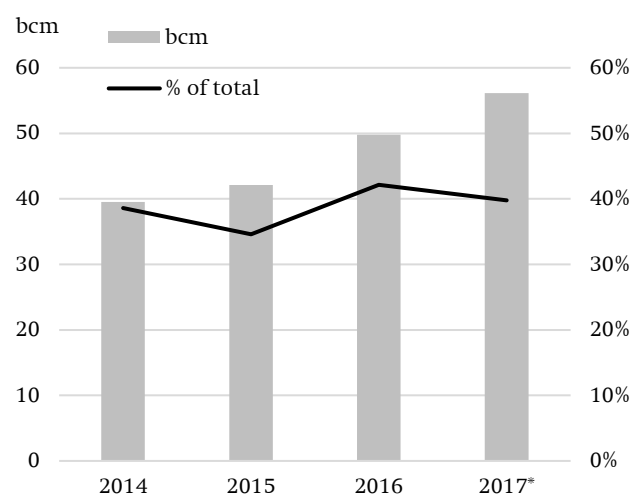
What caused some disquietude in the “German gas community” was the abrupt and consequent replacement of Wingas management at the end of 2016,¹⁵⁴ which was not really communicated. It was the latest step in a number of similar moves from London-based Gazprom Marketing and Trading and Gazprom Germania. Although many of the people replaced in Wingas and Gazprom Marketing and Trading had been well-known in the gas world, their successors are not. This staff restructuring did not enhance transparency or credibility, thus potentially eroding Gazprom's reputation. Moreover, the decision-making process inside Gazprom remains obscure, which increases

rumors about the influence of the Kremlin. In any case, it is being suggested that the grip of Gazprom on its European subsidiaries will be strengthened.

Trade Movements Reflecting Price Signals and the Instance of Supply Shortage

As we have argued above, gas relations have been placed within the broader context of the security crises between Russia and the EU. At the same time, gas-import flows have followed price incentives rather than reflecting geopolitical or foreign policy concerns. This is why it can be argued that the “realities” of gas importers and political actors have been decoupled. The most obvious sign are relatively low gas prices in times of severe security crises. A disconnect between market assumptions and political perceptions has become evident in Germany. The political elite have started to look more closely into the security of gas supply situation in Germany and the EU.

Figure 13
Gas trade between 2013 and 2017



* Estimates.

Source: Bundesamt für Wirtschaft und Ausfuhrkontrolle.

The major fundamentals for maintaining strong relations are contracts and prices: In 2015 Germany consumed 77 bcm,¹⁵⁵ which makes it the biggest gas market in Europe since the early 2010s (well ahead of

¹⁵⁰ “Antwort der Bundesregierung auf die Kleine Anfrage der Abgeordneten Oliver Krischer, Annalena Baerbock, Marie-Luise Beck (Bremen), weiterer Abgeordneter und der Fraktion Bündnis 90/Die Grünen – Drucksache 18/6349 – Geplanter Asset-Tausch zwischen BASF bzw. Wintershall und Gazprom” [Reply of the Federal Government to the Small Inquiry from the Deputies Oliver Krischer [... and others] from the Green Fraction, *The Planned Exchange of Assets between BASF or Wintershall and Gazprom*], 2 November 2015, <http://dipbt.bundestag.de/doc/btd/18/065/1806526.pdf>.

¹⁵¹ “Gazprom International Acquires Assets in the North Sea”, *Gazprom International*, 1 October 2015, <http://www.gazprom-international.com/en/news-media/articles/gazprom-international-acquires-assets-north-sea>.

¹⁵² “Gazprom and BASF/Wintershall – 25 Years of Fruitful Cooperation”, *Gazprom News*, 12 October 2015, <http://www.gazprom.com/press/news/2015/october/article248998/>.

¹⁵³ “Kleine Anfrage der Abgeordneten Oliver Krischer [... and others], *Geplanter Asset-Tausch*”, Printed Document 18/6349 (see note 140).

¹⁵⁴ “Gazprom sortiert sich neu” [Gazprom Re-sorts Itself], *Energie Informationsdienst*, 7 November 2016, <http://www.eid-aktuell.de/2016/11/04/gazprom-sortiert-sich-neu/>.

