

# **New Gas Game Rule: The China-Russia Deal and Its Implications for Europe**

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## **1. Introduction**

Europe is the biggest market for Russian gas and Russia is the largest supplier of gas to Europe. Abrupt disruption to these supplies is mutually destructive. Understanding this, both parts are trying to reduce dependence on each other. Europe is seeking piecemeal solutions such as more LNG, hydro power from Norway, greater spending on renewable and a re-think on nuclear. Russia takes meaningful steps to “look East” and develop Asian markets. On 21 May 2014, China and Russia signed a \$400 billion gas supply deal, which opens up a new market for Russia as it risks losing European customers over the Ukraine crisis. Will the China-Russia gas deal have serious impacts on EU energy supply and energy structure? How should Europe respond to the deal? What actions shall Europe take to effectively reduce its dependence on gas imports from Russia? This paper addresses these questions by analysing the Russia-Europe energy relations and the Russia-China energy relations, and concludes that the deal will not make a big impact. In the last section, the paper gives suggestions for the EU to enhance its gas/energy security.

## **2. Russia-Europe energy relations**

Russia and Europe are mutually dependent in the sphere of energy, especially natural gas (Götz 2008; European Commission 2009). The interdependency is constituted by two facts. First, Russia’s gas exports to Europe are locked into a fixed network of pipelines. Russia has only one LNG terminal that is located in its Far East at Sakhalin (Global LNG Info 2014), yet the terminal is used for deliveries to the Asia Pacific region. The fixed pipeline gas deliveries from Russia to Europe leaves both sides vulnerable to the threat of transit interruptions (Stern, 2006; Pirani, Stern and Yafimava 2009). That is to say, the fixed network of pipelines binds Europe and Russia close in their gas relationship and constitutes the situation of interdependency. Second, Russia holds the largest natural gas reserves in the world, with 48 trillion cubic meters (tcm) as of January 1, 2013. As a major producer and exporter of natural gas, Russia’s economy continues to be driven by energy exports. About 76% of its natural gas export has been delivered to Europe (Energy Information Administration 2014b). Hence, Russia is basically dependent on a single market ---the Europe--- for its gas exports. Europe is also highly dependent on Russia for gas supply. Europe’s pipeline gas imports reached 377.2 billion cubic meters (bcm) in 2012, of which 130.0 bcm, or 34%, were supplied by Russia (BP Statistical Review 2013).

Besides the interdependence on gas trade, it appears that Russia relies more on Europe rather than the other way round. Gazprom, the state-run legal monopoly on Russian gas exports, relies on gas exports to Europe to allow the company to earn revenues that can compensate for its

loss-generating domestic market and thus to make a long-run marginal profit on its overall operations (Goldthau 2008). In 2013, domestic gas sales accounted for 51% of Gazprom's sales by volume, but just 27% of its total sales by revenue. In contrast, gas sales to Europe accounted for 37% of sales by volume, but 57% of Gazprom's total sales by revenue (Gazprom 2014). The reason for the imbalance is the difference in price between its domestic and overseas gas sales. Since domestic price is set low in Russia, gas sales to Europe are crucial for Gazprom to sell gas at low prices domestically. In other words, domestic subsidies are a very costly obligation for Gazprom, especially when Russia's huge domestic energy consumption is concerned (Belyi 2011). Since the Europe natural gas consumption generates more than half of Gazprom's annual earnings, gas sales to Europe are crucial both for Russia's 'external' energy security and for its 'internal' energy security as well.

Despite the importance of Europe as a strategic market for Russian gas exports, more challenges for the EU have been rising as it will continue to need reliable gas supplies. The challenges are two folded. First, EU natural gas production will decline. Although prospects for shale gas remain, commercial production is not in sight in view of first drilling results in Poland, which is regarded as having the most potential for shale gas development in Europe. Further, Poland's shale gas reserves were downsized substantially from initial estimates of about 4.1 tcm to about 1.9 tcm, with the most likely amount set at 346 bcm and 768 bcm (Kruk 2012). Second, Russia's gas transit dispute with Ukraine, the key transit route for Russian gas flowing into Europe, led to EU's non-confidence for Russia. Since Russia and Ukraine failed to agree on new contracts in early 2006 for Russian gas sales to Ukraine and for the transit of Russian gas across Ukrainian territory, Russia halted gas deliveries to Ukraine and Ukraine halted the transit of Russian gas to Western Europe (Stern 2006). This dispute had a deep impact on European perceptions of Russia as a reliable energy supplier. The non-confidence has been rising since then. What makes the situation even worse is that more than half of the Russian gas exports passed through Ukraine in 2013 (Chazan 2014), yet after Russia annexed Crimea in March 2014 and the West began imposing sanctions on Moscow, Europe is once again forced to face up to the extent of its dependence on Russian gas exports.

