

## Paradigm shifts for European energy security?

### Shale gas, US “strategic retreat”, and the shift of energy markets to Asia

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How will Europe’s energy security equation be affected by the currently emerging energy, economic and geopolitical realities? What would this imply for national government or EU-wide policy strategy in the European Union (EU)? What would this imply for NATO?

For the EU, energy security has mostly been discussed as an issue that concerns its relationships with its wider neighbourhood, be it the former Soviet Union, the Middle East or North Africa. Rightly so, as the region provides most of the EU’s oil and gas. This paper argues that, however, Europeans will be well advised to look more systematically beyond the neighbourhood for their energy security strategies. What is more, EU energy relationships with its neighbours need to be conceived more broadly, taking better into account the partners’ relationships with the rest of the world. They also need to be in sync with fundamental global market shifts as the gravity of the world economy shifts eastwards the United States (US) become more energy self-sufficient and are shifting strategic attention away from Europe and its wider vicinity.

#### Europe’s energy security today

“Energy security” is understood in this paper as economic and political resilience in the face of the possibility of disruptions in the supply of vital energy sources, be it primary sources such as fossil fuels (oil, gas and coal), or electricity, to consumers – households and businesses. In the last decades, energy security has mostly been considered a concern for the supplies of oil and gas. These fossil fuels are at the heart of the global energy mix, and they are traded across borders on a grand scale. In the EU, policy regarding “energy security” is strongly shaped by the fact that the bloc is a net importer of fossil fuels. The big issue for Europe is avoiding being subject to excessive price volatility or brought into deep economic or social trouble because of sudden disruptions to supplies. These disruptions can occur because of the partners’ technical inability to

deliver due to inefficiency or domestic political problems, or, worse, because the producer country is trying to exert political pressures on its client(s).

Tensions between oil and gas supplier and producer countries have been at the heart of energy geopolitics in the 20<sup>th</sup> Century. But energy security is not only a matter of diverging interests between producers and consumers. It has to do with the way markets are organised: oil and gas is an oligopolistic business, with governments strongly involved in it. Coal markets are today very much “market driven” and rarely make headlines, even though there is much international trade in coal, and the EU imports a lot of coal (58.1% of its coal is imported).

Does the EU’s overall energy security situation give reason for worry? One indicator of whether the situation is healthy is the “import dependency ratio”, which measures not only the share of imports in final consumption of energy as compared to domestic production, but also the degree of readiness in the face of disruptions, such as the upkeep of strategic reserves. The EU’s energy import dependency rate for all fuels is 52.7% (2010 figures, latest official ones available), low in comparison to countries like Japan (close to 80%) or Korea, and Turkey. But it is higher to China’s and now to the US’s. While that ratio peaked in 2008 at 54.6%, it seems to have stabilised since, presumably because of lower consumption as a result of the economic crisis. Europe imports more than 90% of its petroleum, and over 60% of its gas.

Overall, European energy security is less a concern when the bloc is considered as a whole. It is a concern for individual EU member states, which combine both high import dependency *and* dependency on one or only a very narrow set of suppliers (see table 2 and table 4 in annex). It is also a concern in a sense that this vulnerability of

individual member states affects the ability of the entire EU to respond to supply disruptions. Fears have been expressed that this dependency impacts the dependent countries’ ability to act politically in an independent fashion from demands or pressures emanating from the main country on which it relies for its energy supplies. The question for Europeans is less how much it imports, but whether it has the freedom to say “no” to potential political pressures, even if “saying no” can lead to the oil or gas taps being shut.

What is a good energy security strategy? In order to be less vulnerable to supply disruptions, one needs to ensure the energy system is flexible enough to respond to supply shocks (e.g. enough reserves, good infrastructure to route alternative supplies), and that is able to draw on a sufficiently diversified source of suppliers so as to reduce risks.

In this regard, the picture for the EU is mixed. Most suppliers of oil and gas in the EU are located in the vicinity of the EU (From Norway to Algeria via Russia) and in the Persian Gulf (see Tables 3 and 4 in annex). Recently new suppliers further away started playing a relatively important role. Sub-Saharan African countries export significant amounts of oil to a certain number of EU member states, but they still tend to play a relatively small role as European gas providers. Overall, the EU’s imports of fossil fuels tend to be relatively diversified and flexible. Oil can be transported flexibly, not only through pipelines, but also on ships and trucks. Hence vulnerability to supply disruptions is kept in check. Yet Europe suffers as others do from oil price volatility and sudden price hikes. For gas, the EU has traditionally relied almost exclusively on three partners – Russia, Norway and Algeria, to which it is mostly connected via fixed, inflexible infrastructure, i.e. pipelines. Pipelines are fixed and can be