¹⁵⁵ Eurogas, *Statistical Report 2015* (Brussels, 4 December 2015), http://www.eurogas.org/uploads/2016/flipbook/statistical-report-2015/eurogas-statistical-report-2015_LR.pdf.

the United Kingdom – historically the largest European gas market – which consumed 71 bcm that same year).

Due to the numerous price revisions, retroactive payments, and the increasing implementation of the spot component into the traditional oil-linked price formula, Gazprom's prices have already significantly changed compared to the classical oil-indexed price formula, which was typically used before 2008–2009. The German gas border price has significantly decreased (Figure 14). Starting from mid-2015, the price for Russian gas has adjusted to the TTF (title transfer facility) price, indicating that, in fact, the spot component in the revised contracts is already quite significant, and Russian gas is really competitive in the German market.

Moreover, the existing portfolio of the long-term gas supply contracts that were signed already between German and Russian companies is huge: Even at the minimal contractual quantities ("take or pay" volumes), they guarantee nearly 40 bcm per annum of Russian gas exports to Germany for the next 15 years (Figure 15).

Irritations in the commercial sphere are difficult to trace but have certainly left marks on the bilateral relationship (e.g., the silent replacement of management staff described above). Last but not least, Gazprom's insistence to keep oil indexation has been met with increasing levels of misunderstanding from Western partners. The reduced volumes delivered between October 2014 and March 2015 without sufficient communication also contributed to the loss of trust (see Figure 12 and previous section, p. 39). However, since the second quarter in 2015, trade volumes have followed price signals, indicating market-based transactions.

From a Russian standpoint, questions about the reliability of export flows are inappropriate, since Russia considers itself a reliable supplier. Furthermore, the Russian economy is highly dependent on hydrocarbon material exports for both its fiscal health and GDP. It is in the self-interest of the country to maintain gas trade with Germany. In fact, given the decreasing exports to Ukraine and the shrinking share in the domestic Russian market, Gazprom must rely even more on Germany as its major market, in relative terms (see Figure 13, p. 41).

Germany is becoming a hub for (Russian) gas among the EU markets. As aggregated figures from the Bundesamt für Wirtschaft und Ausfuhrkontrolle show, imports over the first half of 2017 increased by 21 per-

cent, and exports by 76 percent.¹⁵⁶ An analysis of the August–September 2017 gas flows from Russia into Germany and the EU illustrates that, since the full utilization of the OPAL pipeline in August 2017, OPAL and Yamal Nord are being used equally – whereas the Ukrainian transit corridor seems to have become a sort of swing capacity for gas transport.¹⁵⁷

Summing Up This Phase

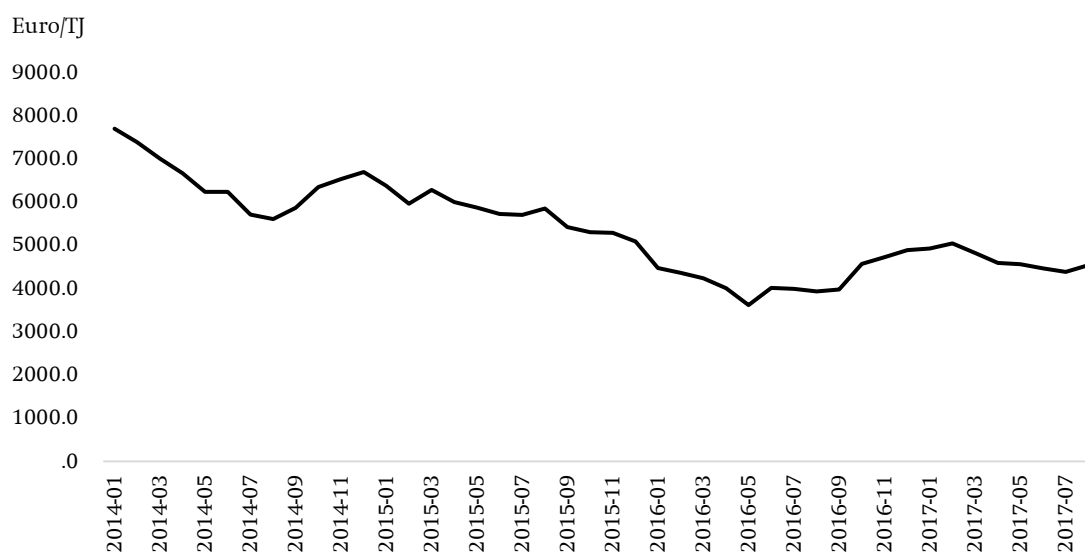
The security conflict in and over Ukraine has had limited implications for the actual German-Russian gas relationship, insofar as the security crisis has not (yet) resulted in an energy crisis. It has shaken up the trust and confidence of actors and observers, though. The "reliability paradigm" has begun to be questioned inside Germany.