Both Europe and Russia have tried to reduce such interdependency. For instance, although there is currently no commercial production of shale gas, the European Commission has stated that commercial drilling could commence in 2015. In the meantime, explorative drilling is currently taking place in the UK, Poland, Germany, Romania, Denmark and Hungary in order to confirm Europe's potential reserves (Shale Gas Europe 2014). Further, the countries that are almost totally reliant on Russia gas, such as the Baltic States, have attempted to diversify their gas suppliers. Lithuania has built a \$330m floating LNG import terminal that will start working by the end of 2014. Poland is also expected to complete a large LNG terminal in 2014 (Chazan 2014). On the Russia side, the *Energy Strategy of Russia: For the Period up to 2030* acknowledges Russian dependence on Europe, and proposes reducing such dependency by increasing the share of the Asia Pacific region in its gas exports to 20% by 2030. In the long term,

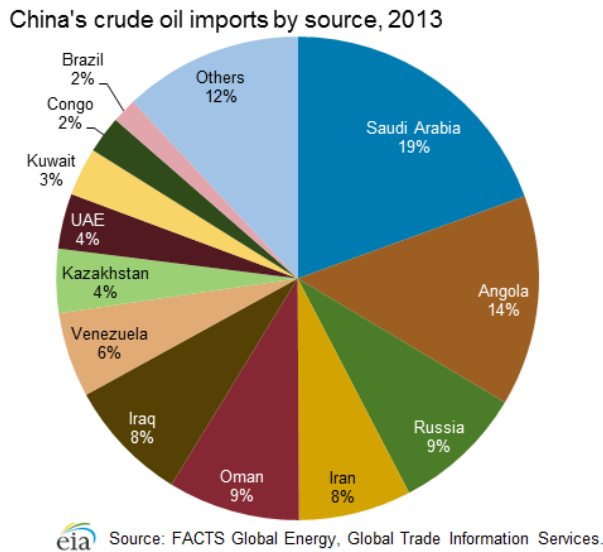
it is possible that increased Russian gas exports to the Asia Pacific region in line with projections in *Energy Strategy of Russia* could further reduce Russia's dependence on the EU as an export market (Institute of Energy Strategy 2010). To positively increase its gas exports to the Asia Pacific, Russia has entered into an agreement with China to supply the latter 38 bcm of gas annually over a 30-year period, which is discussed in the following sections.

Having said these, the interdependence is very much likely to continue. On the one hand, even if the Russia-EU relation worsens due to the current Ukraine Crisis, there is little danger of a complete and long-term cut in gas supplies to Europe, since Russia will still heavily depend on revenues from the EU market. On the other hand, although Europe could reduce its reliance on Russian gas by cutting gas consumption or using more alternatives, neither of these appear to happen soon. Russia provided 30% of Europe's gas consumption in 2013. It is predicted that Europe's gas demand will rise to 575 bcm in 2030 and to 640 bcm in 2040, and Russia is expected to continue to supply about 30% of the demand (Washington, 2014b, 5). Therefore, both Russia and Europe have strong economic incentives to avoid conflicting energy relations with each other and have a strong imperative to frame energy relations in a relatively cooperative rather than uncooperative manner.