controlled easily by states and corporate monopolies. When they cross borders, conflicts on transit between states can appear. They are vulnerable to degradation related to natural events as well as to human action or attacks. Liquefied Natural Gas (LNG) trade, which has expanded in the last decade, has, however, changed the dynamics in Europe's gas markets. Thanks to LNG, Qatar has recently gained significance as the fourth largest supplier to the EU. New players start being noticeable on EU gas markets (e.g. Nigeria, Trinidad), which actually improves the energy security situation. The problem is that Europe's gas markets are only very partially interconnected. When Trinidad exports gas to Britain, this should also benefit the energy security of Bulgaria – but this is not the case because both markets remain isolated from each other.

#### **2004-2011 – Energy security – the emergence of a new priority for Brussels**

The energy security discussion in the EU has until recently rarely been led at “Brussels” level. The Lisbon treaty continues to leave energy supply strategies to the member states. Yet, in the context of high oil prices in the last decade, Europe's energy security equilibrium has come to be perceived as fragile. As a result, calls for joint EU-level approaches have mounted.

With the EU's enlargement to Central and Eastern Europe in 2004, whose members are extremely dependent on one supplier of gas (Russia) to their small, compartmentalized energy markets, the discussion on energy security has become more intense. The gas crises of 2006 and 2009, during which Russia cut off of gas supplies to the transit country Ukraine, and hence to other Central European countries further down the pipeline route, came as a shock to Europe.

This is the more so as the political motivations were hard to conceal: Ukraine had been trying to open its political system, to wean itself away from Russian influence and to move closer to the EU. In early 2012, Russia also reduced its deliveries to Europe as it struggled to meet domestic gas demand during a particularly harsh winter, raising questions as to the sheer ability of Russia to meet demand during peaks. Occasionally, oil flows from Russia have also been disrupted to Central and Eastern Europe.

With the threat of major supply disruptions no longer appearing theoretical, Brussels has initiated significant moves to address the vulnerabilities in the EU's domestic gas markets which are believed to have contributed to entrenching import dependencies in member states. These include to oblige member states to hold more gas reserves, to fast-forward the establishment of interconnections between EU member states, to increase transparency and exchange of information between the member states on their agreements with energy suppliers, and to boost competition in the largely monopolistic national gas markets in the EU that entrench bilateral relationships with traditional suppliers and slow down investment in alternative supplies.

In 2011, the EU Commission wrestled a mandate from its member states to negotiate commitments from Turkmenistan and Azerbaijan to sell future gas to the EU-sponsored Trans-Caspian pipeline system. Although its efficacy is doubtful (more below)– this is a significant step, a highly symbolic pooling of diplomatic power, unthinkable only a few years earlier. This mandate is also the result of a first-ever Energy Summit convened by the EU member states held in February 2011. At that event, the high representative of the Union for foreign affairs and security policy, Ms Ashton, was formally

asked to take into account “the energy security dimension” in all its actions. During the second Council summit on energy held in May 2013, the energy security issue was framed as the opportunity for Europe to develop shale gas resources.

Most of these initiatives have had to face very harsh realities: domestic resistance in the EU to make European gas markets function on the principles of market competition, the high cost and commercial uncertainties surrounding the Southern Corridor amidst fierce competition from the 20bn euro pipeline project “South Stream” proposed by Russia, and the persistence of bilateralism in the relationships of member states and the key energy suppliers.

Whilst much unfinished business remains in achieving the goals the EU Commission has set itself and to member states, new developments already affect the EU’s energy security equation and will need to be factored in.

### **The shift of energy market attention to Asia and the emerging world**

Two recent fundamental developments need to be taken into account in the coming thinking about the EU’s energy security:

- the shift of the onus of world energy markets to Asia and emerging markets,
- the US’ new energy realities post-shale gas revolution, especially as it appears to occur in combination with a “strategic retreat” in Europe and its immediate vicinity.

Demand for energy and for hydrocarbons has been rising steadily in Asia in the last years. The International Energy Agency estimates that global energy demand will rise 33% between 2011 and 2035, with 60% of this demand coming from

China, India and the Middle East alone. After the nuclear accident at the Fukushima-Daiichi power plant in Japan in 2011, demand for gas will very likely rise elsewhere in Asia as well.