Yet, the major impacts on the German-Russian gas relationship stem from other, broader developments, such as the sanctions regime and the economic crisis in Russia. The EU Commission, for its part, aims at moving forward to become a more political actor, not only with the creation of the EU Energy Union, but also vis-à-vis Russia. Among other member states, Poland and Denmark have showed strong opposition. The US sanctions bill of August 2017 is a "sword of Damocles" over gas pipeline projects. As a consequence, the number of intervening factors in the German-Russian gas relationship increased over the course of 2014 up until mid-2017, and Germany's room for maneuver was curtailed, as illustrated in the Nord Stream 2 issue. With geopolitics increasingly interfering in bilateral economic relations, volatility in conducting gas relations has become more evident than in the past. All this is adding to the already high levels of uncertainty and unpredictability shaking up long-term business.

¹⁵⁶ Heiko Lohmann, "Topic of the Month: Gas Flows into Germany", *Energate Gasmarkt*, no. 10 (October 2017): 32.

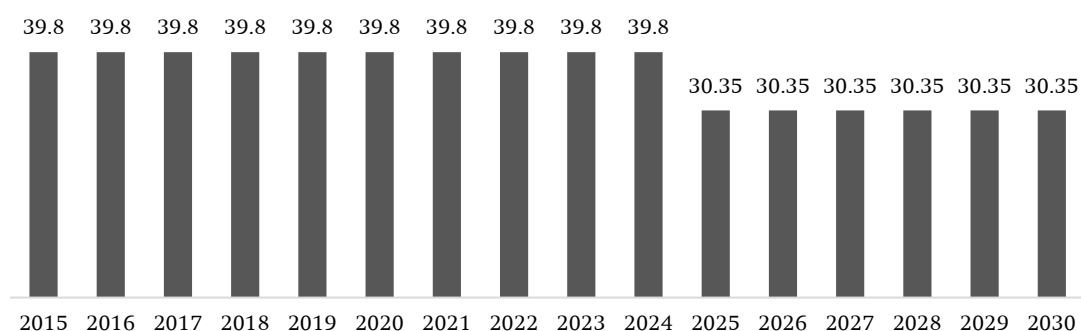
¹⁵⁷ *Ibid.*, 33.

Figure 14
Monthly development of the German border Price



Source: Bundesamt für Wirtschaft und Ausfuhrkontrolle, http://www.bafa.de/DE/Energie/Rohstoffe/Erdgas/erdgas_node.html (accessed 20 October 2017)

Figure 15
Minimal contractual quantities of Russian-German gas supply contracts up to 2030, bcm



Sources: KAPSARC, Nexant WGM November 2016, Cedigaz LNG and pipeline database 2015.

Conclusions and Recommendations

Conclusions: Bilateral Gas Relations and the Impact of the Security Crisis

This paper has analyzed the conducting of German-Russian gas relations at the levels of infrastructure development, trade, business-to-business and commercial ties, as well as political framing.

A recurrent pattern – infrastructure. With regard to infrastructure development, a clear pattern of expansion of the (integrated) pipeline system – in line with the exploration and production of new fields – can be observed for all phases. With the emergence of transit countries after the dissolution of the Soviet Union, the bypassing of Ukraine and the direct link to major markets have become additional drivers. Although Nord Stream 2 can be understood as an expansion of existing ties, it is also a reproduction of a past pattern: bringing the new field Bovanenkovo on-stream, building and modernizing internal Russian gas infrastructure, and building a new export leg. Building a direct, shorter link from the new gas fields on the Yamal Peninsula (as well as new links inside Russia) to the biggest and most important consumer market makes sense for both sides. It also mirrors positive past experiences of extending the integrated gas infrastructure. This aspect is important to emphasize in light of the vast criticism of the project, which is seen as being geopolitically motivated and driving a wedge into the EU. Certainly, Nord Stream 2 was designed to bypass Ukraine, but it is an issue in which geopolitical and economic interests converge in Russia.