### **3. Russia-China energy relations**

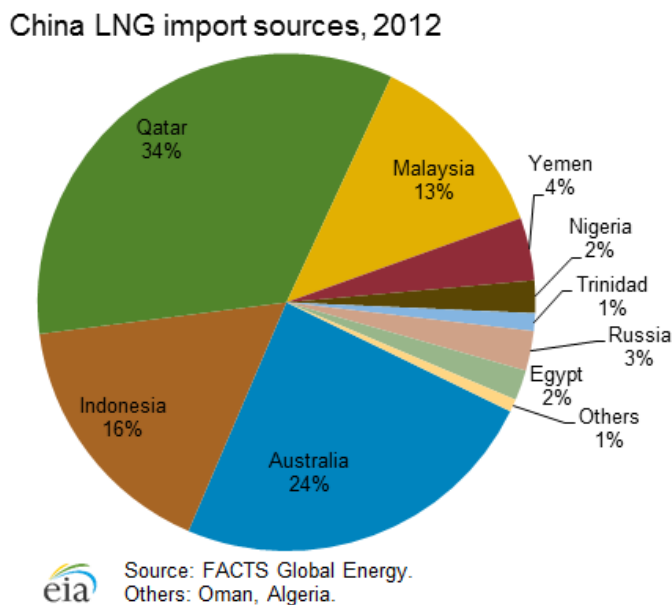
China and Russia share a long list of mutual interests, from the need to maintain domestic stability to a common desire to prevent the proliferation of weapons of mass destruction. In the energy sphere, China and Russia also have many interests in common. Along with its fast growing economy, China became the world's second-largest net importer of crude oil and petroleum products in 2009. In 2013, its oil consumption growth accounted for one-third of the world's share. Its natural gas demand has also risen substantially (Energy Information Administration 2014a). Russia, China's neighbor, has abundant energy resources. It is a major producer and exporter of oil and natural gas, with its economy largely dependent on energy exports. Further, shared border between China and Russia also offers numerous transportation options (Energy Information Administration 2014b). Yet energy cooperation between China and Russia is modest. In the oil sector, the Middle East remains the largest source of China's crude oil imports. Russia's share of China's total crude oil imports was only 9% in 2013, following Saudi Arabia (19%) and Angola (14%). In the natural gas sector, Russia's share is even less. Major LNG import sources are from Qatar, Australia, and Indonesia. Russia only accounted for 3% of China's total LNG imports in 2012 (Energy Information Administration 2014a). Figure 1 shows China's crude oil imports by source. Figure 2 illustrates China's LNG imports sources. All these data suggests large potential of energy cooperation between the two countries.

Figure 1: China's crude oil imports by source



Source: (Energy Information Administration 2014a)

Figure 2: China's LNG imports by source

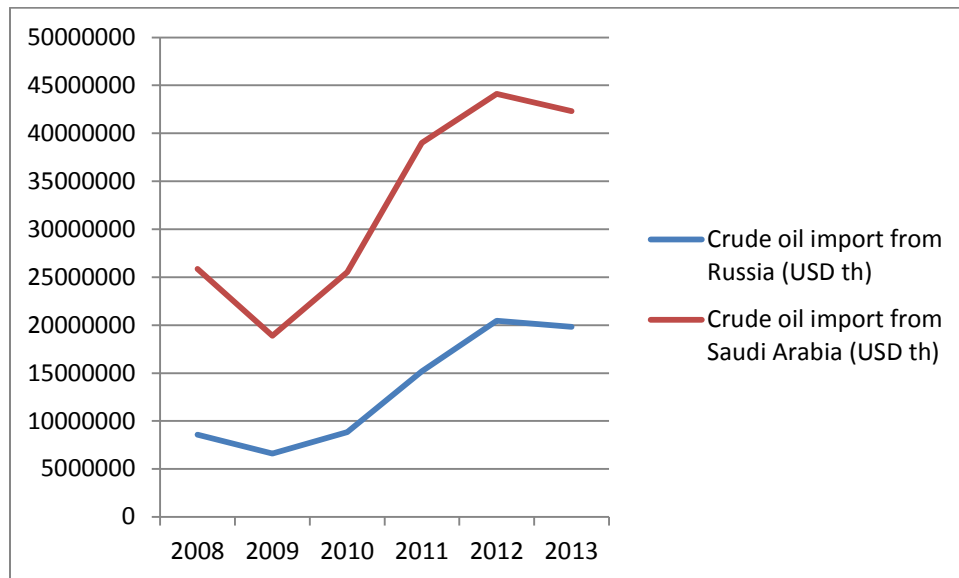


Source: (Energy Information Administration 2014a)

Despite the large potential, energy cooperation between China and Russia has experienced many 'twists and turns'. In the oil sector, as a result of China's growing needs, oil imports from Russia grew from 8,589,436 thousand USD in 2008 to 19,823,872 thousand USD in 2013, yet the total imports from Russia are still much lower than from Saudi Arabia. Figure 3 shows the imports comparison of the two countries. Gas trade between China and Russia is even less