The EU has been vying for gas resources around the Caspian Sea. There, it is not only facing the competition from Russia as it attempts to keep its traditional suppliers captive. Both the EU and Russia have been outplayed by China’s much more effective approach to ensuring supplies from Central Asia, and notably from Turkmenistan, a country believed to hold one of the world’s most important reserves of conventional gas. Azerbaijan’s resources and notably those of its promising Shah Deniz II gas field, are also wooed by Turkey. Turkey is a major oil and gas transit country for energy to the EU. Yet it is also in the need to meet rapidly rising energy demand at home.

The effectiveness of the supply strategies of China and to a lesser extent of other East Asian players (Korea notably) in Central Asia and in other regions such as Africa, is due to greater involvement of the state in the energy sector and its active role in cutting deals with producing countries to guarantee supplies. As we know, China is bent on providing producer countries with cheap loans in return for guarantees of future of supplies (This is the case in Turkmenistan, as it is the case in Africa). The EU does not have the means or the willingness to take such an approach. The EU is not a state. It cannot leverage tax payers’ or state-owned company or state-owned bank money - as China does - to “bribe” countries into supplying it with gas. The EU remains a fragmented energy policy actor. In Europe, national energy companies continue to operate on their own. The effectiveness of its efforts in the face of competition from other players is bound to be

relatively low – expectation of what it can aim for need to be adapted (or the treaties changed).

This effectiveness might further be hampered by the fact Europe's energy demand is likely to remain relatively flat in the coming years, as its economy stagnates and its demographic weight diminishes. Europe is no longer important in setting the global oil price (and hence the gas prices it pays): Asia is. Today, the world's exporters of oil, gas and other fossil fuels, are looking to Asia to expand exports and keep prices high. *This* is the key factor that the EU will need to take into consideration more systematically in the coming years. There are tough questions to answer: Will Europe's relative decline on the energy market scene be detrimental to the terms of its trade with hydrocarbon producers across the world? Or, on the contrary, can these terms be made more favourable to Europe? If so, how to ensure they are?

These questions are the more important for Europe as there are important developments across the Atlantic.

### **US energy self-sufficiency and “strategic retreat” in Europe and beyond**

The ‘shale gas revolution’ and the EU's new oil production capacities (offshore and shale oil) are likely to alter the US' relationship to global energy markets. The US – along with Canada - could well become a net exporter of shale gas in less than ten years' time. The US are less likely to rely on the Middle East for its oil supplies, although they will continue to import oil, yet more likely from the Western Hemisphere. In that regard, the US can be considered to be potentially less constrained by energy considerations in its relationships with Middle Eastern countries and more generally with the wider world.

How could the US' potentially lower priority given to securing its own energy security play out for Europe?

The US is clearly on a path of strategic disengagement on the Eurasian landmass. The decision by the US to pull away from its missile shield projects in Central Europe a few years ago has been understood as a clear signal that the US is not seeing Europe as its most pressing strategic priority. The US appears less engaged in the former Soviet Union than in the 1990s. Yet the Ukraine and the Caucasus - and notably Georgia, where there was a war with Russia in 2008 - continue to play a vital role as energy corridor to Europe. In the early 1990s, the United States was leader in the negotiation of the Baku-Tbilisi-Ceyhan (BTC) oil pipeline that secured an alternative oil delivery route from the Caucasus to Europe. Recently, the agreement on a Trans-Anatolian gas pipeline (TANAP) signed between Baku and Ankara is less the result of US “grand gaming” than of rising Turkish diplomatic skill and domestic energy needs. Nonetheless, it is due to secure 10 bcm of gas to the EU.

Fundamentally, the US' new production and potential new export capacities on the oil and gas markets are good news for Europe. Hydrocarbons prices could well go down as a consequence, especially as the economies in China and the rest of the emerging world are slowing down in the coming months or years. Lower oil and gas prices can only be a relief for Europe's tattered economies. The opening up of the shale gas potential is likely to lead to a radically new geography of gas production and to a greater diversity of gas suppliers in the coming years and decades as countries in Europe, Latin America and Africa discover and potentially put their potential to use. However, US strategic retreat from Europe, if it is sustained in the medium term (and this is likely) *does* mean that the EU will be

more directly responsible for geostrategic issues concerning its continent and for the energy issues that are related to them.

## Looking ahead

As a conclusion, a few initial broad ideas for thinking ahead on energy security:

**Gas is and remains a key priority for EU energy security. Russia will remain a key oil and especially gas supplier.** Conventional gas resources in the UK and the Netherlands are drying out. EU gas import dependency is set to rise about 20% from today to 2030, if fundamentals in its energy structure do not change. The EU will also hopefully want to avoid a return to coal-based electricity generation while some member states pull out of nuclear power. Any partnership with Russian companies to develop these resources on Russian territory and even in remote difficult regions such as the Arctic should be welcomed. Yet the need to make these relationships function on the basis of competition and to have Russia face a unified European market remains a strategic priority. In that regard, all EU Commission proposals and initiatives that aim to make the EU market more flexible, interconnected, and less reliant on pipelines originating in Russia are to remain on track and accelerated.