Pull factor: Economics, physical flows, and the German hub position. The trade volumes steadily increased till the first decade of the 2000s. Since then, gas volumes have been fluctuating and flattening. As illustrated, trade has followed price signals. Commercial relations therefore reflect market-based strategies but have been subject to some concerns over pricing (mechanisms).

A strong pull factor to maintain – and even expand – the relationship are the shared interests of German and European companies. This has been articulated by Gazprom – together with Uniper, Wintershall, Shell, and Engie – in reviving the idea of running the third and fourth lines of the export route through the Baltic Sea.

From Russia's perspective, Germany is of great interest for at least the following reasons:

- ▶ Germany is Russia's biggest customer;
- ▶ the infrastructure system¹⁵⁸ (both transport and underground storage gas systems) and its geographical position in Europe;
- ▶ the characteristics of the German economy (one of the major industrial nations with strong influence inside the EU);¹⁵⁹
- ▶ the size of the market with relatively high levels of gas consumption (approximately 61 bcm in 1990, increasing to almost 88 bcm in 2016);¹⁶⁰
- ▶ reciprocity of investments and mutual interdependence: German companies have made big investments in the Russian economy, which makes this relationship more symmetrical for Russia;
- ▶ the long-standing political and economic relations, which have given rise to a strong network with a significant channel of influence, both at the German and EU levels (sometimes well beyond the energy and economic spheres).

German companies as well as the German administration share the view that import demand in north-western Europe will increase (because of the decline in domestic production) and that Russian pipeline gas and LNG will have to fill this import gap.¹⁶¹ One option might be to import LNG via neighbors, but it

158 475,000 km in length (including approximately a 30,000 km high-pressure transmission network).

159 The German model is essentially based on exports (92 percent of exports are industrial goods). The "Mittelstand" forms the foundation of the German economy and is responsible for the bulk of revenues. According to data published by Germany Trade & Invest, almost 10 percent of Europe's manufacturing companies are German, and generate alone about 30 percent of EU's gross value added in manufacturing.

160 Statista 2017, *Erdgasverbrauch in Deutschland in den Jahren von 1980 bis 2016 (in Milliarden Kubikmeter)* [Natural Gas Consumption in Germany between 1980 and 2016 (in bcm)], <https://de.statista.com/statistik/daten/studie/41033/umfrage/deutschland-erdgasverbrauch-in-milliarden-kubikmeter/>.

161 ewi Energy Research & Scenarios gGmbH and European Centre for Energy and Resource Security (EUCERS), *Final Report. Options for Gas Supply Diversification for the EU and Germany in the Next Two Decades* (Cologne and London, October 2016), <http://www.ewi.research-scenarios.de/cms/wp-content/uploads/2016/10/Options-for-Gas-Supply-Diversification.pdf>.

seems that Germany is more likely to fill the gap with Russian gas. Furthermore, Nord Stream 2 is of great interest for Germany, since it would increase liquidity on the wholesale markets, stimulate competition, and strengthen futures and spot markets – a situation that would boost the Dutch TTF hub as well as the German Gaspool hub by increasing physical trading volumes.¹⁶² Even if the German hub were to remain smaller than Europe's leading gas hubs in the Netherlands and the United Kingdom, it means increasing pressure on gas prices, thus favoring not only gas availability in the German economy, but also its greater affordability.

Loss of a long-term vision and increasing unpredictability. The major change on the commercial and economic sides stems from the loss of a long-term vision. This has both political and structural reasons. On the one hand, the German *Energiewende* of 2011, backed by the Paris Agreement on Climate Change in 2015, questions the use of fossil fuels in the long term anyway. But with the national climate action plan of November 2016, the time span is even more short-term, given the strategy of sector-coupling and electrification,¹⁶³ and given the fact that gas remains a blind spot in the *Energiewende*. On the other hand, Russia has a systemic need for long-term prospects because of high upfront investment costs in exploration, production, and infrastructure.