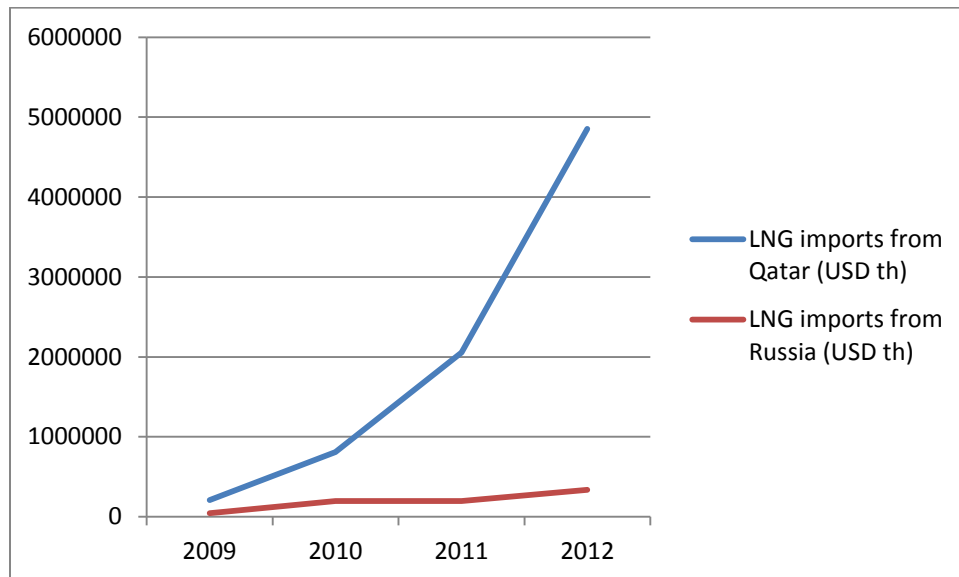
developed. Figure 4 shows that LNG imports from Russia are low, and have been increasing very little since 2009, compared to the fast rise of LNG imports from Qatar.

Figure 3: Crude oil imports from Russia and Saudi Arabia



Source: General Administration of Customs, 2014.

Figure 4: LNG imports from Russia and Qatar

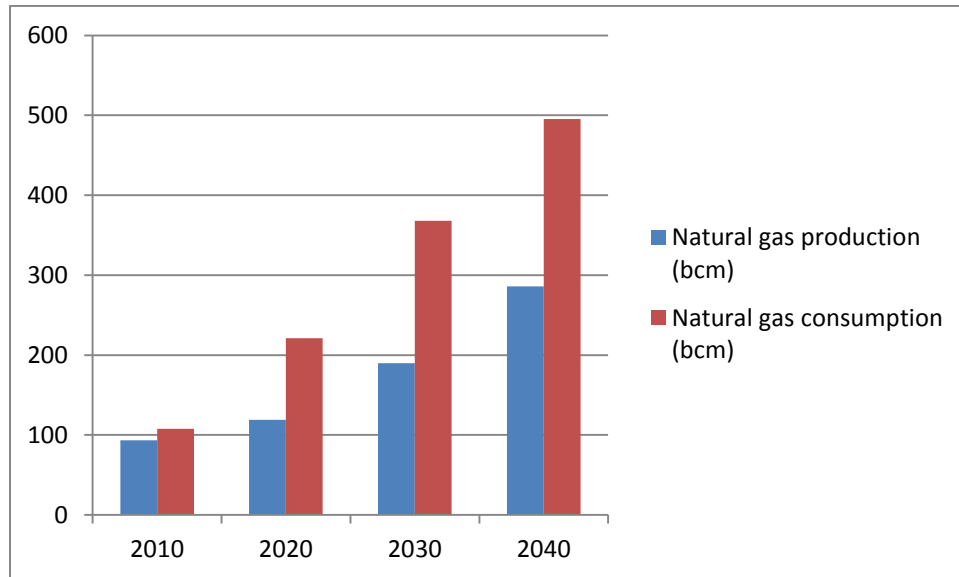


Source: General Administration of Customs, 2014.