**Increasing the number of suppliers of gas should remain a key priority, but these sources should be sought where they are cheaper and more readily available involving less political risk – i.e. not necessarily in Central Asia.** There will very likely be new gas suppliers in the Southern Mediterranean (Cyprus and Israel). The big opportunity ahead is North America. The just-agreed launch of the Transatlantic Trade and

Investment Partnership (TTIP) agreement is in this regard also good news for Europe. Indeed, United States legislation only allows its companies to export hydrocarbons to free trade agreement partners, and the US could start exporting in less than a decade.

**Political capital and institutional energy spent on the Southern Corridor will have to be reassessed.** The Corridor is only viable if the international legal status of the Caspian Sea is clarified, and the current standoff between Iran and the West is resolved. This is as yet unlikely. Relationships with Turkey will however need to be carefully managed.

**EU-level diplomatic activity could be developed by seeking partnerships and coordination with other import dependent countries in Asia:** Japan and Korea come to mind. With India and China relationships could be more difficult, but deeper engagement within the International Energy Agency – including considering membership is an option.

Other, more long term considerations could include:

- **engaging Sub-saharan Africa on the energy front.** Sub-Saharan Africa is a rising source of hydrocarbons imports for Europe. There is competition for resources with Asian players. And Africa's economies are growing: nationalist energy policies to the detriment of supplies cannot be excluded in future. There are issues with the safety of maritime transport lanes in the vicinity of fragile states, which can affect the EU's energy security (Gulf of Guinea).

- ***strengthening scenario and contingency planning in case a major supplier in the EU's neighbourhood falls prey to political instability (including Russia)***, notably if oil prices do end up falling significantly (an event that cannot be discounted).

Finally, on a **possible role for NATO** in all this:

- Keep engaging the EU member states on the energy security implications of their geostrategic relationships;
- “Oil” strategic relationships between allies on the energy front – US-EU, but also EU-Turkey, and engage with the European External Action Service and key member states on these issues;
- Help EU member states take difficult decisions at home on gas market reform and on shale gas development.

## ANNEX

**Table 1 - EU import dependency ratios – all fuels (Source: EU Commission, 2012)**

Country	Year 2010	Country	Year 2010
EU 27	52.7	LT	81.0
BE	76.8	LU	96.8
BG	40.3	HU	58.3
CZ	25.6	MT	100.8
DK	-18.2	NL	30.7
DE	59.8	AT	61.8
EE	12.9	PL	31.5
IE	85.6	PT	75.4
EL	69.1	RO	21.7
ES	76.7	SI	49.3
FR	49.3	SK	63.1
IT	83.8	FI	48.1
CY	100.9	SE	36.5
LV	41.6	UK	28.3

**Table 2 - EU import dependency ratios – natural gas (Source: EU Commission, 2012)**

Country	Year 2010	Country	Year 2010
EU 27	62.4	LT	99.7
BE	99.0	LU	100.0
BG	95.1	HU	78.7
CZ	85.4	MT	
DK	-68.3	NL	-61.6
DE	81.9	AT	74.4
EE	100.0	PL	69.3
IE	93.1	PT	100.4
EL	99.9	RO	16.8
ES	99.2	SI	99.3
FR	93.0	SK	99.9
IT	90.5	FI	100.0
CY		SE	100.0
LV	61.8	UK	37.7

**Table 3 - TOP 10 Sources of EU oil and NGL imports in 2010 – thousands of tons (Source: EU Commission, 2012)**

Russia	180 654
Norway	73 078
Libya	53 754
Saudi Arabia	30 774
Kazakhstan	29 705
Iran	29 679
Nigeria	21 918
Azerbaijan	21 918
Iraq	16 952
Angola	8483



**Table 4 - Top EU sources of natural gas imports in 2010 – millions of cubic meter (Source: EU Commission, 2012)**

Russia	4 384 008
Norway	3 891 713
Algeria	1 986 428
Qatar	1 182 822
Not specified	1 026 393
Nigeria	503 049
Libya	381 660
Trinidad and Tobago	206 291

**Author** is a political economist specialising in trade and energy policies with exposure to long-term foresighting. Ms Dreyer has published extensively on European trade and energy strategies towards its neighbours, Russia and Asia for think tanks and specialised media in Brussels, London and Paris. At the EUISS she works mostly on the interrelationships between developments in global energy markets and energy policies in Europe and beyond.

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