(Geo)political and regulatory uncertainty. For the gas market itself, the most incisive change was the adoption of the Third Internal Market Package in 2009. This process of transformation is ongoing. Structurally, the EU has unilaterally changed the regulatory framework, inducing more short-term elements. The outcome increased institutional mismatches at the regulatory, contractual, and commercial levels. In Germany, former partners in the bilateral gas trade disappeared, or at least were transformed over time. The balance of the past was shaken up. This resulted in a lot of criticism in Russia. As a consequence, communication became more difficult and transaction costs increased. This was even aggravated by the generational changes in the staff and management of the companies, which added to the complication. The

“first generation of the pioneers” were pensioned, and management also changed with the restructuring in German companies. This has changed roles and business models (from Ruhrgas to E.ON to Uniper and possibly Fortum¹⁶⁴) as well as the congruency of time frames for transactions between German and Russian gas businesses. Although Gazprom still has to do long-term planning, traders and importers are increasingly pursuing much shorter-term transactions in their portfolio optimization and trading business. The existing long-term contracts between Gazprom and German companies will remain a stabilizing factor till 2035. Yet, a (common) long-term perspective and vision is lacking.

Inside the EU, the question is no longer only about the creation of an internal market, but also about its relationship with Russia. Politics seem to predetermine legal, regulatory, and economic considerations. The Commission is looking into taking a stronger political role, which is a step forward toward creating the EU Energy Union. How the competences between Brussels, the member states, and the gas undertakings will be balanced is not entirely clear. Further limiting Berlin's room for maneuver are the increasing levels of regional cooperation in security of gas supply matters as well as discussions over a new and adapted gas market design beyond the full implementation of the Third Energy Package. Regulatory and political uncertainty is adding to a less predictable future for gas demand in Europe. The “geopolitical burden” on natural gas stems from Russia's strong position in the natural gas market in the EU. Russia's natural resource endowment in such close proximity to the EU is no longer seen without bias as being an asset to the EU or Germany.

Germany has been criticized on many occasions for placing its economic interests first, at the expense of the EU, whereas Russia has been perceived as trying to weaken the EU by using German-Russian ties. The paradigm of Russia's reliability as a supplier is openly being questioned with regard to future relations. Even if a minimum consensus across major political mainstream parties persists for maintaining *existing* relations, a further expansion and deepening of the ties (via Nord Stream 2) is openly being criticized in political discussions. The project also obstructs the view on day-to-day gas relations, which have been subject to

¹⁶² Aurélie Bros, *Nord Stream 2: dans la peau de Gazprom* [Nord Stream 2: Being Gazprom], 7 September 2016, Observatoire franco russe.

¹⁶³ Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit, *Klimaschutzplan 2050* [Climate Protection Plan 2050] (Berlin, 5 October 2017), <http://www.bmub.bund.de/themen/klima-energie/klimaschutz/nationale-klimapolitik/klimaschutzplan-2050/>.

¹⁶⁴ At the time of writing in November 2017, there were strong signs for a takeover of Uniper by the Finnish utility Fortum.

fundamental changes during the past 10 years. In that respect, gas supplies from Russia are perceived by some as jeopardizing major national interests and values, and thus running against energy security, according to Daniel Yergin's definition.¹⁶⁵

An "energy security dilemma" endangering business?

A connection between energy and foreign policy considerations is being made by Russia and the EU. Both sides have used energy as a tool and a means to exert influence, back foreign policy decisions, and exert pressure. On the Russian side, the moves that were made on Ukrainian transit and Nord Stream as well as the supply shortages in winter 2014/2015 can be taken as examples. On the side of the EU, the OPAL and Nord Stream pipelines provide ample evidence of prevailing political considerations. At the same time, the re-balancing of Russian companies toward Europe shows that securing market share is of vital economic importance for Gazprom and Russia. However, these moves are not being met with pragmatism in the EU; they are seen rather as being intrinsically linked to market dominance and political vulnerability.