China can no longer meet its rising gas demand with domestic production. In 2010 China produced 93 bcm of natural gas but consumed 108 bcm. The US Energy Information Administration estimates that by 2040, annual consumption will reach 496 bcm while production will be 286 bcm. China will have to import 210 bcm of natural gas. Figure 5 shows

the projection of China's natural gas production and consumption up to 2040. As Russia has the world's largest natural gas reserves, the two countries have huge potential to be 'perfectly matched natural gas partners'.

Figure 5: China natural gas production and consumption



Source: US Energy Information Administration, 2013.

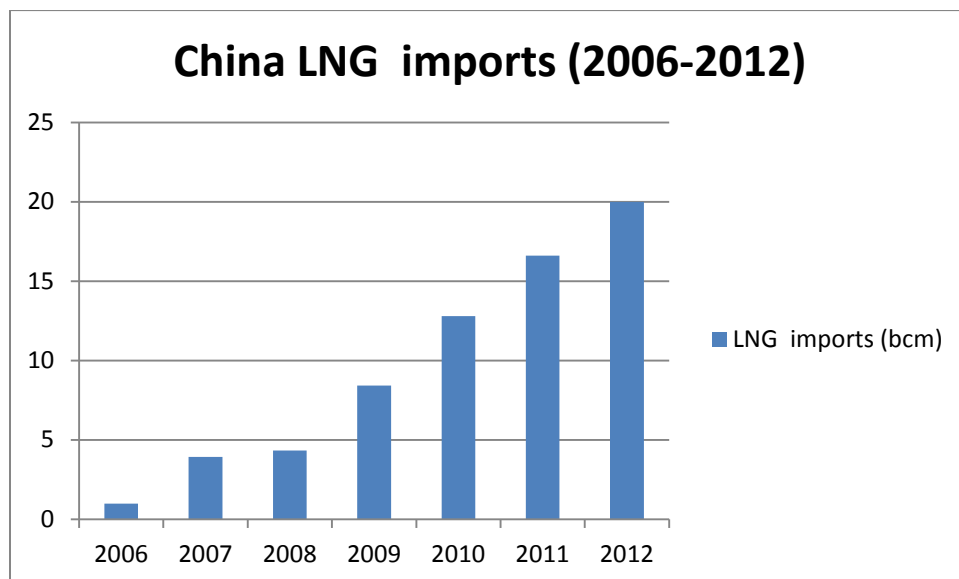
The negotiation on the gas contract between China and Russia already began a decade ago. The two countries have been trying to construct two pipelines for gas trading. One is the western line initiated in 2006 (the Altai project). This line was planned to connect to China's Central Asia pipeline in Xinjiang province. The other is the eastern line from Sakhalin Island to the Northeast China initiated in 2009 (Yue, Wu and Xu 2010). However, both projects had only existed on paper until early 2014 when China and Russia signed the gas supply contract. The delay is mainly due to disagreement between China and Russia on gas price. Russia insisted to set prices according to the European levels, whereas China was willing to pay Chinese domestic market price, as China lies close to Russia's natural gas fields and there were no transit fees that had to be paid to Ukraine government for gas exports to Europe.

In 2014, China has already accumulated more leverage in negotiation largely due to its efforts in diversifying gas imports. First, China has concluded gas pipeline deal with a number of Central Asian states, which has broken Russia's monopoly over gas transport in the region (Miao 2006). Along with its booming economy and increasing appetite for energy, China needed Central Asia for energy supply. As a connecting factor, the Turkmenistan–Uzbekistan–Kazakhstan–China gas pipeline was started in 2007 and completed in 2009. Particularly, in Turkmenistan, China has been seeking to monopolize its natural gas exports. A 30-year contract was signed in 2006 to deliver Turkmen gas. In December 2009 the first branch of the Turkmenistan–Uzbekistan–Kazakhstan gas pipeline became operational, with a throughput of 13

bcm per year. In 2009, China gave Turkmenistan a US\$3 billion loan to develop a gas deposit. In 2010, a US\$4 billion loan was added to complete the first stage of this project (Orozobekova 2011). In 2010, China concluded a natural gas deal with Kazakhstan, using a spur line to the Central Asia–China gas pipeline; it also signed a deal with Uzbekistan to buy 10 bcm of natural gas every year (Wan 2010). In 2013, a 700-mile pipeline project was initiated in Kazakhstan to transport gas from the Caspian Sea in western Kazakhstan to the south, which would then be connected to the vast Central Asia-China pipeline in Turkmenistan (Perlez 2013).

Second, besides the transnational pipeline projects, China also has increased LNG imports. The following figure 6 shows the fast increase of China's LNG imports. In 2006, China only imported about 1 bcm of LNG, yet within six years the imports grew to about 20 bcm. The diversification of natural gas imports has decreased China's need for Russian gas. To summarize, Russia's negotiating position in gas cooperation has been weakened by China's success in finding other gas partners (such as the Central Asian countries) and by its diversification of imported natural gas sources. Finally, when Russia and China signed a gas supply contract in May 2014 that would deliver gas 38 bcm annually over a 30-year period via the eastern line from eastern Siberia to the Heilongjiang Province of China, the deal would be more important to Russia than China. The following section discusses the deal of gas cooperation with the conclusion that the deal is just one of Russia's measures to reduce its dependency on EU for gas revenues. The deal will not seriously affect the EU energy supply, but only push EU to identify alternative gas sources.

Figure 6: China LNG imports



Source: BP Statistical Review, various years.

#### **4. The impact of the China-Russia gas deal**

Following the above discussion, the China-Russia gas deal will not fully replace Europe with China. Compared to the 161.5 bcm of gas Russia exported to Europe in 2013, the 38 bcm it plans to export to China as part of the deal is quite small. The price concession Russia has made to China will only keep the more lucrative exports to Europe much more attractive. In one sentence, Russia still heavily depends on Europe for its gas earnings. The gas deal, or Russia's turning to the East for other gas customers, does not necessarily mean that it is very urgent for the EU to look for new gas suppliers or diversify its energy sources (Lain 2014). The deal is hence more political than economic for Russia. Due to the crisis over Ukraine and the sanctions by the West, Russia is in urgent need of an agreement as they want to show that they are still a great power that can play against the US.

On the EU side, it is unlikely that it would reduce its reliance on Russian gas in the near future. First, reducing the reliance would need either a big reduction in EU's overall gas demand or a markedly increase in alternative energy sources. However, neither of these two scenarios seems to take place soon. As a result, the EU could at best avoid significantly increasing its gas imports from Russia, rather than notably reducing its dependence (Washington 2014a). A recent typical example is that, even if in light of the Ukraine crisis, the EU sanctions imposed on the Russian energy sector will only include oil companies, and sidestep Russian gas sector (Walstad, Savateeva and Yulina 2014). Second, different member states of EU rely on different energy resources. For example, some states heavily rely on nuclear energy, such as France, Finland, and the UK, while others are very cautious about nuclear, such as Germany, Austria, and Denmark. Similarly, the heterogeneity of energy production leads to different levels of vulnerability towards imports of Russian gas. Some states heavily rely on the Russian gas, such as Finland, Estonia, Latvia, Lithuania, Slovakia and Romania; some have medium level of dependence, such as Italy, France and Germany; others almost do not rely on its gas, such as Denmark and UK (Youngs 2009). Therefore, it is difficult to develop a common approach towards Russian gas.

At least in the near to medium term, it is hardly possible for Russia to replace Europe as the main destination of its natural gas exports. It is also unlikely that the EU will direct natural gas imports away from Russia to other gas rich countries. Although the energy relations between Russia and Europe are currently difficult, it is likely that Russia and Europe will remain bound together by natural gas. This interdependency makes Europe and Russia as uneasy, yet still essential partners. The following section gives suggestions to EU in light of the continuation of such partnership.

#### **5. Suggestions for further actions of Europe**

Little is likely to change in the near and medium term. The deep energy relationship between Europe and Russia is unlikely to be severed. Europe will continue to be a significant gas importer



for Russia, and Russia will remain a key gas supplier for Europe. In fact, Russia and Europe have already acknowledged their interdependence. A longer-term commitment is reflected in the “Common Understanding on the Roadmap of the EU-Russia Energy Cooperation until 2050” signed in 2011 (European Commission 2011). Therefore, the China-Russia gas deal is just one of Russia’s measures to reduce its dependence on EU in terms of its gas export diversification. Correspondingly, EU shall reduce its dependence on Russia in terms of its gas import diversification. Europe shall continue to seek energy supply diversity. Diversification of gas supplies is of its key interest. An effective measure is to replace some of the Russian piped-gas supply with LNG imports. Europe has the capacity to accommodate about 200 bcm of LNG per year, yet only about 20% is in use (The Economist 2014). In 2013, Europe’s net imports of LNG were about 48 bcm, the lowest since 2004 (Chazan 2014). The small amount of imports has made the LNG producers direct production away from Europe to Asia. Europe should increase their LNG imports. Thus, it could be seen a decline in gas supply from Russia to Europe in the long-run.