This is reinforcing a certain "energy security dilemma" on both sides. The EU's "securitization" approach to natural gas relations is antagonistic to Russia's approach of rent-maximization, as it implies diversification away from Russia. Both sides are increasingly uncertain about the political moves of the other, which is increasing the levels of nervousness and sensitivity for risks and threats, resulting in even more "securitization." Germany will have to delicately balance economic interests and political values while becoming a hub for Russian gas. Moreover, the proof has yet to be given that the risk of partial and short-term cuts does not increase for Germany in times of geopolitical crises (see section Conceptualization and Terminology, p. 8) and in an environment of less well-supplied gas markets in the future. Finally, both Russia and Germany belong to the emerging integrated markets of the Eurasian Economic Union and the EU, respectively. An encompassing perspective on the "infrastructured" space is lost, and the risks for regulatory and political fault lines is virulent.

"Intervening factors" and "unendurable uncertainty"?

When looking at the period since the crisis in and over Ukraine, the list of intervening factors outside natural gas relations that may heavily impact on future gas relations and that are outside the sole competence of Russia and Germany has increased. Till 2017, Brussels

and individual EU member states have been the major intervening factors; since 2017 the US sanctions regime has posed a new threat to German-Russian gas trade. This all contributes to uncertainty and unpredictability for economic activity. This, in turn, makes natural gas relations less immune to political interventions, and it limits the room for maneuver of the German government.

Outlook and Recommendations

At the time of writing (November 2017), the search for a new government since the German parliamentary elections in September is ongoing, and presidential elections in Russia are upcoming in March 2018, which adds to the fluidity and unpredictability. In addition, the future shape of major German companies is uncertain with the takeover bid for Uniper by Finland's Fortum and the planned merger of BASF's Wintershall and DEA, which is owned by LetterOne. LetterOne was co-founded by Mikhail Fridman, a Russian businessman. Finally, former genuine 'German' players that had a certain commitment and connection with the German market and economy would be weakened or even disappear. This could have implications for German-Russian gas relations, as it might further change the balance of (market) power between companies.

Our first recommendation to all sides is to foster dialogue at all levels¹⁶⁶ in order to exchange views on the future of natural gas and trade. Even if political relations have continually oscillated, natural gas relations have been fairly stable and have not suffered too much from divisions and criticism – proof that, up until now, high political tensions have not dramatically affected the business. The most major security crisis on the European continent since the Cold War has not resulted in an energy crisis. Yet, it should not be taken as a foregone conclusion that business-as-usual will continue. There are many uncertainties that may play out, and these may converge with broader political developments and produce unexpected, unintended, and risky outcomes. Because natural gas relations have been a cornerstone of high political relevance, the fallout of deteriorating gas relations could have negative effects on difficult bilateral political

¹⁶⁵ Yergin, "Energy Security" (see note 17).

¹⁶⁶ These recommendations are based on Tatiana Mitrova, Kirsten Westphal et al., *Position Paper on EU-Russia Energy Relations. Constructive Reset and Continuity*, 21 December 2015.

relations. It seems prudent to hedge the existing risks as much as possible and to work on a “code of conduct” for a business-based gas trade.

Nord Stream 2 stands as a symbol and synonym for “the sake – and make or break – of the relationship.” This is making business-as-usual more difficult and delicate. It would be desirable to find a face-saving solution for all sides. As far as possible, day-to-day gas relations should be ring-fenced as a value per se, linking the two economies and societies. Trust has to be built up.

Our second recommendation, and a very fundamental one, is to strengthen market-based approaches and multilateral governance. This requires a pragmatic and less “ideologized” approach in Germany than in the past. The idea of functional rapprochement and modernization should be less emphasized, but instead an interest-based approach to gas trade as a stabilizing factor in the relations and as a factor to increase the costs of eroding the relationship should be promoted. In Russia, strong economic drivers were (and still are) accompanied by significant geopolitical components; since the beginning of this cooperation, Russia has always regarded Germany as its major strategic ally in the EU and has tried to strengthen this relationship. Close German-Russian dialogue and cooperation to craft stable natural gas relations is necessary to maintain this channel. Natural gas is certainly not the only area for energy cooperation, but it is a decisive one. If conflict arises here, negative spillovers could further complicate the situation. As geopolitical moves threaten economic rationales, both sides should refrain from geopolitics. This postulation addresses both sides, Russia and the EU. Germany should therefore stick to its support for a market-based gas policy inside the EU. It should not be forgotten that, in Germany, a securitization of gas imports – as pursued by other member states – would imply something other than mere commercial steps, which would go far beyond the tools and instruments that the German government has on hand. In Germany, energy security is first and foremost the responsibility of private commercial entities.