Further, instead of confronting each other, Europe and Russia should engage in a dialogue in order to smooth the progress of their partnership and hence facilitate their energy security. For this purpose, the dialogue could cover the issues such as more flexible pricing and a coordinated approach to infrastructure development that allows for steady supply, which will allow for stability for both sides as they gradually adapt to the evolving energy markets (Chow and Hudson 2013). In fact, energy dialogue between the Europe and Russia already began in 2000. The problem is that Russia and the Europe “have a mutual interest in the dialogue, but each pursues its own agenda” (Romanova 2008, 76). Therefore, the energy dialogue has not produced fruitful results in the Russia-Europe energy relations. As gas remains the most contentious topic, the dialogue could include a wide range of gas experts from both sides to allow for more continuity in the dialogue and to make for more informed exchange of opinions. Hence, the dialogue, via the topic of gas, could produce more trust-building and transparency. With a clearly defined topic and purpose, the dialogue can be more productive. In this case, there remains the hope that Russia and Europe will be able to overcome the difficulties of the past decade and renew their mutually beneficial energy relationship.

An effective measure to cut Europe’s gas imports is reducing demand and promotes greater energy efficiency, which is achievable quickly. For example, retrofitting double glazing and insulation to the existing buildings could reduce energy demand for heating. Another equally effective measure would be upgrading and expanding district heating: networks which transport heat from power plants to residential and commercial buildings. District heating is widespread in Europe, but the heating networks in Central and Eastern Europe lose up to 50% of the heat during transport as most of the networks are old and inefficient (Tindale 2014). Besides effective recovery of heat losses, it is crucial to encourage new production capacity and infrastructures to replace old equipment in the industrial sector. It is also crucial to introduce traffic management measure in the transport sector as it represents 32% of final energy consumption in the Europe

(European Union 2011). Further, as Western Europe is technologically advanced, a strategy of energy efficiency technology development shall be pursued to save energy. This can not only make Europe more independent from resource imports, but also offer the opportunity for it to become a leader in new technologies.

A fully liberalized and competitive internal gas market needs to be established to enhance European energy security and to yield increased energy solidarity, which is also the basis for a common external energy policy. For the purpose of establishing a competitive internal energy market, the European Commission has already issued three packages of directives. The First Package issued in the mid-1990s is mainly concerned with gas and electricity transit through Europe. The Second Package introduced in the early 2000s attempts to liberalize energy supply and production. The Third Package issued in 2007 introduces the concept of 'ownership unbundling' to significantly further promote liberalization. Here the 'unbundling' can be defined as the "separation of production, transportation and distribution functions in a vertically integrated company" (Pick 2012, 330). This is not easy for all the European countries as business interests are often guided by the short-term economic profits whereas liberalization does not take on responsibility for long-term security of energy supplies. The result is that some countries are reluctant to leave energy matters to market forces alone (Umbach 2010). For example, the French government supported the merging of Gaz de France and Suez, which received preferential political treatment (Youngs 2009).

The paradox of finding both energy market liberalization and its refusal in the name of energy security illustrates the necessity to forge a common policy. However, the EU does not have the policy tools that could allow it to pursue a common energy policy, and hence to effectively address the mounting energy security challenges. Most policies require national implementation and member states sometimes fail to take the necessary measures. It is in urgent need of a clearly articulated energy policy to guide Europe's energy utilization and guarantee its energy security. A common energy policy should be anchored in an institutional framework. The current multilateral energy governance seems to be a rational choice in the EU's best interest. The problem is that the EU needs to find a right balance between centralized decision making and local solutions. That is to say, the EU needs to have a coherent framework for implementing energy policies. Further, the framework must include effective mechanisms to promote local production and access to energy. The framework must also be capable of enhancing synergies between the various levels of governance. A new energy-specific Treaty could be an option to create such a framework in an efficient manner. To make it workable, members of the new Treaty would include not only the member states but also the Union (Andoura, Hancher and Van Der Woude 2010). This new Treaty option could offer Europe an opportunity to design a common energy policy in the most efficient and democratic manner.

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