Our third recommendation is to accommodate German-Russian gas relations with the EU Energy Union and the Eurasian Economic Union. The regulatory frameworks of the EU and the Eurasian Economic Union are unfinished and disconnected. This adds to the uncertainty but provides opportunities for cooperation as well.

The EU and its desire for an Energy Union – a major project of Jean-Claude Juncker’s Commission – has to

be supported through German energy policy moves if Germany wants to show an interest in European cohesion and solidarity. Russia is striving within the Eurasian Economic Union to create a common gas market in 2025. This opens new areas for institutional and regulatory cooperation and should be exploited. Moreover, legal and regulatory fault lines should be avoided through corresponding rules and norms. An EU-Eurasian Advisory Council could be founded to deal with these issues.

Our fourth recommendation is to reframe German/EU-Russian gas relations. The EU has embarked on an ambitious decarbonization policy that prioritizes energy efficiency and low-carbon fuels over the long term. This policy does not match Russian interests of maintaining sizeable exports of hydrocarbons to the EU. Climate issues are not a high priority on the Russian political agenda. Natural gas has not been identified as a transitional solution to decarbonization but is rather perceived in the EU as a problem directly connected to imports of Russian gas. Yet, gas is one of the most important pillars of Russia’s energy export policy. Russia expects special treatment as the EU’s largest supplier. The EU Energy Union strategy, in turn, lacks a common, congruent approach toward major energy partners. This is a starting point to engage in new discussions about the role of natural gas in decarbonization and the pathways offered by more efficiency, biomethane, power-to-gas, and gas.

Fifth, traditional “big” natural gas projects should be supported by smaller, innovative lighthouse projects: biogas, cooperation with fighting methane leakage, and improving efficiency of gas use.¹⁶⁷ It is important not only to sustain existing relations, but also to adapt them to the changing conditions in the EU. It is also important to look for new models of cooperation (including new financial models) and, possibly, for new partnerships and stakeholders, both in Russia (independent gas producers, power generators, municipalities, startups) and in Germany. New initiatives and creative ideas are required to build up mutually attractive and beneficial partnerships.

¹⁶⁷ Energy relations should also be broadened. See: Denis Chukanov, Petra Opitz, Maria Pastukhova, Gianguido Piani, and Kirsten Westphal, *Renewable Energy and Decentralized Power Generation in Russia. An Opportunity for German-Russian Energy Cooperation*, SWP Comments 45/2017 (Berlin: Stiftung Wissenschaft und Politik, November 2017).

Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
AGEB	Arbeitsgemeinschaft Energiebilanzen (Working Group on Energy Balances)
bcm	billion cubic meters
BMWi	Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economic Affairs and Energy)
COMECON	Council for Mutual Economic Assistance
EEU	Eurasian Economic Union
ENTSO-G	European Network of Transmission System Operators for Gas
EU	European Union
FOI	Totalförsvarets forskningsinstitut (Swedish Defense Research Agency)
FRG	Federal Republic of Germany
FRS	Fondation pour la Recherche Stratégique (Foundation for Strategic Research, Paris)
GDP	gross domestic product
GDR	German Democratic Republic
IEA	International Energy Agency
IFRI	Institut Français des Relations Internationales (French Institute of International Relations, Paris)
IMF	International Monetary Fund
LBEG	Landesamt für Bergbau, Energie und Geologie (State Office for Mining, Energy and Geology, Hannover)
LNG	liquefied natural gas
LTC	long-term gas supply contract
NEL	Nordeuropäische Gasleitung (Northern European Natural Gas Pipeline)
OIES	Oxford Institute for Energy Studies
OPAL	Ostsee-Pipeline-Anbindungsleitung
OSW	Ośrodek Studiów Wschodnich (Centre for Eastern Studies)
RUDEA	Russian-German Energy Agency
SITC	Standard International Trade Classification
TEN	Trans-European Networks
TTF	title transfer facility
WIEE	Wintershall Erdgas Handelshaus Zug AG
WIEH	Wintershall Erdgas Handelshaus GmbH & Co. KG